VeraSMART

CA/WCA 12.3

User Guide

VeraSMART CA/WCA 12.3

Table of Contents

VeraSMART Online **User Guide**

Welcome! These pages are designed to help you use your telemanagement system.

Browse through the help pages by clicking on the icons below or selecting pages in the Table of Contents to the left.

⊞ On searching help... (click here for more information)

To find specific information, type a word or words in the search box above and click the Search button.

Search results will list all matches in alphabetical order by relevance (number of times the search text appears in a matched page). When opening a matched topic, the search terms will be highlighted in yellow.

Note that the Search Results pane allows you to refine a search by choosing 'any words' (including partial words) or 'all words' or 'exact phrase.' It also allows you to select to a 'preview' of the search text in the matched topics.

The Basics

MySMART

Reports and Analytics

Call Accounting

Wireless Call Accounting

Organization

Administration

Reference

FAQs

About VeraSMART

Ask Us

If unable to find what you're looking for in these pages, check our User Community Portal (DOWNLOADS > DOCUMENTS) for up-to-date documentation.

Register using the product serial number (found in the About VeraSMART page) and your e-mail address.

The Basics

VeraSMART has a web browser interface that is very easy to use. If you are familiar with Internet browsers, you already know how to move around, search, and print web pages.

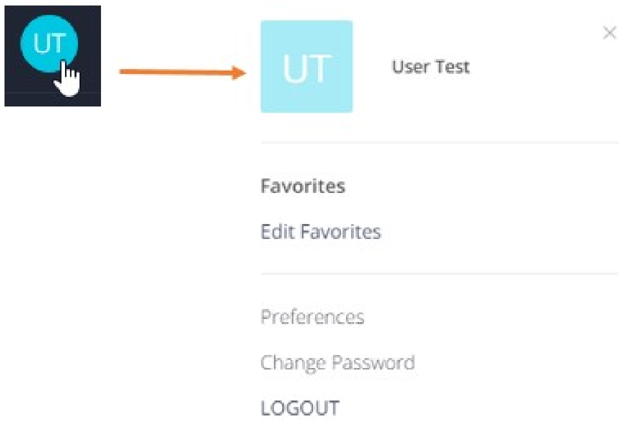
This section highlights the VeraSMART page elements, UI features, and navigation tools available to you.

The User Interface

VeraSMART pages have these main areas:

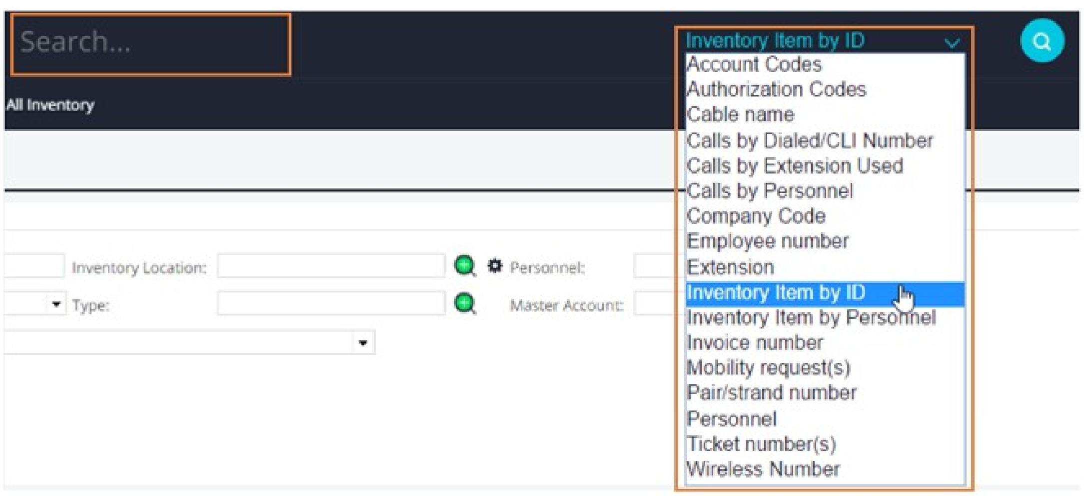
User Menu

Once logged in, you will notice a user icon in the upper-right. This is an auto-hiding menu where user actions can be accessed, such as logging out, changing your password, or editing your favorite views. The user icon will be your first and last initial as configured in your personnel record.



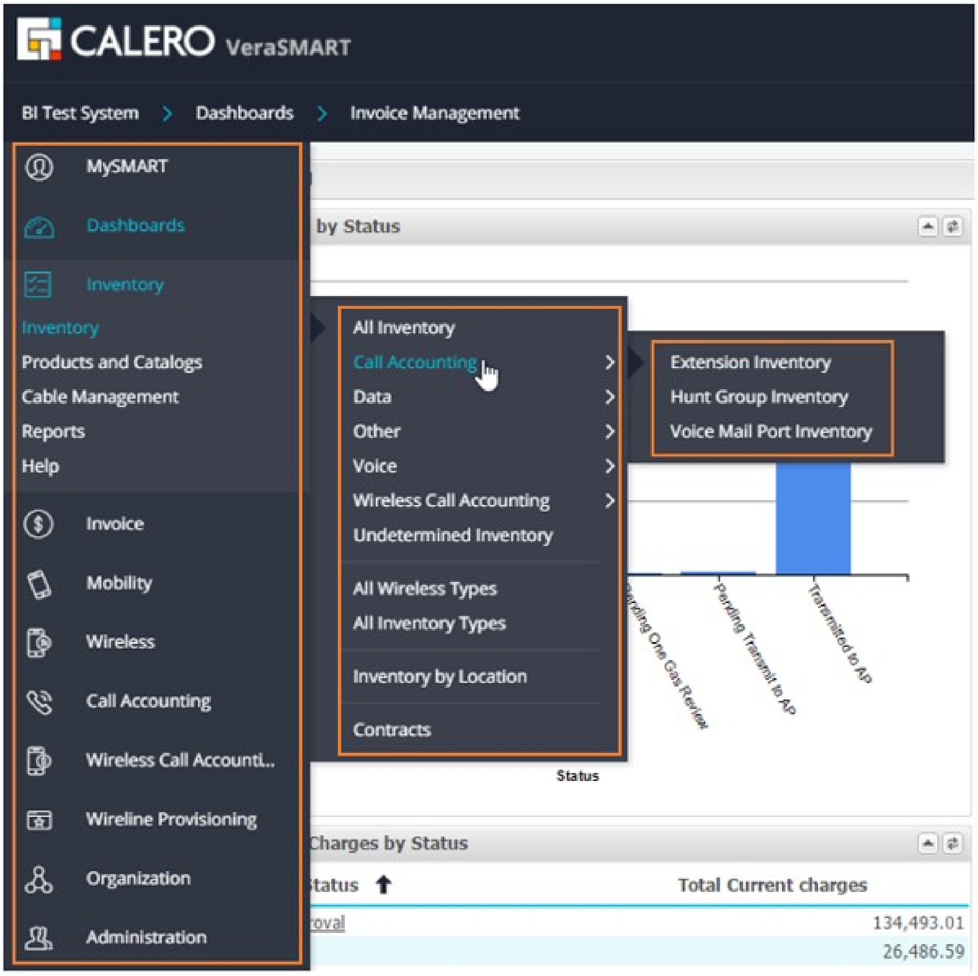
Quick Search

The Quick Search feature is located in the upper-right next to the user icon. Use the drop-down to select the data type that you need to search. Type your search criteria in the upper-left. The search field is only visible when a quick search has been initiated.



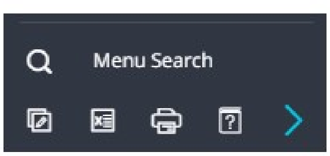
Main Menu

The main menu on the left side contains expandable and collapsible sections. All the menus remain in the same hierarchy as previous versions of VeraSMART. Hover the mouse over the main menu icons on the left side to expand the menu. Click a menu entry to expand the 2nd level menu underneath. This menu will remain open until you click it again to close it. Hover over a 2nd level menu item to reveal a sliding 3rd level menu. An additional sliding menu may be revealed where available by hovering over a 3rd level menu item. With just one click, you can go three levels into the navigation. You can have as many 2nd level menu sections open as necessary. Use your mouse wheel to easily scroll through the menu options or use the vertical scroll bar.



Main Menu Toolbar

The bottom of the main menu has a toolbar with actions that can be taken in the software. Hover over each icon to see the action it represents.



Menu Search

Printer Friendly View

Edit Views on Current Page

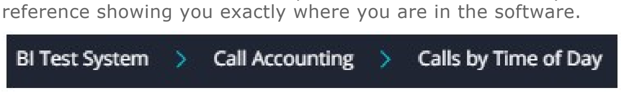
Online Help

Open Current View in Excel

Lock/Unlock Main Menu in Open or Closed State

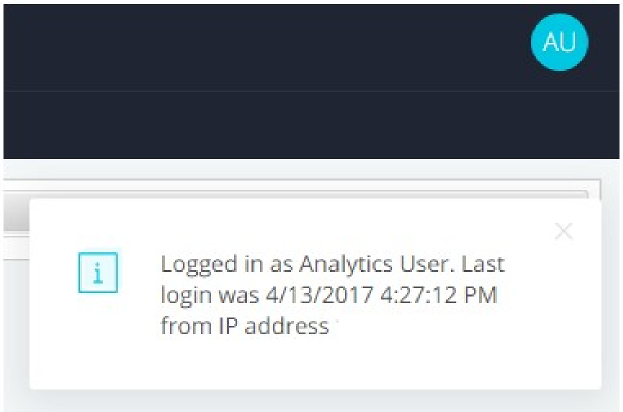
Breadcrumbs

The breadcrumb towards the top of the screen shows the *System Name* > *Menu Selection* > *Current Page*. This will serve as a reference showing you exactly where you are in the software.



User Notifications

User notifications appear as a popup box near the user icon. This will also display error and informational messages. Click the X to acknowledge the notification.



Changing your Password

1. Access the Change Password link in the user menu at the upper-right of the page.
2. Enter your old password.
3. Enter a new password (6 - 128 characters long, no spaces), then re-enter it to confirm.
4. Save your changes.

System Administrators can change Password Security Settings on the Authentication Configuration page (step 5).

Configuring your Preferences

Access the Preferences link in the user menu at the upper-right of the page. Use this link to change your personal preference for displaying dates on your screen and personal reports.

1. Click on the Preferences link in the user menu at the upper-right of the page.
    1. Your current user preferences appear.
2. Select the culture of your choice from the list of countries.
    1. Use System Culture is the default setting.
3. Save your settings.

NOTE: Date formats are based on the Culture your select. For example, a date is expressed as month/day/year in the United States and as day/month/year in Spain.

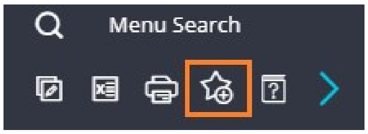
Configuring Favorites

Enabling Favorites allows you to access your most-used functions, pages, and/or user reports quickly by including them as quick links in the User Menu at the upper right of the page.

The system allows you to add up to 15 quick links.

Add Entries to Favorites List

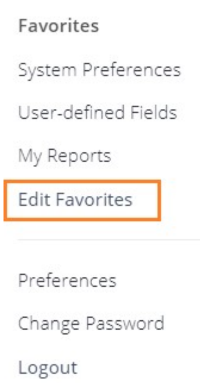
1. Go to the desired target page.
2. Click the Add to Favorites icon from the bottom-left menu bar.



3. The link to this page will now appear at the bottom of your Favorites list in the User Menu.

Organize Display Options of the Favorites List

1. Open the User Menu by clicking on the User Icon.
2. Click Edit Favorites.



3. Open the Display Order tab.
4. Drag and drop the item's number box to the desired position.
5. Click Save.

Remove Items from Favorites List

1. Open the User Menu by clicking on the User Icon.
2. Click Edit Favorites.
3. Select the desired items
4. Click Delete Marked.

5. Approve the action by clicking Ok.

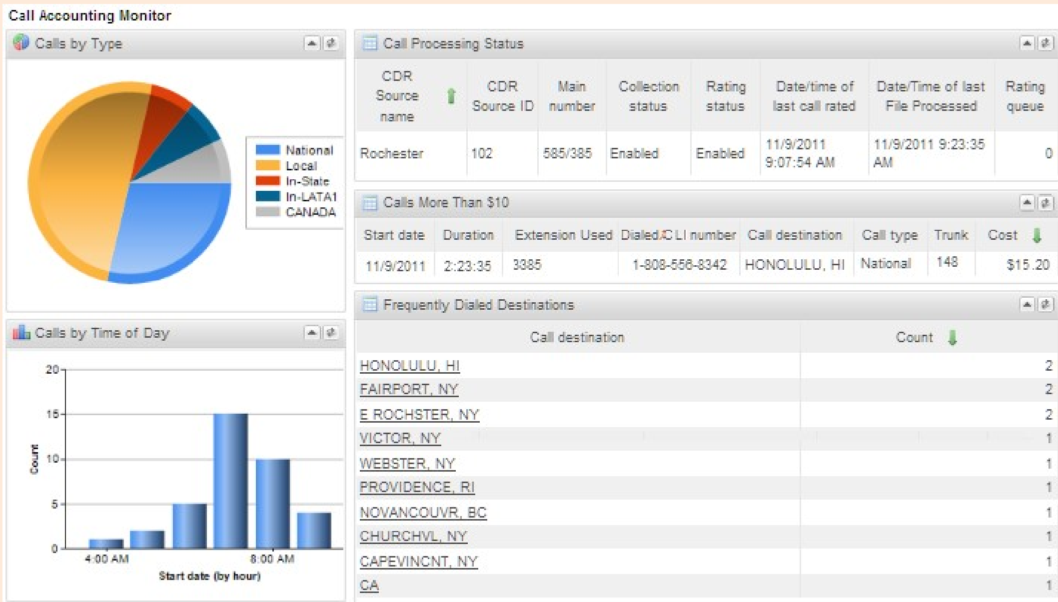
Home Page - Dashboards

Dashboards are interactive display panels used to host one or more mini-viewers ('widgets').
Each widget contains a specific table summary in graphical or tabular form from which you can drill down to detailed views.

This makes dashboards ideal for ...

- Gaining total visibility of multiple features instantly
- Identifying data trends, exceptions, and their correlations
- Saving time compared to running multiple reports

Sample Dashboard (click to view)



Built-in Dashboards and Widgets (click to view)

Reports -- hosts a page, linking all System Reports available to the logged in user

Call Accounting systems provide these dashboards:

- **Call Accounting Lookup** -- hosts the most popular look-up widgets (Favorites, Quick Search for Personnel, Extensions, and Calls by Personnel, Extensions, and Dialed/CLI Number, Call Processing Status, and Call Alert Log)
- **Call Accounting Monitor** -- hosts such telephone activity widgets as calls by Type, Time of Day, Over $10, Frequently Dialed Numbers, and Call Processing Status Systems with Wireless Call Accounting Wireless Call Accounting

Systems with Wireless Call Accounting provide these default dashboards:

- **Wireless Invoices** -- hosts the widgets to import invoices and view recent invoices
- **Wireless Devices** -- hosts several Quick Search, Assigned Charges, and Wireless Inventory Views widgets
- **Wireless Trends** -- hosts such Assigned Charge widgets as Charges, Devices, Average Device Costs, Voice, Data, and Messaging Usage

> ***NOTE***: Dashboard designers can modify the above dashboards and create new ones, making them available (but non-editable) to designated user groups via the Dashboard Designer function; users allowed to configure personal dashboards can add others available only to themselves.

All systems provide a built-in set of widgets with which to populate dashboards. These are grouped under the following categories:

- Assigned Charge
- Call Accounting
- Call Record
- Inventory Item
- Other (Favorites, HTML content & Reports)
- Quick Search
- Wireless Invoices
- Wireless Usage

> ***NOTE***: System administrators can modify most widgets. They can also create new ones, making them available for dashboards via the User-defined Views function.

Working with Personal Dashboards

1. Access: any 1st level menu > Reports > My Dashboards.
2. To create a new dashboard or edit properties on an existing dashboard:
   a. Click the Add button -- or -- the *dashboard name* to edit and then Dashboard Properties.
   b. Give it a dashboard name and select its column layout (one column; two columns - 50%-50%, 66%-33%, 33%-66%; three columns or four columns).
   c. Save your settings.
3. To set up the display order in the Favorites and My Dashboards menus:
   a. Click the Configure Display Order button.
   b. Drag and drop the dashboard name to the desired position).
   c. Save your settings.
4. To set up widgets for the dashboard, see the topic ***Working with Widgets*** below.
5. To delete a dashboard, locate it, select Delete, and confirm.

Working with Widgets

1. Access the desired dashboard via one of the paths below and click Configure Dashboard:
   - Click the icon on the menu bar (opens the last dashboard viewed)
   - Selected from the Favorites drop-down menu
   - Selected from under the Dashboards section on the side bar
2. To place a new widget:
   a. Click Add Widget.
   b. Mark widgets to add from the list of available views.
   c. Click on the 'Add to:' column number.
3. To reposition widget, drag its title bar and then drop it into its new position.

4. To rename a widget, double-click its title bar and then enter a new name.
5. To edit display and filter settings:
    a. Click its Edit Settings button.
    b. Enter:
       - Number of rows (3 to 500)
       - Sort column in ascending (ASC) or descending (DESC) order
       - Search filter settings
6. To perform other actions, use the widget's buttons to...
    Expand or contract widget block
    View security to access widget
    Refresh data
    Remove widget from dashboard

Quick Search

Use the 'quick search' tool in the header for quick access to Administration tables. The list of tables you'll see depends on your user profile.

Searchable Tables

Account Code	Searches records by...	their dialed codes
Authorization Code		their dialed codes
Cable name		their name or number
Calls by Dialed/CLI Number		Dialed/CLI number
Calls by Extension Used		Extension used
Calls by Personnel		Personnel name
Cost Center		Cost Center name
Device ID (MEID/IMEI/ESN)		their Device ID (either MEID, IMEI, or ESN)
Employee Number		their Employee number
Extension		Inventory ID (extension number)
Inventory Item by ID		their Inventory ID
Inventory Item by Personnel		their owner's name
Invoice number		their invoice number
Mobility request(s)		list of request numbers
Pair/strand number		their name or number
Personnel		their Personnel name
Ticket number(s)		a list of ticket numbers
Wireless Number		formatted [i.e. (NPA) NNX-dddd] or unformatted numbers

General Search

For most tables - except for Call records - you can search by entering up to 50 characters representing the starting letters or numbers for its key field.

For example, to search for all Personnel with last names starting with 'Mar' you would enter 'mar' (case is not important) and press Enter. Note that when you click the Search icon, the text search field is in the header to the left of the screen.

Wildcards

Wildcards are allowed. "?" represents one character in that position or "%" represents any number of characters.

Examples:

- "mar????" will find all names starting with 'mar' that are 6 characters long
- "%mar%" will find all entries that include the letters 'mar' anywhere in the name.

This filter is not case sensitive. If nothing is entered, the entire table appears.

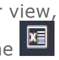
Search for Call Records

You can search for Calls by Dialed Number (-or- by Extension Used -or- by Personnel) -- then provide an appropriate 'Starting with' value.

The page loads the default view for the Call Details table (pre-configured via the User-defined Views function).

The page is filtered by the selected extension, personnel, or dialed number, for today's call records. To enter a different search criteria, provide new values and click Search.

In tabular view, you can...

... click the  icon [left menu toolbar] to export the page as an Excel file

Using Wildcards

Most 'search' and 'filter' functions in VeraSMART -- Quick Search, lists/views and report filters -- allow the use of the **%** (percent) and **?** (question mark) as wildcards.

?	Represents a single character in that position. Use it when the length of the entries to match is important. For example: ▪ **585?** can find 4-character entries like 5851 and 5859, but not 5853836856. ▪ **585???????** can find 10-character entries like 5853836856, but not 5851 or 5859.
%	Represents any number of characters in that position. Use it to search for specific characters found anywhere at the beginning, middle, and/or end of entries. For example: ▪ **585%** can find such entries as 5853836856 and 5851, but not 15853836856 or ATT585. ▪ **%585%** can find 15853836856, 5853836856, 5851, and ATT585.

NOTE:	You can mix wildcards as needed. For example, to look for numbers AT LEAST 10-digits long that start with 585, you would use **585???????%**.

Working with List Views

List views are used to display database tables. Typically, these allow filtering by a search on selected field values. The resulting view in tabular form or summarized view displays on the grid below.

From most list views, users can select a list entry to open its detail record and perform such actions as add, edit, or delete records as permitted by the function, as well as...

... export the list in tabular form as an Excel spreadsheet (by using the icon on the left menu toolbar)

... view the list in printer-friendly format (by using the icon on the left menu toolbar)

... modify the page view (by using the icon on the left menu toolbar) -- *system administrators only*

This page describes how to use the Search features, as well as the tabular and summarized views.

Search

The "Search" is an expandable/collapsible section with filters designed to narrow the list of table entries on display. There may be three types of filters:

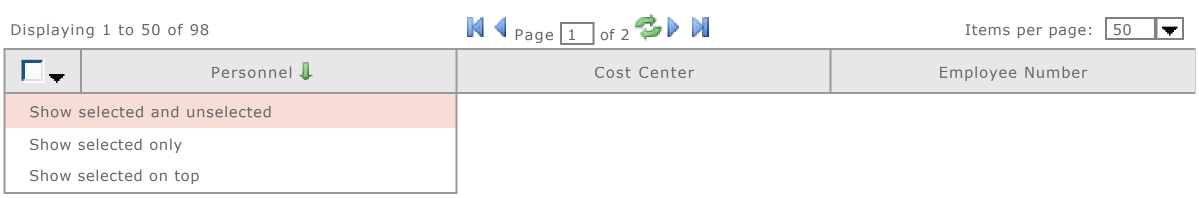
- Text boxes -- let you search by entering the starting letters or numbers. Wildcards are allowed ("?" represents one character in that position or "%" represents any number of characters). For example, 'ma' will find all entries beginning with 'ma'; "ma????" will find all entries starting with 'ma' that are 6 characters long; "%ma" will find all entries that include the letters 'ma' (of any length).
- Drop-down boxes -- lets you select an entry from the list provided when you click its [▼]
- Pick-lists -- lets you select one or more entries from one or more pages of choices. Here you select entries by marking their boxes and clicking the Select button. See Selecting from a Pick List for details.

> ***NOTE***: Some list views have been predefined with 'fixed filters' -- this is indicated by the icon on the bottom right of the Search section.
> To view the criteria for a fixed filter, simply click its icon.

When you are ready, click the Search button to display the list view.

Tabular Views

In a tabular view, a toolbar shows the number of entries on display, page navigation links, and allows you to set a limit of 10, 25, 50, 100, 250 or 500 items per page. It may include a first cell (with a box and down arrow ▼ for selection) as in the example below.



Lists have 'floating headers' (always visible as you scroll down on your browser) with sortable columns: the up/down arrow by a column title indicates current order (to change the 'sort-by' column or toggle the order, simply click its title link).

If multiple selections are allowed -- for example, to bulk-edit or delete records -- a 'select/deselect all' box will appear on the first cell on the header (see sample above). You will also get a message, right below the header row. For example, you may see...

> All 50 items on this page are selected. <u>Select all 98 items.</u>

The above appears when the list extends to more than one page and you have selected all items on the current page only. Click the link to select *all* items, including those not seen on the current page.

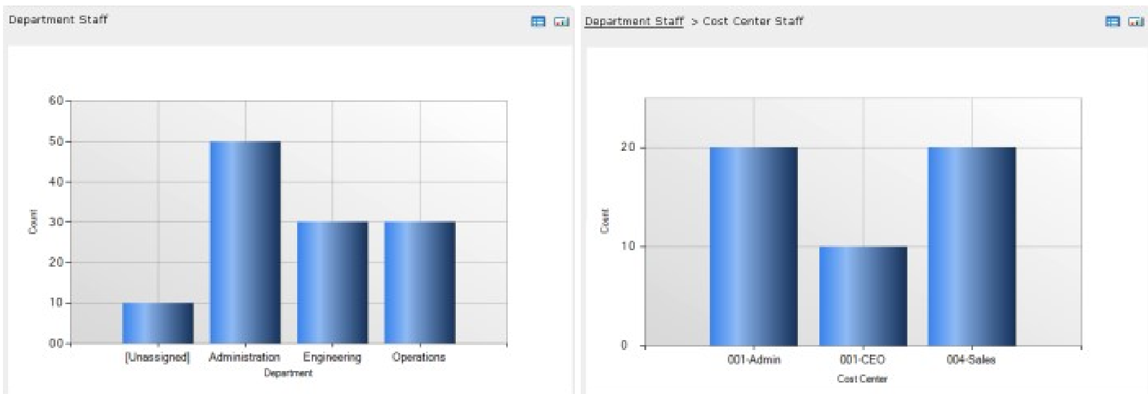
> There are selected items not displayed on this page. <u>Clear all selected items</u>.

The above appears when the list extends to more than one page. Click the link to deselect *all* marked items, including those not seen on the current page.

Summarized Views

Your system administrator may have pre-configured some database tables for views that summarize data by certain fields and display the result as tables or charts.

The example below shows department staff (on the left). You can click a department to drill down to the next view, which happens to be its cost center staff. To return to the prior view, you click the link on the view title.

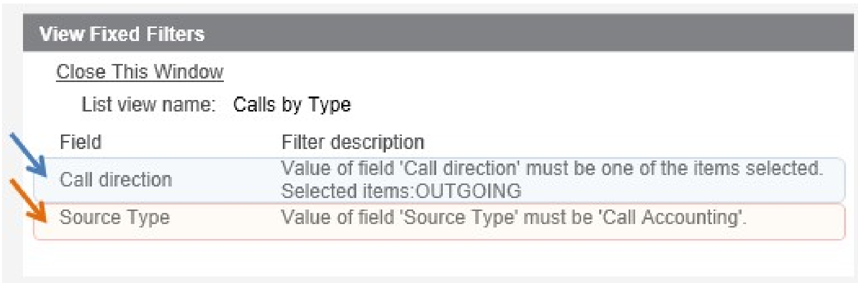


You can toggle between a summarized view and a non-summarized view of items matching the search filter: click the 'Detailed View' ( ) icon, top right corner or the 'Summary View' ( ) icon.

View Fixed Filters

This page displays the filters predefined by a system administrator for a list view.

Access: Click the fixed filter icon on the search criteria panel on any list view. For example, for the 'Calls by Type' view, you may get



The page shows all the field values that are applied prior to opening the list view, to focus the contents presented to the user. In our example above, the view named 'Calls by Type' has two filters that have been fixed:

- Call direction = OUTGOING
- Source type = Call Accounting

Select ...

Use a 'pick' list to select a field value or values for entry in a VeraSMART form.
For example:

Access: Click the field select icon (single) or (multiple) from a VeraSMART form.

Locate:

In a long list, you may wish to filter it by selecting search fields and clicking the Search button.

If you don't see your choice and the page allows it, click the Add button to create it first.

Select:

If form only allows one selection, click the *named* link (to return selection) or cancel (to return without making selection).

If page allows multiple selections, you have these choices:

- Click the All button (to return all entries on the page)
- Mark desired entries and click the Select button (to return marked entries)
- Cancel (to return without making selection)

MySMART

MySMART is an interactive web portal on the left side menu, designed for "public" access to a variety of VeraSMART applications.

Once you log in, you will see all functionality accessible to you. This may include:

My Personal Calls	Shows your phone usage and allows identifying whether calls are business-related or personal.
Report Inbox	Shows reports sent to your 'report inbox' or e-mailed to you. You can then open the reports for viewing, e-mailing, or deleting from your list.
My Reports	Allows you to personalize, run, and schedule reports made accessible to you.
My Inventory	Shows all inventory items assigned to you.
Personnel Directory	Allows quick look ups of your company's listing of names, phone numbers, and other information as configured by a system administrator.

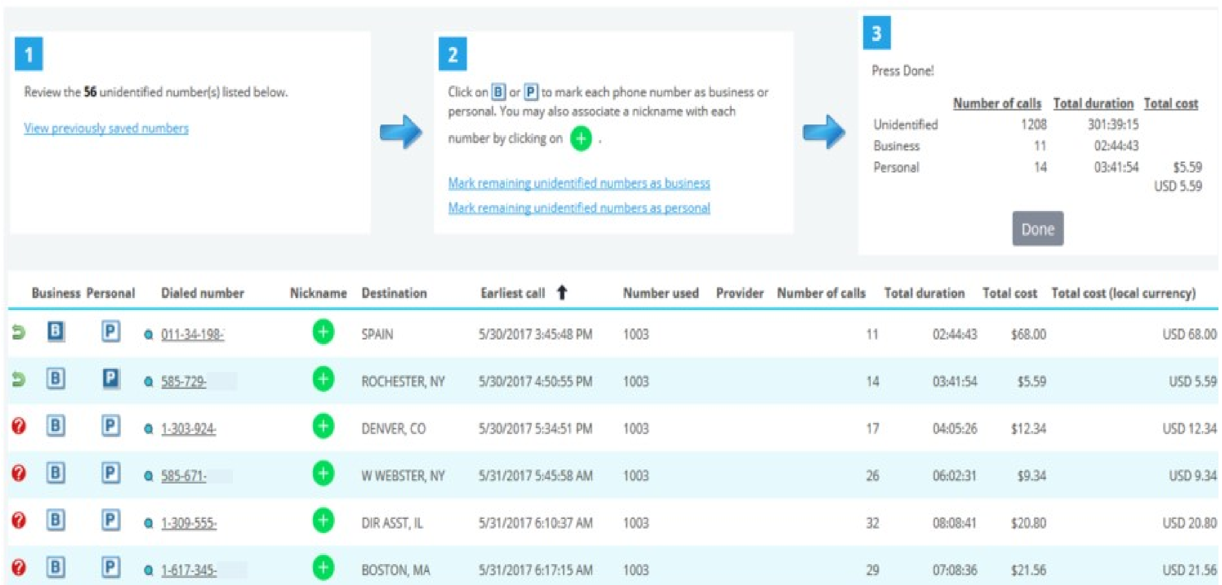
My Personal Calls

This feature is used to review your calls and identify whether they are Business-related or Personal. You can:

- Review dialed numbers (new & previously identified)
- Classify the numbers & set nicknames for them
- Submit & certify your choices

> ***NOTE***: Wireline calls will be available shortly after they are made; wireless calls will be available monthly after the invoice is processed. If you had mistakenly classified numbers in the past, see What happens if you've made a mistake, below.
>
> ***It's up to your employer to determine whether or not to request reimbursement from you. Some may use the system for policy enforcement or just so everyone can have insight into how they are using company resources.***

The page will display an instruction panel and a grid listing all calls placed (or received) by you that have not yet been identified to the system -- see example below.



Review dialed numbers (new & previously identified)

Question marks indicate numbers that need to be classified.

1. Click the *Dialed number* link to view the details of all calls to/from a number (for numbers that you do not recognize right away, you can click to look it up via Bing or Google).
2. To review -- and, if necessary, modify -- previously identified numbers, click the View previously saved numbers in panel #1 (top of page).

Classify the numbers & set nicknames for them

1. When ready, mark each record as business or personal .
   The instruction panel now displays the total cost of your Personal calls.
2. Alternatively, you can mark the few exceptions first -- for example, all Personal calls -- then use the Mark remaining unidentified numbers as business link (or vice versa).
3. If desired, you may click and enter a nickname for a phone number -- for example, 'Dr Singh' or 'Aunt Jo' -- to make it easily identifiable next time it appears on your calling list.
4. You can undo your 'B' or 'P' choices before submitting them by clicking the undo icon.

Submit & certify your choices

1. When you have made your choice on all or some entries, you can click the Done button.
2. A certification message will appear. Click OK to accept the conditions stated.

> ***NOTE***: It's up to your employer to set conditions, request reimbursement or simply use the system for policy enforcement, just so everyone can have insight into how they are using company resources.

3. Your entries will be saved and remembered next time you place or receive calls from these numbers.

What happens if you've made a mistake

You can undo your call classifications within the grace period your system administrator has set up (typically, 30 days for wireline and 60 days for wireless calls). To do so, click the View previously saved numbers link in panel #1.

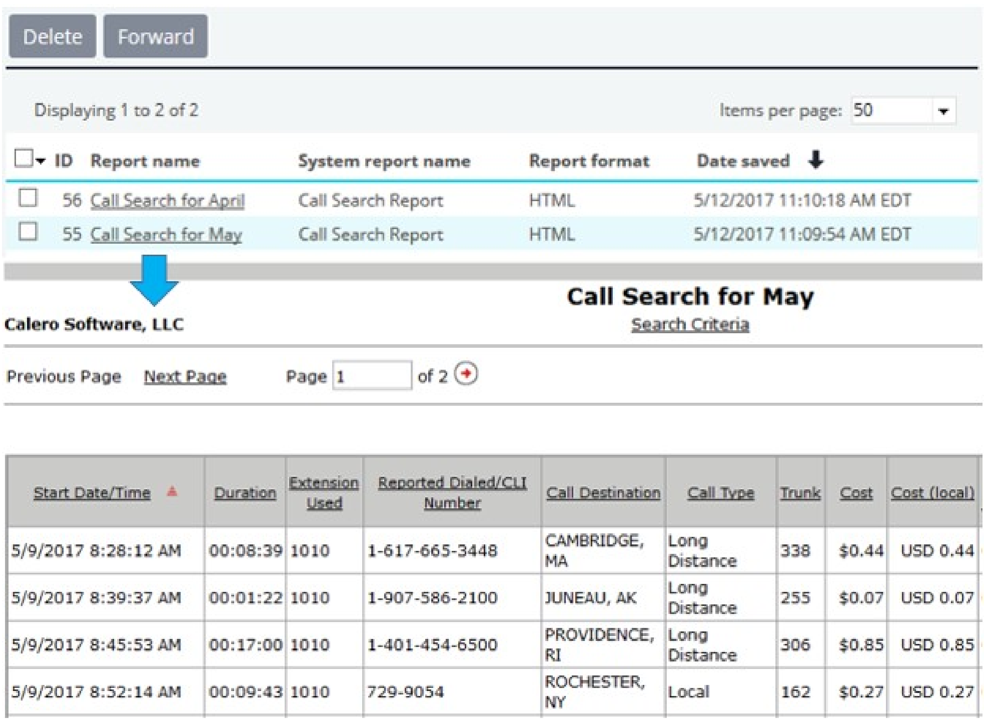
Once the grace period is past and you think you had made a mistake, you will need to bring this up with your employer.

As far as future calls, you will be able to change prior mis-classifications when the phone numbers next reappear on your list.

Report Inbox

This feature is used to access your saved reports as well as those e-mailed to you.

1. Access: MySMART (side bar) > Report Inbox.
2. To view a report:
    a. Click the *report name* link.
    b. Move through the pages, drill-down to details, a/or re-sort columns as desired.
3. To forward one or more reports, mark them and then click the Forward button.
4. To remove reports from your list, mark them and then click the Delete button.



My Reports

This feature is used to add reports to your personal list and then run them immediately or under your own schedule.

To add or modify a report

1. For a new report, click Add and choose the template from the system list; for an existing report, simply click its *report name* link.

   NOTE: Use the Help icon in the lower left menu for a description of this type of report, sample sections, and detailed explanations of the filters that may be presented to you.

2. Give it a report name and configure its contents:
   - Use the Filters tab to set criteria for data to be included in report.
   - Use the Layout tab to view or set up report sections and columns.
   - Use the More Actions drop-down button to select the report database (current or archive).
3. Select what to do with this report:
   - To save report and exit, click Save.
   - To save report under a different name, select Save > Save As and provide a new report name.
   - To save report and set up scheduled runs, select Save > Save with Schedule (see below).
   - To run the report now, use the Run output choices (see below)

   NOTE: You may also use the More Actions button to save the report configuration to your favorites, as well as remove it from your favorites list.

To run your report now

1. Locate or open desired report and select its output from the or [Run ▾] options.
2. Depending on the report and your own security privileges, output run options may include:
   - Browser (output sent to your screen)
   - Report Inbox (output sent to your Report Inbox)
   - E-mail (provide addresses, message to include, and other options -- printer friendly, send as link or attachment)
   - EZ-Burst (provide distribution list and format option: printer friendly or standard HTML)
   - Personnel EZ-Burst (provide notification e-mail addresses separated by (;) semi-colons and message to include)
   - ASCII text (select: header, delimiter, and output file path)

To schedule reports

1. Locate desired reports.
   - For a single report, select Modify Schedule.
   - For multiple reports under the same schedule, mark them and click Schedule.
   - From an open report, select Save > Save with Schedule.
2. Set the scheduled frequency and run times:
   - Never run (default - use for reports run manually)
   - Run once on next run date/time
   - Run monthly starting on next run date/time
   - Run weekly starting on next run date/time
   - Run every [number of] days starting on next run date/time
   - Run daily (then select which days of the week and the run time)
   - Run on custom dates (then select up to 12 days and their run time)

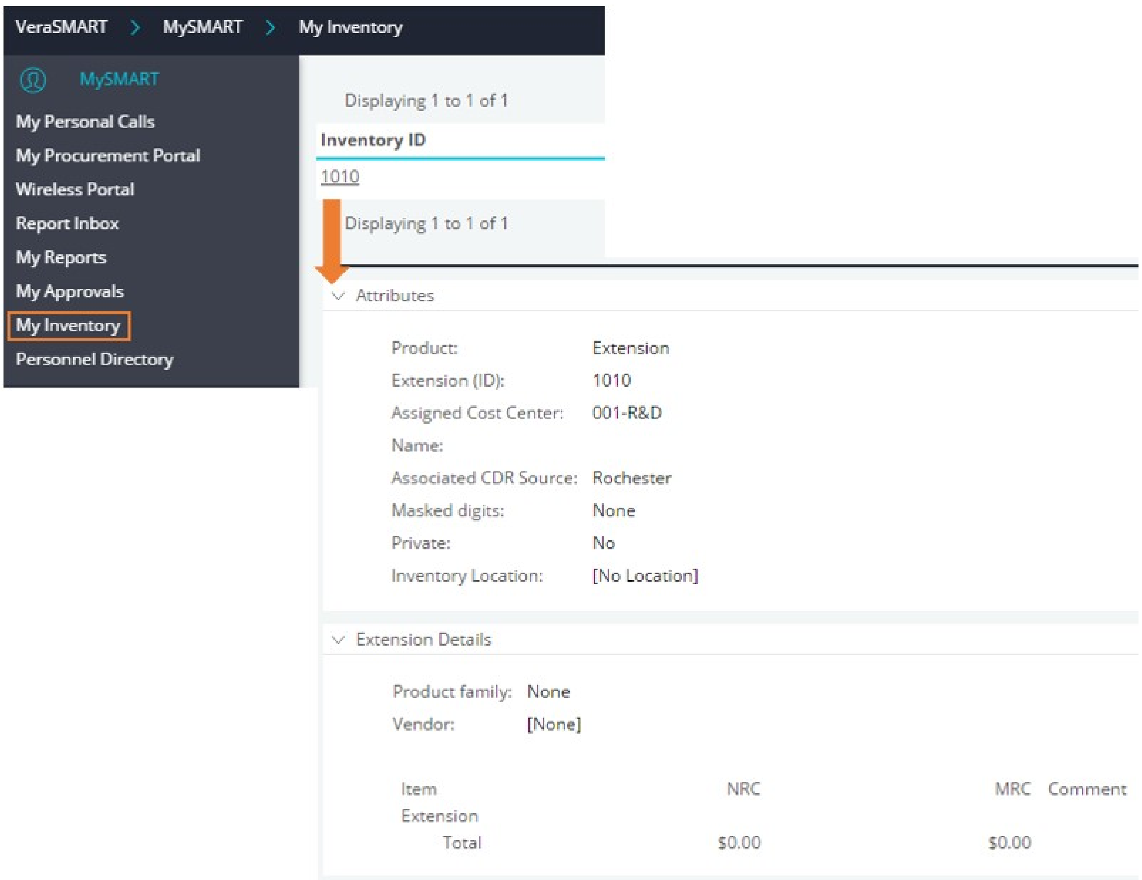
   NOTE: If you omit the time, reports are queued to run at midnight. Choosing a next run date/time that is in the past will start the run immediately.

My Inventory

NOTE: The label 'My Inventory' for this section and the layout for this page may have been changed by your system administrator.

Use this page to view all inventory assigned to you.

1. Access: MySMART (side bar) > My Inventory (or label set by your system administrator).
   Your inventory list appears.
2. Click the *Inventory ID* link to display the detailed inventory record.



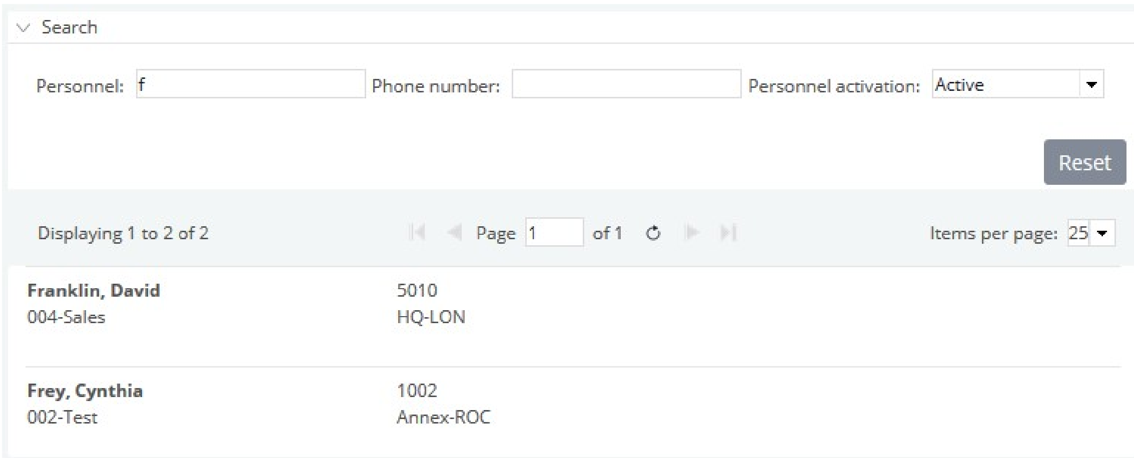
Personnel Directory

Use this page for a quick lookup of individuals in your organization.

1. Access: MySMART (side panel) > Personnel Directory.

   > ***NOTE*:** Your system administrator may have enabled access to this page outside the MySMART application.

2. You can enter the start of a name, phone number, or any of the search filters configured by your system administrator. You will start seeing results as you type - for example:



Reports and Analytics

VeraSMART has a robust reporting engine that can provide you with critical information to manage your telecommunications network, discover trends, and create presentations.

This section is devoted to VeraSMART reporting functions:

InSight Analytics

InSight Analytics is the business intelligence option in VeraSMART that lets you analyze telecom usage and expenses via interactive built-in dashboards. Analytics uses Qlik®, a 3rd party tool, to display such data visualizations as bar and pie charts, heat maps, tables, etc.

When you open the InSight Analytics section in the VeraSMART side bar, you will see the apps that are accessible to you. Depending on your user rights, these may include:

- Dispute Management
- Historical Invoice
- Inventory Management
- Invoice Management
- Mobility Management
- Orders and Provisioning
- Usage Management

Each app will have one or more base sheets that you can select to go into detail for analysis.

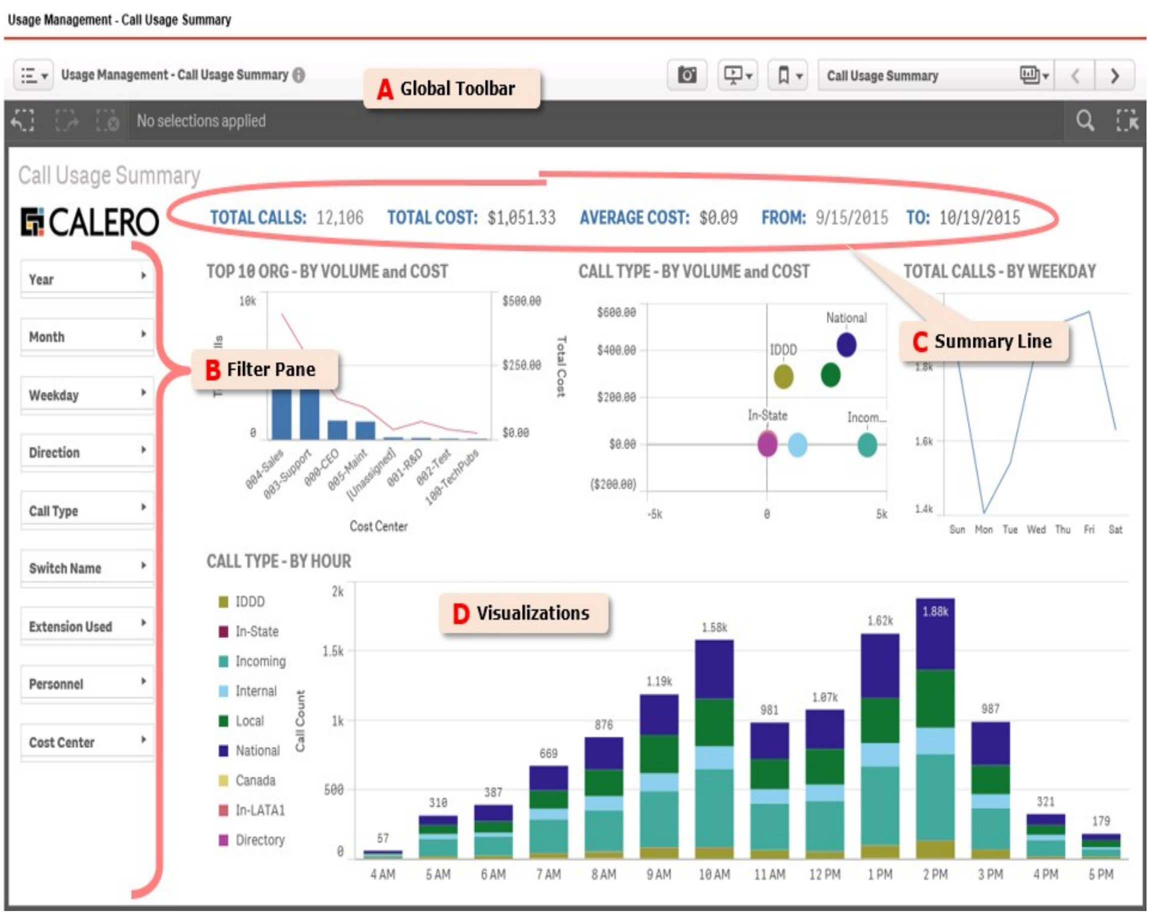
You may wish to view the InSight Analytics Guide (PDF).

Refer to the Analytics Data Guidelines (PDF) to identify necessary fields and data for Analytics to fully populate.

Working with Analytics Dashboards

By clicking visualization elements, you can quickly make selections to filter and focus information on specific data, enlarge a chart of interest, move around, change filters or go to the next view. You can take a 'snapshot' of a filtered view and then insert it as a 'story' for later viewing.

See sample below:



A

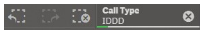
Global Toolbar

 export sheet as PDF

select another sheet (by drop-down or left / right arrow)

 take snapshots / create and view stories (snapshots are used in story presentations)

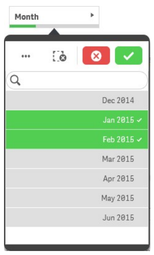
 create / view bookmarks



arrows step back & forward through filtered displays; X's clear filters

B

Filter Pane

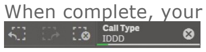


The set of filters (on the left) changes from app to app. Filter choices can appear as a drop-down list (shown here) or full screen.

You can search long lists or use the **...** to open a menu with helpful selection tools, including exporting the list of possibilities.

Your choices are shown in green (to keep them, use the green checkmark; to discard them use the red X).

When complete, your selection will be added to the global tool bar:



C

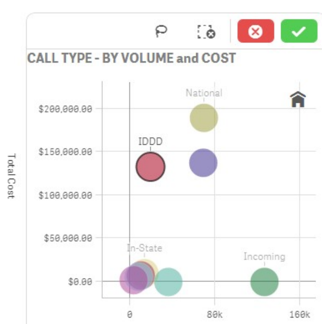
Summary Line

The summary line appears in the Expense and Usage Management apps. In provides the following information:

- Total <objects>, where objects = calls, invoices, or inventory items -- as appropriate
- Total cost (and average cost for the Usage Management app)
- Date range from - to

D

Visualizations



Each sheet provides its own set of visualizations. Clicking any one of its elements opens a visual selection box for the sheet -- see example on the left or hover over an element and expand to full screen

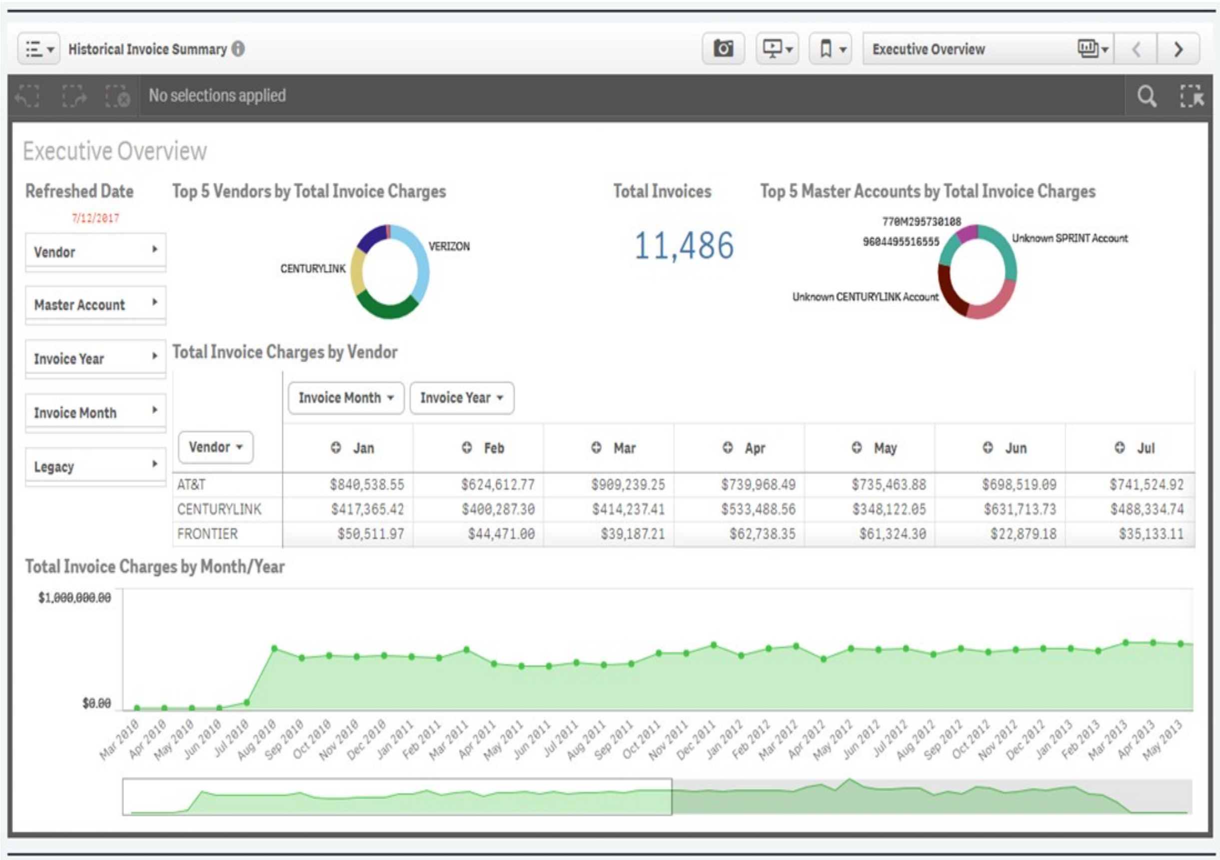
Click on a single item or use the lasso tool to select multiple items as filters. To close the box, use the red X (closes without selecting filter) or the green check (closes with the selected filters).

Right-click for a menu that will let you...

- take a snapshot of the element
- open an exploration menu
- export it as an image, PDF, or Excel (if available)

Historical Invoice Analytics

The Historical Invoice Analytics provide a complete history of every invoice currently in the VeraSMART system. You can now get Analytic visuals with your past invoices as well as the current. Use the filters, hover-views and dynamic search capabilities to quickly zero in on the information that you need. This Analytic is also beneficial for customers who need to view invoices that have been imported into VeraSMART from a legacy system.



Note on Filters: You can select any combination of filters. You may also search the list by the first few characters of a filter value. Names can be searched by last and first names.

Required License Module:
Invoice Management

Visualizations

Executive Overview

Filter Pane

- Vendor
- Master Account
- Invoice Year
- Invoice Month
- Legacy

Charts and Reports

- Top 5 Vendors by Total Invoice Charges
- Total Invoice Charges by Vendor
- Total Invoices
- Top 5 Master Accounts by Total Invoice Charges
- Total Invoice Charges by Month/Year

Invoice Details

Filter Pane

- Vendor
- Master Account
- Invoice Year
- Invoice Month
- Legacy

Tabular Data

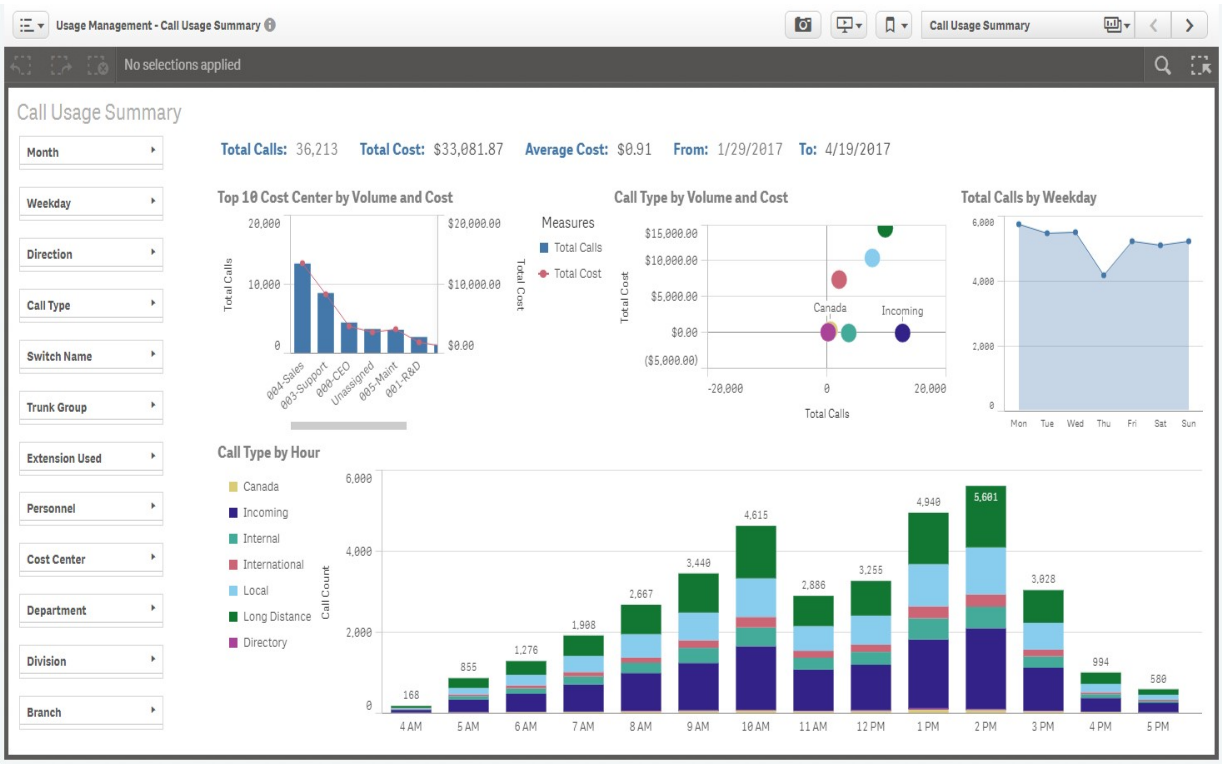
- Vendor
- Master Account
- Invoice Date
- Invoice Number
- Invoice ID
- Legacy
- Total Charges
- Check Date
- Check Number
- Check Amount

Usage Management Analytics

This analytic provides information on wireline calls within the time range on the summary line, organized under the following sheets:

- Call Usage Summary
- Call Geography
- Call Details

We suggest that you explore using filters, searches, hover-views, panning, and other analytics tools.



Required License Module:
Call Accounting

Filter Pane

Month	Month the call started
Weekday	Call data on a specific day of the week within the date range
Direction	All, Incoming, Internal, Outgoing, Tandem
Call Type	Type of call -- Canada, directory, IDDD, In-LATA1 or 2, In-State, Incoming, Internal, Local, National, or any call type existing in the CDR database
Switch name	Name of an installed wireline CDR source
Trunk Group	Call data on a specific trunk group within the date range
Extension used	Extension placing an outgoing call or receiving an incoming call, as it appears in the call detail record
Personnel	Name of individual placing an outgoing call or receiving an incoming call, as it appears in the call detail record
Cost Center	Cost center associated with the extension or personnel
Department	Organization level above cost center
Division	Organization level above Department
Branch	Organization level above Division

NOTE: You can select all or any number of items from the list. You may search the list by typing the first few starting characters; names can be searched by first and last names.

Call Usage Summary

This sheet includes the following graphical reports:

- TOP 10 ORG - BY VOLUME and COST (combo line/bar chart - Cost Center vs. total calls/cost)
- CALL TYPE - BY VOLUME and COST (scatter plot chart - call count vs. total cost, color-coded by call type)
- TOTAL CALLS - BY WEEKDAY (line chart - days of the week vs. call count)
- CALL TYPE - BY HOUR (stacked bar chart - hour of the day vs. call count, color coded by call type)

Call Geography

This sheet includes the following graphical reports:

- TOP 10 PERSONNEL BY COST (bar chart - Personnel names vs. total cost)
- TOP 10 PERSONNEL BY VOLUME (bar chart - Personnel names vs. total calls)
- CALL LOCATION MAP (map with volume indicators per locality)*
  *May pan and zoom map.

Call Details

This sheet provides a tabular view with 8 columns, exportable as an Excel file.

Column positions and contents are selectable from these 11 fields:

- Personnel
- Extension Used
- Call Direction
- Reported Dialed/CLI Number
- Call Type
- Call Location
- Start Date
- Start Time
- Duration
- Cost
- Cost Center

Update Analytics

[This page is only available to System Administrators]

This utility is used to reload or rebuild individual analytics with current data. This process occurs automatically every night, and can also be accomplished manually by System Administrators (see Reload or Rebuild an Analytic below).

VeraSMART recommends manually rebuilding analytics if...

- Changing GL segments (adding/removing/renaming)
- Changing Org levels (adding/removing/renaming)
- Enabling/disabling the Short Pay feature
- Changing the labels of ticket UDF's involved in disputes (Claim Category, Claim Type, etc.)
- Changing the system setting "Number of invoices to check for 'Device having no usage' alert"
- Changing the system culture
- Changing the database connection

NOTE: *Bookmarks and Stories will persist after the nightly rebuild, but will be lost if the analytic is manually rebuilt using the Rebuild function.*

Reload or Rebuild an Analytic

1. Access: Administration menu > Utilities > Update Analytics
2. Locate the analytic to reload/rebuild and click its Reload or Rebuild icon.
3. This will initiate a request to schedule a reload/rebuild of the corresponding analytic.
4. To view the updated time stamp for the last completed reload/rebuilt date, click the Refresh Status button.
   - ***NOTE***: Do not refresh the browser, as this will schedule another refresh operation.
5. Once complete, analytics users will be able to view current data in all sheets of the reloaded/rebuilt analytic.

System Reports

VeraSMART comes with a standard set of 'system' reports tailored for various applications. System Reports are available to you, as a report user...

- to run from the Reports dashboard or from the menu bar under one of the major tabs, as configured by a Report Designer.
- to personalize and add to 'My Reports' for running immediately, scheduling, a/or adding to your Favorites (see Running Reports for details).

> ***NOTE***: Your System Administrator or Report Designer may change access or layout of the built-in System Reports. A System Administrator may create a 'system report' from any user report.

Here is the list of System Reports as initially set for report users. Click the [+] to open or the [-] to close each section:

⊞ Call Accounting Reports

Call Search	
411/555-1212 Calls	Find Directory Assistance calls placed from your choice of CDR sources and date range.
900 Calls	Find premium-rate 900 calls placed from your choice of CDR sources and date range.
911 Calls	Find emergency 911 calls placed from your choice of CDR sources and date range.
After Hours Calls	Find calls placed between your selected time frame (default: 5PM to 8AM). You can also choose the CDR source, assignment (of extensions used), call type, dialed numbers, etc.
Call Search	Ad Hoc search on the current database. Useful in pinpointing very specific call activity. You can choose the time frame, assignment (of extension used), call type, cost, duration, dialed / CLI numbers, extension used and more.

Exception	
Call Summary by Extension	Summarize call activity by extensions used. You can choose the date range, call direction, organization level, and assignment (of extensions used).
Expensive Calls	Details on the 25 most expensive calls placed during your selected date range. You can also choose the organization level and which extensions to exclude.
Frequently Called Numbers	Details on the top 25 locations called from your choice of CDR sources. You can also select the dates, trunk group, call type, organization level, and extensions and dialed numbers to exclude.
Longest Calls	Details on the 25 lengthiest calls placed during your selected date range. You can also choose the CDR source, call type and direction, organization level and which extensions to exclude.
Telecom Manager	Statistics on incoming, internal, outgoing, and tandem calls, details on long/costly calls and other conditions that may require your attention (unanswered calls and trunks without activity). You can choose the date range, CDR source, and trunk group to include in the report, and which extensions to exclude.
Top Callers by Cost	Details on the 25 callers with the highest call charges within your selected date range. You can also choose the CDR source, organization level, and which extensions to exclude.

Exception	
Unused Extensions	List inventory without call activity for the selected date range, CDR source, inventory type, and other criteria.

Trunk Analysis	
Concurrent Calls	Analyze concurrent call activity on trunks. This report tracks the maximum number of concurrent calls on trunks or trunk groups within the date range of the report. The report also tracks Busy Hour calls. This is beneficial for identifying bottlenecks as well as over-utilized or under-utilized trunks.
Grade of Service	Analyze trunk traffic during peak hours. The report allows you to gauge how well the telephone system is performing and helps decide if a system is over or under-provisioned (that is, it has too many or too few trunks allocated for each trunk group facility). You can choose the date range, CDR source, and trunk group.
Trunk Group	Analyze line usage by trunk groups. You can choose the date range, CDR source, call direction, and trunk group. You can also select the graph layout.
Trunk Usage	Analyze line usage by each hour in a day -- a preliminary indicator that a trunk may be over or under utilized, and thus warrant further investigation. You can choose the date range, CDR source, trunk, and trunk group. You can also select the graph layout.

Wireless Call Accounting Reports

Call Search	
Wireless 411/555-1212 Calls	Find Directory Assistance calls placed from your selected date range. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless 900 Calls	Find premium-rate 900 calls placed from your selected date range. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless 911 Calls	Find emergency 911 calls placed from your selected date range. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless After Hours Calls	Find calls placed between your selected time frame (default: last month, 5PM to 8AM). You can also choose the assignment (of phones used), call type, dialed numbers, etc. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless Call Search	Ad Hoc search on the current database. Useful in pinpointing very specific call activity. You can choose the time frame, assignment (of device used), call type, cost, duration, dialed numbers, and more. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.

Exception

Call Summary by Wireless Number	Summarize call activity by wireless number ('extensions used' in the report). You can choose the date range, call direction, organization level, and assignment (of device used). Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Expensive Wireless Calls	Details on the 25 most expensive calls placed during your selected date range. You can also choose the organization level and which wireless numbers to exclude. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Longest Wireless Calls	Details on the 25 lengthiest calls placed from wireless devices during your selected date range. You can also choose the call type and direction, organization level and which wireless numbers to exclude. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless Frequently Called Numbers	Details on the top 25 locations called from your wireless phones. You can select the date range, call type, organization level, and numbers to exclude. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.

Traffic	
Wireless Call Date Summary	Analyze wireless call traffic by date for selected periods. You can choose the date range, origin, call direction, and organization level. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless Call Duration Summary	Analyze wireless call activity by various duration ranges. It provides a basis to track lengthy calls. You will be able to choose the date range, origins, and organization level. You can also select the chart layout. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless Call Type Summary	Analyze usage by type of call (Anytime minutes, Int'l long distance/roaming, MMS, SMS, Mobile-to-mobile, Nights & Weekends). You will be able to choose the date range and organization level, as well as the chart layout. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.
Wireless Time of Day Summary	Analyze wireless phone usage and costs, distributed throughout the day. You can choose the date range, call direction, organization, and device assignments to include in the report. You can also select the graph layout. Although the default 'Source Type' for calls to be included in the report is Wireless Call Accounting, you can also choose 'All' or 'Call Accounting/Internal'.

⊞ Organization Reports

System Reports	
Assigned Charges by Organization	Internal 'bill' for calls and internal charges for the selected organization level and accounting period. Systems with Wireless Call Accounting can also select to include call charges from invoices. The report is highly configurable for its contents and level of detail. Each report level will include interactive viewing choices, which may include: ▪ The Summary view provides call statistics at the selected organization level, with links to the next lower level. ▪ The Overview provides statistics for the period and fiscal year on wireline and wireless call usage and internal charges. ▪ The Call Types view provides statistics for each type of wireline calls. ▪ The PBX or Wireless Call Detail view provides a listing of call records. ▪ The Wireless Usage view summarizes voice, messaging, data, and other charges (measuring unit, plan allowance, usage, billable, and overage charges). This report allows EZ-Burst output (for users that have this role).
Personal Call Identified by Organization	Internal 'bill' for calls marked as 'personal' by members of the selected organization level and date range. This report allows EZ-Burst output (for users that have this role)

Running Reports

The system allows you to run, schedule, or personalize reports that have been made accessible to you.

NOTE: A system administrator may have set reporting options globally, via the System Preferences function:

- Report header options:
    - Display company name
    - Display warning if reporting on a non-closed period
- E-mail options:
    - 'Reply-to' address for e-mailed reports (system default or the sender's)
    - Default message to include with all e-mailed reports (may be changed when you configure report)
    - File extension for e-mailed report attachment (default = 'zip')
- Other options:
    - Masked dialed numbers on call accounting reports
    - Include totals when exporting report to Excel
    - Suppress page breaks in 'printer-friendly' format

To run an existing report now

1. Locate desired report. This may be directly under a Reports sub-menu -- or -- under My Reports or your Favorites .

    NOTE: My Reports will only list reports which you have personalized. The system comes with a set of reports available for adding to My Reports and also for running immediately under the Call Accounting and Organization tabs > Reports menus.

2. The report configuration page appears. It will show:
    - The report name (you can also view the description and template name by clicking the information icon)
    - Database to run against (current or archive -- if archive, it will indicate the time period covered)
    - Schedule to run, if any
3. Configure report contents (Click the Help icon for details on this type of report):
    - Use the Filters tab to view and/or set the report name and criteria for data to be included in report.
    - Use the Layout tab to view and/or set up report sections and columns
    - Use the More Actions drop-down to select the report database (current or archive)
4. Select the Run option. Depending on the report, choices may include:
    - to Browser (output to your screen now)
    - to Report Inbox (output will be made available to you from the Report Inbox)
    - to E-mail (output will be sent to selected addresses in standard or printer-friendly format, as a link or a zipped attachment. You can also change the message to include in the e-mail.)
    - to EZ-Burst (output will be sent to your selected distribution list in standard or printer-friendly format -- or, if available, to Personnel EZ-burst with a notification address. You can also change the message to include in the e-mail)

    NOTE: EZ-Burst output is only available for Account Code reports and for some Organization reports if accessed from My Reports AND you have user rights to do so.

To schedule existing reports

1. Access: My Reports.
2. Mark desired reports and then click the Schedule button.
3. Review the reports and follow instructions to complete the wizard.
4. This will include setting the scheduled frequency and run times:
    - Never run (default - use for reports run manually)
    - Run once on next run date/time
    - Run monthly starting on next run date/time
    - Run weekly starting on next run date/time
    - Run every [number of] days starting on next run date/time
    - Run daily (then select which days of the week and the run time)
    - Run on custom dates (then select up to 12 days and their run time)

    NOTE: If you omit the time, reports are queued to run at midnight. Choosing a next run date/time that is in the past will start the run immediately.

5. Review the schedule and click Finish.

To personalize a report

1. Access: any 1st level menu > Reports > My Reports. For a new report, click Add, select the template, and give it a report name
   -- or -- open an existing report.
2. Configure report contents (Click the Help icon in the lower left menu for details on this type of report):
   - Use the Filters tab to view and/or set the report name and criteria for data to be included in report.
   - Use the Layout tab to view and/or set up report sections and columns
   - Use the More Actions drop-down to select the report database (current or archive)
3. To add this report configuration to your Favorites, click Add to Favorites; if the report was in your Favorites and you wish it removed, click Remove from Favorites.
4. To submit your modifications and exit, click the Save button; to save this report under a different name, select Save > Save As and provide a new name.

   ***NOTE*: You may also run the report as currently configured using the Run output choices. Note that this alone does not save the configuration.**

5. To schedule report runs (against the current database), select Save > Save with Schedule.
   a. Set the scheduled frequency and run times:
      - Never run (default - use for reports run manually)
      - Run once on next run date/time
      - Run monthly starting on next run date/time
      - Run weekly starting on next run date/time
      - Run every [number of] days starting on next run date/time
      - Run daily (then select which days of the week and the run time)
      - Run on custom dates (then select up to 12 days and their run time)

      ***NOTE*: If you omit the time, reports are queued to run at midnight. Choosing a next run date/time that is in the past will start the run immediately.**

   b. Set the output -- depending on the report, this may include:
      - Report Inbox (option: printer friendly format)
      - E-mail (provide addresses, message to include, and other options -- printer friendly, send as link or attachment)
      - EZ-Burst (provide distribution list, , and format option: printer friendly or standard HTML)
      - Personnel EZ-Burst (provide notification e-mail addresses separated by (;) semi-colons and message to include)
      - ASCII file (select: header, delimiter, and output file path)

Report Receipt Tracking

Managers or administrators may find it beneficial to track when employees have acknowledged receipt of their Personnel Usage repor
describes how to configure receipt tracking of the Personnel Usage report.

Enabling Report Receipt Tracking

1. Run or schedule a Personnel Usage report to EZ-burst.

Note: *When you run the report to EZ-burst, all users who have the EZ-burst option enabled on their personnel record will receive a re call usage. They will not receive the report unless they have actual call usage data.*

2. When you choose the option to run or schedule the report to EZ-burst, you will be presented with a 'Track receipt' checkbox. Checl receipt tracking.

3. When the report runs, the report users will receive the report via email. The following link will be in the email:
Please click to acknowledge receipt

4. When the report user clicks the acknowledgment link, they will receive a web page response with a **Thank You** message.

Tracking Receipt of the Personnel Usage Report

1. Click the Reports sub-menu under any 1st level menu and choose **Report Receipt Tracking.**

2. The view defaults to a list of report instances in which recipients have not acknowledged the report yet. If all instances have been the view will be empty by default.

☐	Report name	Initial notification	Most recent follow-up	Times sent	Total recipients	Recipients yet to acknowledge receipt
☐	Personnel Usage Report	1/13/2017 2:20:45 PM EST		1	1	1

3. If you click the report name instance in the view, there will be a 'Send Again' button. This will re-send the report to all recipients w acknowledged receipt. The 'Most recent follow-up' and 'Times sent' fields on the view will update with a date and the number of times

4. To view past report instances that have already been acknowledged, change the search filter on the view to 'All' or 'Only notificatic all recipients'.

Viewing Saved Reports

1. Access: any 1st level menu > Reports > Report Inbox.

   NOTE: You can only access reports that have been run to the Report Inbox by you.

2. Click the *report name* link. The report will open in another browser window. Use its links to view the criteria page and/or details, if any.
3. To send the report to others:
   a. Mark the reports of interest and click Forward Marked.
   b. Enter or select e-mail addresses and then add free-form text to include in the message.
   c. Click Send. The recipient(s) will get an e-mail with a link to access the report.
4. To remove reports, mark them, click Delete and confirm.

Viewing the Report Log

Use this function to view the status of all reports generated recently.

Information includes the report ID and names (both, given and system names), the user that initiated it, start/end run dates, and completion status.

1. Access: Any 1st level menu > Reports > Report Log.
2. To look for a specific report in a long list: use your browser search function (**Ctrl** + **F**) and enter key words -- for example: the report name, a user name, dates, and/or completion status.
3. To delete log entries: mark them, click Delete, and then confirm.

Report Templates

The table below lists all VeraSMART report templates (you can click the report name to open its description).

Icons quickly identify available sources of call and charge data (Call Accounting/Internal -or- Wireless Call Accounting) and typical applications.

Click to [+] expand or [-] contract application descriptions below:

[+] Allocate costs, resell services, a/or bill-back clients.

'Cost allocation' refers to distributing expenses among the responsible parties. This is essential in many organizations, not only because they need to remain within a budget, but also because a "cost center" may operate on a profit basis.

'Reselling' telephone or other services is becoming increasingly common. Typical scenarios include billing client accounts and tenants.

'Bill-back' refers to passing to clients/customers the cost of a service incurred in their behalf. In call accounting, some installations use account codes, the switch feature used to mark client's calls for "billing back" charges. The system can charge accounts (typically, at a marked up rate), and thus allow you to recover hundreds of dollars that may otherwise go unbilled.

[+] Follow trends

Reports summarizing usage, expenses, and/or services can help determine trends in calling patterns. Armed with this knowledge...

- A telecom manager can better plan your facilities and/or negotiate better rates with service providers.
- In the case of call centers, productivity and load analyses can be better managed with "trend" information.
- A service/facility manager can plan service loads.

[+] Spot abuse/misuse or pinpoint special conditions

In call accounting, examples of "abuse" are calls placed by unauthorized personnel (visitors, delivery personnel, janitorial staff) and calls to dial-up recordings.

Facility "misuse" refers to unknowingly placing calls that incur excess usage charges. This often happens because of ignorance or misunderstanding on the part of the user, although it can happen when switch programming for automatic route selection or least cost routing is incorrect.

[+] Optimize a/or manage services

Providing availability and efficient work flow at reasonable costs is of paramount importance. A well-designed network should have a good mix of services to accommodate demand. In the case of Voice-over-IP networks, providing clear, consistent delivery of voice communications is an added goal.

[+] Create presentations

Report graphs deliver a good portrayal of usage patterns and expenses, ideal for presentations. Because reports are web-based, their graphical images can be captured for use by other applications.

[+] Convert to spreadsheets

Most reports and listings include an **Excel** link at the top of the page. This allows you to extract page data as an XLSX file for opening in Microsoft Excel 2003 and greater.

[+] Export as ASCII files (for systems without EZ-Share)

For system administrators, some detailed reports provide a configurable ASCII output, ideal for a "system feed" to other programs a/or to general ledger applications

[+] Run to EZ-Burst (for quick report distribution)

In an EZ-Burst output, report is sectioned off into individual sub-reports by account, cost center, or department (depending on the report); appropriate sections are then e-mailed to pre-selected recipients. This output is ideal for automating the distribution of reports to key personnel, by scheduling this output at the end of each accounting period.

Report Group / Report Name	Typical Applications								Source	
Administration Reports										
Audit Trail										
Call Accounting Reports										
Account Code Detail										
Call Detail by Organization										
Call Search										
Call Summary by Extension										
Call Summary by Organization										

Call Type Group by Cost Center										
Call Type										
Cost Distribution										
Date										
DNIS Detail										
Duration Distribution										
Expensive Call										
Frequently Called Numbers										
Grade of Service										
Incoming Call Distribution										
Incoming Traffic										
Longest Call										
Outgoing Call Distribution										
Personal Calls										
Quality Of Service										
Ring Time Analysis										
Telecom Manager										
Time of Day										
Top Callers by Cost										
Trunk Group										
Trunk Usage										
Unused Extensions										
Charge Assignment Reports										
Assigned Charges by Organization										
Personnel Usage Report										
Inventory Reports										
Inventory Item Listing										
Wireless Reports										
Wireless Usage										

Administration Reports

This section describes reports in this group.

System Audit Log Report*

This report is a simple listing of all activity logged for the selected users and system processes, within the specified time period.

The standard output is a single HTML page; it displays the date and time, a user's IP address and name, as well as all logged activities (operation / details) performed during the user's work session. System processes responsible for database activities -- for example, [Import] -- will appear under the User Name column.

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* This page describes the full System Audit Log Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

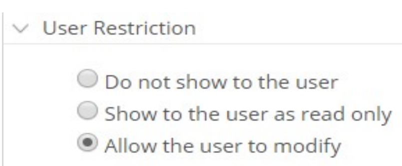
Start Date/Time	IP Address	User Name	Operation	Details
4/17/2007 2:00:25 PM	127.0.0.1	admin	Logged in	
4/17/2007 2:01:36 PM	127.0.0.1	[import]	Added Cost Center	Mkt-555
4/17/2007 2:02:01 PM	127.0.0.1	admin	Added recurring charge code	Voice Mail
4/17/2007 2:10:38 PM	127.0.0.1	admin	Logged out	

Filters

Details	Text field from an audit log record
Operation	Text field from logged activity and/or database table name
Operation date range	Current Month including Today, Last Month, Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday), Today, Yesterday, Last N Days (excluding today), Custom (from / to)
User name	Text field for user or system process
NOTE: Text fields accept wildcards, which may represent (?) a single character or (%) a string.	

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:

  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

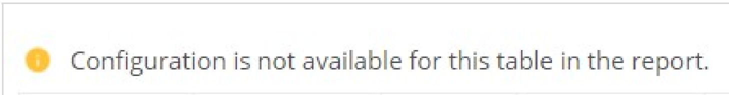
Layout

General	Mark to allow user to modify layout
Audit Details	Not modifiable: Start date/time | IP address | User name | Operation | Details

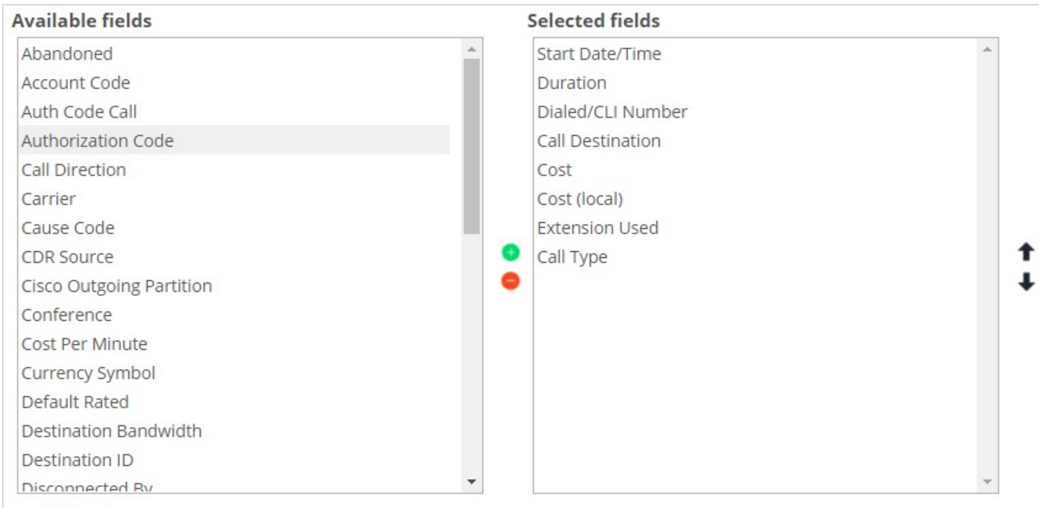
Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

- Expand each section by clicking on the **>** symbol before the section name.

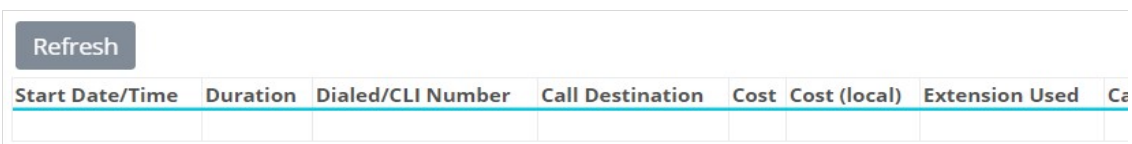
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Accounting Reports

This section describes reports in this group.

- Account Code Detail Report
- Call Detail by Organization Report
- Call Search Report
- Call Summary by Extension
- Call Summary by Organization
- Call Type Group by Cost Center
- Call Type Report
- Concurrent Calls Report
- Cost Distribution Report
- Date Report
- Duration Distribution Report
- Expensive Call Report
- Frequently Called Numbers Report
- Grade Of Service Report
- Hunt Group/DNIS Detail Report
- Incoming Call Distribution Report
- Incoming Traffic Analysis Report
- Inventory Without Calls Report
- Longest Call Report
- Outgoing Call Distribution Report
- Personal Calls Report
- Quality Of Service Report
- Ring Time Analysis Report
- Telecom Manager Report
- Time of Day Report
- Top Callers by Cost Report
- Trunk Group Report
- Trunk Usage Report

Account Code Detail Report*

This report provides summary statistics and detailed information on call activity by accounts. It is useful in billing those accounts for telephone usage, with/without markups as set up for each individual account.

The main page shows total calls, duration, and cost for each of the selected accounts. Each account, in turn, drills down to a detailed page that includes the selected report fields as columns. Call costs will include account code markups, if any. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The report is available for EZ-Burst distribution -- that is, the system breaks report by account and e-mails each section to the distribution list configured for the account.

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* This page describes the full Account Code Detail Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Account Code	Account Name	Total Calls	Total Duration	Total Cost
1234	Acme Limited	1	00:20:00	$45.00
5678	Veramark	4	00:35:00	$10.00
Totals		**5**	**01:20:00**	**$55.00**

Account Code: 1234

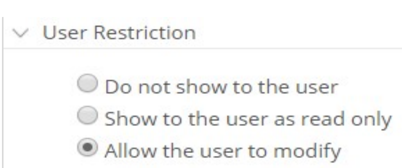
Start Date/Time	Duration	Dialed/CLI Number	Call Destination	Cost	Extension Used	Call Type
1/14/2008 10:53:00 AM	00:20:00	011-4983169533	GERMANY	$45.00	6624	IDDD
					Total Calls	**1**
					Total Duration	**00:20:00**
					Total Cost	**$45.00**

Filters

Account code	Accounts to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday), Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Detail level sub-title format	Display account code, account name, or both
Inventory location	All or any selected from system list
Sort by	Account code or account name

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.

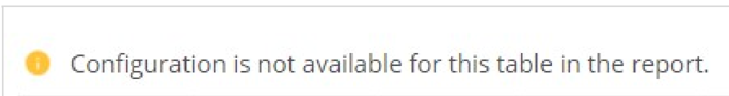
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

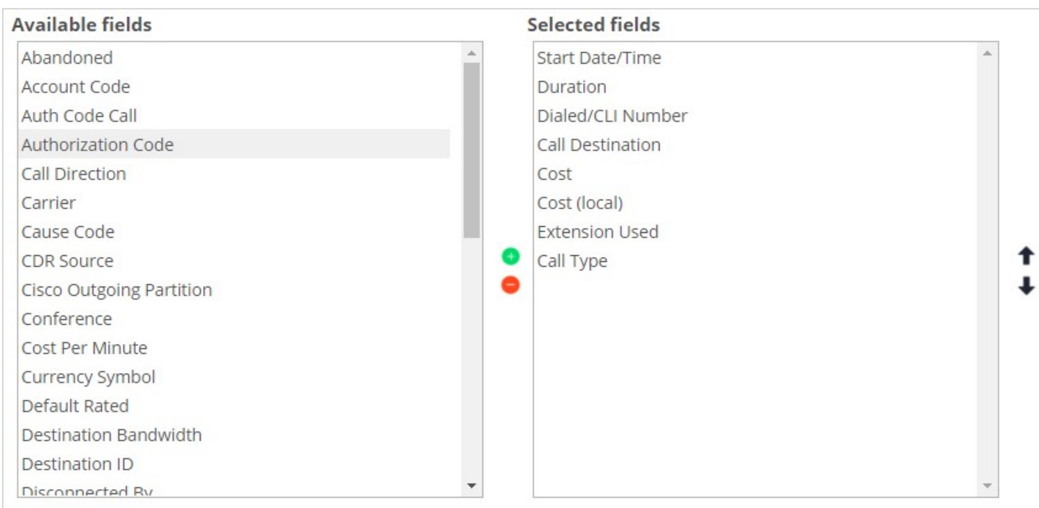
General	Mark to allow user to modify layout
Account Code Summary	Not modifiable: Account code | Account name | Total Calls | Total Duration | Total Cost
Call Detail	Available fields (see Call Detail Fields for descriptions)

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

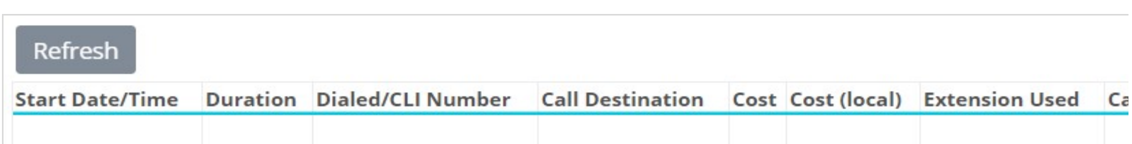
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say “Configuration not available for this table in the report.”



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Detail by Organization Report*

This report provides summary and detailed information on call activity and internal charges by organization members, conforming to a wide range of selection criteria.

The report is highly configurable, with selectable columns/fields. HTML output is also available for EZ-Burst and Personnel EZ-Burst distribution. System Administrators can output call details from report in ASCII text format.

The standard report is organized into a series of interlinked "drill-down" summary pages, starting with the highest organization level selected, all the way down to the Personnel level. Multinational systems can choose to show all amounts converted to the system currency, as per the effective conversion rate for the charge.

- If call type summaries are included, each summary level presents a section that groups call details by call type.
- If call details and/or charges are included, the Personnel summary page drills down to a detailed page of call records and/or internal charges for the selected time period.

USAGE HINT:

The Call Detail by Organization Report is ideal for allocating costs throughout your organization. However, you can explore other applications:

- Allow reimbursements - print and distribute detailed reports for selected personnel to allow them to reimburse the organization for personal calls.
- Reconcile monthly bills - compare departmental summaries with telephone bills; and should there be sizable discrepancies, obtain detailed information to claim a credit for overcharges by your local Telco or long distance carrier.
- Resolve problems - provide department heads with "on demand" details to help them solve problems as they occur; for instance, all calls made by employee "X" between 2 PM and 4 PM since yesterday.
- Proof of use - use the detailed reporting capability to prove that calls were placed from your organization. This is ideal in situations that require you to prove attempts were made to contact a disgruntled customer or supplier.
- Measure productivity - use summary information on outgoing and/or incoming calls to conduct "productivity audits" on your sales people, bill collectors, customer support, telemarketers, etc. in your organization. Your top producers calling patterns can serve as a model for others to follow.

* This page describes the full Call Detail by Organization Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Cost Center Name	Department Name	Total Calls	Total Duration	Average Duration Per Call	Average Cost Per Call	Average Cost Per Minute	Total Call Cost	Charges	Total
CC001	Administration	42	10:47:12	0:15:25	$2.71	$0.00	$113.72	$20.00	$133.72

Cost Center Name: CC001

Personnel	Total Calls	Total Duration	Average Duration Per Call	Average Cost Per Call	Average Cost Per Minute	Total Call Cost	Charges	Total
Anton, Marissa	1	0:08:00	0:08:00	$0.40	$0.05	$0.40	$0.00	$0.00

Cost Center Name: CC001 **Personnel Name:** Anton, Marissa

Start date/Time	Duration	Dialed/CLI Number	Call Destination	Call Type	Extension Used	Cost
12/2/2007 9:21:15 AM	0:08:00	1-203-577-9856	WATERBURY, CT	National	1031	$0.40
					Total Duration	**0:08:00**
					Total Call Cost	**$0.40**

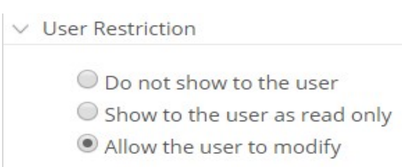
Filters

Assignment	All, Unassigned only, assigned to Personnel, assigned directly to Cost Center
Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call start	between / and (times in 12-hour AM/PM format or 24-hour format)
Call type	All or any selected from system list
CDR Source	All or any selected from system list
Cost	between / and (values in the system currency)
Currency	Show all calls with costs converted into system currency or Show calls with specific currency (currency selected from system list)
Duration	between / and (values in seconds, minutes:seconds, or hours:minutes:seconds)
Extension used	Entriesto include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Include cost center cost adjustments	Yes or no
Include inventory items by CDR source	All or any selected from system list
Inventory ID	Entriesto include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Suppress records with no calls	Yes or no
Trunk group	All or any selected from system lis

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:

  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

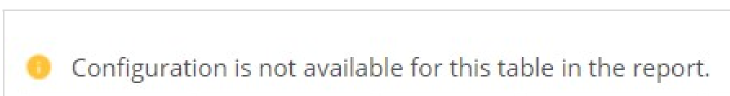
Layout

General	Mark to allow users to modify layout

Organization Summary	Standard layout: Organization level | Organization Parent | Total Calls | Total Duration | Average Duration Per Call | Average Cost Per Call | Cost Per Minute | Total Call Cost Other available fields: Charges, total
Personnel Summary	Standard layout: Personnel| Total Calls | Total Duration | Average Duration Per Call | Average Cost Per Call | Average Cost Per Minute | Total Cost Other available fields: Charges, e-mail address, employee number, network login, total, user-defined fields
Call Detail	Can suppress call detail. If not suppressed, see Call Detail Fields for descriptions.
Call Type Summary	Mark to include this summary. If included (not configurable): Call Type | Total Calls | Total Duration | Average Duration Per Call | Average Cost Per Call | Average Cost Per Minute | Total Call Cost
Charge Details	Mark to include internal charges. Standard layout: Charge Type| Description | Charge Source | Inventory Type |Amount

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



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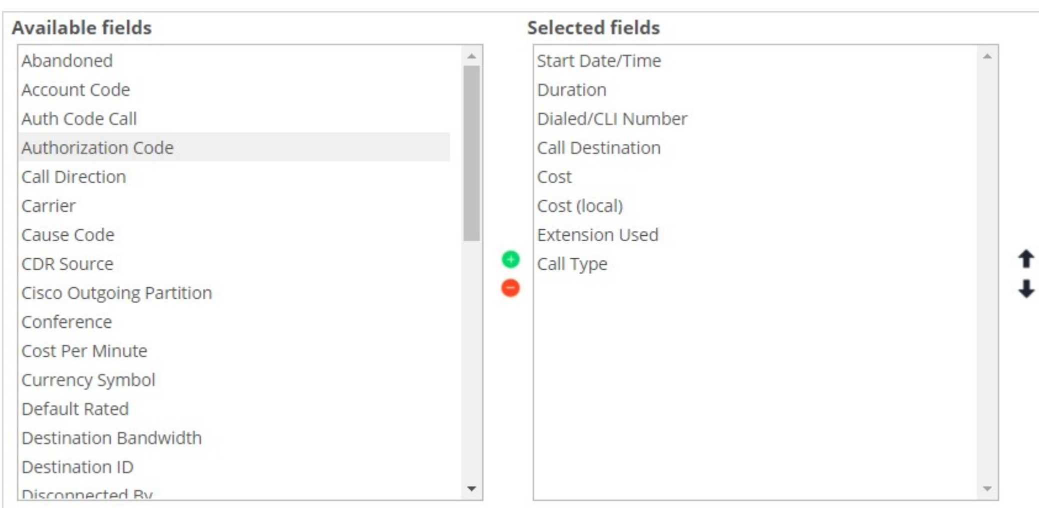
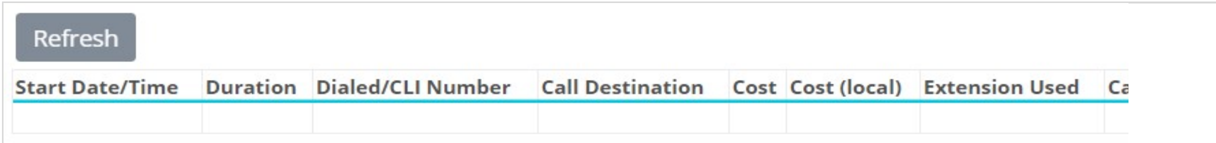


- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Search Report*

This report provides detailed information on call activity conforming to a wide range of selection criteria. It is a versatile tool, used to pinpoint details in problem areas discovered by other reports. Multinational systems can choose to show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The report is available in standard HTML format, with selectable columns/fields.

System Administrators can output report in ASCII text format. The ASCII text may contain a header record, followed by lines of call records that match the selected report criteria, field order, and delimiter.

NOTE: An HTML report can only output the maximum number of call records, specified in System Preferences. There are no size limitations for ASCII output.

* This page describes the full Call Search Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Start Date/Time	Duration	Extension Used	Reported Dialed/CLI Number	Call Destination	Call Type	Trunk	Cost
4/5/2007 7:01:45 PM	0:06:57	1035	1-916-486-0900	SACRMNTO N, CA	National	150	$0.28
4/5/2007 7:02:18 PM	0:10:42	4288	205-0214	HOUSTON, TX	Incoming	410	$0.00
4/5/2007 7:02:18 PM	0:04:05	5068	394-6572	KEYS, FL	Local	526	$0.12

Filters

NOTE #1: See Call Detail Fields for field descriptions.

NOTE #2: All user-defined fields for inventory items are also available for selection.

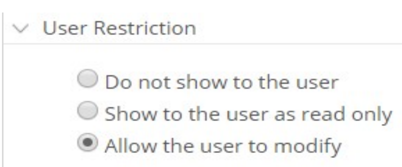
Abandoned/Unanswered call criteria	All calls, only abandoned calls, only unanswered calls, only abandoned and unanswered calls
Account code	Codes to include,separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Account name	Account code names to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Accounting period	All, most recent closed period, most recent pending period, currently open period, or selected from a list
Actual duration	Duration as reported in CDR, before rating adjustments -- set range between00:00:00 and 9999:59:59
Assignment	All, Unassigned only, assigned to Personnel, assigned directly to Cost Center
Authorization code	Codes to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Call destination	Location names to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call origination	Location names to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call start	Time range between 12:00:00 AM and 11:59:59 PM
Call type	All or any selected from system list
Cause code	Codes to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
CDR Source name	All or any selected from system list
Conference	All, yes, no
Cost	Range of values between0 and 999,999,999,999 (system currency)
Currency	Show all calls with costs converted into system currency or Show calls with specific currency (currency selected from system list)
Destination bandwidth	Range of values between0 and 2,147,483,647
Destination ID	Entriesto include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Dialed digits	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Disconnected by	All, blank, originating, destination
Duration	Duration after rating adjustments - between 00:00:00 and 9999:59:59
Extension used	Entriesto include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Hunt group/DNIS	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Include inventory items by CDR source	All or any selected from system list
Inventory ID	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Inventory item name	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Inventory location	All or any selected from system list
Inventory type	All or any selected from system list
Invoice item	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Jitter (milliseconds)	Range of values between 0.0000and 99,999,999.0000
Latency (milliseconds)	Range of values between 0.0000 and99,999,999.0000
Organization level	All or specific level (with All or specific entry from system list)
Origination bandwidth	Range of values between0 and 2,147,483,647
Origination ID	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string

PCI Identification	All, Business, Excluded, Personal, or Unidentified
Percent of packets lost	Range of values between0.0000 100.0000
Queue time	Range of values between 00:00:00 and 9999:59:59
Redirect code	Values between 0 and 999
Redirect number	All or any selected from system list
Ring time	Range of values between 00:00:00 and 9999:59:59
Source type	All, Call Accounting/Internal, Invoice
Special code	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Tandem trunk	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Transferred	All, yes, no
Trunk	All or any selected from system list
Trunk group	All or any selected from system list
Vendor	All or any selected from system list
Vendor Rate Plan	Entries to include as they appear in invoices, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Video	All, yes, no
Voice mail	All, yes, no

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



  - If you attempt to add a field that is restricted, it will NOT be visible in your report’s Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

General	Mark to allow user to modify layout
Call Detail	Mark to suppress call detail. If not suppressed, see Call Detail Fields for descriptions of available fields.

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab

- Select the Layout field(s) you wish to add to your report. Save your changes.
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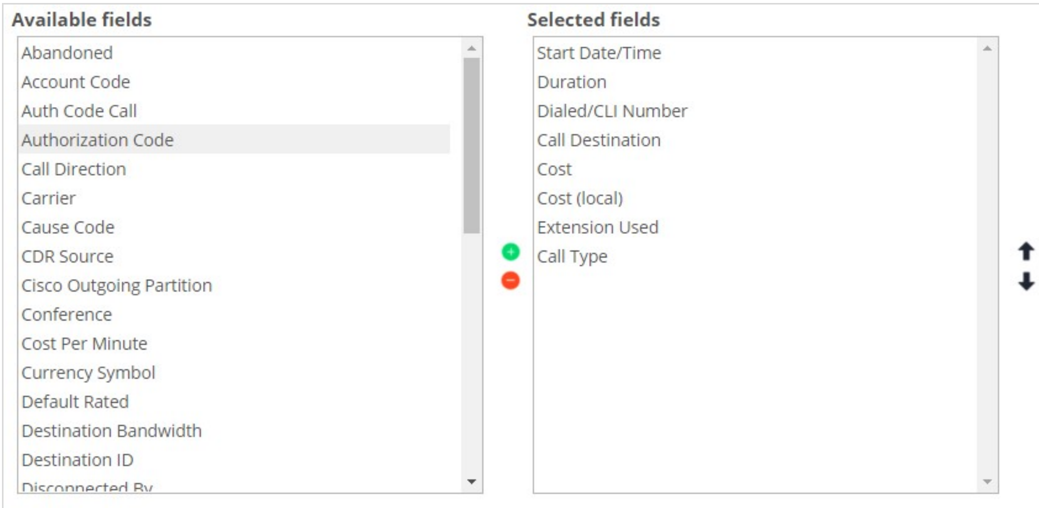
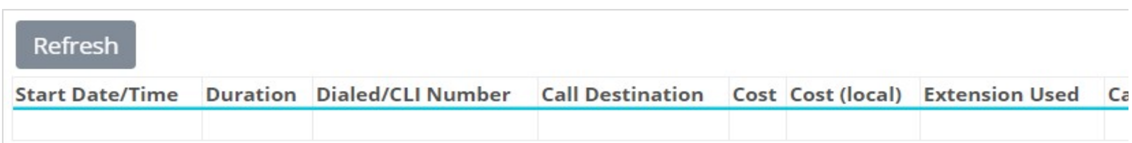
- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Summary by Extension*

This report summarizes call activity by extensions or wireless numbers used, filtered by user-selected criteria.

The main HTML page will list summary statistics for each CDR source. Each CDR source, in turn, drills down to summary statistics for each of its selected extensions or wireless numbers. Summary statistics include the number of calls (all and/or such specific types as incoming, internal, outgoing, and MMS/SMS messages), total and average duration, average cost per call and per minute, and total cost.

Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

* This page describes the full Call Summary by Extension template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Summary for CDR Source: Rochester

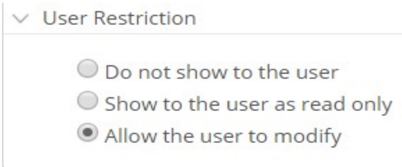
Extension Used	Personnel Name	Cost Center Name	Total Calls	Total Duration	Average Duration Per Call	Average Cost Per Call	Average Cost Per Minute	Total Cost
2300	Diaz, Pablo	cc100-east	460	118:43:58	0:15:29	$3.30	$0.21	$1,516.29
2450	O'Reilly, Sean	cc100-east	383	96:27:54	0:15:07	$2.25	$0.15	$861.66
2600	Case, Frederic	cc100-east	389	91:44:11	0:14:09	$2.56	$0.18	$994.68
2788	Pullman, Evelyn	cc100-east	450	108:08:24	0:14:25	$2.85	$0.20	$1,283.99

Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Include Inventory Items	All, unassigned only, assigned to Personnel, or assigned directly to Cost Centers
Include Inventory Items by CDR Source	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Suppress records with no calls or charges	Yes or no

Use the fields listed on the Filters tab to narrow your report search criteria.

- **Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab**
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



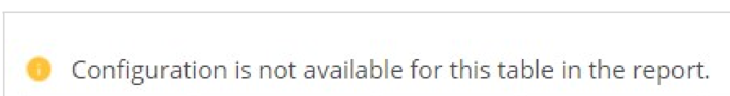
  - If you attempt to add a field that is restricted, it will NOT be visible in your report’s Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

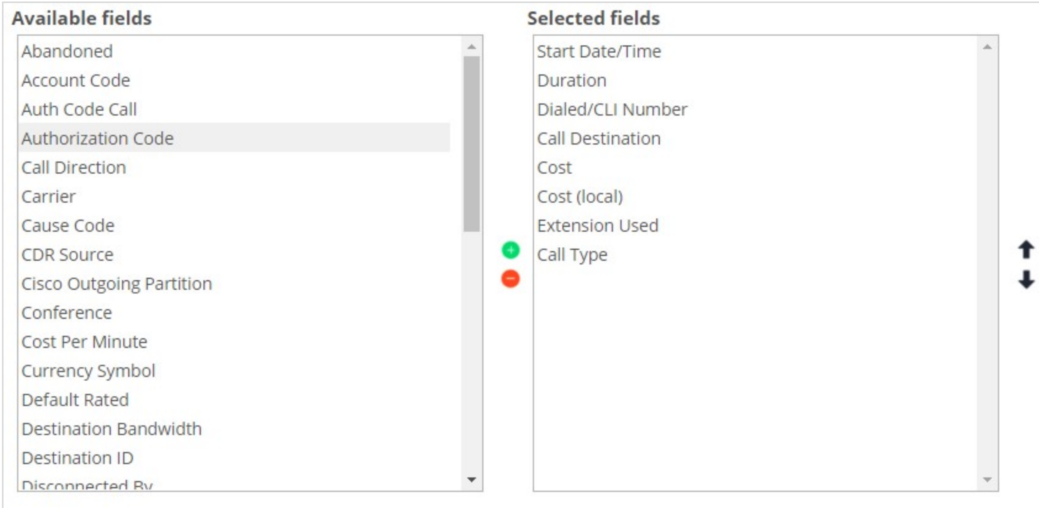
General	Mark to allow user to modify layout
Summarize by	Extension used -or- Inventory item ***NOTE***: Typically, the 'extension used' is the same as the 'inventory item' in a call record -- except for voice mail calls, where extension used = number of the voice mail system and inventory item = original called extension number.
CDR Source Summary	Default fields: CDR Source | Total Calls | Total Duration | Average Duration Per Call | Average Cost Per Call | Average Cost Per Minute | Total Cost Also available: ▪ Total Incoming Calls, Total Internal Calls, Total Outgoing Calls ▪ Total MMS Messages,Total SMS Messages
Extension Used Summary	Default fields: Extension | Personnel Name | Cost Center Name | Total Calls | Total Duration | Average Duration Per Call | Average Cost Per Call | Average Cost Per Minute | Total Cost Also available: ▪ Employee number, all user-defined fields for Personnel ▪ Total Incoming Calls, Total Internal Calls, Total Outgoing Calls ▪ Total MMS Messages, Total SMS Messages

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

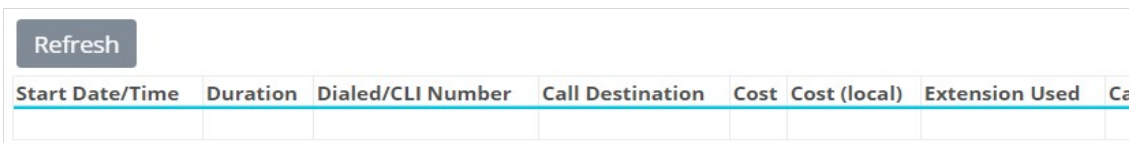
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say “Configuration not available for this table in the report.”



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Summary by Organization*

This report summarizes call statistics by members of your selected organization level, within the selected report criteria. This information can be used to determine call centers' activity at a glance.

The HTML report is organized into a series of interlinked "drill-down" summary pages, starting with the highest organization level selected, all the way down to the Personnel level. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

* This page describes the full Call Summary by Organization template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Department Name	Division Name	Total Calls	Total Duration	Average Duration Per Call	Average Cost Per Call	Average Cost Per Minute	Total Cost
Domestic Sales	US Division	1,682	415:04:27	0:14:48	$2.77	$0.19	$4,656.62

Department Name: Domestic Sales

Cost Center Name	Department Name	Total Calls	Total Duration	Average Duration Per Call	Average Cost Per Call	Average Cost Per Minute	Total Cost
CC037	Domestic Sales	460	118:43:58	0:15:29	$3.30	$0.21	$1,516.29
CC138	Domestic Sales	383	96:27:54	0:15:07	$2.25	$0.15	$861.66
CC267	Domestic Sales	389	91:44:11	0:14:09	$2.56	$0.18	$994.68

Department Name: Domestic Sales **Cost Center Name:** CC037

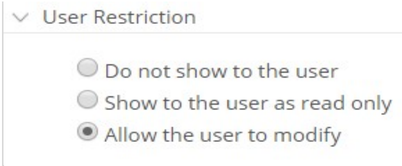
Personnel	Total Calls	Total Duration	Average Duration Per Call	Average Cost Per Call	Average Cost Per Minute	Total Cost
Anton, Marissa	9	2:24:11	0:16:01	$0.67	$0.04	$6.02

Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record start date	Any, Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call type	All or any selected from system list
CDR Source name	All or any selected from system list
Organization level	All or specific level (All or specific entries from system list)
Source type	All, Call Accounting/Internal, Invoice

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



- If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.

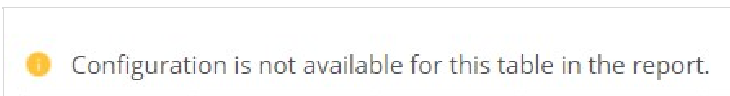
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

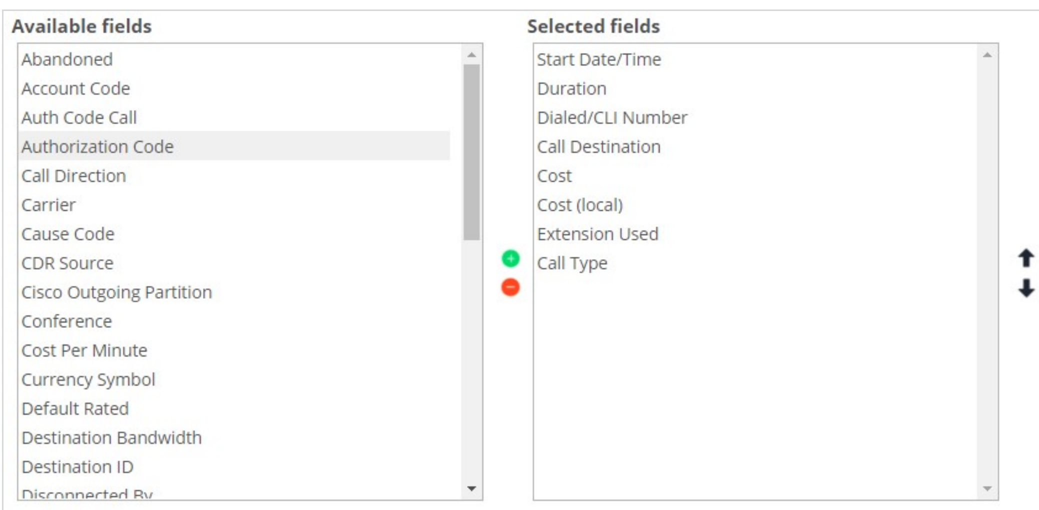
General	Mark to allow user to modify layout
Organization Summary	Not configurable: Organization Level| Organization Parent| Total Calls | Total Duration | Average Duration Per Call | Average Cost Per Call | Average Cost Per Minute | Total Cost

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

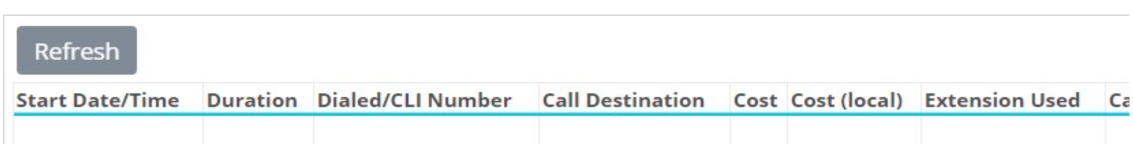
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Type Group by Cost Center*

This report summarizes cost center phone activity by up to four configurable call type groups, for selected CDR sources. This information is used for quick analysis of the type of calls handled by your organization.

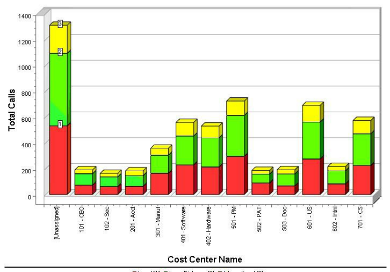
Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The report can have a chart (bar, stacked bar, or line chart) that summarizes either the total cost or total calls per configured call type group vs. each cost center that matches the report criteria. This is followed by rows of summary statistics per cost center name: number of calls and cost per configured call type group and total cost.

---

* This page describes the full Call Type Group by Cost Center template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

Cost Center	Local Calls	Local Cost	Long Distance Calls	Long Distance Cost	International Calls	International Cost	Total Cost
[Unassigned]	532	$235.51	561	$293.69	218	$7,679.60	$8,208.80
101 - CEO	72	$32.18	89	$52.27	30	$1,081.44	$1,165.89
102 - Sec	61	$28.49	76	$43.40	27	$1,099.40	$1,171.29
201 - Acct	63	$26.18	83	$43.76	37	$1,357.00	$1,426.94
301 - Manuf	164	$71.03	140	$74.39	55	$1,958.98	$2,104.40
401 - Software	229	$107.02	224	$114.48	106	$3,963.10	$4,184.60
402 - Hardware	213	$96.64	225	$125.66	92	$3,233.84	$3,456.14
501 - PM	295	$135.71	317	$171.28	112	$4,116.34	$4,423.33
502 - PAT	89	$40.96	69	$38.55	29	$901.85	$981.36
503 - Doc	67	$30.91	92	$47.98	33	$1,101.81	$1,180.70
601 - US	275	$120.68	286	$146.35	130	$5,114.57	$5,381.60
602 - Intnl	82	$32.27	101	$52.71	34	$1,143.78	$1,228.76
701 - CS	224	$98.37	246	$128.94	104	$4,091.43	$4,318.74
Totals	**2,366**	**$1,055.95**	**2,509**	**$1,333.46**	**1,007**	**$36,843.14**	**$39,232.55**

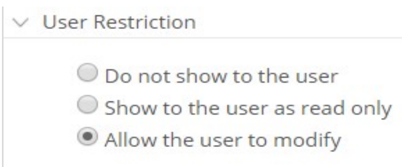
Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record startdate	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list

Call Type Groups	Report designer can name and then use the Configure Call Type Groups button to select which call types from the system list belong to up to four groups. Default names (editable) are: Local Long Distance International _____ (fourth group, blank)
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



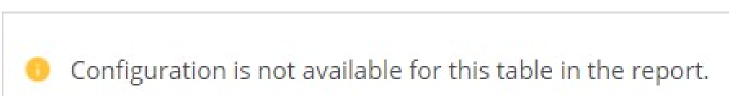
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

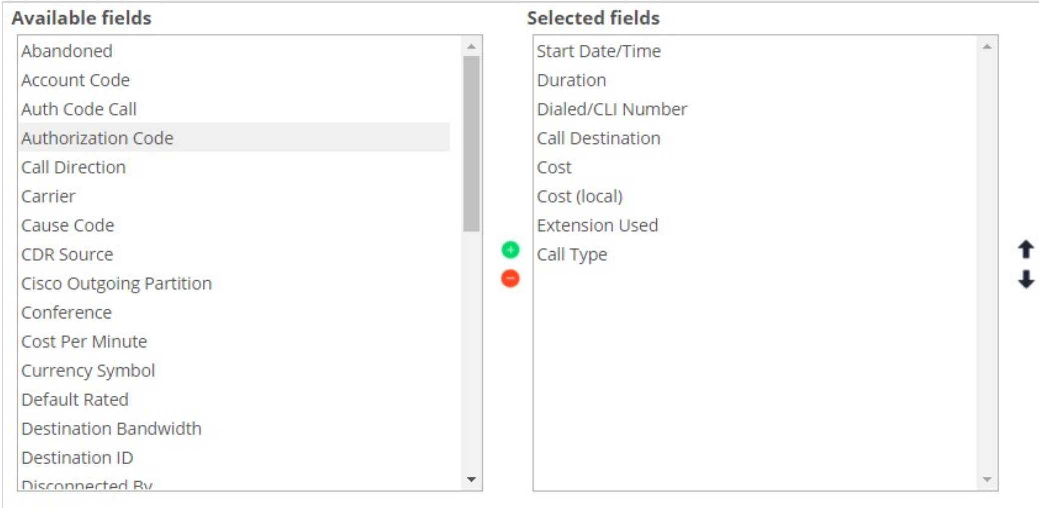
General	Mark to allow user to modify layout
Summary Data to Include	Value to chart: total calls, total cost Chart selection: no chart, bar chart, stacked bar chart, line chart
Cost Center Name Summary	Not configurable: Cost Center name | Group 1 calls | Group 1 cost | Group 2 calls | Group 2 cost | Group 3 calls | Group 3 cost | Group 4 calls | Group 4 cost | Total Cost

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

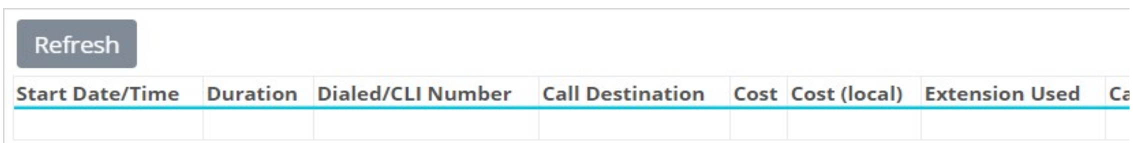
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Call Type Report*

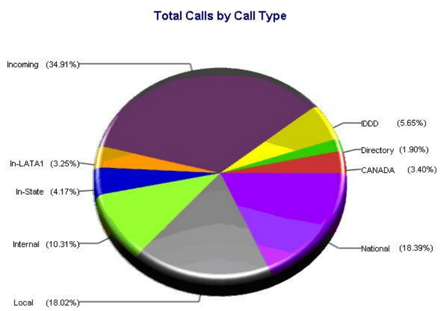
This report summarizes call activity by call types (grouped under their reporting names), matching the selection criteria. This report helps analyze telephone usage by type of call and should help in choosing calling plans and/or other telecom services to suit your needs.

The main HTML page will list summary statistics for each CDR source. Summary statistics include total calls, total and average duration, total and average cost (per call and per minute). Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The CDR source will be hyperlinked to a summary page that can have a chart (bar, line, pie) that graphs any of the summary statistics vs. call types. This is followed by rows of summary statistics per call type.

* This page describes the full Call Type Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

Call Type	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
CANADA	378	88:59:12	0:14:07	$7,758.59	$20.53	$1.45
Directory	211	53:41:50	0:15:16	$132.55	$0.63	$0.04
IDDD	629	157:08:28	0:14:59	$29,084.55	$46.24	$3.08
Incoming	3,883	967:19:23	0:14:57	$0.00	$0.00	$0.00
In-LATA1	362	85:23:48	0:14:09	$181.75	$0.50	$0.04
In-State	464	121:32:10	0:15:43	$257.73	$0.56	$0.04
Internal	1,147	280:29:32	0:14:40	$0.00	$0.00	$0.00
Local	2,004	508:13:31	0:15:13	$874.20	$0.44	$0.03
National	2,045	506:44:21	0:14:52	$1,075.73	$0.53	$0.04
Totals	**11,123**	**2,769:32:15**	**0:14:56**	**$39,365.10**	**$3.54**	**$0.24**

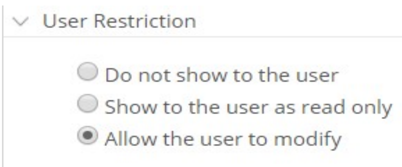
Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice

Tandem Trunk	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- **Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab**
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



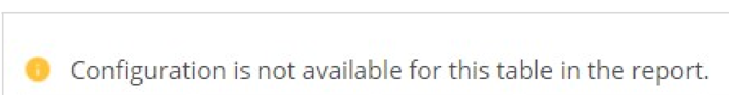
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

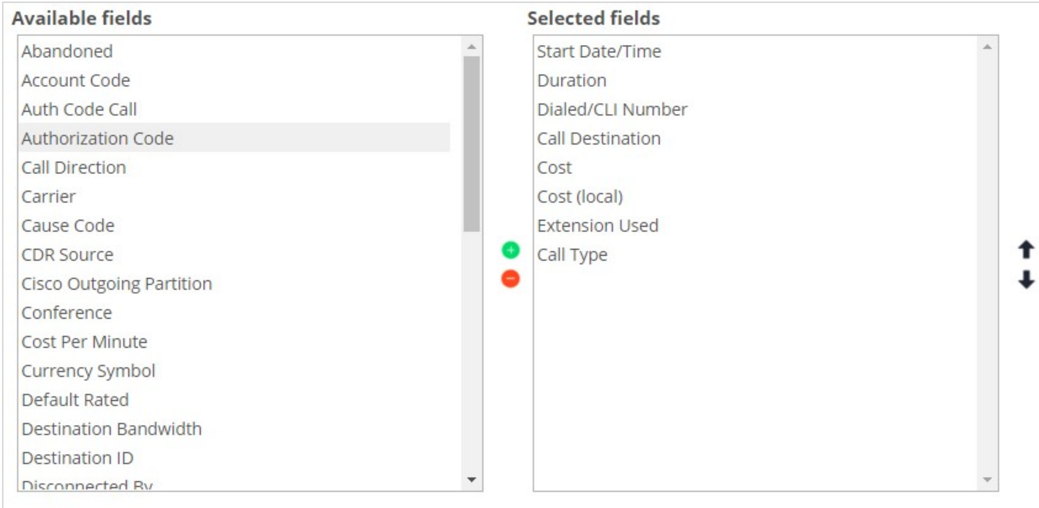
General	Mark to allow user to modify report
Summary Data to Include	Value to chart: average cost per call, average cost per minute, average duration, total calls, total cost, total duration Chart selection: no chart, bar chart, line chart, pie chart
CDR Source	Not configurable: CDR Source | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Call Type Summary	Not configurable: Call Type | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

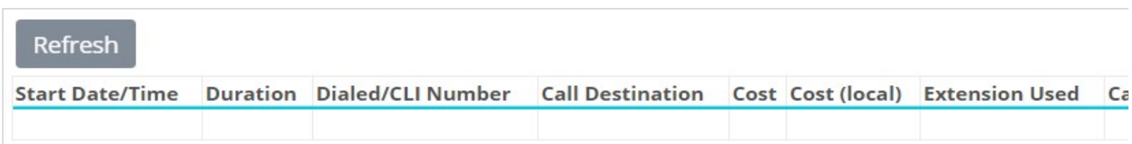
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Concurrent Calls Report

This report tracks the maximum number of concurrent calls on trunks or trunk groups within the date range of the report. The report also tracks Busy Hour calls. This is beneficial for identifying bottlenecks as well as over-utilized or under-utilized trunks. Use the following as a guideline for interpreting the report:

- **Busy Hour** = The hour within the date range of the report that had the largest total duration of all calls within that hour.
- **Total Calls** = The total number of calls within that Busy Hour
- **Average Duration** = The average duration of all the calls within that Busy Hour
- **Max. Concurrent Calls** = The maximum number of calls that happened at the same time within the date range of the report. This report field is separate from the Busy Hour statistics. The concurrent calls result did not necessarily happen during the reported Busy Hour.

The report may be accessed as follows:
(Call Accounting Menu > Reports > Trunk Analysis > Concurrent Calls Report)

or

(MySMART > My Reports > Add > Concurrent Calls Report)

Note: When setting up your report, you can go to the **Layout** tab and choose to summarize the report by Trunk Group or Trunk. You may optionally add the **Trunk** and **Minimum Concurrent Calls** fields to the report output.

* This page describes the full Concurrent Calls Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Sample Report Summarized by Trunk Group

Concurrent Calls

Trunk Group Name	CDR Source ID	CDR Source	Busy Hour	Total Calls	Average duration	Max. Concurrent Calls
Rochester Group 1	111	Rochester	7/4/2017 2:00:00 PM	176	00:11:50	46
Rochester Group 2	111	Rochester	7/5/2017 10:00:00 AM	134	00:12:19	45
Rochester Group 3	111	Rochester	7/4/2017 2:00:00 PM	62	00:13:06	20
Totals				**372**		

Page 1 of 1

Sample Report Summarized by Trunk

Concurrent Calls

Trunk Group Name	Trunk	CDR Source ID	CDR Source	Busy Hour	Total Calls	Average duration	Max. Concurrent Calls
Rochester Group 1	100	111	Rochester	7/4/2017 2:00:00 PM	1	00:27:31	1
Rochester Group 1	101	111	Rochester	7/4/2017 2:00:00 PM	3	00:14:41	2
Rochester Group 1	102	111	Rochester	7/4/2017 2:00:00 PM	2	00:21:31	2
Rochester Group 1	103	111	Rochester	7/4/2017 2:00:00 PM	3	00:12:33	3
Rochester Group 1	104	111	Rochester	7/5/2017 10:00:00 AM	2	00:23:05	2
Rochester Group 1	105	111	Rochester	7/4/2017 2:00:00 PM	3	00:15:51	2
Rochester Group 1	106	111	Rochester	7/5/2017 10:00:00 AM	3	00:15:41	1
Rochester Group 1	107	111	Rochester	7/5/2017 9:00:00 AM	2	00:23:00	2
Rochester Group 1	108	111	Rochester	7/5/2017 10:00:00 AM	4	00:12:06	3

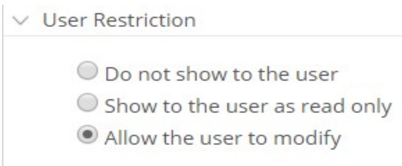
Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

To add more filters to the default list, go to:

- **Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab**
    - Select the Filter field(s) you wish to add to your report. Save your changes.
    - The User Restrictions field indicates whether the user can view/modify that criteria.
    - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



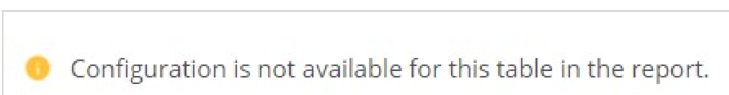
    - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

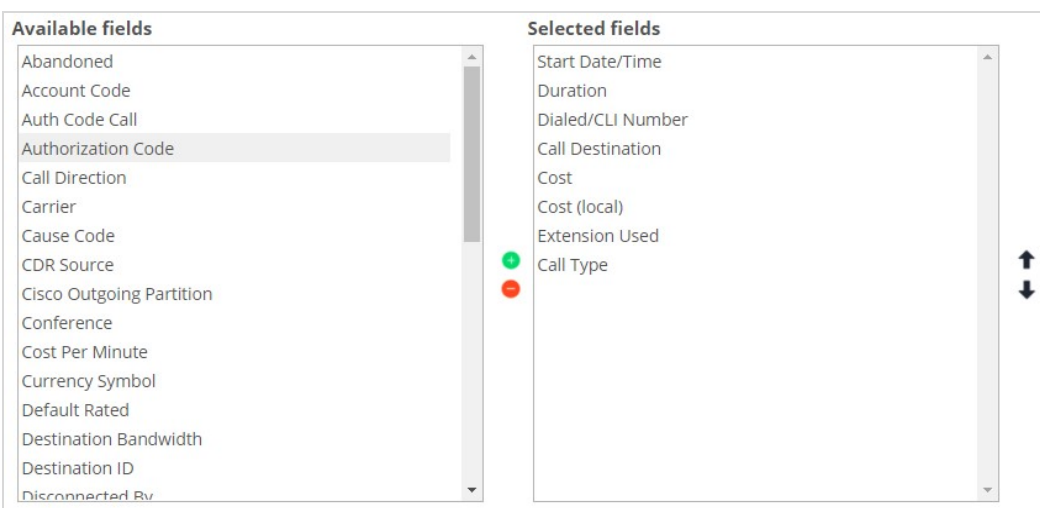
General	Mark to allow user to modify layout
Summarize by	Trunk Group or Trunk
Concurrent Call Data	Default fields: Trunk Group Name | CDR Source ID | CDR Source | Busy Hour | Total Calls | Average duration | Max. Concurrent Calls Available fields: Min. Concurrent Calls | Trunk

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

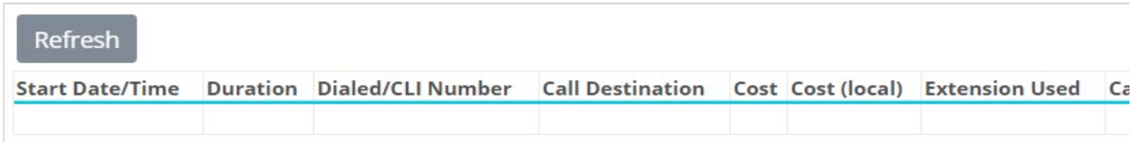
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
    - Select the Layout field(s) you wish to add to your report. Save your changes.
    - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

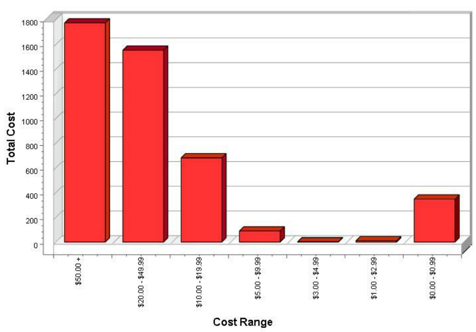
Cost Distribution Report*

This report summarizes call activity by various cost ranges, within the selected report criteria. It provides a basis to track expensive calls. Its graphs provide useful, at-a-glance display of trends for presentations. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The main HTML page lists summary statistics for each CDR source. The CDR source drills down to a page that may include a graph, followed by rows of summary statistics for various cost ranges in the system currency (for example, in dollars: 0.00 - 0.99, 1.00 - 2.99, 3.00 - 4.99, 5.00-9.99, 10.00-19.99, 20.00-49.99, and OVER 49.99).

* This page describes the full Cost Distribution Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

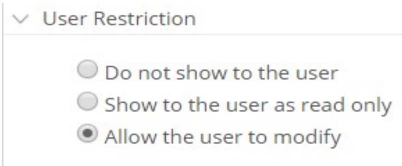
Cost Range	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
$50.00 +	23	8:56:02	0:23:18	$1,774.40	$77.15	$3.31
$20.00 - $49.99	44	13:19:40	0:18:10	$1,553.85	$35.31	$1.94
$10.00 - $19.99	40	6:10:31	0:09:16	$682.42	$17.06	$1.84
$5.00 - $9.99	12	0:49:30	0:04:08	$90.04	$7.50	$1.82
$3.00 - $4.99	1	0:01:54	0:01:54	$3.10	$3.10	$1.63
$1.00 - $2.99	7	2:00:59	0:17:17	$11.03	$1.58	$0.09
$0.00 - $0.99	1,246	307:48:36	0:14:49	$348.75	$0.28	$0.02
Totals	**1,373**	**339:07:12**	**0:14:49**	**$4,463.59**	**$3.25**	**$0.22**

Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



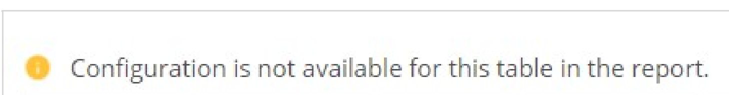
  - If you attempt to add a field that is restricted, it will NOT be visible in your report’s Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

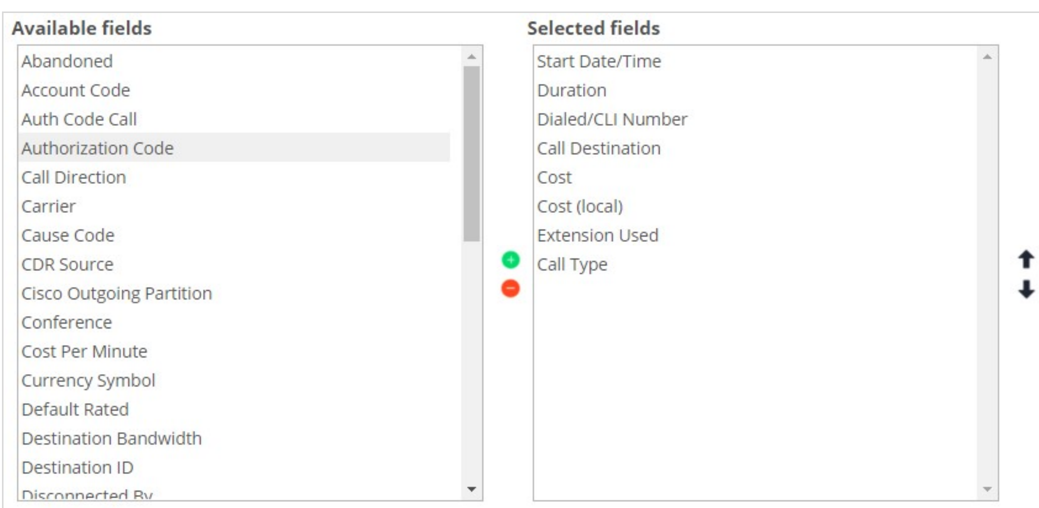
General	Mark to allow user to modify layout
Summary Data to Include	Value to chart: average cost per call, average cost per minute, average duration, total calls, total cost, total duration Chart selection: no chart, bar chart, line chart, pie chart
CDR Source Summary	Not configurable: CDR Source | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Cost Summary	Not configurable: Cost Range | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

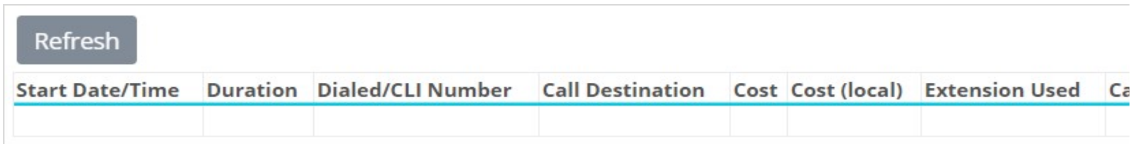
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say “Configuration not available for this table in the report.”



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Date Report*

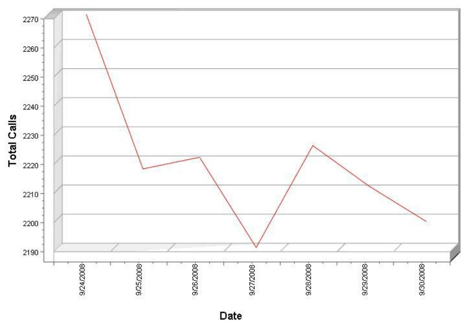
This report summarizes call activity by date, within the selected report criteria. This report helps analyze daily call distributions. Its graphs provide useful, at-a-glance display of trends for presentations.

The main HTML page shows summary statistics by CDR source. Each CDR source, in turn, drills down to a page that may include a graph followed by summary statistics, distributed for each day in the date range selected. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

---

* This page describes the full Date Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

Date	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
9/24/2007	2,270	569:51:47	0:15:04	$8,066.80	$3.55	$0.24
9/25/2007	2,217	550:22:24	0:14:54	$8,127.54	$3.67	$0.25
9/26/2007	2,221	564:09:24	0:15:14	$7,011.59	$3.16	$0.21
9/27/2007	2,190	537:41:11	0:14:44	$6,777.94	$3.09	$0.21
9/28/2007	2,225	547:27:29	0:14:46	$9,381.23	$4.22	$0.29
9/29/2007	2,211	557:14:08	0:15:07	$6,670.77	$3.02	$0.20
9/30/2007	2,199	539:20:41	0:14:43	$7,320.55	$3.33	$0.23
Totals	**15,533**	**3,866:07:04**	**0:14:56**	**$53,356.42**	**$3.44**	**$0.23**

Filters

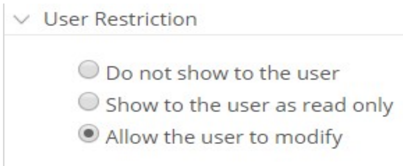
Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record startdate	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:

Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab

- Select the Filter field(s) you wish to add to your report. Save your changes.
- The User Restrictions field indicates whether the user can view/modify that criteria.
- You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



- If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.

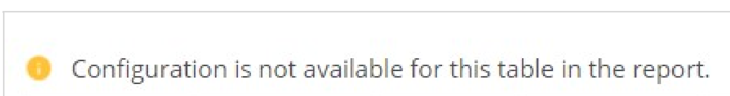
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

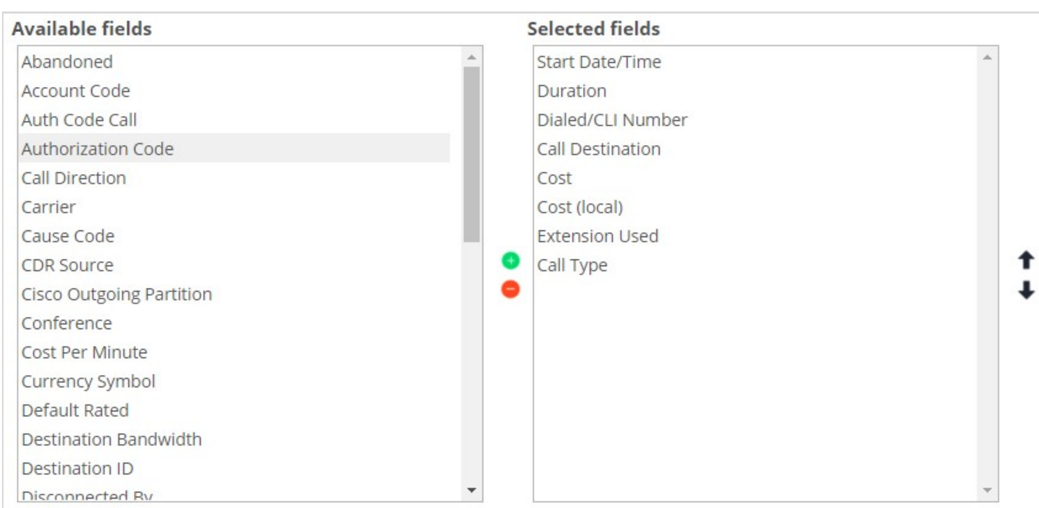
General	Mark to allow user to modify
Summary Data to Include	Value to chart: average cost per call, average cost per minute, average duration, total calls, total cost, total duration Chart selection: no chart, bar chart, line chart
CDR Source Summary	Not configurable: CDR Source | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Date Summary	Not configurable: Date | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

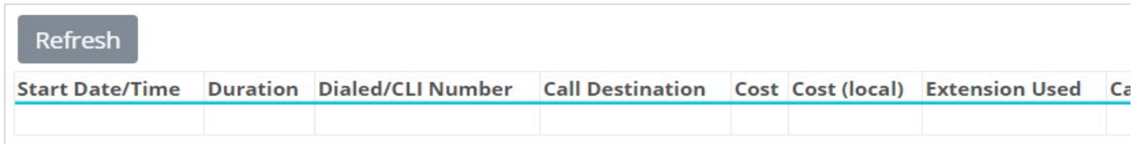
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

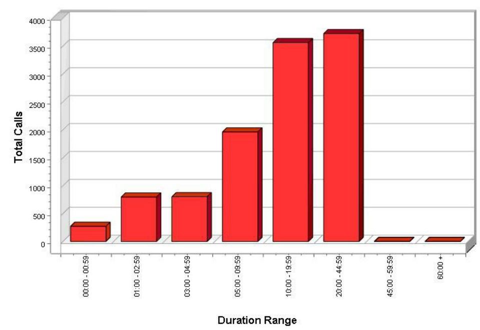
Duration Distribution Report*

This report summarizes call activity by various duration ranges, within the selected report criteria. It provides a basis to track lengthy calls. Its graphs provide useful, at-a-glance display of trends for presentations.

The main HTML page lists summary statistics for each CDR source. The CDR source drills down to a page that may include a graph, followed by rows of summary statistics for various duration ranges (in hours and minutes): 00:00 - 00:59, 01:00 - 02:59, 03:00 - 05:59, 05:00 - 09:59, 10:00 - 19:59, 20:00 - 44:59, 45:00 - 59:59, and OVER 59:59.

* This page describes the full Duration Distribution Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

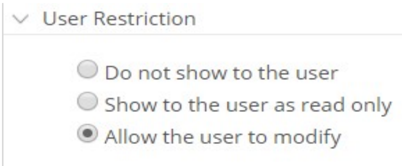
Duration Range	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
00:00 - 00:59	274	2:44:33	0:00:36	$69.60	$0.25	$0.42
01:00 - 02:59	797	26:50:19	0:02:01	$381.78	$0.48	$0.24
03:00 - 04:59	802	52:49:00	0:03:57	$1,022.23	$1.27	$0.32
05:00 - 09:59	1,963	245:00:37	0:07:29	$3,653.89	$1.86	$0.25
10:00 - 19:59	3,563	888:21:31	0:14:58	$13,263.92	$3.72	$0.25
20:00 - 44:59	3,724	1,553:46:15	0:25:02	$20,973.68	$5.63	$0.22
45:00 - 59:59	0	0:00:00	0:00:00	$0.00	$0.00	$0.00
60:00 +	0	0:00:00	0:00:00	$0.00	$0.00	$0.00
Totals	**11,123**	**2,769:32:15**	**0:14:56**	**$39,365.10**	**$3.54**	**$0.24**

Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



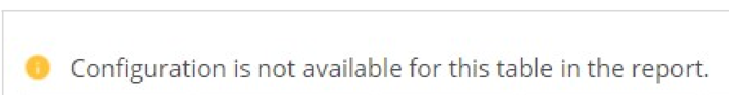
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

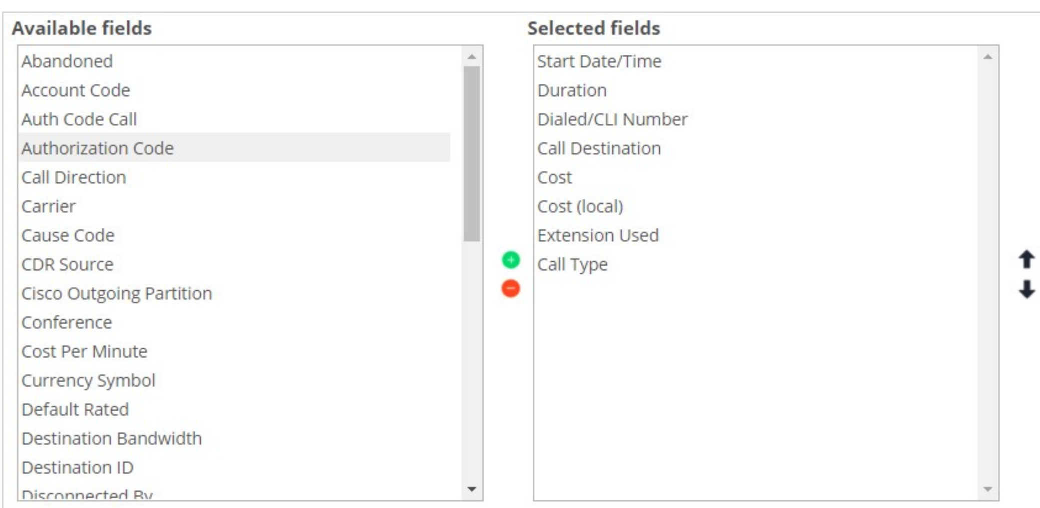
General	Mark to allow user to modify layout
Summary Data to Include	Value to chart: average cost per call, average cost per minute, average duration, total calls, total cost, total duration Chart selection: no chart, bar chart, line chart, pie chart
CDR Source Summary	Not configurable: CDR Source | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Duration Range Summary	Not configurable: Duration Range | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

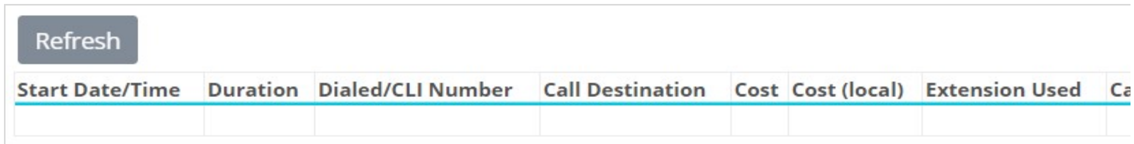
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Expensive Call Report*

This report provides detailed information on the 25 most expensive calls from each of the selected CDR sources that match the selection criteria.

The main HTML page provides a list of CDR sources. Their names drill down to a page that details the cost, duration, cost per minute, start date/time, dialed/CLI number, call destination, extension used, and personnel name associated with their 25 most expensive calls.

Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

---

* This page describes the full Expensive Call Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

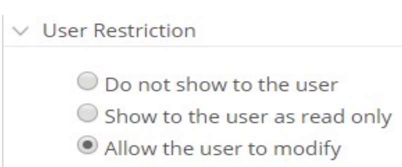
Cost	Duration	Cost Per Minute	Start Date/Time	Dialed/CLI Number	Call Destination	Extension Used	Personnel
$106.34	0:25:07	$4.24	2/11/2010 1:31:08 PM	011-39554238903	ITALY/SAN MARINO	1398	Room S1-1398
$105.84	0:27:57	$3.78	2/11/2010 8:04:59 AM	011-81355439209	JAPAN/OKINAWA	1324	Parker, Samuel
$102.06	0:26:12	$3.92	2/13/2010 2:44:12 PM	011-81355439209	JAPAN/OKINAWA	1369	Room S1-1369

Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Exclude extension	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



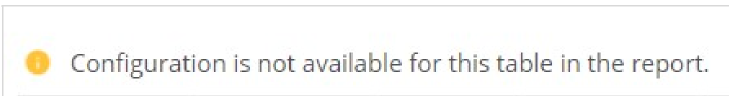
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

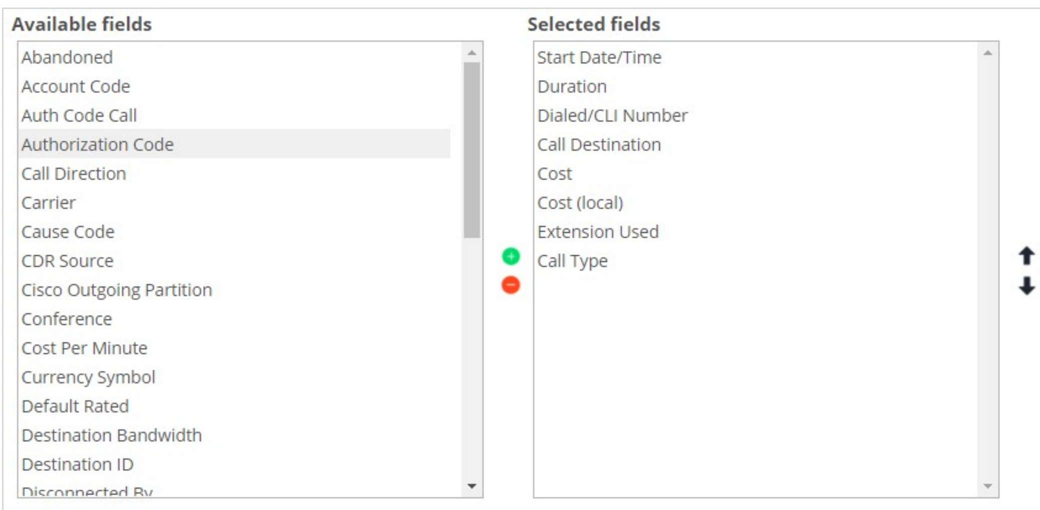
General	Mark to allow user to modify layout
CDR Source	Not configurable: CDR source
Expensive Call Details	Not configurable: Cost | Duration | Cost per minute | Start date/time | Dialed/CLI number | Call destination | Extension used | Personnel name

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

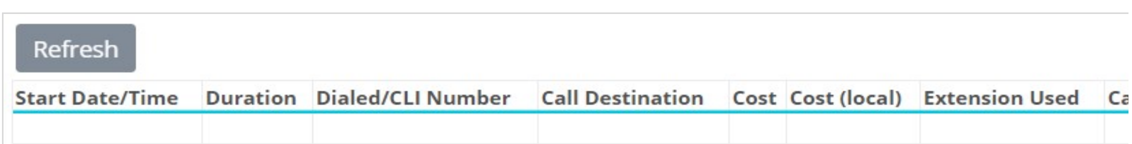
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Frequently Called Numbers Report*

This report pinpoints the top 25 called locations by CDR source. It should help in choosing better calling plans, dedicated lines, and/or other telecom services based on actual needs.

The main HTML page provides a list of CDR sources. Each CDR source, in turn, drills down to summary statistics for each of the top 25 numbers dialed from that site. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

* This page describes the full Frequently Called Numbers Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

CDR Source: Rochester

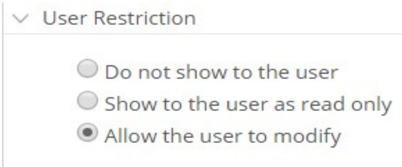
Dialed Number	Call Destination	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
1-374-5486	NAPLES, NY	245	60:26:13	0:14:48	$150.08	$0.61	$0.04
383-7382	E ROCHESTER, NY	433	108:28:36	0:15:02	$182.93	$0.42	$0.03
924-0214	VICTOR, NY	372	89:48:25	0:14:29	$153.12	$0.41	$0.03
739-4932	ROCHESTER, NY	241	59:10:53	0:14:44	$100.16	$0.42	$0.03
Totals		**5,688**	**1,422:50:27**	**0:15:01**	**$2,689.50**	**$0.47**	**$0.03**

Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call type	All or any selected from system list
CDR Source name	All or any selected from system list
Exclude dialed digits	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Exclude extension	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



- If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.

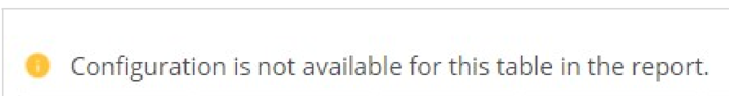
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

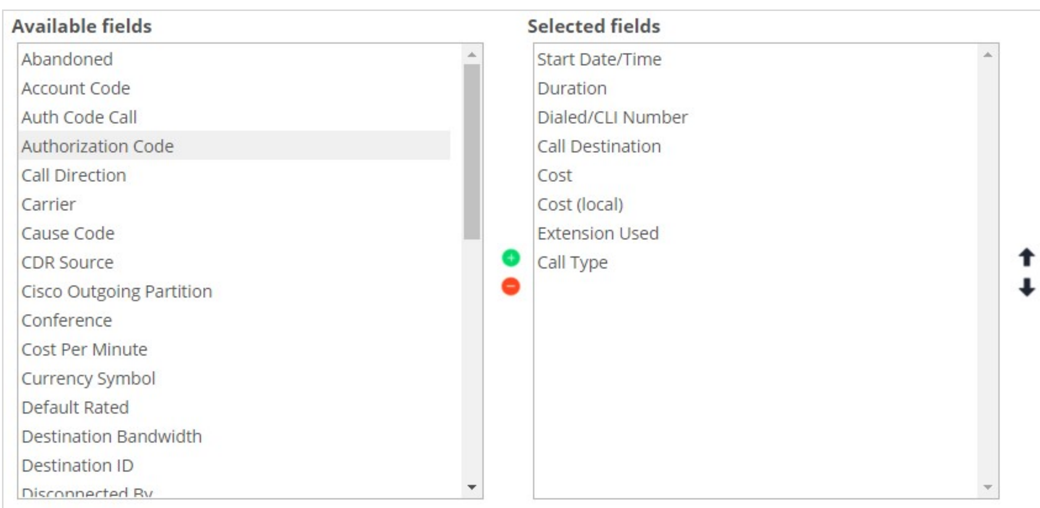
General	Mark to allow user to modify layout
CDR Source	Not configurable: CDR source
Frequently Called Numbers Details	Not configurable: Dialed number | call destination | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

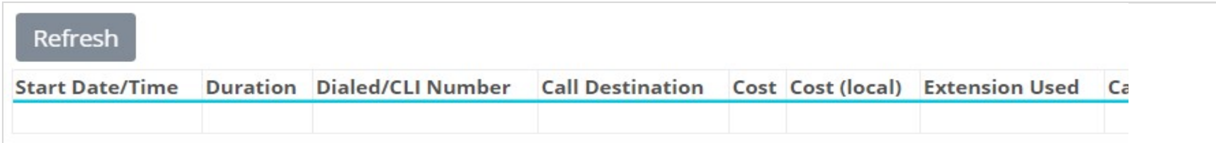
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Grade Of Service Report*

This report provides information that allows gauging how well the telephone system is performing during peak hours and helps decide if a system is over or under-provisioned (that is, it has too many or too few trunks allocated for each trunk group facility).

The report lists each selected trunk group and, for a given date range, it will identify:

- Its collective trunk capacity (this determines the number of calls that can be serviced concurrently)
- Busiest hour in a 24-hour day
- Number of calls in that time segment
- Peak concurrent calls (number of overlapping calls reported during the busy hour)
- Average duration per call
- Usage in Erlangs (amount of traffic during the busy hour) **
- Grade of service (the probability that a call may not be serviced because all trunks within a facility are busy) **

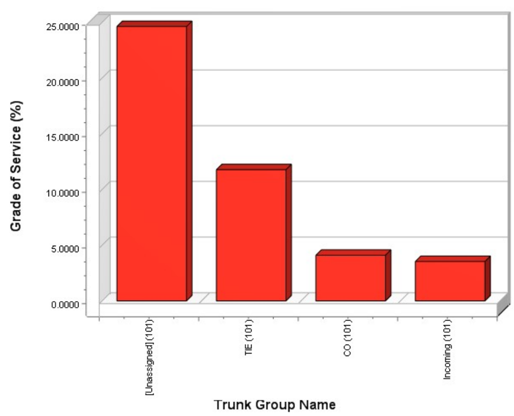
Notice that the GoS statistic is a function of the trunk capacity, with more capacity resulting in a lower and therefore better GoS; conversely, a very low GoS may indicate an over-kill. Trunk groups that have been identified as 'IP' trunks (via the Trunk Groups function) will be excluded from this calculation.

***Note*:** If trunk capacity is incorrect (e.g., average number of calls exceeds capacity) then the grade of service will be calculated at 100%, which is the worst percentage value.

* This page describes the full Grade Of Service Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

** Not available if filtering by inventory location.

Sample Report Sections



(Click image to enlarge)

Trunk Group Name	CDR Source ID	CDR Source	Capacity	Busy Hour	Calls	Peak Concurrent Calls	Average duration	Usage (erlangs)	Grade of Service
[Unassigned]	101	Rochester	5	9/14/2009 2:00:00 PM	16	4	0:11:36	3.0972	17.84%
TIE	101	Rochester	8	9/14/2009 11:00:00 AM	22	10	0:13:57	5.1200	10.74%
CO	101	Rochester	30	9/14/2009 2:00:00 PM	101	46	0:12:55	21.7625	2.27%
Incoming	101	Rochester	14	9/14/2009 3:00:00 PM	30	10	0:15:16	7.6394	1.41%

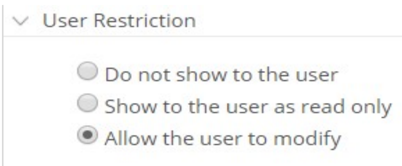
Filters

Call record startdate	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)

CDR Source name	All or any selected from system list
Trunk group	All or any selected from system list
Inventory Location	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



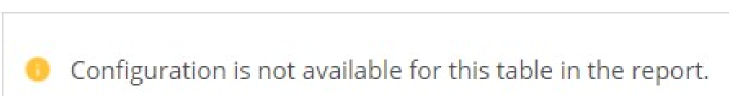
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

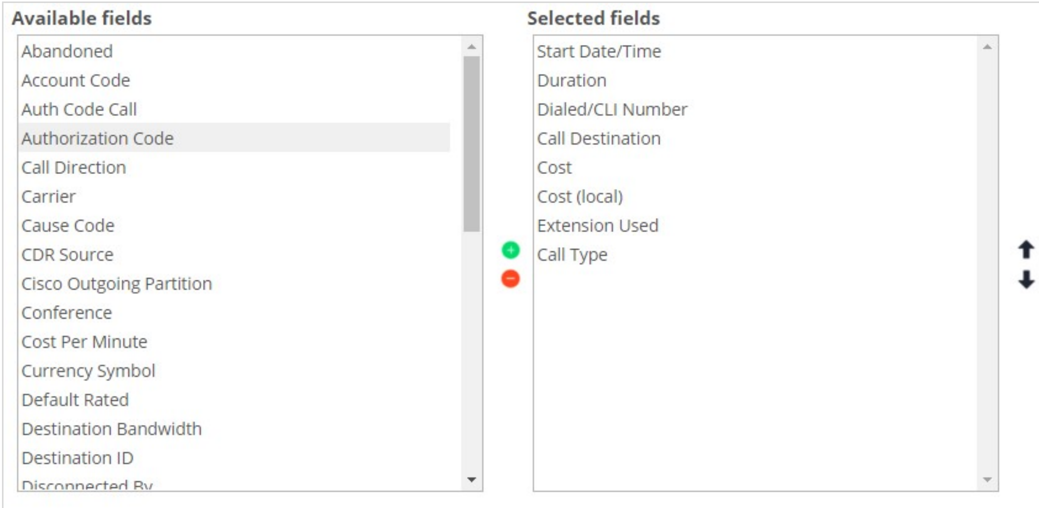
General	Mark to allow user to modify layout
Summary Data to Include	Chart selection: no chart, bar chart (trunk group vs GoS)
Output Data	Not configurable: Trunk Group name | CDR source ID | CDR source | Capacity | Busy hour | Calls | Peak Concurrent Call | Average duration | Usage (erlangs) | Grade of service

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

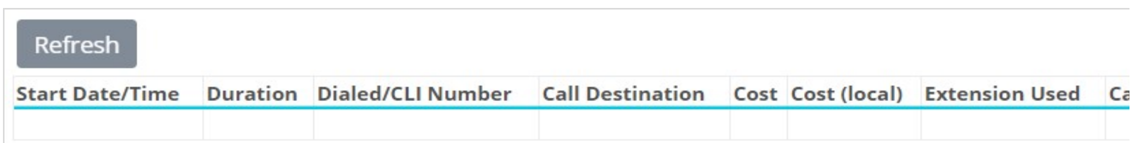
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Hunt Group/DNIS Detail Report*

This report provides a review of incoming call activity for the selected DNIS or 'hunt group' numbers. This helps analyze incoming traffic on lines subscribing to DNIS and/or being programmed as a 'hunt group' at the switch. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

DNIS (Dialed Number Identification Service) is a telephone feature -- common in 800 and 900 lines -- that identifies the specific number that the caller dialed to reach the premises; this feature allows redirecting the call to/by the appropriate hunt group.

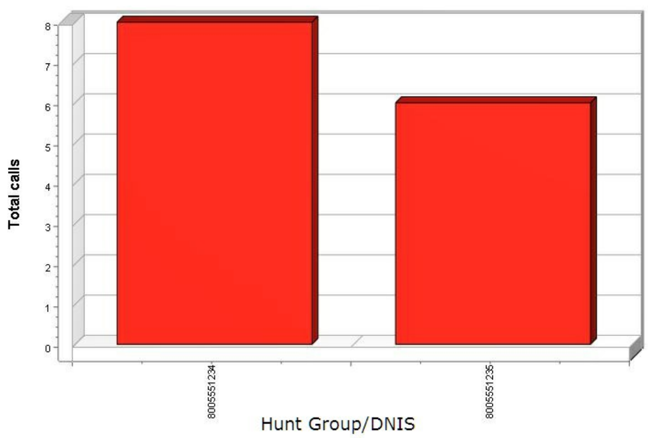
Hunt group is a telephone system feature that allows setting up a group of telephone lines (usually incoming) to receive calls in a particular order if a line is busy.

The main HTML page shows a table of summary statistics, with rows for each selected Hunt group or DNIS number. The top of this page can show a bar chart that dynamically graphs the Hunt group/DNIS numbers vs. the summary statistic currently being sorted (in other words, the y-axis will change to display column values in ascending or descending order, to reflect the current sort choice).

The Hunt group/DNIS number drills down to the page that show details on all calls that used that number. Column headers for this portion of the report are selectable.

* This page describes the full Hunt Group/DNIS Detail Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

Hunt Group/DNIS	Total calls	Answered Calls	Answered Avg. Ring Time	Answered Longest Ring Time	Answered Average Duration	Unanswered Calls	Unanswered Avg. Ring Time	Unanswered Longest Ring Time	Percent Answered	Voice Mail Calls	Percent Voice Mail Calls
8005551234	8	7	00:00:06	00:00:08	00:15:00	1	00:00:30	00:00:30	87.50%	1	12.50%
8005551235	6	6	00:00:05	00:00:07	00:16:00	0	00:00:00	00:00:00	100.00%	0	0.00%

DNIS Number: 8005551235

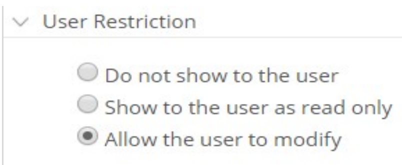
Start Date/Time	Duration	Dialed/CLI Number	Call Destination	Extension Used
10/1/2007 4:38:35 PM	0:08:58	425-1212	FAIRPORT, NY	1235
10/2/2007 3:18:00 PM	0:20:56	425-1212	FAIRPORT, NY	1235
10/2/2007 3:41:55 PM	0:08:21	671-3345	W WEBSTER, NY	1236
10/3/2007 1:41:26 PM	0:27:39	987-0234	ROCHESTER, NY	1236
10/3/2007 2:09:39 PM	0:11:55	872-3837	WEBSTER, NY	1235
10/4/2007 7:36:41 AM	0:18:24	663-3235	ROCHESTER, NY	1235

Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Hunt group/DNIS	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Organization level	All or specific level (with All or specific entry from system list)

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



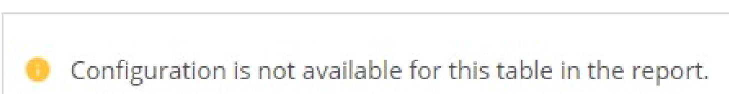
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

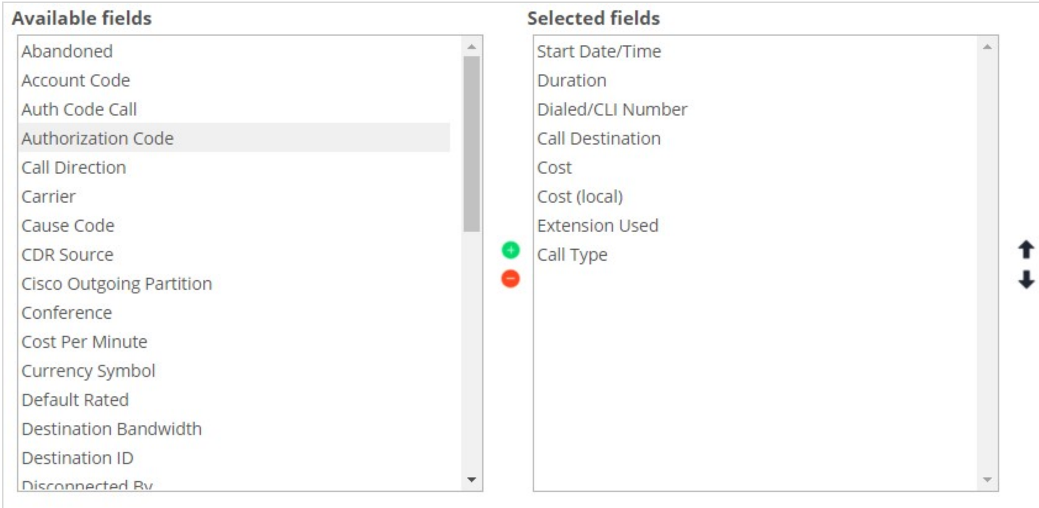
General	Mark to allow user to modify layout
Hunt Group/DNIS Summary	Not configurable: Hunt Group/DNIS | Total Calls | Answered Calls| Answered Avg. Ring Time | Answered Longest Ring Time | Answered Average Duration | Unanswered Calls| UnansweredAvg. Ring Time | Unanswered Longest Ring Time | Percent Answered | Voice Mail Calls | Percent Voice Mail May include graph (bar chart of Hunt Group/DNIS number vs total calls)
Call Details	Available fields (see Call Detail Field for descriptions)

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

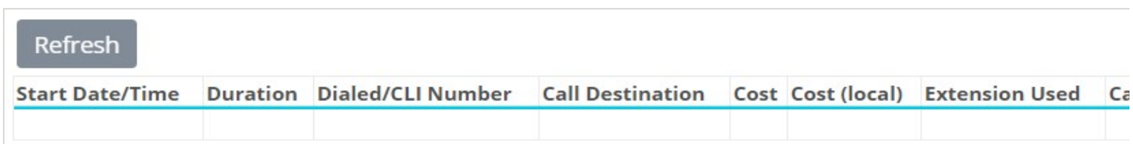
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Incoming Call Distribution Report*

This report summarizes incoming call activity by area of origin. It provides an at-a-glance analysis of where your calls are coming from and their costs. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The main HTML page shows summary statistics for each CDR source.

The CDR source drills down to a summary by location code -- the area codes (NANP site) or country-city codes (non-NANP site); local calls and calls outside the 'national' calling area will be grouped under 'LOCAL' and 'INTERNATIONAL' location codes.

If call details are not suppressed, the location code drills down to a detailed page with configurable columns.

* This page describes the full Incoming Call Distribution Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

CDR Source	NANP	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
Rochester	Yes	21	10:28:05	0:29:55	$0.00	$0.00	$0.00

CDR Source: Rochester **North American Numbering Plan:** Yes

Location Code	Call Origination	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
INTERNATIONAL		1	0:29:56	0:29:56	$0.00	$0.00	$0.00
305	FLORIDA (SOUTH/CENT)	13	6:28:53	0:29:55	$0.00	$0.00	$0.00
321	BREVARD COUNTY	1	0:29:51	0:29:51	$0.00	$0.00	$0.00
407	FLORIDA	2	0:59:47	0:29:54	$0.00	$0.00	$0.00
415	SAN FRANCISCO	1	0:30:00	0:30:00	$0.00	$0.00	$0.00
604	BRITISH COLUMBIA	1	0:29:52	0:29:52	$0.00	$0.00	$0.00
916	CALIFORNIA (SACRMTO)	1	0:29:55	0:29:55	$0.00	$0.00	$0.00
919	NORTH CAROLINA	1	0:29:51	0:29:51	$0.00	$0.00	$0.00
Totals		**21**	**10:28:05**	**0:29:55**	**$0.00**	**$0.00**	**$0.00**

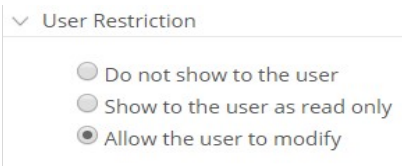
Filters

Account code	Accounts to include. Multiple accounts may be included by using wildcards to represent (?) a single character or (%) a string.
Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call type	All or any selected from system list
CDR Source name	All or any selected from system list
Hunt Group/DNIS	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Minimum cost	Amount in system currency
Minimum duration	Value in seconds, minutes:seconds, or hours:minutes:seconds

Organization level	All or specific level (with All or specific entry from system list)
Trunk	All or any selected from system list
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



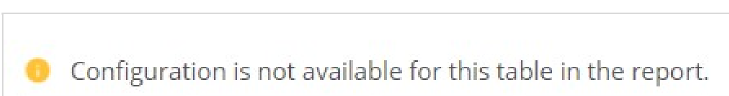
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

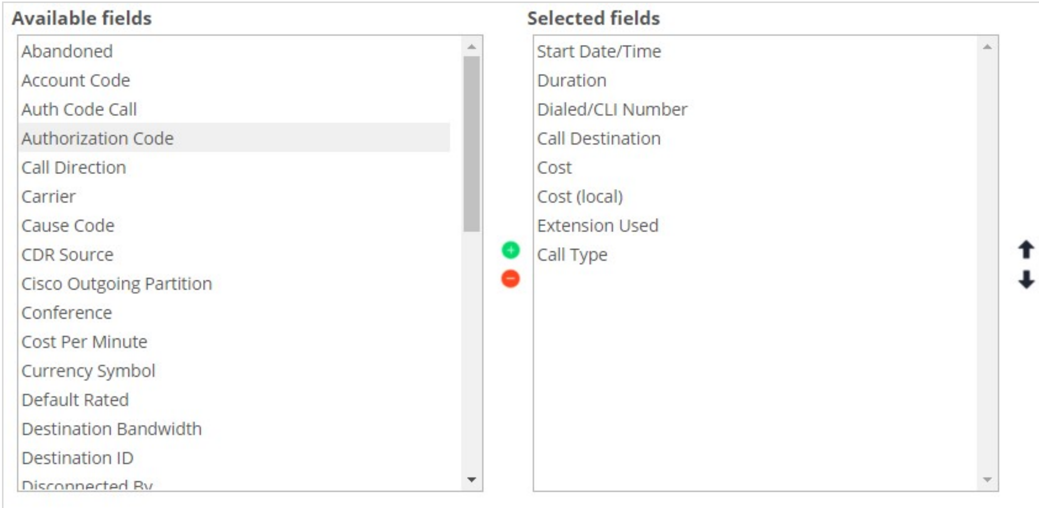
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR source | NANP | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute
Location Code Summary	Not configurable: Location code | call origination | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute
Call Detail	Mark to suppress call detail. If not suppressed, available fields (see Call Detail Fields for descriptions)

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

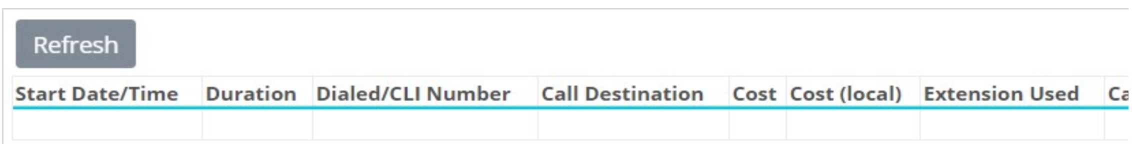
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Incoming Traffic Analysis Report*

This report summarizes statistics for incoming calls (answered and unanswered), for the selected criteria. This information can be used to analyze call response times, by time of day.

The main HTML page shows summary statistics distributed by CDR source. Each CDR source, in turn, drills down to a page that might include a graph, followed by rows of summary statistics for each hour in a day.

Summary statistics include the number of calls (combined, answered, unanswered), the percentage of answered and unanswered calls, and their average ring times (if reported by the CDR source).

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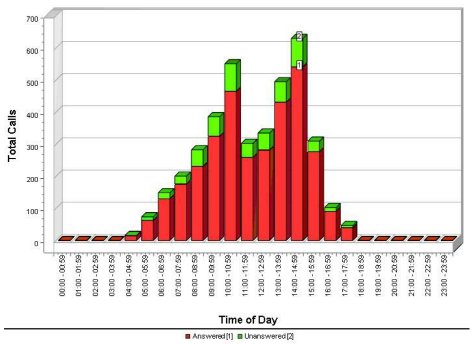
* This page describes the full Incoming Traffic Analysis Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

Time of Day	Total Calls	Calls Answered	Percent Answered	Average Answered Ring Time	Calls Unanswered	Percent Unanswered	Average Unanswered Ring Time
08:00 - 08:59	283	231	81.6	0:00:09	52	18.4	0:00:47
09:00 - 09:59	386	325	84.2	0:00:09	61	15.8	0:00:37
10:00 - 10:59	551	465	84.4	0:00:09	86	15.6	0:00:43
11:00 - 11:59	303	259	85.5	0:00:10	44	14.5	0:00:34
12:00 - 12:59	335	282	84.2	0:00:10	53	15.8	0:00:43
13:00 - 13:59	495	431	87.1	0:00:10	64	12.9	0:00:42
14:00 - 14:59	630	541	85.9	0:00:10	89	14.1	0:00:37
15:00 - 15:59	310	277	89.4	0:00:10	33	10.6	0:00:44
Totals	**3,883**	**3,326**	**85.7**	**0:00:10**	**557**	**14.3**	**0:00:41**

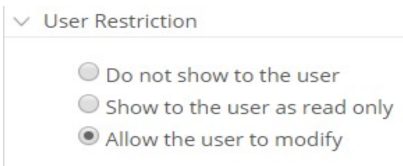
Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.

Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



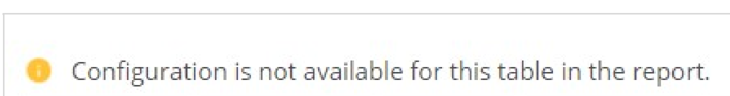
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

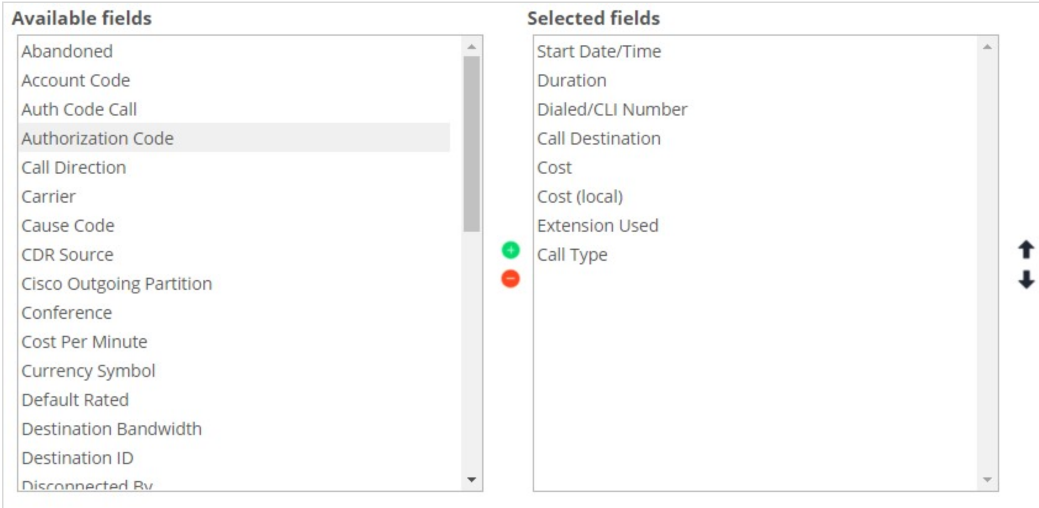
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR source | total calls | calls answered | percent answered | average answered ring time | calls unanswered | percent unanswered | average unanswered ring time
Time of Day Summary	Not configurable: Time of day | total calls | calls answered | percent answered | average answered ring time | calls unanswered | percent unanswered | average unanswered ring time
Chart	May include graph (bar chart of time of day vs total calls)

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

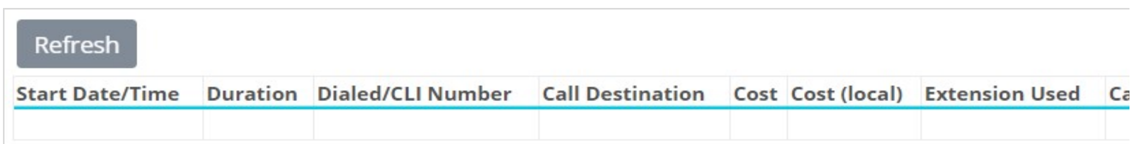
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Inventory Without Calls Report*

This report provides a list of inventory items that had no telephone activity for the selected dates and other report criteria.

---

* This page describes the full Inventory Without Calls Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

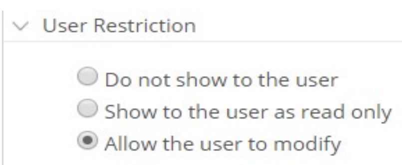
CDR Source Name	Inventory ID	Inventory Type	Description	Personnel	Cost Center
Rochester	8000	Extension	Visiting field agent	[Unassigned]	[Unassigned]
Rochester	8001	Extension	Visiting field agent	[Unassigned]	[Unassigned]
Rochester	8002	Extension	Visiting field agent	[Unassigned]	[Unassigned]

Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record start date	Current Month including Today, Last Month, Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

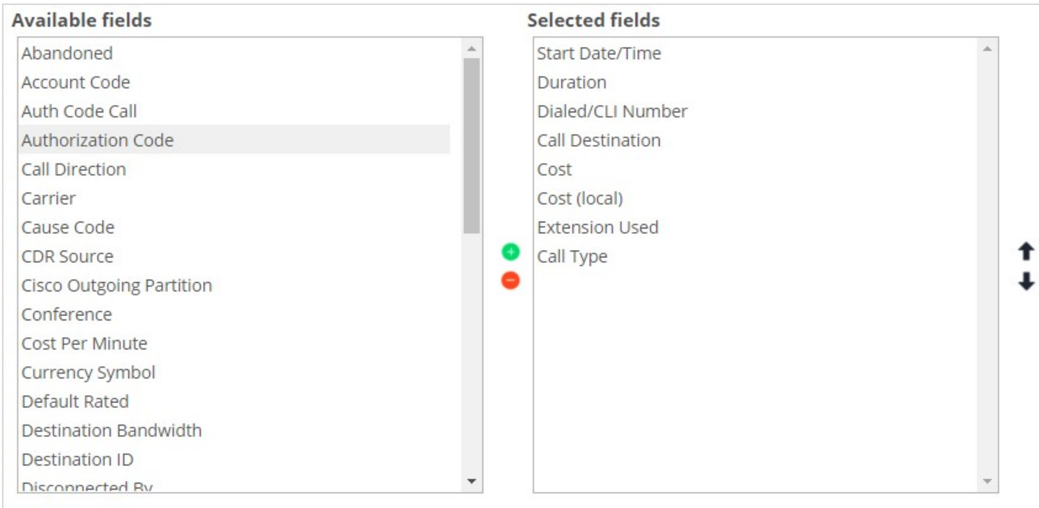
General	Mark to allow user to modify layout
Unused Extension Details	Not configurable: CDR source name | Inventory ID |Inventory type | Description | Personnel | Cost Center

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

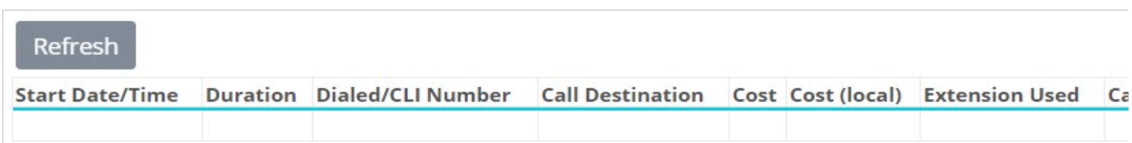
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.

- If a field is not configurable, it will say “Configuration not available for this table in the report.”

- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Longest Call Report*

This report provides detailed information on the 25 longest calls for the selected CDR sources and/or inventory items, within the specified time period.

The main HTML page provides a list of CDR sources with summary statistics. The CDR source link drills down to a page that details the duration, cost, cost per minute, start date/time, dialed/CLI number, location, extension used, and personnel name associated with its 25 longest calls. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

* This page describes the full Longest Call Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

CDR Source	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
Rochester	214	301:18:09	0:14:53	$1,162.59	$0.96	$0.06

CDR Source: Rochester

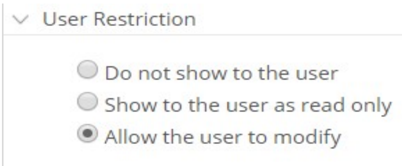
Duration	Cost	Cost Per Minute	Start Date/Time	Dialed/CLI Number	Call Destination	Extension Used	Personnel	Call Type
0:30:00	$0.00	$0.00	11/1/2005 8:57:05 PM	383-6816	ROCHESTER, NY	1075	Alonso, Hernando	Local
0:30:00	$0.75	$0.03	11/3/2005 4:08:52 PM	987-0234	ROCHESTER, NY	1137	Marten, Floyd	Local
0:30:00	$1.20	$0.04	11/7/2005 10:47:38 PM	1-315-654-7892	CAPEVINCNT, NY	1490	[Direct to: CC010]	In-State
0:30:00	$1.20	$0.04	11/10/2005 2:53:53 PM	1-713-385-4351	HOUSTON, TX	1253	FAX 111-1253	National

Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record startdate	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call type	All or any selected from system list
CDR Source name	All or any selected from system list
Exclude dialed digits	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Exclude extension	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



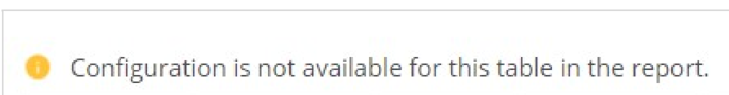
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

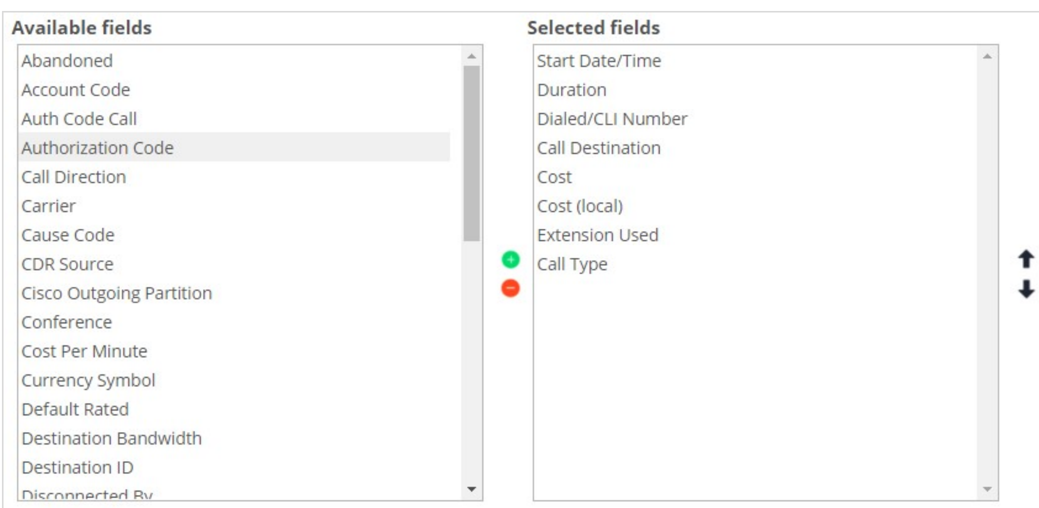
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR source
Longest Call Details	Not configurable: Duration | cost | cost per minute | Start date/time | dialed/CLI number | call destination | extension used | Personnel name | call type

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."

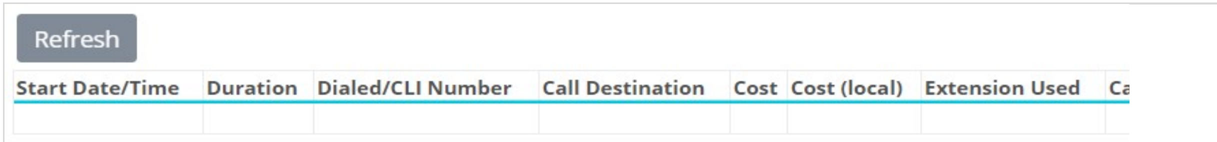


- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.

- You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
- Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Outgoing Call Distribution Report*

This report summarizes outgoing call activity by call destination. It provides an at-a-glance analysis of where your calls are going and their costs. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The main HTML page shows summary statistics for each CDR source.

The CDR source drills down to a summary by location code -- the area codes (NANP site) or country-city codes (non-NANP site); local calls and calls outside the 'national' calling area will be grouped under 'LOCAL' and 'INTERNATIONAL' location codes.

If call details are not suppressed, the location code drills down to a detailed page with configurable columns.

---

* This page describes the full Outgoing Call Distribution Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

CDR Source	NANP	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
Rochester	Yes	361	0:40:42	0:01:37	$8.93	$0.02	$0.02

CDR Source: Rochester **North American Numbering Plan:** Yes

Location Code	Call Destination	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
202	DISTRICT OF COLUMBIA	39	0:49:54	0:01:17	$0.69	$0.02	$0.01
214	DALLAS	2	0:00:54	0:00:27	$0.02	$0.01	$0.02
616	MICHIGAN (WESTERN)	5	0:06:06	0:01:13	$0.09	$0.02	$0.01

Filters

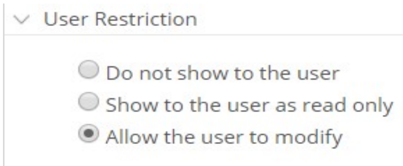
Account code	Text field -- You may use wildcards (% = any or ? = single digit)
Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Call type	All or any selected from system list
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Minimum cost	Amount in system currency
Minimum duration	Value in seconds, minutes:seconds, or hours:minutes:seconds
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Trunk	All or any selected from system list
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:

Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab

- Select the Filter field(s) you wish to add to your report. Save your changes.
- The User Restrictions field indicates whether the user can view/modify that criteria.
- You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



- If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.

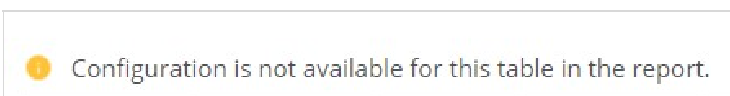
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

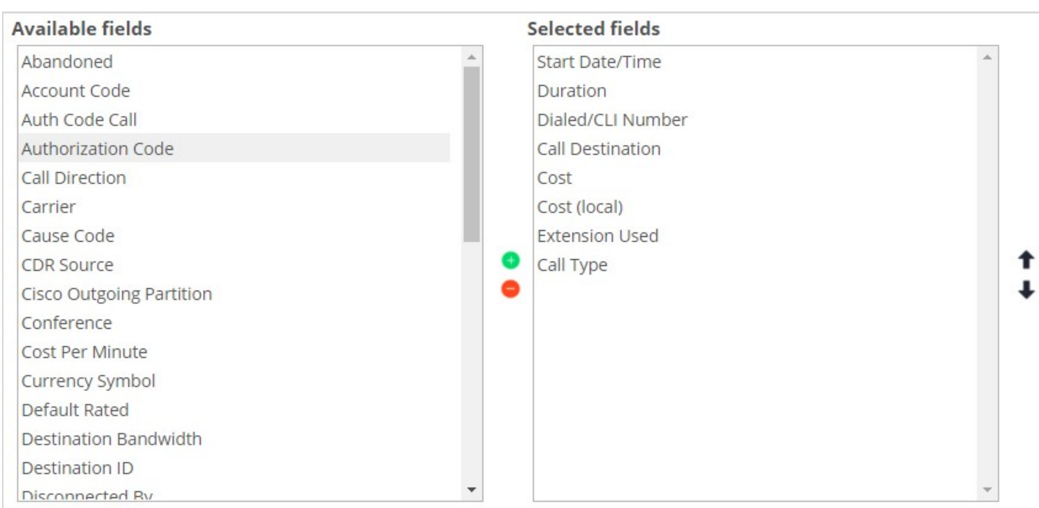
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR source | NANP | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute
Location Code Summary	Not configurable: Location code | call destination | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute
Call Detail	Mark to suppress call detail. If not suppressed, available fields (see Call Detail Fields for descriptions)

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."

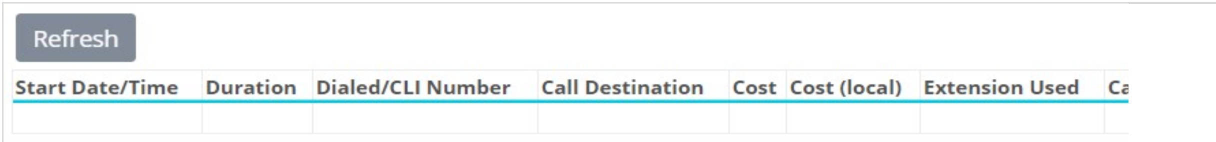


- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.

- You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
- Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Personal Calls Report*

Note to System Administrators (click open for details).

This feature requires the 'Personal Call Identification' option and licenses for all Personnel required to identify their use of telephone network as 'Business' or 'Personal.'

Such Personnel must be made members of the 'Personal Call Identification Users' security group or have been assigned the role 'Personal Call Identification: Access'.

This report provides information on calls that have been identified as 'Personal'. It is useful in billing those individuals for non-business usage of your organization's telecom resources.

The main page shows total calls, duration, and costs for the time range and Personnel selected. Costs will reflect the markups set up for the CDR source of origin via the Personal Call Identification > CDR Source Configuration function. Each name, in turn, drills down to a detailed page that includes all their calls.

The report is available for Cost Center and Personnel EZ-Burst distribution -- that is, the system breaks the report by Cost Center or by Personnel and e-mails the appropriate sections to the selected distribution list (for Cost Center EZ-Burst) or to the individuals referenced in the report (for Personnel EZ-Burst).

* This page describes the full Personal Calls Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Personnel Name	Cost Center	Total Calls	Total Duration	Total Cost
Smith, Kate	8000	37	08:49:49	$66.40
White, Michael	8002	157	12:02:26	$135.35

Personnel: White, Michael

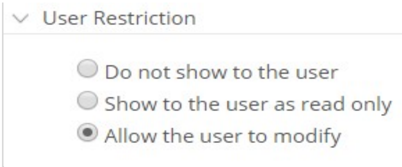
Start Date/Time	Duration	Dialed/CLI Number	Call Destination	Call Type	Cost
8/10/2011 10:54:44 AM	00:07:00	011-4983169533	GERMANY	International	$2.82
8/11/2011 8:24:58 AM	00:22:28	011-4983169533	GERMANY	International	$9.25

Filters

Personal call identification date	Date range when calls were identified as 'Personal' -- choices: Current Month including Today, Last Month, Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Organization level	All or specific level (with All or specific entry from system list)
Personnel name	Entriesto include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string

Use the fields listed on the Filters tab to narrow your report search criteria.

- **Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab**
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



- If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.

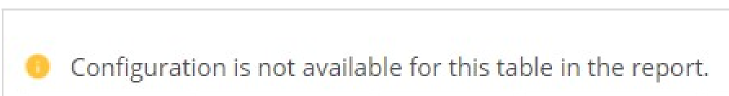
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

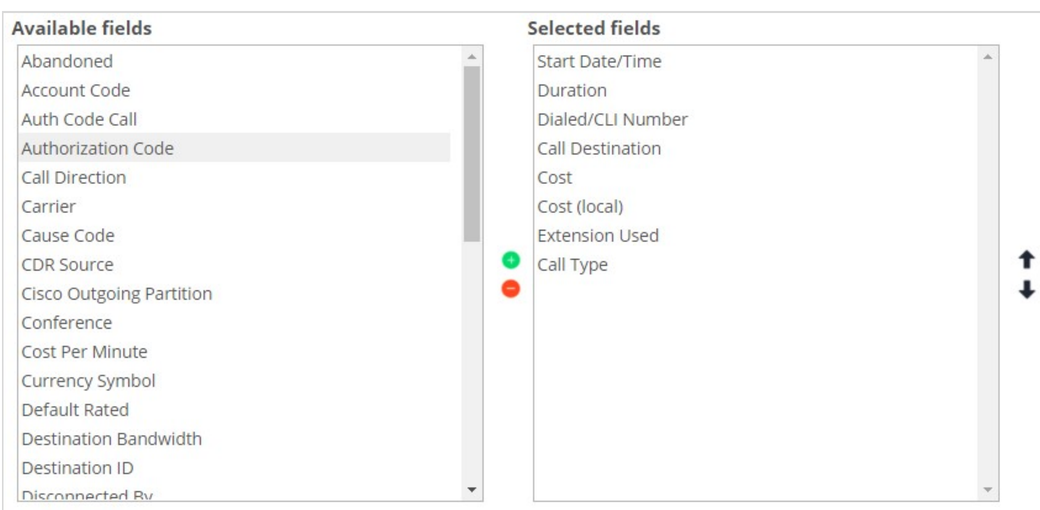
General	Mark to allow user to modify layout
Personnel Summary	Not configurable: Personnel name | Cost Center |Total Calls| Total Duration| Total Cost
Personal Calls	Not configurable: Start Date/Time | Duration | Dialed/CLI Number | Call Destination | Call type | Cost

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

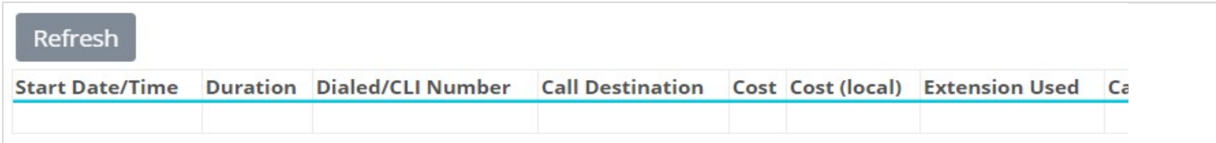
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Quality Of Service Report*

This report provides statistics to monitor the quality of digitized voice transmissions. This report will provide information on the three major QoS measurements: Packets lost, Jitter, and Latency.

The main HTML page will list QoS statistics:

- ***Packets lost*** and ***CDRs over packets lost threshold***. A "packet" is a unit of digitized voice data; lost packets contribute to garbled communications. This report represents "lost packets" as a percentage of packets NOT received over all packets sent during a phone call. The report tracks calls that register *lost packet percentages* greater than a specified threshold, then calculates the percentage over all calls. An industry-standard threshold is 5% of lost packets during a phone call.
- ***Jitter average*** and ***CDRs over jitter threshold***. "Jitter" measures the time (in milliseconds) between packet transmissions during a phone call. It serves as a gauge for the evenness of voice data flow; an uneven flow contributes to "jittery" or choppy communications. This report averages the overall jitter data received from the CDR source, and then reports the percentage of calls that register a *jitter average* greater than the specified threshold. An industry-standard threshold for jitter average is 125 milliseconds.
- ***Latency average*** and ***CDRs over latency threshold***. "Latency" measures the time that it takes for a packet of information to reach its destination; long delays contribute to speaker and listener talking over each other. This report averages the overall latency (in milliseconds) data compiled for a CDR source, then reports the percentage of calls that register a *latency average* greater that then specified threshold. An industry-standard threshold for latency average is 250 milliseconds.

The CDR source drills down to the inventory item page, which provides similar information for the list of associated inventory.

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* This page describes the full Quality Of Service Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

CDR Source	Packets Lost	CDRs Over Packets Lost Threshold	Jitter Average (Milliseconds)	CDRs Over Jitter Threshold	Latency Average (Milliseconds)	CDRs Over Latency Threshold
Rochester	4.02%	15.00%	2.25	23.00%	167.70	0.00%
Miami	0.00%	0.00%	0	0.00%	0	0.00%
Totals	**4.02%**	**15.00%**	**2.25**	**23.00%**	**167.70**	**0.00%**

CDR Source: Rochester

Inventory ID	Packets Lost	CDRs Over Packets Lost Threshold	Jitter Average (Milliseconds)	CDRs Over Jitter Threshold	Latency Average (Milliseconds)	CDRs Over Latency Threshold
101	1.79%	0.00%	5.00	100.00%	30.00	0.00%
102	3.40%	0.00%	6.00	100.00%	141.25	0.00%
106	8.47%	100.00%	4.25	100.00%	152.50	0.00%

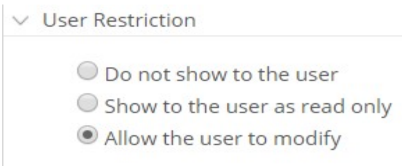
Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record startdate	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Jitter threshold	average time in milliseconds between packets - default =**125**

Latency threshold	average time in milliseconds for a packet to reach destination - default =**250**
Lost packet percentage threshold	percentage of packets not received over all packets sent - default =**5**

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



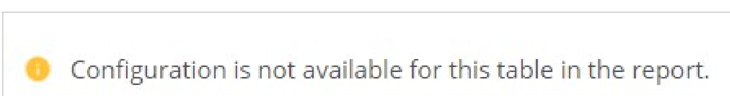
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

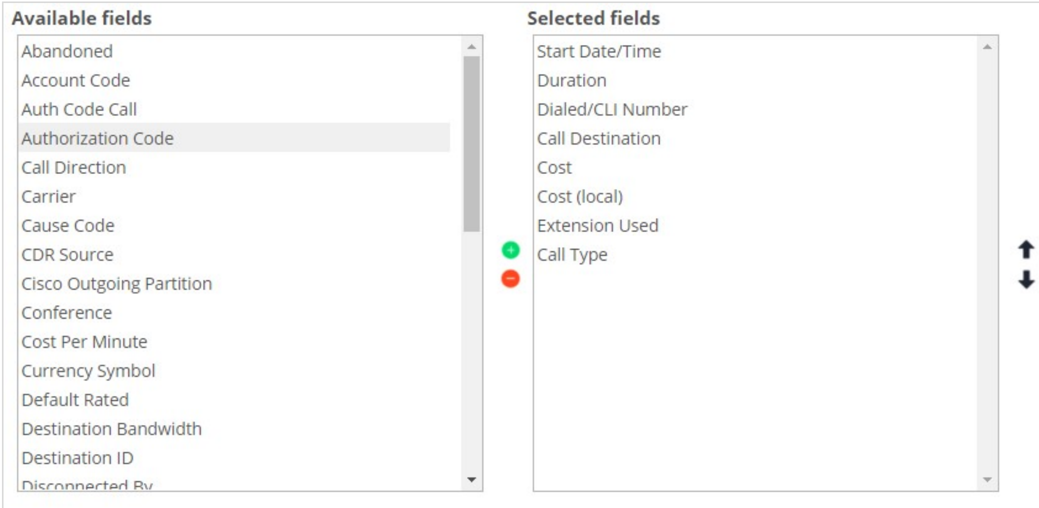
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR source | Percent of packets lost | CDRs over packets lost threshold | Jitter average (milliseconds) | CDRs over jitter threshold | Latency average (milliseconds) | CDRs over latency threshold
Quality of Service Details	Not configurable: Inventory ID | Inventory Type | Percent of packets lost | CDRs over packets lost threshold | Jitter average (milliseconds) | CDRs over jitter threshold | Latency average (milliseconds) | CDRs over latency threshold

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

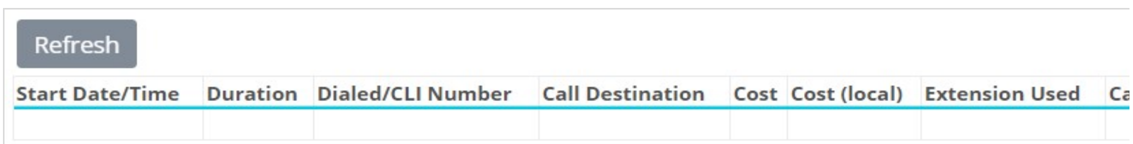
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Ring Time Analysis Report*

This report provides the number and percentages of answered and unanswered calls, distributed over ring time ranges. It shows how long your callers wait to be answered - if at all - and should help in making staffing and/or phone line purchase decisions.

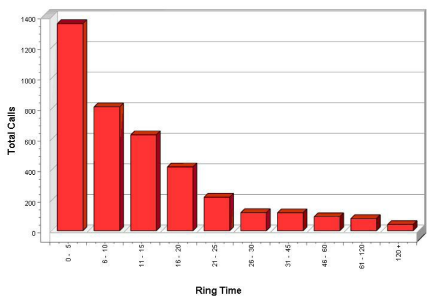
The main HTML page lists summary statistics for each CDR source. The CDR source drills down to a page that may include a chart, followed by summary statistics distributed over various ring time ranges.

USAGE HINT: This report is particularly useful to plan staffing schedules for front desk, console attendants, customer service representatives, and similar positions. To do so, determine the busiest hour of your day and check if the number of trunks you have are delivering the desired service (doing so prevents you from leasing more lines than necessary or having too few, which can drive customers who receive nothing but busy signals to a competitor).

---

* This page describes the full Ring Time Analysis Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

Ring Time	Total Calls	Percent of Total	Calls Answered	Percent Answered	Calls Unanswered	Percent Unanswered
0 - 5	2,410	35.1	2,335	96.9	75	3.1
6 - 10	1,406	20.5	1,317	93.7	89	6.3
11 - 15	1,122	16.3	1,018	90.7	104	9.3
16 - 20	732	10.7	606	82.8	126	17.2
21 - 25	447	6.5	334	74.7	113	25.3
26 - 30	220	3.2	135	61.4	85	38.6
31 - 45	159	2.3	81	50.9	78	49.1
46 - 60	139	2.0	31	22.3	108	77.7
61 - 120	157	2.3	10	6.4	147	93.6
120 +	75	1.1	1	1.3	74	98.7
Totals	**6,867**	**100.0**	**5,868**	**85.5**	**999**	**14.5**

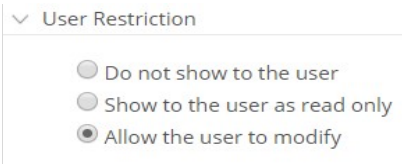
Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory Type	All or any selected from system list

Organization level	All or specific level (with All or specific entry from system list)
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



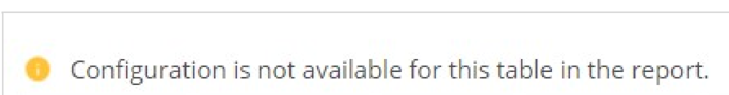
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

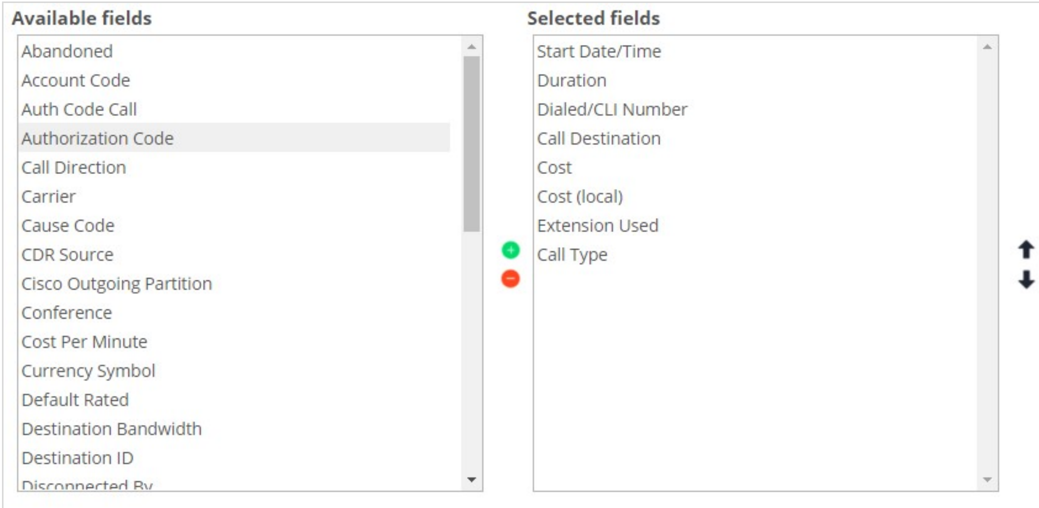
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR Source | Total Calls | Percent of Total | Calls Answered | Percent Answered | Calls Unanswered | Percent Unanswered
Ring Time Summary	Not configurable: Ring Time | Total Calls | Percent of Total | Calls Answered | Percent Answered | Calls Unanswered | Percent Unanswered
Summary Data to Include	Value to chart: calls answered, calls unanswered, total calls
	Chart selection: no chart, bar chart, line chart, pie chart

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

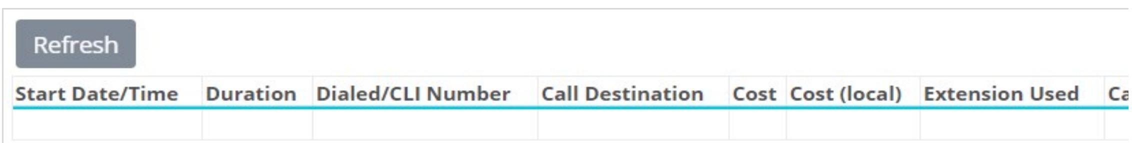
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Telecom Manager Report*

This report provides information on system status, exceptional calls and other conditions that may require a telecom manager's attention. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The main HTML page provides the list of CDR sources requested, with links to detailed pages. The detailed pages include these sections:

- Summaries (count, duration, and cost) for incoming, internal, outgoing, and tandem calls
- Number of unanswered calls
- Details on the five most expensive calls
- Details on the five longest calls
- List of trunks without activity, if any
- Date of the oldest call record

---

* This page describes the full Telecom Manager Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Call Direction	Total Calls	Total Duration	Total Cost
INCOMING	6,867	1,719:01:00	$0.00
INTERNAL	2,045	514:20:32	$0.00
OUTGOING	9,684	2,411:47:00	$55,869.58
TANDEM	993	253:22:52	$6,215.18

Total Unanswered Calls
999

Five most expensive calls						
Cost	Duration	Cost per Minute	Dialed/CLI Number	Call Destination	Extension Used	Personnel Name
$122.70	0:29:41	$4.14	011-39554238903	ITALY/SAN MARINO	114	[Unassigned]
$122.70	0:29:19	$4.14	011-39554238903	ITALY/SAN MARINO	1144	Macpherson, Sean
$122.70	0:29:41	$4.14	011-39554238903	ITALY/SAN MARINO	1498	[Direct to: CC018]
$118.61	0:28:07	$2.04	011-39554238903	ITALY/SAN MARINO	138	[Unassigned]
$118.61	0:28:04	$2.04	011-39554238903	ITALY/SAN MARINO	1405	Tech1 1405

Five longest calls						
Duration	Cost	Cost per Minute	Dialed/CLI Number	Call Destination	Extension Used	Personnel Name
0:30:00	$1.20	$0.04	1-916-486-0900	SACRMNTO N, CA	125	[Unassigned]
0:30:00	$0.00	$0.00	1-709-454-6600	ST ANTHONY, NF	1494	Howell, Mike D.
0:30:00	$0.75	$0.03	987-0234	ROCHESTER, NY	1137	Marten, Floyd
0:30:00	$0.00	$0.00	334-8712	HENRIETTA, NY	1041	Peters, Melissa
0:30:00	$0.00	$0.00	383-6816	E ROCHESTER, NY	1075	Perez, Hernando

Trunks that had no activity

Oldest call record
9/18/2007 12:00:52 AM

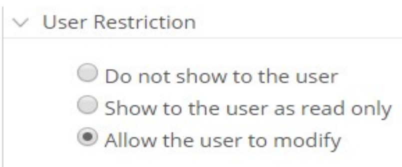
Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)

CDR Source name	All or any selected from system list
Exclude extension	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Currency	Show all calls with costs converted into system currency --or-- show calls rated in a specific currency only
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



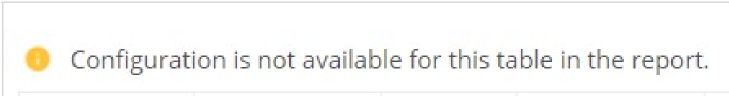
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

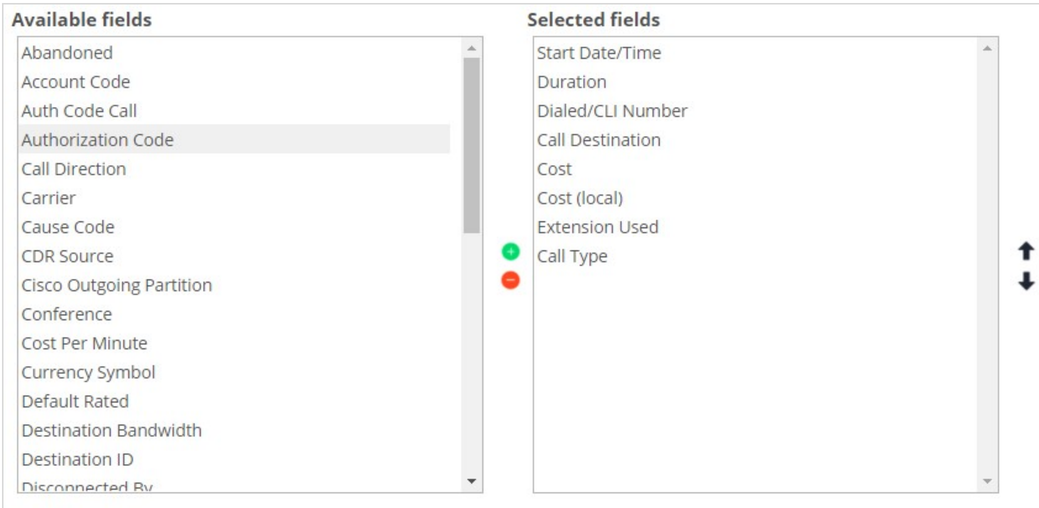
General	Mark to allow user to modify layout
CDR Source	Not configurable: CDR Source
Call Direction	Not configurable: Call Direction | Total Calls | Total Duration | Total Cost
Total Unanswered Calls	Not configurable: Total Unanswered Calls
Five most expensive calls	Not configurable: Cost | Duration | Cost per minute | Dialed/CLI number | Call Destination | Extension used | Personnel name
Five longest calls	Not configurable: Duration | Cost | Cost per minute | Dialed/CLI number | Call Destination | Extension used | Personnel name
Trunks that had no activity	May suppress this report section. If included, it displays [not configurable]: Trunks that had no activity
Top Five Personnel with most calls	May suppress this report section. If included, it displays [not configurable]: Personnel Name | Total Calls | Total Duration | Total Cost | Average Duration Per Call | Average Cost Per Call
Oldest call record	Not configurable: Oldest call record

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

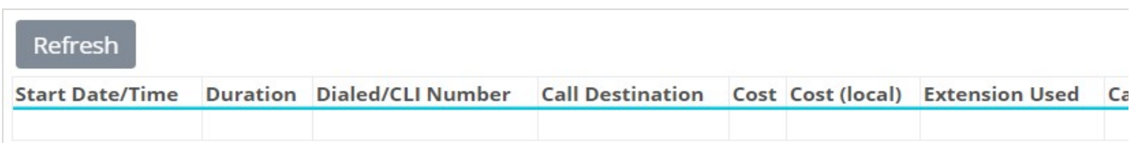
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Time of Day Report*

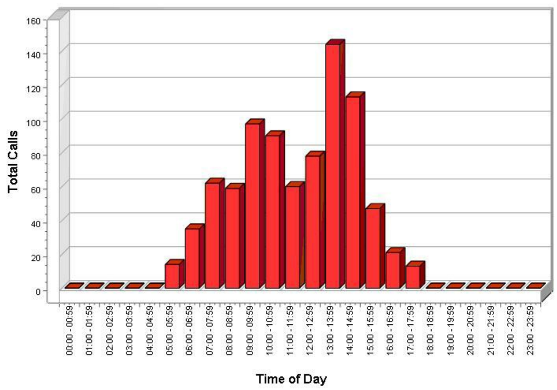
This report summarizes call activity for each hour of the day, within the selection criteria. This helps analyze telephone usage and costs, distributed throughout the day. Its graphs provide useful, at-a-glance display of trends for presentations. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The main HTML page shows summary statistics distributed by CDR source. Each CDR source drills down to a page that may include a chart, followed by summary statistics for each hour in the day.

---

* This page describes the full Time of Day Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

Start Time	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
10:00 - 10:59	90	22:01:12	0:14:41	$415.61	$4.62	$0.31
11:00 - 11:59	60	12:55:04	0:12:55	$211.75	$3.53	$0.27
12:00 - 12:59	78	20:04:07	0:15:26	$454.25	$5.82	$0.38
13:00 - 13:59	144	37:38:52	0:15:41	$354.86	$2.46	$0.16
14:00 - 14:59	113	25:19:07	0:13:27	$396.32	$3.51	$0.26
15:00 - 15:59	47	10:10:47	0:13:00	$109.20	$2.32	$0.18
Totals	**833**	**209:12:16**	**0:15:04**	**$3,131.72**	**$3.76**	**$0.25**

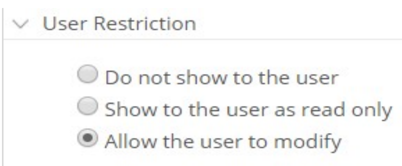
Filters

Assignment	All, Unassigned only, assigned to Personnel, assigned directly to Cost Center
Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Hunt Group/DNIS	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.
Extension used	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string.

Include inventory items by CDR source	All or any selected from system list
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)
Source type	All, Call Accounting/Internal, Invoice
Tandem Trunk	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent (?) a single character or (%) a string
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
    - Select the Filter field(s) you wish to add to your report. Save your changes.
    - The User Restrictions field indicates whether the user can view/modify that criteria.
    - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



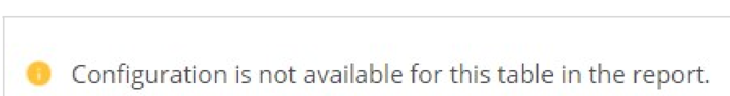
    - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

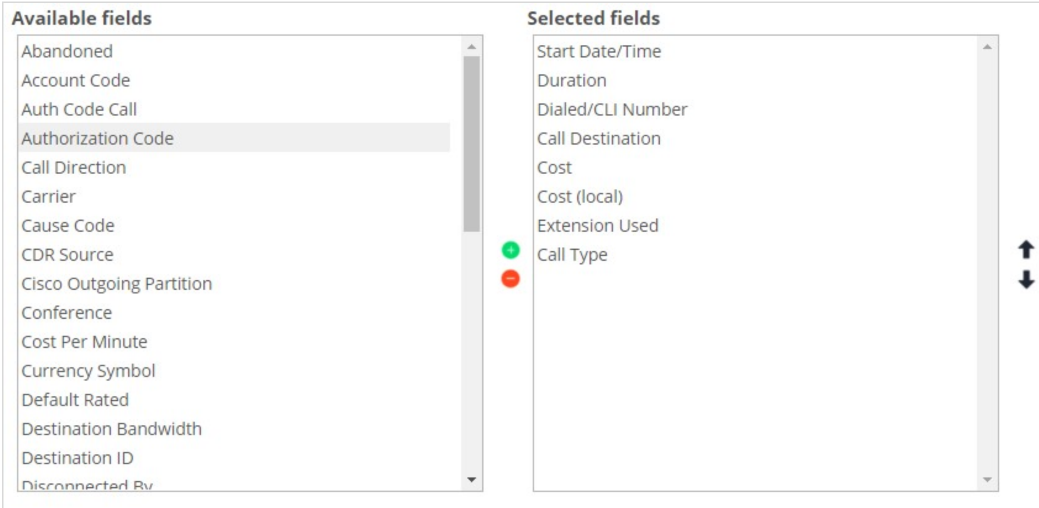
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR source | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute
Start Time Summary	Not configurable: Start time | total calls | total duration | average duration per call | total cost | average cost per call | average cost per minute
Summary Data to Include	Value to chart: average cost per call, average cost per minute, average duration, total calls, total cost, total duration
	Chart selection: no chart, bar chart, line chart, pie chart

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

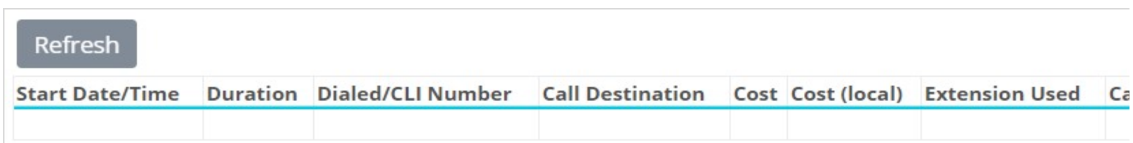
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
    - Select the Layout field(s) you wish to add to your report. Save your changes.
    - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Top Callers by Cost Report*

This report provides detailed telephone activity on the 25 callers with the highest call charges and that match the selection criteria. Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

The main HTML page provides summary statistics for each of the callers. Their personnel names drill down to a detailed page with the start date/time, dialed/CLI number, call destination, extension used, duration, cost, and cost per minute of every call charged.

---

* This page describes the full Top Callers by Cost Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Personnel Name	Total Calls	Total Duration	Total Cost	Average Duration Per Call	Average Cost Per Call
Howe, Stan	4	0:25:12	$59.71	0:06:18	$14.93
Pella, Anthony	6	0:37:37	$58.33	0:06:16	$9.72

Personnel **Name: Howe, Stan**

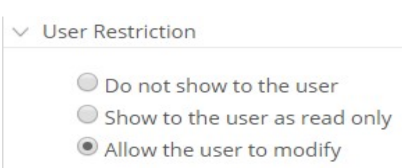
Start Date/Time	Dialed/CLI Number	Call Destination	Extension Used	CDR Source Name	Duration	Cost	Cost Per Minute
1/1/2008 8:16:28 AM	011-4983163953	GERMANY	1033	Rochester	0:12:43	$36.79	$2.15
1/1/2008 9:33:48 AM	011-4983163953	GERMANY	1033	Rochester	0:07:01	$22.64	$3.28

Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Exclude extension	Entries to exclude, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Extension used	Entries to include, separated by semi-colons (;) no spaces. Dashes are ignored. Wildcards may represent (?) a single character or (%) a string.
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



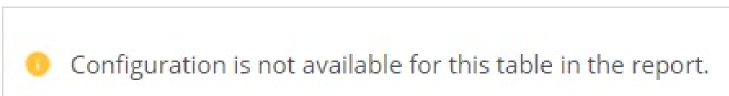
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

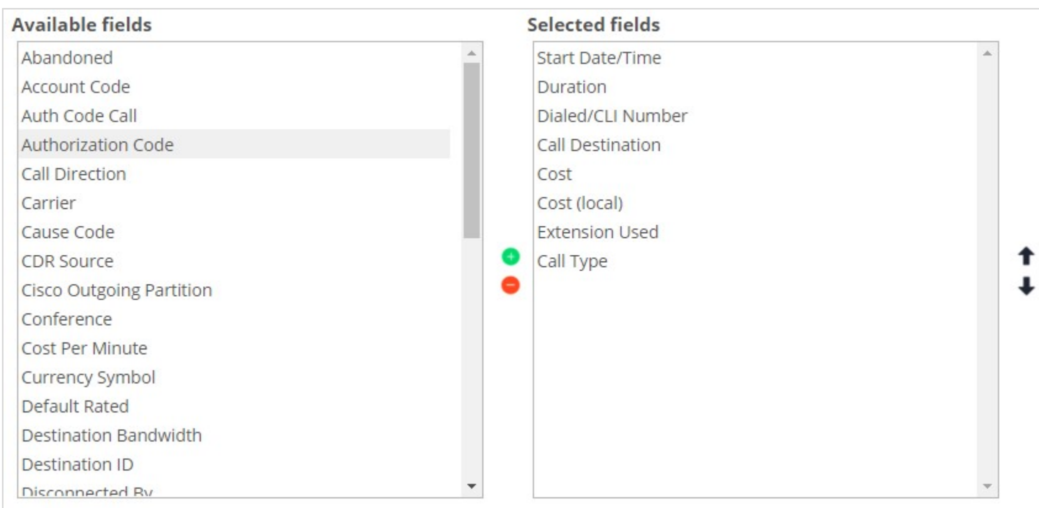
General	Mark to allow user to modify layout
Personnel Summary	Not configurable: Personnel name | total calls | total duration | total cost | average duration per call | average cost per call
Top Callers Call Details	Not configurable: Start date/time | dialed/CLI number | call destination | extension used | CDR source name | duration | cost | cost per minute

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

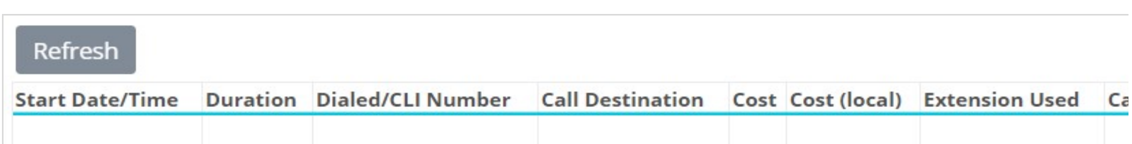
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Trunk Group Report*

This report summarizes telephone line activity by trunk group, within the selected report criteria. This report helps analyze trunk line usage grouped by trunk group.

The main HTML page shows summary statistics by CDR source. Each CDR source drills down to summary statistics for each of its trunk groups; in turn, the trunk group name drills down to a page that may include a chart, followed by summary statistics for each trunk member of the group.

Multinational systems will show all amounts converted to the system currency, as per the effective conversion rate for the charge.

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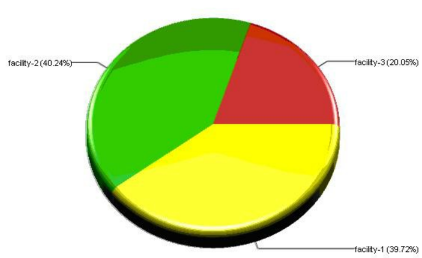
* This page describes the full Trunk Group Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections



(Click image to enlarge)

CDR Source: Rochester

Trunk Group Name	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
Facility-2	4,014	1,000:30:44	0:14:57	$16,587.91	$4.13	$0.28

CDR Source: Rochester **Trunk Group Name:** Facility-2

Trunk	Total Calls	Total Duration	Average Duration Per Call	Total Cost	Average Cost Per Call	Average Cost Per Minute
100	40	11:08:33	0:16:43	$57.23	$1.43	$0.09
101	29	6:44:50	0:13:58	$98.16	$3.38	$0.24
Totals	**3,962**	**990:21:23**	**0:15:00**	**$15,252.21**	**$3.85**	**$0.26**

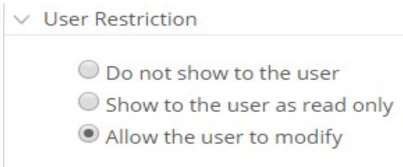
Filters

Call direction	All, INCOMING, INCOMING & OUTGOING, INTERNAL, OUTGOING, OUTGOING & TANDEM, TANDEM
Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
CDR Source name	All or any selected from system list
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.

    - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



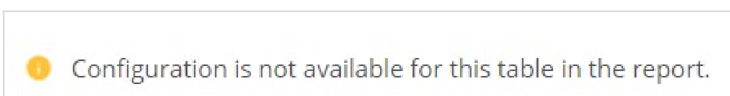
    - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

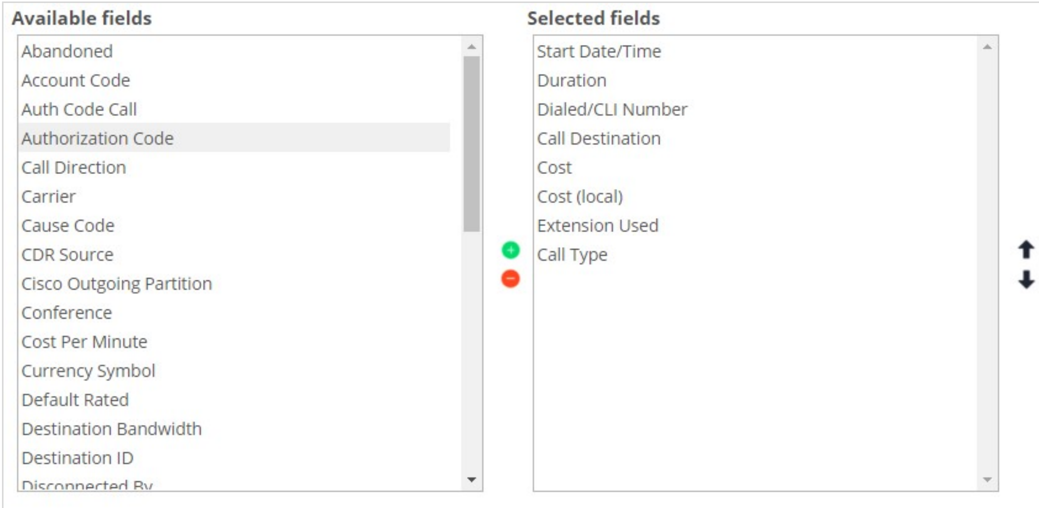
General	Mark to allow user to modify layout
CDR Source Summary	Not configurable: CDR Source | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Trunk Group Summary	Not configurable: Trunk Group Name | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Trunk Summary	Not configurable: Trunk | Total Calls | Total Duration | Average Duration Per Call | Total Cost | Average Cost Per Call | Average Cost Per Minute
Summary Data to Include	Value to chart: average cost per call, average cost per minute, average duration, total calls, total cost, total duration
	Chart selection: no chart, bar chart, line chart, pie chart

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

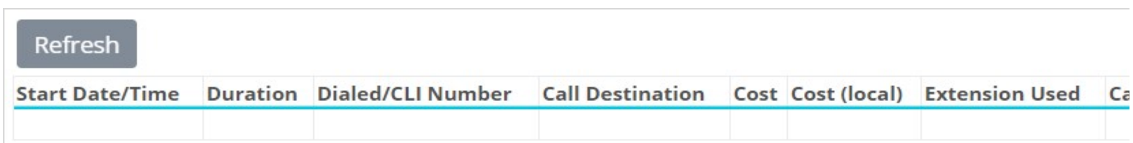
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
    - Select the Layout field(s) you wish to add to your report. Save your changes.
    - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Trunk Usage Report*

This report provides telephone line statistics (total calls, duration, % busy) for each hour of the day, over a selected date range. It can be used as a preliminary indicator that a trunk may be over or underutilized, and thus warrant further investigation. Its graphs provide at-a-glance displays useful for presentations.

The main HTML page will list the total number of calls and their duration during the selected dates. The CDR source drills down to usage statistics for the selected trunks. In turn, the trunk number drills down to the time-of-day details page.

The trunk details page can have a graph (bar or line chart with a choice of total duration or % busy vs. hours of the day). This is followed by rows of usage statistics (total duration and % busy) for each hour.

NOTE: Telephone systems using trunks that are able to channel multiple, simultaneous calls should identify the 'call capacity' field in the Trunks table, in order to compute usage analysis correctly.

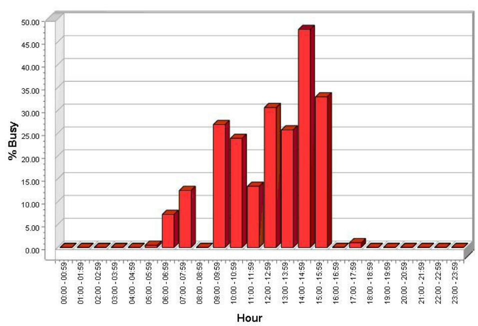
Be aware that the report cannot account for all the time that a trunk is in use. For example, systems that discard unanswered, misdialed, abandoned, and/or other short duration calls, as well as those that exclude dial- and ring-time from a call duration will show considerable lower usage than actual values.

* This page describes the full Trunk Usage Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

CDR Source: Rochester

Trunk	Trunk Group Name	Total Calls	Total Duration	% Busy
100	facility-1	40	11:08:33	9.29%



(Click image to enlarge)

CDR Source: Rochester **Trunk** 100

Hour	Total Duration	% Busy
14:00 - 14:59	2:23:19	47.77%
15:00 - 15:59	1:39:00	33.00%
Totals	**1:54:12**	**7.93%**

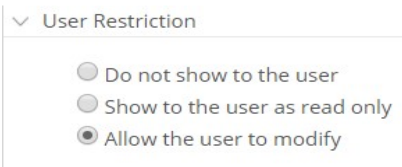
Filters

Call record start date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to) ***NOTE***: Be aware that this selects the entire 24-hour period on each day in the range of days included.
CDR Source name	All or any selected from system list

Trunk	All or any selected from system list
Trunk group	All or any selected from system list

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



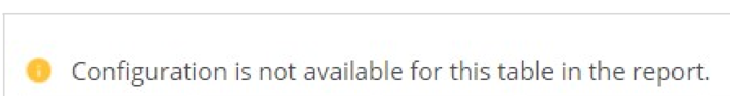
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

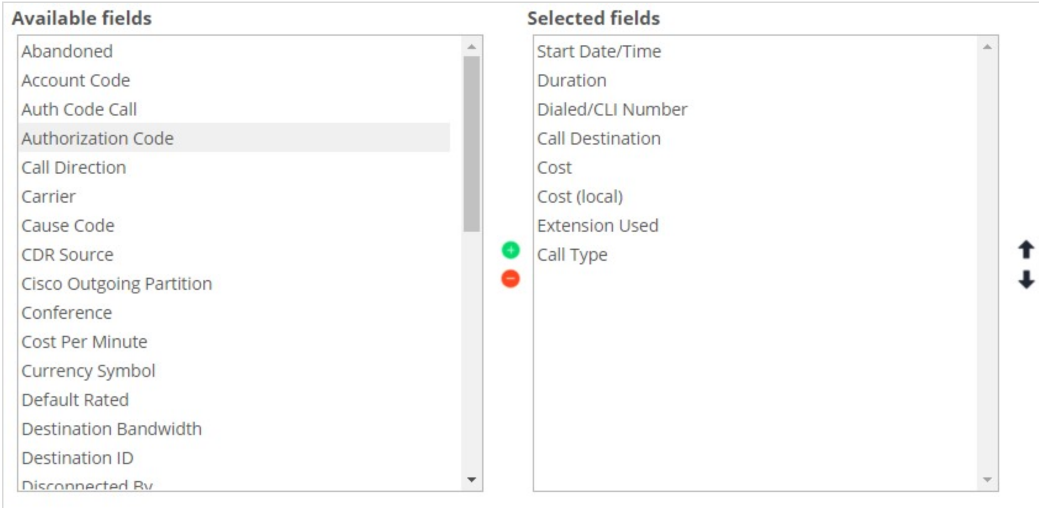
General	Mark to allow user to modify layout
Summary Data to Include	Value to chart: % busy, total duration
	Chart selection: no chart, bar chart, line chart
CDR Source Summary	Not configurable: CDR Source | Total Calls | Total Duration
Trunk Usage Summary	Not configurable: Trunk | Trunk Group Name | Total Calls | Total Duration | Call Capacity | % Busy
Trunk Usage Details	Not configurable: Hour | Total Duration | % Busy

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

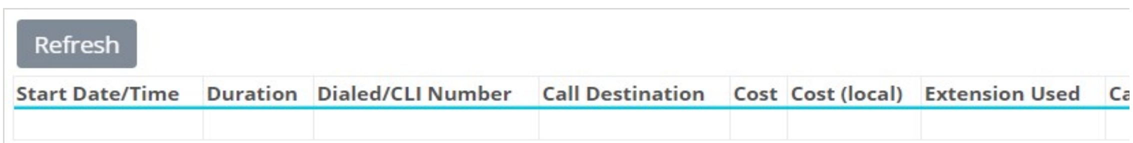
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Charge Assignment Reports

This section describes reports in this group.

Personnel Usage Report*

This report provides a summary of charge and usage for wireline and wireless services for the selected month and other criteria. Report data will run against the current database (in other words, data will not be available on archived periods).

Output options include run report to: browser, report inbox, e-mail (link or PDF attachment), or EZ-Burst (this is a 'Personnel EZ-Burst', with individual sub-reports configured as PDF for each personnel in the report who have any EZ-Burst option enabled. These are delivered as a link or attachment, as selected in the 'EZ-Burst e-mail' filter). Excel format is not supported.

NOTE: If the report is run to 'Personnel EZ-Burst' then it will only be sent to users who have the EZ-burst option enabled in their personnel record. It will also only be sent to users who have actual call data in the report.

The report has two levels: the top level shows total charges for each inventory item selected for inclusion, grouped under the name and number of the item's current personnel assignment (as the item's 'bill to' entity or its 'owner'). The inventory ID drills down to the following sections, which may include...

For Call Accounting inventory:

- Call type summary (if included) -- the number of calls, duration in minutes, and cost for each type of call placed or received
- Call details (if not suppressed) -- as in the selected layout

NOTE: If your inventory allows splitting the assignment between a cost center (for billing) and an individual owner (for tracking usage), this report will always show the personnel responsible for the calls -- even though a different cost center is responsible for the inventory charges.

For Wireless inventory:

- Charges -- alerts (if included), monthly service charges, usage charges, and credits, adjustments & other charges
- Usage summary -- voice, data, and messaging summaries (what is included in the plan, how much was used, cost per additional minute/MB/Msg, and charge)
- Call type summary (if included) -- call type, number of calls, duration in minutes, and cost -- AND -- message type, number of messages, and cost
- Call details (if not suppressed) -- as in the selected layout

* This page describes the full Personnel Usage Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Personal Usage (5)	Jan 2013	1/14/2013 3:33:27 PM

Wireless Number charges for AT&T (585) 777-1111		**Doe, Jane**
Alerts		
$2.10 Overage charge for messaging		
Monthly Service Charges	**Period**	**Charge**
ENT DATA PLAN IPHONE	01/14-02/13	$45.00
BMNBIBPNTN450UNWUMM	01/14-02/13	$44.99
Messaging 1000	01/14-02/13	$7.33
Total Monthly Service Charges		**$97.32**
Usage Charges		
Messaging usage: Video		$2.10
Total Usage Charges		**$2.10**
Credits, Adjustments and Other Charges		
Taxes and Surcharges	NY State Telecom Tax	$2.18
Taxes and Surcharges	County Telecom Tax	$2.18
Taxes and Surcharges	Federal Universal Service Charge	$1.89
Taxes and Surcharges	State Telecommunications Excise Surcharge	$1.57
Taxes and Surcharges	9-1-1 Service Fee	$1.20
Taxes and Surcharges	Regulatory Cost Recovery Charge	$0.49

Taxes and Surcharges	National Account Discount	($7.20)
Total Credits and Other Charges		**$2.31**
Total Charges for (585) 777-1111		**$101.73**

Wireless Number usage summary for AT&T (585) 777-1111	**Doe, Jane**

Voice Summary	Description	Minutes Included	Minutes Used	Minutes Billed	Cost per Additional Minute	Charge
Anytime	Voice Pooling 450	450	44	0	$0.20	$0.00
Other	Unlimited N&W	Unlimited	47	0	$0.00	$0.00
Other	Unlimited Expd M2M	Unlimited	39	0	$0.00	$0.00
Subtotal						**$0.00**
Data Summary	**Description**	**MB Included**	**MB Used**	**MB Billed**	**Cost per Additional MB**	**Charge**
Usage	Data Access	Unlimited		0	$0.00	$0.00
Subtotal						**$0.00**
Messaging Summary	**Description**	**Msgs Included**	**Msgs Used**	**Msgs Billed**	**Cost per Additional Msg**	**Charge**
Text	Messaging 1000	1,000	197	0	$0.10	$0.00
Text	Messaging Video		7	7	$0.30	$2.10
Subtotal						**$2.10**

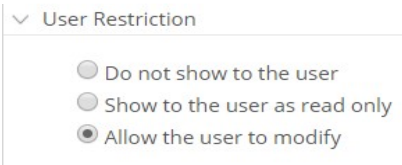
Filters

Accounting period	Selects when calls were placed. Choices: All (use this setting ONLYif reporting by Date) Currently open period Most recent closed Most recent pending Selected from a list
Call type	All or any selected from system list
Date	Selects when calls were placed.Choices: Any (use this setting ONLYif reporting by Accounting Period) Current Month including Today Last Month Specific Month
EZ-Burst e-mail	Selects how individual recipients will receive their PDF section of the report -- used in conjunction when run to EZ-Burst: as an e-mail attachment as an e-mail link to report using each Personnel setting for EZ-Burst option none (send to report inbox) **Note:**This filter will need to be enabled by a System Administrator in Report Designer*(Administration > Reports > Report Designer > Personnel Usage > Filters > EZ-Burst e-mail)*
Inventory type	All or one or more selected inventory types
Organization level	All or one or more of the selected organization levels (default = All Cost Centers)
Personnel name	Entries to include, separated by semi-colons (;) no spaces. Wildcards may represent a single character (?) or a string (%). Default = % (all)
Wireless alert	All or one or more selected from list

...	Personnel User-defined fields Mark to include field as configured-- selection depends on the field data types. Default typically includes all entries, with user restriction = do not show to the user

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



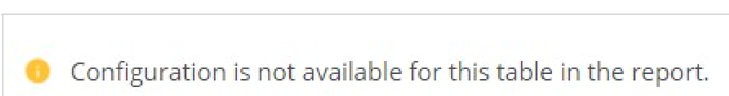
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

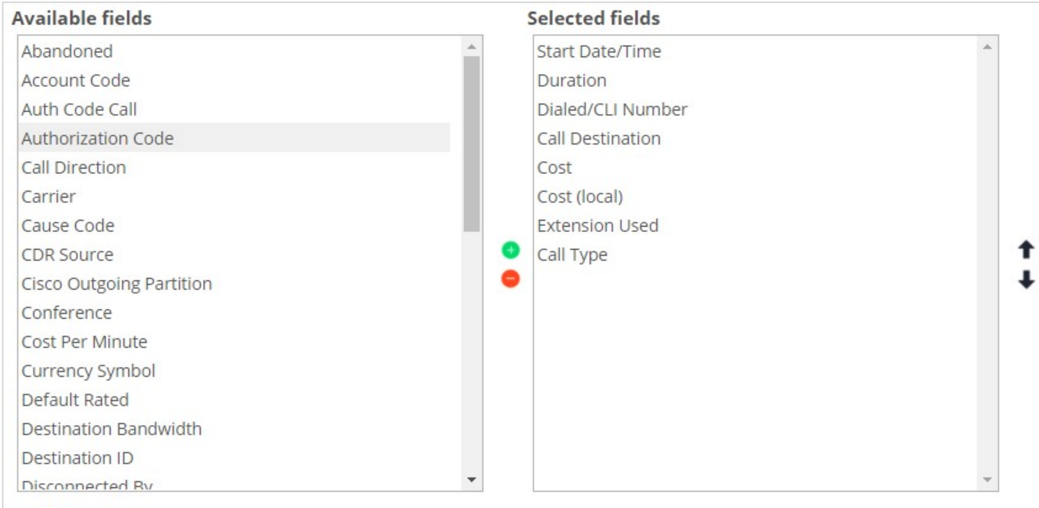
General	Mark to allow user to modify layout
Wireless Alert Summary	Mark to include wireless alert summary (default = marked) If included, the following layout appears (not configurable): Cost | Wireless Alert Type
Call Detail	Mark to suppress call detail (default = marked) If not suppressed, the following layouts appear (not configurable): Call Details Start date/time | Number Called | Call To | Call Direction | Call Type | Minutes | Cost Wireless Messages Date/time |Number | Message Type | Direction | Cost
Call Type Summary	Mark to include call type summaries (default = marked). If included, the following layouts appear (not configurable): Call Type | Calls | Minutes | Cost Mark to include employeenumber (default = unmarked).

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

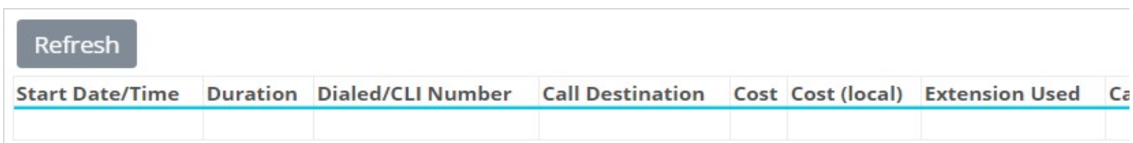
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Inventory Reports

This section describes reports in this group.

Inventory Item Listing*

This report provides a detailed report of directory information, with selectable columns/fields. This report is useful to obtain personalized listings by organizational hierarchy.

* This page describes the full Inventory Item Listing template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

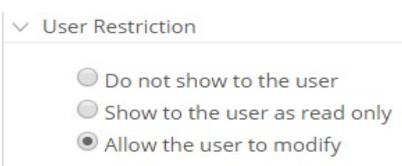
Personnel Name	Associated CDR Source	Inventory ID	Cost Center	Department	Division
Aaron, Samuel	Miami	5006	CC126	Production-LA	Latin America
Abel, Jamie	London	5009	CC568	Sales-EU	Europe
Anders, Brenda	Chicago	3232	CC082	R&D-USA	USA

Filters

Exclude unassigned inventory item records	Yes or no
Inventory classification	All or any selected from system list
Inventory location	All or any selected from system list
Inventory type	All or any selected from system list
Organization level	All or specific level (with All or specific entry from system list)

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



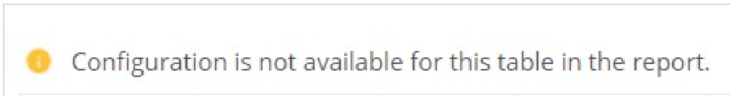
  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

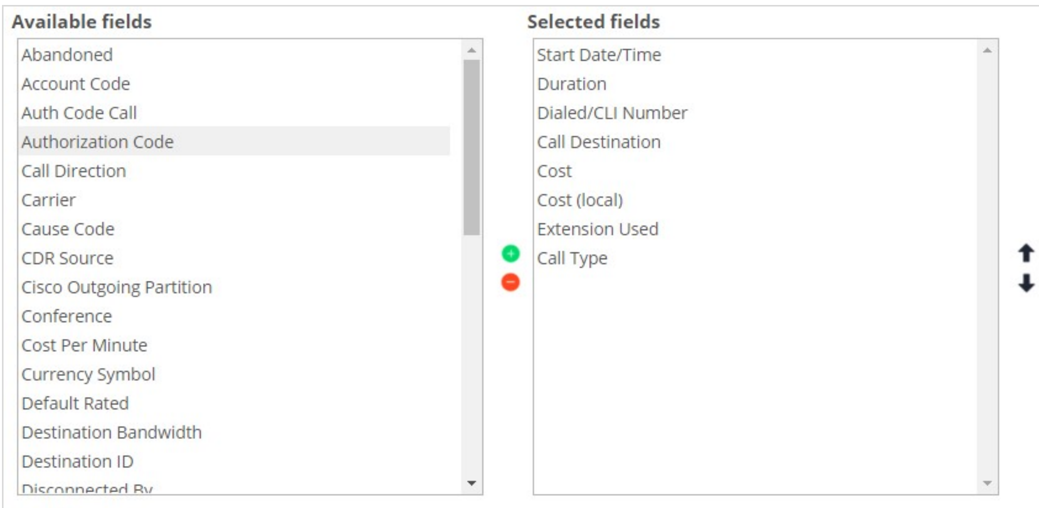
General	Mark to allow user to modify layout
Details	Selected fields (default): Personnel, associated CDR source, inventory ID, type, inventory location, personnel location, cost center, department Available fields: Internal order number, secondary location, service term end date, service term length, upgrade eligibility date, vendor install/activation date, vendor disconnect date, vendor order number, as well as Personnel and Inventory user-defined fields

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

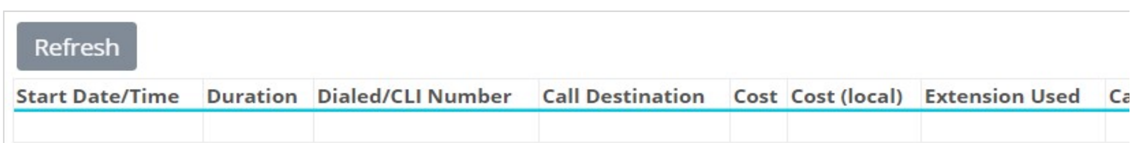
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Wireless

This section describes reports in this group.

Wireless Expense Detail Report*

This report provides detailed wireless charges and usage for the selected accounting period and other criteria.

The report is very configurable, organized into a series of "drill-down" pages that summarize charges and usage for the selected organization, ending with the charges, usage, and call details for the selected Wireless Number. EZ-Burst output is available.

- The top two levels -- the Wireless Summary and the Invoice Item Summary -- have configurable columns (see the Layout section, below).
- The details level is an interactive, detailed section -- that is, you can with toggle between 'charges', 'usage', and 'call details' views of the report (see sample sections below).

This report is designed for sending to cost center/department managers, to help them see how wireless features are being used (data, voice, messaging) against the account or item's allowance, and if there are overage charges (billed if usage is greater than the plan allowance).

NOTE: Wireless invoice items that have not been linked to Wireless Numbers will appear as 'Unassigned'.

* This page describes the full Wireless Expense Detail template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

Wireless Summary

Cost Center	Device Count	MRC Charges	OCC Charges	Usage Charges	Purchases	Adjustments	Taxes and Surcharges	Total Charges
CC001 - US Sales	17	$1,636.62	$0.00	$65.00	$0.00	$0.00	$137.45	$1,839.07
CC200 - UK Sales	8	$977.08	$0.00	$35.00	$0.00	$0.00	$0.00	$1,012.08

Cost Center Name: CC001 - US Sales
Invoice Item Summary

Invoice Item ID	Device Type	Personnel	MRC Charges	OCC Charges	Usage Charges	Purchases	Adjustments	Taxes and Surcharges	Total Charges
5854440001	iPhone	Smith, Joe	$137.77	$0.00	$1.99	$0.00	$0.00	$12.99	$152.75
5854440002	Smart Phone	Arvis, Tim	$55.20	$0.00	$0.00	$0.00	$0.00	$0.49	$55.69

Cost Center Name: CC001 - US Sales **Invoice Item ID:** 5854440001
View: ⦿ Charges ○ Usage ○ Call Details
Monthly Service Charges

Date	Description	Vendor	Category	Charge
3/13/2012	BMNBIBPNTN450UNWUMM	AT&T Wireless	Plan	$44.99
3/13/2012	AT&T_Mexico	AT&T Wireless	Other	$4.99
3/13/2012	20MB_iPHONE_INT	AT&T Wireless	International Data	$24.99
3/13/2012	ENT DATA PLAN IPHONE 16GB	AT&T Wireless	Data	$45.00
3/13/2014	GLOBAL MESSAGING	AT&T Wireless	International Messaging	$10.00
3/13/2012	MESSAGING 1500	AT&T Wireless	Messaging	$15.00
3/13/2012	National Account Discount	AT&T Wireless	Business Discount	($7.20)
Totals				**$137.77**

Usage Charges

Date	Description	Vendor	Category	Charge
3/13/2012	Directory Assistance	AT&T Wireless	Other	$1.99
Totals				**$1.99**

Credits, Adjustments and Other Charges

Date	Description	Vendor	Category	Charge
3/13/2012	Taxes Sales, Telecom and other	AT&T Wireless	Other	$12.99
Totals				**$12.99**

Cost Center Name: CC001 - US Sales **Invoice Item ID:** 5854440001
View: ○ Charges ⦿ Usage ○ Call Details
Voice Summary

Description	Unit	Allowance	Usage	Billable	Overage charges
Daytime	Minutes	450	389	0	$0.00
Unlimited N&W	Minutes	Unlimited	39	0	$0.00
Directory Assistance	Call Count		1	1	$1.99
Totals					**$1.99**

Data Summary

Description	Unit	Allowance	Usage	Billable	Overage charges
Data Access	Kilobytes	Unlimited	75,172	0	$0.00
Totals					**$0.00**

Messaging Summary

Description	Unit	Allowance	Usage	Billable	Overage charges
Messaging 1500	Messages	1,500	435	0	$0.00
Totals					**$0.00**

Other Summary

Description	Unit	Allowance	Usage	Billable	Overage charges
Totals					**$0.00**

Cost Center Name: CC001 - US Sales **Invoice Item ID:** 5854440001
View: ○ Charges ○ Usage ◉ Call Details

Call Details

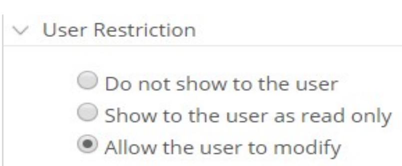
Start Date/Time	Number Called	Call Destination	Call Direction	Call Type	Call Duration	Cost
3/14/2014 9:50:00 AM	585-385-6846	ROCHESTER, NY	OUTGOING	Anytime	00:04:00	$0.00
3/14/2014 10:00:00 AM	585-662-1212	5856621212	INCOMING	SMS	00:01:00	$0.00

Filters

Accounting period	Currently open, most recent closed, most recent pending, selected from a list
Organization level	All or specific level (with All or specific entry from system list)
Vendor	All or specific entries from the list of Wireless Vendors
Master Account	All or specific entries from the system list
Invoice date	Any, Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



  - If you attempt to add a field that is restricted, it will NOT be visible in your report's Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

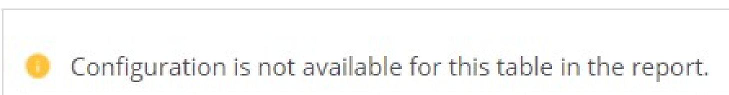
Layout

General	Mark to allow user to modify layout.

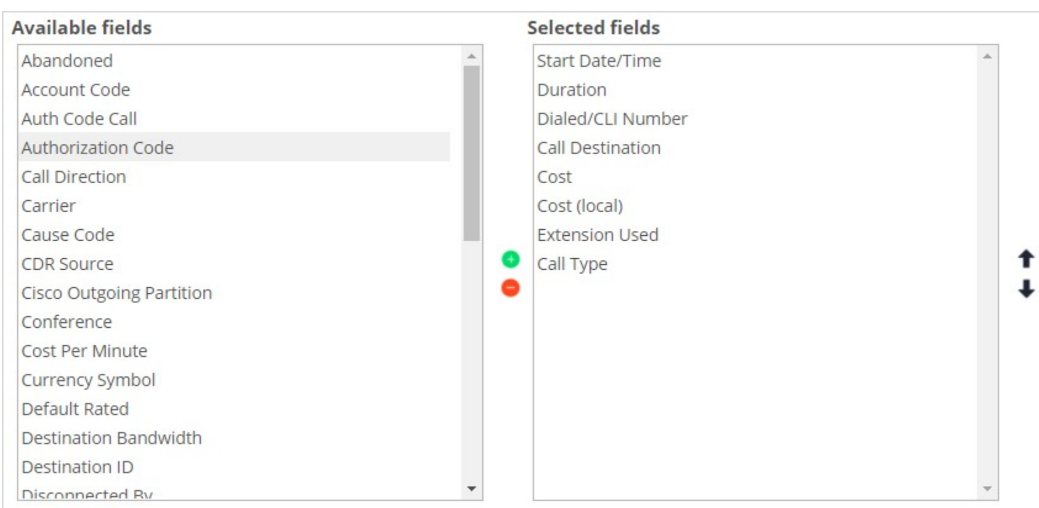
Wireless Summary Fields	Available fields: Device Count, MRC charges, OCC charges, Taxes and Surcharges, Adjustments, Purchases, Usage charges, Voice Usage, Voice Cost, Data Usage, Data Cost, Message Usage, Message Cost, Other Usage, Other Cost, Total Charges
Invoice Item Summary	Available fields: Invoice Item ID (required) Personnel (if invoice item is linked to wireless number, this should bring name of assignment; otherwise, they will appear as Unassigned) E-mail address, Employee number, Inventory ID, Vendor, Device Type, MRC charges, OCC charges, Taxes and Surcharges, Uncategorized charges, Adjustments,Purchases, Usage charges, Voice Usage, Voice Cost, Data Usage, Data Cost,Message Usage, Message Cost, Other Usage, Other Cost, Total Charges,Wireless Number User-defined fields
Charge Details	Mark to include charge details (default = yes). If included, the charge details and wireless usage layouts are as follows: Date | Description | Vendor | Charge Charge Description | Unit | Allowance | Usage | Billable | Overage Charges
Call Details	Mark to include call details (default = yes). If included, layout is as follows: Start Date/Time | Number Called | Call Destination | Call Direction | Call Type | Duration | Cost

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

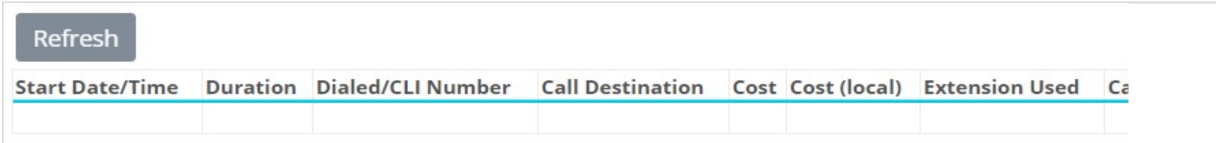
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say "Configuration not available for this table in the report."



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Wireless Usage Report*

This report provides detailed charge and usage information for wireless numbers, derived from selected invoices for wireless or other services.

It is a single-level report with selectable columns/fields. Report data will only be available for the current database (in other words, data will not be available on archived periods).

This report is useful to find how wireless features are being used (data, voice, messaging) against the account or item's allowance, and if there are overage charges (billed if usage is greater than the plan allowance).

* This page describes the full Wireless Usage Report template. A report designer may configure a system report based on this template, using any of its filters and layout options.

Sample Report Sections

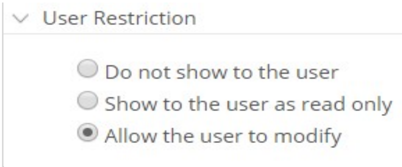
Invoice Item ID	Cost Center	Personnel Name	Invoice date	Total Charges	Overage Charges (Voice: Anytime)	Usage (Voice: Anytime)	Units (Voice: Anytime)	Allowance (Voice: Anytime)
5853835006	CC126	Aaron, Samuel	3/19/2012	$151.64	$26.25	555	Minutes	450
5853835009	CC568	Abel, Jamie	3/19/2012	$238.66	70.75	733	Minutes	450
5853833232	CC082	Anders, Brenda	3/19/2012	$125.39	0.00	385	Minutes	450

Filters

Device Model	All or any selected from the system list
Device Type	All or any selected from the system list
Inventory Type	All or any selected from the system list
Invoice Date	Current Month including Today, Last Month, Last N Months (including current month), Last N Months (excluding current month), Current Week (Monday-Today), Last Week (Monday-Sunday), Last Work Week (Monday-Friday),Today, Yesterday, Last N Days (excluding today), Custom (from / to)
Invoice Item	Items to include. Multiple entries can be included by using wildcards (? = a single character or % = a string)
Master Account	Accounts to include. Multiple entries can be included by using wildcards (? = a single character or % = a string)
Organization Level	All or specific level (with All or specific entry from system list)
Personnel Name	Names to include. Multiple entries can be included by using wildcards (? = a single character or % = a string)
Product	All or any selected from system list
Vendor	All or any selected from system list
...	User-defined fields for Master Account, Vendor, Invoice, Inventory Item, and Personnel

Use the fields listed on the Filters tab to narrow your report search criteria.

- To add more filters to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Filters tab
  - Select the Filter field(s) you wish to add to your report. Save your changes.
  - The User Restrictions field indicates whether the user can view/modify that criteria.
  - You can change the User Restrictions by clicking on a specific criterion and changing the User Restriction setting:



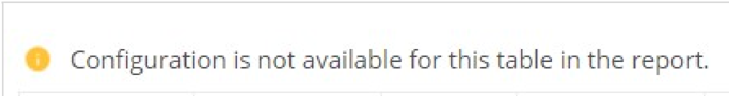
  - If you attempt to add a field that is restricted, it will NOT be visible in your report’s Filter categories.
- When you return to the Report Profile page, the new Filter fields will be added.

Layout

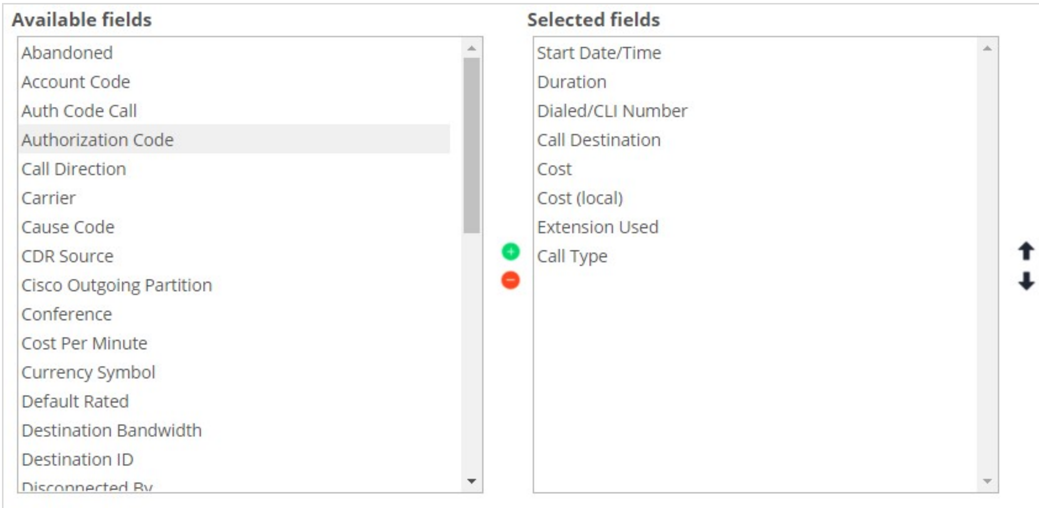
General	Mark to allow user to modify layout
Preferred Units	Select the 'Desired data unit' to be used in the report. Don't standardize (default, does not change any data units) or select Bits, Bytes, KB, MB, GB, or TB (these options convert existing data units to the selected unit).
Details	**Invoice-related fields:** Invoice Item ID (Service Number) Invoice date (as it appears in the electronic invoice), user name, & user-defined fields Master account (Billing Account Number and/or Foundation Account Number) & user-defined fields Vendor (carrier) & user-defined fields Wireless Plan name **Inventory-based fields:** Cost Center Device Model Device Type Inventory Item & user-defined fields Inventory Type MEID/IMEI/ESN Personnel Product Upgrade Eligibility Date **Charge fields:** Adjustments (adjustments made from the vendor based on discounts or rounding) Allowance (per *wireless category*) * MRC charges (monthly recurring charges) OCC charges (other charges and credits) Overage charges (per *wireless category*) * Purchases (usually charges for equipment) Taxes and Surcharges (as noted in the invoice, includes taxes and other government charges) Total charges (sum of charges associated with the Invoice Item) Uncategorized charges Units (per *wireless category*) * Usage (per *wireless category*) * Usage charges (total charges associated with usage, including voice, data, and text) **Personnel fields:** UDFs
	* Wireless categories = Data: International, International Roaming, Other, Roaming, Usage Messaging: International, International Roaming, Other, Roaming, Text Other Voice: Anytime, Directory Assistance, International, International Roaming, Other, Roaming These fields can be grouped by placing its corresponding Data, Messaging, Other, and Voice columns contiguously.

Use the fields listed on the Layout tab to add/remove/reorder report fields and features.

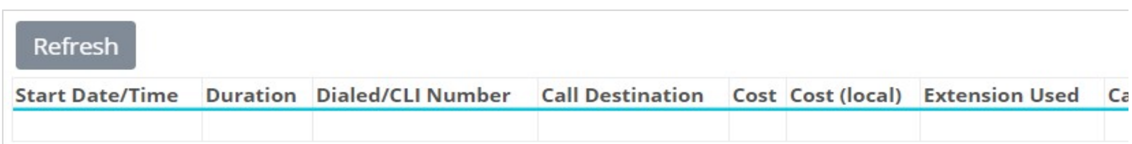
- Expand each section by clicking on the **>** symbol before the section name.
- To add more fields to the default list, go to:
  Administration > Reports > Report Designer > Drill into the System Report > Navigate to the Layout tab
  - Select the Layout field(s) you wish to add to your report. Save your changes.
  - If a field is not configurable, it will say “Configuration not available for this table in the report.”



- If you have the option to add/remove/reorder fields, you will see a table like this:



- Double-click on a field or use the green **+** arrow to add it to the Layout. Use the red **–** symbol to remove a field.
  - You can also reorder the fields by either dragging and dropping them in the order of your choice, or by toggling using the up and down arrows.
  - Select Refresh to see an example of how the columns will look in your report:



- When you return to the Report Profile page, the new Layout fields will be added.

Reports Administration

This section is devoted to Reporting functions used by System Administrators.

All User Reports

This function is available to a system administrator, to view the list of all reports configured by users as well as their run schedules. The system administrator can edit, run, re-schedule, save as 'system report', or delete any report in this list.

Working with User Reports

1. Access: Administration menu > Reports > All User Reports. Locate the desired report.

   NOTE: Click the Help icon in the lower left menu for details on the specific type of report.

2. Select **Open** to modify its filters or layout.
3. Select one of the **Run** options to initiate a report run.
4. Select **Modify Schedule** to reset the frequency and run times and its output.
5. Select **Save as System Report** to make this report available to all users.
6. Select **Delete** to remove the report from all system lists.

Designing Reports

A 'Report Designer' may use this function to...

- Add or edit System Reports ('System reports' are reports that will be available to users to run immediately or to personalize for 'My Reports')
- Edit reports security for multiple reports at once.

Add or Edit a System Report

1. Access: Administration menu > Reports > Report Designer.
2. Click Add to create a new report based on the selected template -- or -- locate a system report to edit and select Design.

> ***NOTE***: To remove a report from the list, select Delete. You will get a confirmation message that will identify any user reports that would also be deleted by this action.

Set Access to Report

3. Open the General tab to set these attributes:
   - [Read-only on an edit] Report name (unique, up to 50 characters)
   - Report description
   - Tab (None or selected from the system list) and -- if a tab was selected -- Submenu (optional, up to 50 characters, used to group several reports under the selected ***system*** tab > **Reports** menu > ***named*** submental).
4. Open the Security tab to select the user groups with access to this report.

Set Criteria

5. Open the Filters tab to set report filters to be presented to users.
6. To set user restrictions for several filters at once, mark desired filters, select More Actions > Set User Restrictions, and then choose:
   - Do not show
   - Show as read only
   - allow user to modify
7. To set default values one filter at a time, click the *criterion* and make your selection (use the Help icon in the lower left menu for details on the specific report template).
8. To change the order in which the fields will be presented to users, drag-and-drop the criterion cell to the desired position.

Set Layout

9. Open the layout tab to view the different report sections. Depending on the report, you may be able to...
   - Allow the user to view a/or modify the layout
   - Select the fields displayed by default as report columns and their order.

Select the Reporting Database (Current or Archive)

10. A new report will run against the current database by default.
    - To make it run against data in the active archive, select More Actions > Change to report against archive database.
    - To return the reporting database to the current one, select More Actions > Change to report against the current database.

> ***NOTE***: You will need the assistance of a system administrator to use the Manage Archives function and restore the desired archive as the 'active' archive.

Finish and Test Configuration

11. Save your entries under this report name -- or -- select Save > Save As and enter a new report name. You will get an informational message that will identify any user reports that would also be modified by this action.
12. We suggest you click the Run button to view the report on your browser.

Edit Reports Security

1. Access: Administration menu > Reports > Report Designer.
2. Mark reports that can be accessed by the same group of users and select More Actions > Edit Security.
3. Mark the security groups with access to reports.
4. Save your settings.

Designing Dashboards

1. Access: Administration menu > Reports > Dashboard Designer -- or -- the Dashboards link on the side bar.
   The page displays the dashboard names, display order, and security groups with access to them.
   a. To create a new system dashboard or edit properties on an existing dashboard:
   b. Click the Add button -- or -- the *dashboard name* to edit and then Dashboard Properties.
   c. Provide the following information:
      - Dashboard name (up to 50 characters)
      - Column layout (one column; two columns - 50%-50%, 66%-33%, 33%-66%; three columns or four columns)
      - Security group (mark desired groups - see Security Groups & Roles)
   d. Save your settings.
2. To set up the display order in the Favorites and System Dashboards menus:
   a. Click the Configure Display Order button.
   b. Drag and drop the dashboard name to the desired position.
   c. Save your settings.
3. To set up widgets for the dashboard, select Configure.
   a. To place a new widget, click Add Widget, mark desired items, and then click on the Add to column (bottom of the selection box).
   b. To reposition widget, grab its title bar and then drop widget to any column/section on the dashboard.
   c. To rename widget, click its title bar and then enter a new name.
   d. To perform other actions, use the widget's buttons to...
      Expand or contract widget block
      View security to access widget
      Change display sort order and set a search filter
      Refresh data
      Remove widget from dashboard
   e. To delete a dashboard, locate it, select Delete, and confirm.

EZ-Burst Distribution

'EZ-Burst' is a VeraSMART report output available to Account Code Detail, Assigned Charges by Organization, Call Detail by Organization, and Personal Calls based-reports.

It results in the report sectioned off into individual sub-reports by account, cost center, or department (depending on the report) and delivered as per the EZ-Burst options for the account or selected distribution lists.

This page discusses lists for distributing organization sections of reports. For distributing accounts, see Account Codes.

The system provides a built-in 'EZ-Burst Managers' list, based on Personnel records:

- Its recipients are all Personnel configured as 'Department Manager' or 'Cost Center Manager'
- Each recipient receives their own Cost Center & Department sections, via their own delivery option (by e-mail link or attached report)
- Recipients will receive notification upon report completion

NOTES: The system allows importing additional lists via the Import Data function.

Create or modify a Distribution List

1. Access: Administration menu > Reports > EZ-Burst Distribution Lists.
2. To create a list or modify general attributes of an existing list:
    a. Click the Add button or the *list name* link and then the Edit button.

    > ***NOTE***: To delete a distribution list, select ▾ Delete and confirm. You may not delete the [Default] or EZ-Burst Managers lists nor any list that is in use by reports.

    b. Enter the List name (up to 50 characters).
    c. If desired, provide an e-mail address to notify of report completion (typically, to a system administrator as reminder that report completed and its distribution process initiated).
    d. Select whether or not to send each report recipient notification of report completion. (This only applies to users configured for receiving report links; recipients that get reports as attachments will always receive an e-mail.)
    e. Save your settings. In an add, proceed to configure the list of recipients (next step).
3. To view and/or configure the list of recipients and delivery options, click the *list name* link and open its Recipients tab:
    a. To set up recipients, click the Add Recipients button and enter:
        - Personnel (click to select who will receive report sections. Filter list, if needed, then select desired names).
        - Receive reports for (Assigned or Selected Cost Center/Department. For selected organizations, use the drop-down to choose them)
    b. To set up or change the e-mail address and/or EZ-Burst option (sending a link to the report or attaching report as a zipped file), click the *personnel name* link.
    c. To delete recipients, mark them, click Remove Recipients, and confirm.

View Reports Using Distribution List

1. Access: Administration menu > Reports > EZ-Burst Distribution Lists
2. Locate list of interest and click the *number* link under the "Number of reports using this list" column.
3. The page lists all user reports currently configured as using this EZ-Burst distribution list.
4. You may click the *report name* link to view and/modify the report criteria and output.

View EZ-Burst Recipients -or- EZ-Burst by Organization

1. Access: Administration menu > Reports.
2. To view a list of individuals receiving reports, use the EZ-Burst Recipients menu item.

    This page shows a grid with the EZ-Burst Distribution list name, the department and/or cost center it will 'burst' as sections, and the personnel that will receive them. The *personnel name* link opens a Personnel Details window.
3. To view organizations that will be sharing data in EZ-Burst reports, use the EZ-Burst by Organization menu item.

    This page shows a grid with the EZ-Burst Distribution list name, the department or cost center it will 'burst' as sections, and the number of recipients that will receive them. The *list name* links to the configuration page where you can add, delete, or edit recipients and their options.

Archive Management

A system administrator can use this function to view the status of database archives, to create a new archive from the current database (manually or scheduled), or to restore a file as the "active archive" (available for reports and EZ-Share exports).

The page shows information on the current "active" archive (if any) and on the auto-archive feature. It also provides the list of non-active archives currently tracked in the system. This list will show the status (available, restored pending upgrade, or offline), backup type, archive description, as well as the date and file location when it was created.

What are archives?

Archives are files containing a "snapshot" of the database at the time they are created. They have been designed for running reports and EZ-Share exports on historical data. The length of time covered in an archive = auto-deletion setting for call records in database (default = 90 days, configurable via System Preferences).

Archives can be created on demand or on automatic schedules. Archive files are named by the date/stamp when created (A*yyyy-mm-dd-hh-mi-ss*.arc) and stored initially under the VeraSMART Data\Archives directory in the *Database Server*.

Because the *Database Server* can be a different machine than the *Application Server*, the system was designed to let administrators manage archives manually -- which includes moving them offline for safekeeping and/or returning them back for reporting on their data.

NOTE: To use an archive for reports:
(a) Desired archive must be placed under the VeraSMART Data\Archives directory.
(b) Restore archive as the "active archive" via the Manage Archives function.
(c) Design desired reports to run against archived data.

Create an Archive

1. Access: Administration menu > Utilities > Manage Archives.

   NOTE: Prior to creating an archive, we recommend to "Reprocess Charges" (Administration System Configuration > Fiscal Years & Accounting Periods) to ensure all charge assignments are up-to-date.

2. Click Create Archive. The system displays the estimated backup file size.
3. Accept the default description or change it to a preferred one (up to 255 characters) and then create the archive.
4. The system will display a message that the operation was initiated. Use the Status Log link to check on its completion status or, if necessary, to cancel the process.

Restore an Archive

Technical Note on restoring archives

To restore an archive and make it available for reports, it must be physically present under the **VeraSMART Data\Archives** directory in the Database Server.

Restoring an archive will also depend on the permissions of the background SQL Server login set up at installation (**veraadmin**, by default). Typically, restores proceed without problems; however, installations that have restricted this login's permissions will be prompted for another SQL Server login that is either a member of the **'dbcreator'** server role or mapped to the **'dbo'** database user in the archive database.

If the restore completes with a status of 'Restored pending upgrade', you will need to use SQL Server tools to either set or map the background SQL Server login (**veraadmin**, by default) to the **'dbo'** database user or to a database user with the **'db_owner'** database role in the archive database.

1. Access: Administration menu > Utilities > Manage Archives.
2. Look for the desired period in the list of available archives, then select its Restore link.
3. The system will display a message that the operation was initiated. Use the Status Log link to check on its completion status or, if necessary, to cancel the process.

   Once completed, the archived database will become 'active' and available for reports and EZ-Share exports.

Schedule Auto-Archive

1. Access: Administration menu > Utilities > Manage Archives.

> ***NOTE***: The default schedule is for automatic archives to run on the first of every month.

2. Click the Schedule Auto-Archive link.
3. Select the frequency:
    - Never run (use to disable feature)
    - Run monthly starting on next run date/time
    - Run weekly starting on next run date/time
    - Run every [number of] days starting on next run date/time
4. If enabled, set the next run date and time (if you omit the time, archive backups run at 1 AM.)
5. Finish to submit your entries.

Edit an Archive Description

1. Access: Administration menu > Utilities > Manage Archives.
2. Look for the archive of interest and click its *archive description* link.
3. Enter up to 255 characters as the archive description.
4. Save change.

Call Accounting

Call Accounting gives you a comprehensive look at your telecom usage and costs.

The system can interface with multiple CDR sources (PBXs or VoIP switches, Pollable Storage Units, etc.), process call records, identify destinations, and calculate charges.

The Call Accounting module delivers the information you need to optimize network capacity and performance, improve employee productivity, and effectively assign actual usage costs throughout your enterprise.

See ***About Call Processing*** as a printable document or PowerPoint presentation.

SBC Matching

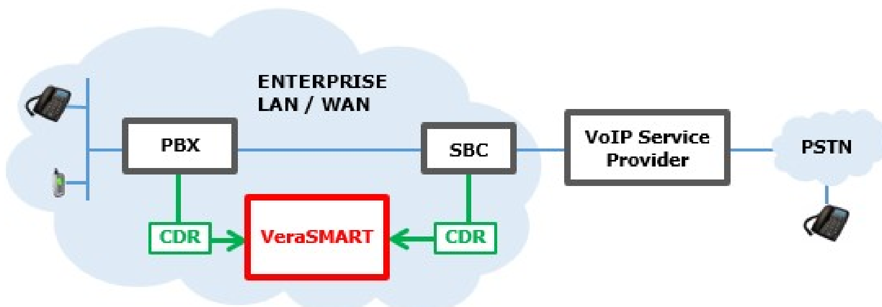
SBC Matching is utilized for the purpose of matching SBC (Session Border Controller) calls with their originating CDR Source and applying the SBC rate to those calls.

NOTE: SBC CDR Matching is an option; it is only available if this feature has been enabled by your license.

⊞ What is SBC CDR matching?

SBC CDR matching is a VeraSMART option designed for an IP network that uses SBCs configured to deliver CDR to VeraSMART in addition to other CDR sources.

Such networks are typically distributed over a wide area. Callers at any node can place on-net and external calls routed via their PBX; they can also place off-net calls via an SBC to avoid the expense of long distance or international call charges.



In the case of off-net calls, VeraSMART would receive two call records – one from the local PBX where the call originated and another from the SBC that connected it to its destination.

For example, say the local PBX is in the New York time zone and the SBC to be used is in London. An international call at 10AM to the 44-20 calling area (London) would generate these two CDRs:

Source	Start Time (Local)	Start Time (UTC)	Duration	Origin	Destination	Direction	Dialed Number	Normalized Dialed Number	Cost (before match)	Cost (after match)
PBX (NYC)	10:00	15:00	0:10:00	Extension / user	Outgoing Trunk	OUTGOING	01144209999999	44209999999	$ 0.00	**$ 0.0**
SBC (London)	15:01	15:01	0:09:59	Tandem Trunk	Outgoing Trunk	TANDEM	9999999	44209999999	£ 0.02	**£ 0.0**

The matching process searches for outgoing calls in the PBX with a corresponding record from the SBC (matching start time, duration, and 'normalized' dialed number) and then charges the original record for the off-net call charges (call costs are converted to the source's rate plan currency).

TECHNICAL NOTES

Once enabled, the SBC CDR Matching process will run every night at 11 PM. It will search the call record database for call pairs within the last 7 days and match them using this criteria:

- One record (source = PBX, direction = OUTGOING) qualifies as an "originating" leg of a call; the other as "terminating" (source = SBC, direction = TANDEM, duration > 0:00:00).
- The normalized dialed numbers are identical (the rating process 'normalizes' dialed digits by removing routing codes and adding country/city/area codes as prefix).
- Variation on the start times (UTC) is within the value specified in this function (the rating process converts local time to UTC by adjusting for the CDR source time zone differences).
- Variation on the reported call duration is within the value specified in this function.

For each set of matching call records, the process replaces the originating record's cost with the values from the terminating record (call costs are converted to the source's rate plan currency). The terminating record's cost is set to zero.

When complete, the process logs how many SBC call records were evaluated and how many matches were made.

SBC CDR SOURCE CONFIGURATION

Use the following document to configure your SBC CDR Source:

Acme Packet SBC (PDF)

Avaya SBC (PDF)

Cisco Unified Border Element (CUBE) (PDF)

ENABLING SBC MATCHING IN VERASMART

Use the following link to configure SBC Matching in VeraSMART:
SBC Configuration

SETTING AN SBC RATE PLAN

The rates and call types you configure for the SBC CDR Source will be applied to the matching calls on the originating CDR Source. You will need to be in the System Administrator or Call Accounting Technician security groups in order to configure a rate plan.

1. Access: Call Accounting menu > Call Rating > Rate Plans
2. Click the **Add Standard Rate Plan** button
3. Name the rate plan, complete the form, and save
4. Click on the new rate plan and add the rate intervals for In-Lata, In-State, US Interstate etc. See Configuring Rate Plans for more details
5. Access: Call Accounting tab > Call Rating > Trunk Groups
6. Search for your SBC CDR Source
7. Click the trunk group next to your CDR Source entry. This will most likely be [Unassigned] unless you've already assigned trunks to trunk groups for this CDR Source in VeraSMART. You may continue with [Unassigned] or see Configuring Trunk Groups & Service Rates for more details on configuring trunk groups
8. Set the **Outgoing Rate Plan** to the rate plan you created in steps 2 and 3. Save

VeraSMART will start applying the new SBC rate plan to matched calls from this point forward. If you need the rate plan applied to past calls then please see Reprocessing Call Records for information on how to reprocess calls for the CDR Source.

VIEWING SBC MATCHING IN VERASMART

1. Access**:** Call Accounting menu > Call Detail > View Call Records
2. Add the 'SBC match status' field to the view
   a. Click the pencil icon in the upper right
   b. Move the 'SBC match status' field from 'Available fields' to 'Selected fields'
   c. Save
3. Select your filters and run a search

In the example below, you will see matched calls, which are highlighted to their respective match. They form a match since they are within the duration and start time tolerance range configured in the SBC Configuration page. The rate of .05/minute, calculated at 6 second intervals, is configured on the SBC CDR Source and applied to the matched long distance calls in this example.

- When running a call search report on extension or personnel, you will only see the matching CDR Source call with the SBC rate applied.
- If you run a call search on all calls for the SBC CDR Source, you will see the SBC segments of the calls with the call direction of 'Tandem'. These will not be assigned to an extension.

Start Date/Time	Duration	Extension Used	Reported Dialed/CLI Number	Call Destination	Call Direction	
8/4/2016 8:59:32 AM	07:13:13		1-877-668-4444		Tandem	
8/4/2016 8:59:33 AM	07:13:13	+15852493333	+1-877-668-4444		Outgoing	
8/4/2016 1:59:33 PM	01:43:32		1-510-365-3333	OA CZ2A, CA	Tandem	
8/4/2016 1:59:34 PM	01:43:32	+15853838888	+1-510-365-3333	OA CZ2A, CA	Outgoing	
8/4/2016 2:29:12 PM	01:28:11	+16156137777	+1-901-678-5555	MEMPHIS, TN	Outgoing	
8/4/2016 2:29:12 PM	01:28:09		1-901-678-5555	MEMPHIS, TN	Tandem	

Extensions (Numbers & Codes)

Inventory

Inventory is the term representing communication devices, with individual items uniquely identified by their ***inventory* ID** for their ***inventory type***.

⊞ Note to System Administrators:

The system allows...

- creating user-defined fields for this table
- creating user-defined views of this table (including summarized views for dashboard widgets)
- configuring inventory functionality and layout of its add/edit/detail pages via the Inventory Types function
- importing table via any one of several 'Personnel and Inventory' Import Data functions

Attributes

Each inventory type has its own set of attributes that control functionality and establishes what information gets tracked. Depending on licensed options, the system provides built-in inventory types, organized into these classifications:

⊞ **Call Accounting**

This classification represents devices associated with on-premise telephone systems, to identify the origin/destination of calls in traditional call accounting. Its default types are the **Extension**, **Hunt Group**, and **Voice Mail Port**; installations with a Microsoft Lync telephone system will add the **SIP URI** inventory type.

Call Accounting inventory associated with an established CDR Source will be added automatically, any time new inventory items appear in the CDR data stream -- up to the licensed size for Call Accounting inventory.

⊞ **Wireless Call Accounting**

This classification represents wireless devices associated with a vendor (the service provider or source of invoices that contain call detail data and other charges). Its default types are the **Wireless Account Numbers** and **Wireless Numbers**.

- Wireless Account Numbers identify the inventory item with contractual services with the vendor, for a set of *wireless numbers*.
- Wireless Numbers identify the inventory items under a *wireless account*, that place or receive calls, messages, or data transfers and are billed for this usage on the invoice. Wireless numbers are associated with a product (Air Card, Blackberry, Feature Phone, iPad, iPhone, Smart Phone, or Tablet), which is determined from the invoice charges.

You may not configure new wireless call accounting types or modify the product associated with a wireless number. Wireless Call Accounting inventory will be added automatically any time you import and process invoices with new wireless numbers - up to the licensed size.

Assignments

Inventory items can be assigned to an individual (Personnel) or directly to a Cost Center for tracking its usage and charges. If the inventory type allows *separate charge and inventory assignments*, an item assigned to a Cost Center (for billing charges) can be given ownership to Personnel (for tracking usage). The owner does not need to be a member of that Cost Center.

NOTE: Inventory views can be configured to display 'Bill to' and 'Owner' columns to show split assignment information. In addition, such views can have the 'Personnel and Owner' filter which allow showing all inventory used by an individual, regarless of the billed entity.

What would you like to do?

View Inventory Item Details

Add or Edit Inventory

Reassign Inventory

Assign Charges

Associate Cost Center-owned Inventory with Personnel

Deactivate Inventory

Inventory Item Details

The Inventory Item Details page displays information under a series of tabs, as appropriate for the inventory type and licensed options.
See ***Detail Record***, below for a description.

From this page -- depending on the inventory type and system preferences -- you may ...

- Edit attributes
- View (depending on the inventory type)
  - Call details associated with this item
  - Wireless usage by this item
- Perform more actions
  - Clone, reassign, or deactivate item
  - Associate/disassociate personnel to item (owned by a Cost Center)
  - Assign internal charges (one-time charges)
  - Assign charge rules (recurring charges)
  - Connect to other inventory (for details, open the Connected Inventory tab, below)

Detail Record

The record displays assignment information on the header section:

- Inventory ID

> ***NOTE:*** In systems with Inventory Management, it also displays icons to view its parents and children and a map of its physical location in your telecom network.

- Assigned cost center and/or personnel

It also displays a set of tabs for the different enabled features. The list below displays all tabs in a fully-configured system.
Click / to expand/collapse individual topics or Expand All:

Attributes tab

Attributes -- Displays editable information, which may include:

- Product
- ID (unique identifier)
- Name (description of inventory)
- Suspended (flag)
- Last active date (only shows if item has been deactivated) and deactivation reason (optional description for deactivation)
- Location (primary physical location, will be mapped in your telecom network) *
- Secondary location (terminating point -- for example, in a data or voice line type of inventory. Use for information only, will NOT be mapped)
- Parent inventory ID & type (used to establish an inventory hierarchy) *

---

* See Inventory by Location.

Call Accounting types -- common attributes:

- Associated CDR source
- Masked digits (trailing digits in called numbers to hide from call detail views)
- Private (yes/no flag. Private inventory will not appear in directory listings)

Assignment tab

Displays the records of this item's assignments. The period between assignment & last active dates are used to apportion usage and charges, whenever item has moved to different owners. A blank 'last active date' indicates that item is currently active.

- To change owners, select More Actions > Reassign Inventory Item. Then select the assignment (Personnel, Cost Center, or Unassigned) and the date.
- To change an assignment date, select Edit Assignment -or- the *assignment date* link (this would change the last active date of the previous assignment, also).
- To remove an assignment and return item to its last 'owner', select Delete Assignment.

Associated Personnel tab

[Requires enabling 'personnel associations' in System Preferences]

Displays all Personnel associated with this inventory item (for example, as in a Hunt Group inventory). In the grid, the *personnel name* link opens this individual's detailed page.

To add or remove associations, select More Actions > Associate (or Disassociate) Personnel.

Assigned Charges tab

[non-Telecom inventory]

Displays all internal charges assigned to this item for the selected accounting period. Systems with Wireless Call Accounting would also display invoice charges.

System Administrators: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.

Depending on the type of charge, you may be able to change this information...

- Internal one-time charges: Edit Charge -or- Delete Charge -or- More Actions > Assign Internal Charges
- Internal recurring charges: View Charge -or- More Actions > Assign Charge Rules (to edit or delete this type of charge, use the Charge Rules tab)

Charge Rules tab

[non-Telecom inventory]

Displays all rules within the selected accounting period that result in recurring charges for this item.

System Administrators: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.

To change any of the above information, select: Edit Charge -or- Delete Charge -or- More Actions > Assign Charge Rules.

Connected Inventory tab

[Requires enabling 'connected inventory' for the inventory type]

Displays a list of inventory items entered as 'connected' (an informational relationship). In the grid, each *Inventory ID* link allows you to access details of the selected Inventory Item record.

To add a connection to another item, select More Actions > Connect Inventory Item; to remove a connection, simply select Delete for that entry.

Attachments tab

Displays a list of attachments -- images, spreadsheets, text files, etc. -- associated with this item.

- To upload a file, use the Select File button, optionally enter a comment, and click the Upload File button.
- To open an attached file, use its *file name* link.
- To add or edit a comment for an attachment, use its *comment* link and re-enter text.

Add or Edit Inventory

This page describes how to add, block add, clone, edit, or block edit inventory items.

1. Access the desired inventory list view.

   > ***NOTE:*** The placement of inventory views and the content of the add and edit forms is configurable via the Inventory Type function.

2. To change common field values in multiple records:
   a. Mark them, select More Actions > Bulk Edit and follow wizard's instructions.
   b. Select the fields to change, provide new values (see step below), and then finish.

      > ***NOTE:*** Bulk editing UDF Notes will append comments to the end of existing text.

   c. For additions, click Add (for multiple, consecutive entries, click Add > Block Add).
      For cloning or edits of specific records, first locate the *inventory ID* and select ▼ Clone or click the Edit button from the details page.
      a. Select the inventory type. The resulting page displays features associated with your selection.
      b. Define attributes. The form is configurable for the Inventory Type and may include:

Inventory Parent	Select ... ▪ Inventory Location (selected from system list -- for inventory at the top or 'root' level or not using a hierarchical model) ▪ Parent Inventory ID (selected from system list) ***NOTE***: If you are working with an Asset, you can only select as 'parent' another Asset or a Call Accounting or Telecom type that support Assets (configurable attribute of the Inventory Type).
Inventory ID	[Add or Clone only] up to 50 characters. In a block add, enter the first and last sequential Inventory ID (format must be compatible: they must begin with EXACTLY the same characters and end with the same number of digits). ***NOTE***: Inventory IDs are not applicable if its inventory type supports auto-generated IDs.
Name	Up to 50 alphanumeric characters as descriptor
Associated CDR source	[Add or Clone for Call Accounting inventory only]
Masked digits	For Call Accounting inventory. Trailing digits in dialed numbers -- none, 1 to 23, or All -- to hide from call detail views (this value supersedes masked digits in System Preferences) ***NOTE***: Digits should not be masked in systems using the Personal Call Identification feature, as this would make calls difficult to identify.
Private	Mark box to keep inventory off directory listings
Inventory Location	Optional. Select location from the system list
Assignment	Unassigned or select the Personnel or Cost Center owner (responsible for charges). If this type of inventory supports 'Separate charge and inventory assignments' and the owner is a cost center, you now may select a personnel assignment.
...	Any user-defined fields available for this type of inventory

      c. Save your entries.

Reassign Inventory

This page describes how to change the current 'owner' of an inventory item. The date entries are used to apportion usage and charges, whenever the item has moved to a different 'owner'.

1. Access the desired inventory list view.

   > ***NOTE:*** The placement of inventory views is configured via the Inventory Type function.

2. To bulk reassign (from list view), mark the entries, select More Actions > Reassign, and follow wizard's instructions. For a single reassign (from Details page), select the *Inventory ID* and then Actions > Reassign Inventory Item.

   > ***NOTE***: You cannot reassign Assets that are currently 'children' of other inventory.

   a. Select reassignment type (choose new assignment or restore previous assignment).
   b. For new assignments, enter the assignment and date:
      - Unassigned
      - Personnel (then select name from system list)
      - Cost center (then select entry from system list)

      > ***NOTE***: If inventory type allows split assignments, a cost center charge assignment allows you to select a personnel record as inventory assignment.

   c. Review entries and [bulk action] finish --or-- [single action] save entries.
3. To modify the assignment date for an inventory item that had been reassigned, open the item's Assignment tab, click the *assignment date* to change and provide a new date.

   > ***NOTE***: You cannot specify dates in the future or in a closed period in the past. If reassigning to personnel, the date must also be on or after the personnel became active. Entering a valid date will change the last active date of the previous assignment as well.

4. To reactivate the last assignment, open the Assignment tab, select Delete assignment for the entry of interest, and confirm.

Assign Charges

VeraSMART supports assessing non-usage, recurring charges against inventory -- for example, to account for extension features billed every accounting period. Systems with the Enhanced Chargeback license can also assess one time charges -- for example, to account for items billed once or that vary in cost each period.

See also Enhanced Chargeback (PDF), Configuring Charge Codes, Configuring Charge Rules

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To assign (one-time) internal charges:

1. Access the inventory item detail record.
2. For a new charge:
   a. Select More Actions > Assign Internal Charges.
   b. Select a charge code from the system list --or-- enter a description, one-time cost, date, and accounting period.
   c. Save your entries.
3. For existing charges, open the Assigned Charges tab:
   a. To edit a charge, click its *charge code name* link, enter desired changes, and save.
   b. To remove a charge, locate it, select Delete Charge, and confirm.

> ***NOTE***: Dates for one-time charges are used for information only and as such, may be used as criteria in reports or data exports. It is independent of the accounting period and does not determine when a charge will go into effect.

To assign rules for setting recurring charges:

1. Access the inventory item detail record.
2. For a new charge rule:
   a. Select More Actions > Assign Charge Rules.
   b. Select a charge code from the system list, then set the start and end dates.
   c. Save your entries.
3. For existing charge rules, open the Charge Rules tab:
   a. To edit a rule, click its *charge code name* link, enter desired changes, and save.
   b. To remove a charge, locate entry, select Delete Charge, and confirm.

Associate Cost Center-owned Inventory with Personnel

VeraSMART offers an 'Associated Personnel' feature [must be enabled in System Preferences], whereby inventory assigned directly to Cost Centers can also be 'associated' to any number of Personnel.

> This feature is used strictly for information purposes in a Directory listing. For example, a call center has an assigned central phone number which it owns and for which it pays charges. This phone number must be associated with all its operators so that they appear in the Directory listing.

Procedure

1. Access the desired inventory list view.

> ***NOTE:*** The placement of inventory views is configured via the Inventory Type function.

2. Select the *inventory ID* of interest.
3. Open the Associated Personnel tab to view current entries.
4. To create associations, select More Actions > Associate Personnel and mark the desired entries.
5. To remove associations, mark desired entries, select More Actions > Disassociate Personnel, and confirm.

Deactivate Inventory

1. Access the desired inventory list view.

   > ***NOTE:*** The placement of inventory views is configured via the Inventory Type function.

2. To review an item before deactivating it, select it first and then access More Actions > Deactivate Inventory Item. To deactivate one or more entries from the list view, mark them and select Bulk Actions > Deactivate.
3. Review items and enter:
   - Deactivation date (default = today's date)
   - Deactivation reason (optional)
4. When complete, click Deactivate and Return.

   > ***NOTE:*** An inventory item will be reactivated under these conditions:
   > - When reassigned
   > - If it appears in a call record or as invoice item

You can append text to a Notes-style UDF on a deactivated inventory item by following this process:

1. Navigate to the deactivated Inventory Item.
2. Click ‘More Actions’ and select ‘Append to [*UDF NAME*]’.
   - The ‘Append Notes’ box will appear.
3. Enter text.
4. Save your changes.
   - Your text will be appended to the end of the current Note field, along with the Logged-in user name and date/time.

Authorization Codes

Authorization Codes are a telephone system feature whereby users dial their assigned code to use restricted-access facilities. When users dial an authorization code during a phone call, the code is included in the call record.

The system allows assigning authorization code charges to an individual owner (Personnel) or directly to a cost center (with ownership going to either the cost center itself or to an individual). This results in charging back a call as assigned, regardless of the call origin.

If the 'associated Personnel' feature is enabled in System Preferences, authorization codes that have been assigned to Cost Centers can also be 'associated' to any number of Personnel, strictly for information purposes.

FYI
Authorization Codes and Account Codes are telephone system features, sometimes used interchangeably. What is the difference?

Both are programmable telephone system features, dialed when placing calls. Account codes are used to "tag" calls for bill backs to the account; authorization codes are used to restrict a user's telephone privileges - much like a password - and assign the call as originating from the user's extension (regardless of its actual origin). PBXs will validate a correct authorization code, but not an account code.

The system supports these features and can charge accounts or inventory owners for calls associated with account codes or authorization codes, respectively. However, because authorization codes are handled with added security, the system provides Account codes reports only.

NOTE: Some companies like the "validation" feature offered by their telephone system to authorization codes and use them to "tag" accounts, instead. To support this particular application, the system allows swapping auth. code with account functionality (see Editing CDR Source Attributes for details).

What would you like to see?

- **Authorization Code Details**
- **Adding or Editing Auth Code Attributes**
- **Assigning Internal Charges**
- **Reassigning Auth Codes**
- **Deactivating Auth Codes**

Note to System Administrators:

The system allows...

- importing table via any one of several 'Personnel and Inventory' Import Data functions

For details, look up the above topics under Administration & Setup.

Authorization Code Details

The Authorization Code Details page displays the auth code and the personnel or cost center to which it belongs. Other details appear under a series of tabs (see table below).

From this page, you can also...

Edit attributes Reassign item Deactivate item	Associate personnel Assign charges (one-time charges) Assign charge rules (recurring charges)

> ***NOTE:*** The labels 'personnel' and 'cost center' are configurable by a system administrator via the Organization Levels function.

Tabs

Attributes

(expandable section) displays the product and name (descriptor), as well as other fields based on the inventory type. These may include...

- Associated CDR source
- Masked digits (trailing digits in called numbers -- none, 1 to 23, or All -- hidden from view)

To change any of the above information, click the Edit button.

Assignment

Displays the records of this entry's assignments. The dates are used to apportion usage and charges, whenever item has moved to different owners.

To change owners, select More Actions > Reassign Authorization Code.

To change an assignment date, select ▼ Edit Assignment -or- click the *assignment date* link.

Associated Personnel

In a system that allows personnel associations (System Preferences) and the item belongs to a cost center, the page displays all Personnel associated with this entry. In the grid, the *personnel name* link opens its detailed page.

To change any of the above information, select More Actions > Associate Personnel (or Disassociate Personnel).

Assigned Charges

Displays all internal charges assigned to this entry for the selected accounting period.

Depending on the type of charge, you may be able to change this information...

- Internal one-time charges: ▼ Edit Charge -or- ▼ Delete Charge -or- More Actions > Assign Internal Charges
- Internal recurring charges: ▼ View Charge -or- More Actions > Assign Charge Rules (to edit or delete this type of charge, use the Charge Rules tab)

> ***System Administrators***: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.

Charge Rules

Displays all rules within the selected accounting period that result in recurring charges for this entry.

To change any of the above information, select: ▼ Edit Charge -or- ▼ Delete Charge -or- More Actions > Assign Charge Rules.

> ***System Administrators***: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.

Adding or Editing Auth Code Attributes

1. Access**:** Call Accounting menu > Extensions > Authorization Codes. Then click Add -- or -- the *authorization code* to modify and then click Edit.
2. Enter attributes:
   - [Add only] authorization code (up to 20 phone pad characters)
   - CDR source (selected from system list)
   - Masked digits (optional. Used to hide the phone number called, starting from the end: none, 1 to 23, or All).
   - [Add only] Charge assignment (Unassigned, Personnel, or Cost center) and date (default = today's date).

     NOTE: A cost center assignment allows you to select a personnel record as owner.

   - Credit and Debit GL codes (if enabled via System Preferences).
3. Save your entries.

Assigning Internal Charges

Internal Charges refer to charges against inventory or organizations that you wish to track, but -- unlike call charges from CDR sources -- they must be assigned manually.

1. Access: Call Accounting menu > Extensions > Authorization Codes.
2. Select the code of interest.
3. To view, assign, or modify one-time charges, open the Charges tab:
    a. For a new charge:
        i. Select More Actions > Assign Charges.
        ii. Select a charge code from the system list --or-- enter a description, one-time cost, date, and accounting period.
        iii. Save your entries.
    b. To modify a specific charge, click its *charge code name* link and enter your changes.
    c. To remove a charge: locate entry, select Delete Charge, and confirm.

    > ***NOTE***: Dates for one-time charges are used for information only and as such, may be used as criteria in reports or data exports. It is independent of the accounting period and does not determine when a charge will go into effect.

4. To view, assign, or modify the rules for setting recurring charges, open the Charge Rules tab:
    a. For a new charge:
        i. Select More Actions > Assign Charge Rules.
        ii. Select a charge code from the system list, set the start and end dates, and then save your entries.
    b. To modify a specific charge, click its *charge code name* link and enter your changes.
    c. To remove a charge: locate entry, select Delete Charge, and confirm.

Reassigning Auth Codes

1. Access: Call Accounting menu > Extensions > Authorization Codes.
2. From the list view, mark the entries of interest, and select More Actions > Reassign.
3. Review the records displayed, select reassignment type (new assignment -or- restore previous assignment), and move to the next page.
   For a new assignment, select the new owner (unassigned, personnel, or cost center) and assignment date.

   > ***NOTE:*** A cost center assignment allows you to select a personnel record as owner.

4. Review field values and finish.

Deactivating Auth Codes

1. Access: Call Accounting menu > Extensions > Authorization Codes.
2. Mark desired records and then click More Actions > Deactivate.
3. Review list and enter a deactivation date.
4. When complete and click Deactivate and Return.

> ***NOTE:*** The automatic cleanup program runs nightly, deleting call and billing records slated for removal (see related topic: System Preferences). "Deactivated" entries are then scanned; those without associated charges are then removed from the database.

Account Codes

Account Code is the term for the telephone switch feature dialed to tag call records. Account codes are assigned to subject matters, clients, and so on — typically, for billing purposes. When users dial an account code during a phone call, the code is included in the call record.

The system can maintain a table of account codes received from the CDR source that includes associated account names and call cost adjustments for billing calls in Account Code Reports.

FYI
Authorization Codes and Account Codes are telephone system features, sometimes used interchangeably. What is the difference?

Both are programmable telephone system features, dialed when placing calls. Account codes are used to "tag" calls for bill backs to the account; authorization codes are used to restrict a user's telephone privileges - much like a password - and assign the call as originating from the user's extension (regardless of its actual origin). PBXs will validate a correct authorization code, but not an account code.

The system supports these features and can charge accounts or inventory owners for calls associated with account codes or authorization codes, respectively. However, because authorization codes are handled with added security, the system provides Account codes reports only.

NOTE: Some companies like the "validation" feature offered by their telephone system to authorization codes and use them to "tag" accounts, instead. To support this particular application, the system allows swapping auth. code with account functionality (see Editing CDR Source Attributes for details).

Working with Account Codes

1. Access: Call Accounting menu > Extensions > Account Codes.
2. To add or modify an entry:
    a. Click Add or the *account code* to edit.
    b. Provide information and then save your entries:

Account number	(Required) Up to 20 alphanumeric characters, as they would appear in a call record from this source -- for example, 35667
Account name	(Required) Up to 20 alphanumeric characters, as you would like to the account to appear on reports -- for example, ABC Industries
EZ-Burst option	One of these options: **EZ-Burst disabled**: (default) account not included in EZ-Burst report mailings **E-mail EZ-Burst reports as attachment**: sends zipped files as an e-mail attachment to addresses below **E-mail links to EZ-Burst reports**: sends a hyperlink and user/password to access the report to addresses below
E-mail address	Enter addresses, separated by semi-colons (use SMTP format, as in "name@company.com").
Percent markup	(required) percent added or subtracted to/from the cost of the call, -100.00 to 1000.00. Default = 0.
Surcharge per call	(required) additional charge in the server currency. Default = 0.
Minimum cost of per call	(required) calls will have this reported cost, at a minimum -- in the server currency. Default = 0.

3. To delete one or more entries, mark them, click Delete, and confirm.

> ***NOTE:*** You cannot delete account codes associated with stored call records.

Correcting Dialed Account Codes Associated with a Call

When call records include a new account code or one dialed by mistake, the system adds them as "unassigned." To assign those dialed codes to the appropriate accounts (or make the appropriate corrections), proceed as follows:

1. Access: Call Accounting menu > Extensions > Account Codes.
2. Search for status = show unassigned account codes.
3. Examine the resulting list:
    a. On account codes that are valid, you may enter an account name for reports and, optionally, set cost adjustments.
    b. On account codes that are not valid, a system administrator may examine associated call records and enter corrections via the Viewing Call Details function.

Unused Extensions

Use this page to view Call Accounting inventory that had no usage for the selected date range. You can also filter the view by CDR Source and inventory type (extension, hunt group, and/or voice mail port).

> ***NOTE***: 'No usage' is defined as having no call activity recorded for the inventory item.

You can also use this page to deactivate selected inventory items, provided they do not have calls or any type of charges associated on or after the deactivation date.

Deactivating Unused Extensions

1. Access: Call Accounting menu > Extensions > Unused Extensions.
2. Select a date range, CDR source and the inventory type.
3. Mark the extensions to deactivate and click the **Deactivate** button.
4. Enter a deactivation date and reason.
5. Click the **Deactivate and Return** button.

> ***NOTES***: You cannot deactivate an item if it has calls or internal charges assigned on or after the selected deactivation date.

Call Detail

This section discusses the following topics:

View Call Records

Use the Call Detail viewing pages to...

- Search for call records in the current database
- View all legs in a Transfer call
- View all fields in a call record
- Edit call record (misdialed codes, cost, or Tie line links)

Access

- From the Call Accounting menu: Call Detail > View Call Records or configured view
- From the Wireless Call Accounting tab: Call Detail > View Wireless Call Records or configured view
- From an Inventory Item or Personnel detail page: View > Call Details

Call Record Search

1. The page loads the pre-configured view as set by your system administrator. If the view is summarized, you can toggle between views by clicking the (tabular details) and (summarized graphical) icons on the top right corner of the display section.
2. Enter search criteria to filter view.
3. In summarized view, you can click the link or graphical element (pie slice, bar, etc.) to drill down to the detailed records that comprise that summary.
4. In tabular view, you can...
    - Use the icon [bottom of main menu] to export the page as an Excel file
    - Select **View All Fields** link to open a pop-up displaying all CDR fields
    - A system administrator can select **Edit Call Record** to correct dialed account code errors in stored call records as well as the call cost

> ***NOTE***: Systems with the Tie Line Reconciliation option can use the Edit feature to look for and unlink Tie Line calls that have been matched by mistake (this forces the Tie Line Reconciliation process to re-evaluate the pairing when it runs again).

View Transfer Call Details

The system includes a Call Detail view named 'View Call Records and Transfers' that includes Transfer IDs. You can click the Transfer ID link to open a pop-up that lists all legs in a Transfer call.

Call Detail Fields

The table below describes all the call record fields supported in VeraSMART. Note that many fields are specific to the CDR source and the various formats used to read CDR data. To this effect we are using the following icons to indicate that the field applies to...

= Call Accounting (Extensions and other telephone system-based inventory)

= Invoice (Voice inventory)

= Invoice (Wireless inventory)

Abandoned	Call Accounting	Flags (yes/no) if caller disconnected while waiting in some hunt group queue. Most telephone systems do not report abandoned calls and, instead, report them as 'unanswered'. The CDR format readers for some Avaya Aura CM systems have been updated to recognize this information.
Account Code	Call Accounting, Invoice (Voice)	Account code, if one was dialed during the call.
Account Name	Call Accounting, Invoice (Voice)	Name given in the database to the account code dialed.
Accounting Period	Call Accounting, Invoice (Voice), Invoice (Wireless)	Indicates the accounting period when call charges were allocated. From a telephone system, this is tied to the call date.
Actual duration	Invoice (Voice), Invoice (Wireless)	Reported by some invoices, the actual duration of the call in seconds (no rounding).

Auth Code Call		Flags (yes/no) if caller dialed an Authorization Code during the call. This results in the call being assigned to the Authorization Code's owner, regardless of the Extension Used.
Authorization Code		Authorization code, if one was dialed during the call.
Base Cost		Call cost after Special Call Processing, but without Call Type adjustments.
Call Destination		From a telephone system, this is the location derived from (a) the dialed number of an outgoing call or (b) the caller ID of an incoming call. From an invoice, this is the location dialed on an outgoing call.
Call Direction		From a telephone system, one of these values: INCOMING, INTERNAL, OUTGOING, or TANDEM — as supported by the CDR Source. From an invoice: INCOMING or OUTGOING.
Call Origination		The region or location name associated with the call origin, as provided by the invoice.
Call Type		From a telephone system, value is assigned by Rating, based on the dialed number, call direction, service used, etc. (for example: Local, National, Toll Free, and In-State). From an invoice, value is assigned by the invoice (for example, in a wireless call: Anytime, M2M, MMS, N&W, and SMS).
Cause Code		Call termination cause code. The CDR format readers for Cisco UCM systems have been updated to recognize this information.
CDR Source		Name given in the database to the telephone system or invoice source of this call record.
Cisco Outgoing Partition		In a Cisco UCM telephone system, this is the partition of the routing pattern for outgoing calls.
Conference Call		Flags (yes/no) if call included more than two parties. The CDR format readers for Cisco UCM, Avaya IP Office and some Aura CM systems have been updated to recognize this information.
Cost		Cost of the call in the server currency (at the effective conversion rate for the date of the call). From a telephone system, value includes Special Call Processing and Call Type adjustments.
Cost (local currency)		Cost of the call in the native currency. From a telephone system, value includes Special Call Processing and Call Type adjustments.
Cost Center		Cost center directly or indirectly accountable for the call.
Currency		Code for the local currency used in computing the cost of the call.
Default Rated		Flags (yes/no) if call used the 'default' rates because it did not recognize the calling pattern.
Destination Bandwidth		Value reported by some telephone systems to measure the amount of data (in kbps) that can be passed along the communications channel used by the destination digital device. The CDR format readers for Cisco UCM systems have been updated to recognize this information.
Destination ID		Value reported by some telephone systems to identify the destination device, user, or location (depending on the CDR format). The CDR format readers for Cisco UCM, Avaya IP Office, and the Aura CM 'custom' format have been updated to provide this information.
Dialed Digits		Number dialed on an outgoing call (outgoing/tandem or internal call, from a telephone system) or the calling number in an incoming call.
Dialed/CLI Number		Formatted dialed digits, with groupings of toll code and phone number separated by dashes (for example, 1-585-383-6800).

Disconnected By	Information provided by some telephone systems to identify the party that terminated call: blank = unknown; 'O' = originating; 'D' = destination. The CDR format readers for Cisco UCM and some Avaya Aura CM systems have been updated to recognize this information.
Duration	Billed duration, reported in the HH:MM:SS or minutes format selected in System Preferences. From a telephone system, this is the duration after the Call Type adjustments. From an invoice, this is the reported duration after rounding for the rate interval.
Extension used	The ID/number of the device or station that originated or received the call.
Hunt group/DNIS	In an incoming call, the hunt group or DNIS number dialed by a caller. Some telephone systems (Toshiba Strata DK280, Avaya IP Office, Norstar, and Aura CM with the updated 'custom' format) provide an explicit CDR field for this data. Some others (Avaya Aura CM 'unformatted' CDR format, Cisco UCM, and Microsoft Lync) report the hunt group as the Extension Used. The CDR format readers for these systems have been updated to recognize 'extensions' that have been re-configured as 'Hunt Group' inventory types and process them correctly.
Inventory ID	The ID for the inventory accountable for the call. Typically, this is the same as the Extension Used. A notable exception: from Microsoft Lync system, this is the user's SIP URL.
Inventory type	The type of inventory that placed or received this call.
Invoice Item	Invoice items are identified per the invoice. Examples include a wireless number or voice number.
Invoice Name	Number of the invoice reporting this call.
Jitter (milliseconds)	A 'quality of service' measure of evenness of pulses or packet transmissions reported by a Cisco telephone system for VoIP calls. Given as a mean deviation of the timing between packets during a call. An industry-standard threshold for jitter average is 125 milliseconds.
Last Rate per Minute Used	Rate per minute used in costing the call. In a multi-tiered rating scheme, this corresponds to the last tier's rating.
Last Rating Interval Used	Time interval (in seconds) used in costing the call. In a multi-tiered rating scheme, this corresponds to the last tier's rating interval.
Latency	A 'quality of service' measure of lag-time reported by a Cisco telephone system for VoIP calls. Average time (in milliseconds) for a pulse or packet to get from a sender to a receiver (large lag-times or delays contribute to speaker and listener talking over each other). An industry-standard threshold for latency average is 250 milliseconds.
Normalized Dialed Digits	Number dialed on an outgoing call (outgoing/tandem or internal call, from a telephone system) or the calling number in an incoming call. All non-numeric characters are removed.
Meter Pulse	A signal sent by some telephone exchanges (outside the USA, mostly outdated) to pass the cost of the call. Each pulse represents a certain fixed cost.
Origination Bandwidth	Value reported by some telephone systems to measure the amount of data (in kbps) that can be passed along the communications channel used by the originating digital device. The CDR format readers for Cisco UCM and some Aura CM systems have been updated to recognize this information.
Origination ID	Value reported by some telephone systems to identify the originating device, user, or location (depending on the CDR format). The CDR format readers for Cisco UCM, Avaya IP Office, and the Aura CM 'custom' format have been updated to provide this information.

Packets Lost		A 'quality of service' measure reported by a Cisco telephone system for VoIP calls. A "packet" is a unit of digitized voice data; lost packets contribute to garbled communications.
Packets Lost Percent		A 'quality of service' measure computed from 'Packets Lost' over the 'Packets Sent' during a call — as reported by a Cisco telephone system for VoIP calls. An industry-standard threshold is 5% of lost packets during a phone call.
Packets Sent		A 'quality of service' measure reported by a Cisco telephone system for VoIP calls.
PCI Identification		In systems licensed for Personal Call Identification (PCI), refers to the 'PCI classification' of a call: excluded (CDR source or call type not enabled for PCI), unidentified, business, or personal.
Personnel		The name of the user accountable for the call.
Queue Time		Number of seconds that the call spent in a hunt group queue. May not be provided by some telephone systems.
Redirect Code		In an incoming or internal call, this is the code reported by Cisco UCM telephone systems to indicate the reason for a call transfer.
Redirect Number		In an incoming or internal call, this is the number reported by Cisco UCM telephone systems to indicate the originally called extension. If this is not the Extension Used (the final party), this may represent a first leg of a transferred call.
Reporting Call Type		This is a 'report-friendly' call type, which gives an alternative to the default system call types (e.g., instead of the system call type of **In-Lata**, the reporting call type is **Long Distance**).
Ring Time		In an incoming call, the time (in seconds) it took to answer a call — as reported by some telephone systems.
SBC Match Status		SBC Match Status compares the status of a SBC CDR source in relation to its corresponding CDR source. See SBC Matching for more information.
Special Code		Special codes are "tags" placed in call records by some CDR formats. They can also be added by the Special Call Processing function for reporting purposes. For telephone systems that report tandem calls, the caller's number is placed into the Special Code field preceded by 'ANI:' (for example, ANI: 5859241234).
Start Date		Date/time stamp when the call started — typically from the collection device.
Start Date (UTC)		Date/time stamp when a 'Call Accounting' call started converted to UTC by the Rating process, based on the CDR source or Trunk Group's time zone
Sub-Account Name		The Sub-Account Name is identified per the invoice. See Master Accounts and Sub-accounts for more information.
Sub-Account Number		The Sub-Account Name is identified per the invoice. See Master Accounts and Sub-accounts for more information.
Tandem CLI		Tandem CLI allows for the tracking of the “from” number (CLI) and the “to” number (Dialed Number) for tandem calls.
Tandem Trunk		CDR format-specific value for the phone line or channel reported by the telephone system as the incoming trunk of a tandem call.
Transfer ID		Internal number used as unique identifier of a transfer call, shared by all legs of the call. This information is provided by CDR from such sources as Cisco UCM, Avaya IP Office, and Avaya Aura CM programmed for Universal Call Identifier (UCID).
Transferred		Flags (yes/no) if call was transferred to another party. The CDR format readers for Cisco UCM, Avaya IP Office, and Avaya Aura CM - UCID systems have been updated to recognize this information.

Trunk		From a telephone system, the format-specific value for the phone line or channel used by an incoming call or carrying out an outgoing or tandem call. From an invoice, the vendor associated with the service.
Trunk Group		Name of the trunk group associated with the trunk used by the call.
Unanswered		Flags (yes/no) if caller disconnected before call was answered. Most telephone systems report 'Abandoned' calls under this flag. The CDR format readers for Cisco UCM, Avaya IP Office, and some Aura CM systems have been updated to recognize this information.
Vendor		Vendor is identified per the invoice.
Vendor rate plan		Rate plan used by the vendor to cost the call, if provided by the invoice.
Video		Flags (yes/no) if call had a video component. The CDR format readers for Cisco UCM, Avaya IP Office, and some Aura CM systems have been updated to recognize this information.
Voice Mail		Flags (yes/no) an incoming or internal call that was forwarded to the called party's voice mail. This may be explicitly provided by some telephone systems or derived by VeraSMART if the final destination had been pre-configured as a 'Voice Mail Port' inventory. If the CDR includes the original extension dialed (before being forwarded to voice mail), this information will appear under the 'Inventory ID' field (for an incoming call) or the 'Dialed/CLI Number' (for an internal call). The CDR format readers for Cisco UCM, Avaya IP Office and some Aura CM systems have been updated to recognize this information.
Wireless Number		Wireless Number is identified per the invoice. See Wireless Numbers for more information.

Additional Call Detail Views

The following default views are available by accessing the Call Accounting tab > Call Detail menu.

- Calls by Time of Day
- Calls by Type
- Calls More Than $10
- Calls More Than 30 Minutes
- Frequently Dialed Destinations
- Frequently Dialed Numbers
- View Call Records and Transfers
- SBC CDR Matching (if licensed for SBC CDR Matching)

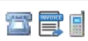
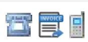
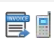
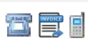
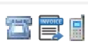
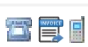
Call Detail Fields

The table below describes all the call record fields supported in VeraSMART. Note that many fields are specific to the CDR source and the various formats used to read CDR data. To this effect we are using the following icons to indicate that the field applies to...

 = Call Accounting (Extensions and other telephone system-based inventory)

 = Invoice (Voice inventory)

 = Invoice (Wireless inventory)

Abandoned		Flags (yes/no) if caller disconnected while waiting in some hunt group queue. Most telephone systems do not report abandoned calls and, instead, report them as 'unanswered'. The CDR format readers for some Avaya Aura CM systems have been updated to recognize this information.
Account Code		Account code, if one was dialed during the call.
Account Name		Name given in the database to the account code dialed.
Accounting Period		Indicates the accounting period when call charges were allocated. From a telephone system, this is tied to the call date.
Actual duration		Reported by some invoices, the actual duration of the call in seconds (no rounding).
Auth Code Call		Flags (yes/no) if caller dialed an Authorization Code during the call. This results in the call being assigned to the Authorization Code's owner, regardless of the Extension Used.
Authorization Code		Authorization code, if one was dialed during the call.
Base Cost		Call cost after Special Call Processing, but without Call Type adjustments.
Call Destination		From a telephone system, this is the location derived from (a) the dialed number of an outgoing call or (b) the caller ID of an incoming call. From an invoice, this is the location dialed on an outgoing call.
Call Direction		From a telephone system, one of these values: INCOMING, INTERNAL, OUTGOING, or TANDEM — as supported by the CDR Source. From an invoice: INCOMING or OUTGOING.
Call Origination		The region or location name associated with the call origin, as provided by the invoice.
Call Type		From a telephone system, value is assigned by Rating, based on the dialed number, call direction, service used, etc. (for example: Local, National, Toll Free, and In-State). From an invoice, value is assigned by the invoice (for example, in a wireless call: Anytime, M2M, MMS, N&W, and SMS).
Cause Code		Call termination cause code. The CDR format readers for Cisco UCM systems have been updated to recognize this information.
CDR Source		Name given in the database to the telephone system or invoice source of this call record.
Cisco Outgoing Partition		In a Cisco UCM telephone system, this is the partition of the routing pattern for outgoing calls.
Conference Call		Flags (yes/no) if call included more than two parties. The CDR format readers for Cisco UCM, Avaya IP Office and some Aura CM systems have been updated to recognize this information.
Cost		Cost of the call in the server currency (at the effective conversion rate for the date of the call). From a telephone system, value includes Special Call Processing and Call Type adjustments.

Cost (local currency)		Cost of the call in the native currency. From a telephone system, value includes Special Call Processing and Call Type adjustments.
Cost Center		Cost center directly or indirectly accountable for the call.
Currency		Code for the local currency used in computing the cost of the call.
Default Rated		Flags (yes/no) if call used the 'default' rates because it did not recognize the calling pattern.
Destination Bandwidth		Value reported by some telephone systems to measure the amount of data (in kbps) that can be passed along the communications channel used by the destination digital device. The CDR format readers for Cisco UCM systems have been updated to recognize this information.
Destination ID		Value reported by some telephone systems to identify the destination device, user, or location (depending on the CDR format). The CDR format readers for Cisco UCM, Avaya IP Office, and the Aura CM 'custom' format have been updated to provide this information.
Dialed Digits		Number dialed on an outgoing call (outgoing/tandem or internal call, from a telephone system) or the calling number in an incoming call.
Dialed/CLI Number		Formatted dialed digits, with groupings of toll code and phone number separated by dashes (for example, 1-585-383-6800).
Disconnected By		Information provided by some telephone systems to identify the party that terminated call: blank = unknown; 'O' = originating; 'D' = destination. The CDR format readers for Cisco UCM and some Avaya Aura CM systems have been updated to recognize this information.
Duration		Billed duration, reported in the HH:MM:SS or minutes format selected in System Preferences. From a telephone system, this is the duration after the Call Type adjustments. From an invoice, this is the reported duration after rounding for the rate interval.
Extension used		The ID/number of the device or station that originated or received the call.
Hunt group/DNIS		In an incoming call, the hunt group or DNIS number dialed by a caller. Some telephone systems (Toshiba Strata DK280, Avaya IP Office, Norstar, and Aura CM with the updated 'custom' format) provide an explicit CDR field for this data. Some others (Avaya Aura CM 'unformatted' CDR format, Cisco UCM, and Microsoft Lync) report the hunt group as the Extension Used. The CDR format readers for these systems have been updated to recognize 'extensions' that have been re-configured as 'Hunt Group' inventory types and process them correctly.
Inventory ID		The ID for the inventory accountable for the call. Typically, this is the same as the Extension Used. A notable exception: from Microsoft Lync system, this is the user's SIP URL.
Inventory type		The type of inventory that placed or received this call.
Invoice Item		Invoice items are identified per the invoice. Examples include a wireless number or voice number.
Invoice Name		Number of the invoice reporting this call.
Jitter (milliseconds)		A 'quality of service' measure of evenness of pulses or packet transmissions reported by a Cisco telephone system for VoIP calls. Given as a mean deviation of the timing between packets during a call. An industry-standard threshold for jitter average is 125 milliseconds.
Last Rate per Minute Used		Rate per minute used in costing the call. In a multi-tiered rating scheme, this corresponds to the last tier's rating.

Last Rating Interval Used		Time interval (in seconds) used in costing the call. In a multi-tiered rating scheme, this corresponds to the last tier's rating interval.
Latency		A 'quality of service' measure of lag-time reported by a Cisco telephone system for VoIP calls. Average time (in milliseconds) for a pulse or packet to get from a sender to a receiver (large lag-times or delays contribute to speaker and listener talking over each other). An industry-standard threshold for latency average is 250 milliseconds.
Normalized Dialed Digits		Number dialed on an outgoing call (outgoing/tandem or internal call, from a telephone system) or the calling number in an incoming call. All non-numeric characters are removed.
Meter Pulse		A signal sent by some telephone exchanges (outside the USA, mostly outdated) to pass the cost of the call. Each pulse represents a certain fixed cost.
Origination Bandwidth		Value reported by some telephone systems to measure the amount of data (in kbps) that can be passed along the communications channel used by the originating digital device. The CDR format readers for Cisco UCM and some Aura CM systems have been updated to recognize this information.
Origination ID		Value reported by some telephone systems to identify the originating device, user, or location (depending on the CDR format). The CDR format readers for Cisco UCM, Avaya IP Office, and the Aura CM 'custom' format have been updated to provide this information.
Packets Lost		A 'quality of service' measure reported by a Cisco telephone system for VoIP calls. A "packet" is a unit of digitized voice data; lost packets contribute to garbled communications.
Packets Lost Percent		A 'quality of service' measure computed from 'Packets Lost' over the 'Packets Sent' during a call — as reported by a Cisco telephone system for VoIP calls. An industry-standard threshold is 5% of lost packets during a phone call.
Packets Sent		A 'quality of service' measure reported by a Cisco telephone system for VoIP calls.
PCI Identification		In systems licensed for Personal Call Identification (PCI), refers to the 'PCI classification' of a call: excluded (CDR source or call type not enabled for PCI), unidentified, business, or personal.
Personnel		The name of the user accountable for the call.
Queue Time		Number of seconds that the call spent in a hunt group queue. May not be provided by some telephone systems.
Redirect Code		In an incoming or internal call, this is the code reported by Cisco UCM telephone systems to indicate the reason for a call transfer.
Redirect Number		In an incoming or internal call, this is the number reported by Cisco UCM telephone systems to indicate the originally called extension. If this is not the Extension Used (the final party), this may represent a first leg of a transferred call.
Reporting Call Type		This is a 'report-friendly' call type, which gives an alternative to the default system call types (e.g., instead of the system call type of **In-Lata**, the reporting call type is **Long Distance**).
Ring Time		In an incoming call, the time (in seconds) it took to answer a call — as reported by some telephone systems.
SBC Match Status		SBC Match Status compares the status of a SBC CDR source in relation to its corresponding CDR source. See SBC Matching for more information.
Special Code		Special codes are "tags" placed in call records by some CDR formats. They can also be added by the Special Call Processing function for reporting purposes. For telephone systems that report tandem calls, the caller's number is placed into the Special Code field preceded by 'ANI:' (for example, ANI: 5859241234).

Start Date		Date/time stamp when the call started — typically from the collection device.
Start Date (UTC)		Date/time stamp when a 'Call Accounting' call started converted to UTC by the Rating process, based on the CDR source or Trunk Group's time zone
Sub-Account Name		The Sub-Account Name is identified per the invoice. See Master Accounts and Sub-accounts for more information.
Sub-Account Number		The Sub-Account Name is identified per the invoice. See Master Accounts and Sub-accounts for more information.
Tandem CLI		Tandem CLI allows for the tracking of the "from" number (CLI) and the "to" number (Dialed Number) for tandem calls.
Tandem Trunk		CDR format-specific value for the phone line or channel reported by the telephone system as the incoming trunk of a tandem call.
Transfer ID		Internal number used as unique identifier of a transfer call, shared by all legs of the call. This information is provided by CDR from such sources as Cisco UCM, Avaya IP Office, and Avaya Aura CM programmed for Universal Call Identifier (UCID).
Transferred		Flags (yes/no) if call was transferred to another party. The CDR format readers for Cisco UCM, Avaya IP Office, and Avaya Aura CM - UCID systems have been updated to recognize this information.
Trunk		From a telephone system, the format-specific value for the phone line or channel used by an incoming call or carrying out an outgoing or tandem call. From an invoice, the vendor associated with the service.
Trunk Group		Name of the trunk group associated with the trunk used by the call.
Unanswered		Flags (yes/no) if caller disconnected before call was answered. Most telephone systems report 'Abandoned' calls under this flag. The CDR format readers for Cisco UCM, Avaya IP Office, and some Aura CM systems have been updated to recognize this information.
Vendor		Vendor is identified per the invoice.
Vendor rate plan		Rate plan used by the vendor to cost the call, if provided by the invoice.
Video		Flags (yes/no) if call had a video component. The CDR format readers for Cisco UCM, Avaya IP Office, and some Aura CM systems have been updated to recognize this information.
Voice Mail		Flags (yes/no) an incoming or internal call that was forwarded to the called party's voice mail. This may be explicitly provided by some telephone systems or derived by VeraSMART if the final destination had been pre-configured as a 'Voice Mail Port' inventory. If the CDR includes the original extension dialed (before being forwarded to voice mail), this information will appear under the 'Inventory ID' field (for an incoming call) or the 'Dialed/CLI Number' (for an internal call). The CDR format readers for Cisco UCM, Avaya IP Office and some Aura CM systems have been updated to recognize this information.
Wireless Number		Wireless Number is identified per the invoice. See Wireless Numbers for more information.

Edit Call Record

System administrators can use the View Call Records or View Invoice Call Records page to correct dialed account code errors in stored call records as well as the call cost.

Systems with the Tie Line Reconciliation option can also look for and unlink Tie Line calls that have been matched by mistake (this forces the Tie Line Reconciliation process to re-evaluate the pairing when it runs again). For details, see Tie Line Reconciliation.

Procedure

1. Access: Call Accounting menu > Call Details > View Call Records. Search the database for the call records in question.

   If necessary, create a view (via the icon at the bottom of the main menu) with the needed filters and grid columns.

   NOTE: If checking for **account codes** you may wish to add the 'Account Code' filter; if checking for Tie Line calls, you may wish to add the 'CDR Source' and/or 'Trunks' columns.

2. Select **Edit Call Record** to go to the edit page.
3. You may then modify:
   - Call cost
   - Account code
   - Tie line status (this will also set its matching record to status = Un-reconciled)
4. Save your changes.

Call Collection

This section is devoted to call accounting functions used by managers.
Advanced Administration is devoted to functions used by system administrators.

Enabling/disabling Call Processing

Use the Call Processing Status function to view and/or change the status of the call collection and rating processes of all CDR sources in your system.

The ***call collection status*** indicates whether or not calls are currently being collected from the CDR source. Collected calls are converted to a standard format and placed under the **VeraSMART Data\Rating** folder, waiting to be processed by the Rating engine.

The ***call rating status*** indicates whether or not calls already collected from the CDR source are being processed by Rating. Rating involves validating the call source & destination, computing base costs and any applicable adjustments, and then storing the call).

Enabling / Disabling Call Processing

1. Access: Call Accounting menu > Call Collection > Call Processing Status.
2. To change the rating status for all CDR sources at once, click...
   Enable Rating for All CDR Source records --or-- Disable Rating for All CDR Source records as appropriate.
3. To change the call processing status for an individual CDR source, click either the *collection status* or *rating status* link for the desired CDR source, select the new enable/disable status, and save your entries.

CAUTION: Disabling call collection will result in loss of CDR data. It may also trigger a 'no calls' alert if these have been enabled via the System Alert Status function.

Scheduling Call Collection

Use this function to view and/or set up schedules for call collection via "polls." You can also use this function to initiate a poll immediately.

A 'poll' is a transfer of data at the request of the application server. CDRs collected by non-direct methods -- for example, from a pollable storage unit, from a local or remote file, or from another call accounting system -- are collected under polling schedules.

Default schedule = intervals, frequency 1 hour.

Working with Call Collection Schedules

1. Access**:** Call Accounting menu > Call Collection > Call Collection Schedule.
2. To add or modify a schedule, click Add -- or -- the *CDR source* to edit.
    a. (Add only) Select the CDR source.
    b. Choose the type of polling (interval or daily) and then the appropriate details:
        - For interval polling, enter the frequency in ***seconds***, ***minute:seconds***, or ***hours:minutes:seconds*** (minimum = 5 minutes).
        - For daily polling, select the time (as ***hours:minutes*** in a 24-hour clock) and days of the week to poll.
    c. Save your entries.
3. To initiate a poll immediately:
    a. Locate the CDR source of interest.
    b. Click its Poll Now link.
4. To delete a schedule, mark it, click Delete and confirm.

TIPs

On polling sites via a modem port:

- Do not poll more than ten (10) sites through the same modem port
- Poll after peak hours (obviously, frequent polls are needed for high volume sites)
- If possible, poll when cheaper phone rates apply

System Administrators:

To notify of polling problems, use the System Alerts functions to set up 'No call records' alert conditions that match the polling frequency. As a rule, set the following:

- Start alert time = 10 minutes + polling start time; end alert time = 11:59 PM
- Interval without calls = smallest of (a) 1 hour + polling interval or (b) 2x polling interval.

Example #1: For a switch polled daily at 11 PM, set alert start time = 11:10 PM, alert end time = 11:59 PM, interval without calls = 1500 minutes (25 hours).

Example #2: For a switch polled at half hour intervals, set alert start time = 12:10 AM, alert end time = 11:59 PM, interval without calls = 60 minutes.

CDR Source

CDR source is the term for the source of call record data.

Typically, this is an on-premise telephone switching system providing voice and/or data communications services. The term also applies to Centrex services (in which a pool of lines is rented at the phone company's central office).

An 'Ancillary' CDR source is a term for a telephone system that handles call traffic for its own set of local extensions, but its CDR is reported as if collected from another telephone system (known as the "primary" CDR Source). As a result, all call rating, Inventory, Authorization Codes, Account Codes, and other CDR Source-related tables will also be associated with the primary CDR Source and its calling area.

NOTE: The system allows configuring user-defined fields, list views, and forms via the User-defined Views function.

CDR Source Details

The details page displays information in a series of tabs.

Attributes

Displays general information.

To change the information, click the Edit button or select More Actions > Change Country.

Country	Multinational option
Time zone	Select from drop-down list
Short name	Used for certain reports and listings
Local calling area information	■ In the NANP: Area code and local exchange ■ In the NANP: Local rate method (none, flat, measured, or message) ■ Outside the NANP: City code
CDR source location	Select from the System Locations list
Default inventory type	Extension (most common), Hunt Group, or Voice Mail Port
Time difference (hours)	Tie Line Reconciliation option -- this is the time difference between this CDR source and the system server local time
Collect all available CDR attributes	Requires 'All CDR Fields' license -- this option collects ALL of the additional (not normally collected) raw CDR attributes that are available from the switch (CUCM 9.x+, CUBE, and Acme Packet) and makes them available for reporting via EZ-Share (Field Selection: Output is based on 'Call record' > Call Record Raw Data Fields)
Swap authorization code and account code	Yes | No
Save call data for sending to another call accounting system	Yes | No Select the sending method: ■ Do nothing to wait for the data to be 'polled' ■ Provide remote server information to 'push' the data to it. ***NOTE***: This option is intended for a telecom management network consisting of a central server and one or more call accounting clients. Clients collect CDR locally and save the data for the central site to provide network-wide call accounting services. If the call accounting client is only used as a 'buffer box', automate the deletion of call records to avoid running out of disk space: ■ Enable Rating ■ Use the Discard Call Records function to discard ALL CDRs ■ Set System Preferences - Raw call records and logs to less than 120 days
Outgoing rate plan information for default trunk group	■ Rate plan name ■ Currency ■ VAT (%) -- value added tax
Store or discard	Store or discard options for abandoned, unanswered, internal, incoming, and/or tandem calls

Call Process Status

Displays the status of the call collection and rating processes.

To change the collection or rating status for this CDR source, access Call Accounting menu > Call Collection > Call Processing Status.

Collection status	Disabled or enabled
Rating status	Disabled or enabled
Date/time of last call rated	Date & time of the last call rated
Number of discarded calls on the current & previous month	Included in this number are: ■ The abandoned, unanswered, internal incoming, or tandem calls selected to be discarded for the CDR source ■ Calls below their Call Type minimum duration filter ■ Calls matching a dialed pattern set up as a Discard Call Records rule
Rating queue	The number of files in the rating queue that are waiting to be rated

⊞ Call Collection Details

Displays the CDR format number, Call collection method, and Call collection settings.

To change collection settings, select More Actions > Configure CDR Source Call Collection.

⊞ Call Collection Schedule

Displays the schedule to collect calls for this site:

- For dial-up or direct connections only, it displays the "Port" used
- For non-direct connections, it displays the poll type (interval or daily), date/time of next poll, days of the week, and polling interval

For changes to the schedule or to request a poll immediately, access Call Accounting menu > Call Collection > Call Collection Schedule.

The CDR Source Details page also provides access to...

- Edit CDR Source Attributes
- Show Collection Details
- Configure Call Collection

Editing CDR Source Attributes

Access: Call Accounting menu > Call Collection > CDR Source > *CDR source*, click the Edit button and enter your changes.

When complete, save your settings.

1. Enter site name:
   - **CDR source name** (up to 25 characters)
   - **Time zone**
   - **Short nam**e (up to 8 characters)
2. Enter calling area information, based on whether the site is in the North American Numbering Plan (NANP) zone or not:

   In an NANP site:
   - **Area cod**e and **local exchange**
   - **Local rate method** (none, flat, measured, or message)

   In a non-NANP site (Multinational system):
   - **Currency** (selected from entries in Currency Conversions table. This should match the currency used by the carrier's rate plan for this site)
   - **VAT** (value added tax - 0.0000% to 1000.0000% - added to the computed call cost)
3. Call processing & other options:
   - **CDR source location** and any other user-defined fields configured for this form
   - **Default Inventory Type** (selected from system list -- Extension (most common option), Hunt Group, or Voice Mail Port)
   - **Time difference (hours)**
     - Tie Line Reconciliation option
       - Enter a value for the time difference between this CDR source and the system server local time (for example, if the system server is in Chicago, a CDR source in New York = +1 and a CDR source in Los Angeles = -2)
       - To complete the setup,
(1) identify Tie Line trunk groups from this CDR source via the Trunk Groups function
(2) specify guidelines to match Tie Line call pieces via the Tie Line Reconciliation Setup function
   - **Collect all available additional CDR attributes** (requires 'All CDR Fields' license –- this option collects ALL of the additional (not normally collected) raw CDR attributes that are available from the switch (CUCM 9.x+, CUBE, and Acme Packet) and makes them available for reporting via EZ-Share)
   - **Swap authorization code and account code** (that is, take the values collected from the auth code CDR field and store them as account codes and vice-versa)
   - **Save call data for sending to another call accounting system**
     - Check this box if you have a separate instance of VeraSMART used for call collection purposes only. If this box is checked, data may be configured to redirect call records to the primary VeraSMART system. Note that this service is usually for hosted Calero customers
     - You will need to supply the remote call collection server host name or IP address
     - If you require a secure connection, check the 'Use SSL' box
   - **Store or discard** abandoned, unanswered, internal, incoming, and/or tandem calls

Show Collection Details

Use this function to view the call collection settings for the requested CDR sources.

1. Access: Call Accounting menu > Call Collection > CDR Source > Show Collection Details.
2. Optionally, filter by CDR source name starting with and/or the call collection method.
3. The list displays matching records. The call collection settings display pertinent information for the method selected.

Configuring Call Collection

Use this function to set up the interface with a Primary or Ancillary CDR source in your system.
This is done by providing specific collection & processing instructions in a series of steps.

PREREQUISITES:

1. You must administer the CDR source to output CDR and establish a physical connection to the VeraSMART server. For details, review the specific interface guide for this CDR source.
2. Multinational systems must preconfigure or install the rate plan used to cost calls from this source.

CDR Source Wizard

1. Access: Call Accounting menu > Call Collection > CDR Source.
   a. Click Add for a new entry -or- locate the primary CDR source and click its Add Ancillary link for an ancillary entry.
   b. Click the *CDR source name* to edit, then Configure CDR Source Call Collection.
2. When adding a new site, the Welcome -- or -- Ancillary CDR Source page appears describing the process and how to move through the pages. When configuring call collection for an existing site, proceed directly to step 4 (selecting the CDR Source manufacturer).
3. Identify the source of call records:
   a. Select where the CDR source is located: country (in a multinational system) and time zone.
   b. Enter the CDR source name (up to 25 characters).
   c. If adding a primary CDR source, select calling area information:
      - For a site in an NANP country, select:
        - Area code, exchange, and local rate method (none, flat, measured, or message)

          NOTES: VeraSMART has built-in local rates for all major Telcos and will apply them once you select the rate method. If unsure, select ***None*** for free local calls.

        - VAT (value added tax - 0% to 100% with up to 4 decimal places - applied to the carrier rates)
      - For a site in a non-NANP country, select:
        - City code
        - Outgoing rate plan and currency used (from the configured Currency Conversions list)
        - VAT (value added tax - 0% to 100% with up to 4 decimal places - applied to the carrier rates)
   d. Option: Save call data for sending to another call system

      NOTE: Check this box if the VeraSMART system you are currently configuring is being used to collect call records for sending to another VeraSMART system. This is typical for call accounting customers who have a VeraSMART system on their domain and need to redirect the call records to their primary VeraSMART system hosted on the Calero domain. This option is not checked by default.
   e. Select what to do with internal and incoming calls -- store or discard them.
4. Select the CDR source manufacturer from a list of supported manufacturers. Then, based on this selection...
   a. Select the format in which data from the CDR source will be received (for details, see CDR Formats).
   b. Select the call collection method -- that is, how the call record data will be transmitted into the system -- Next, provide values to match transmissions by the selected method (for details, see Call Collection Methods).

      NOTE: If you reach this point in the Wizard, but are missing some information, leave the installation (click Cancel) until you can obtain the required information and resume installation (the Wizard will remember prior entries).
5. If you had completed prior steps, the system will try to collect and interpret calls using the values you had provided and then display the records for verification (see Viewing Raw Call Records for details).
6. Readable fields indicate success. Click Next to confirm and continue.
7. Next you should see the lines of formatted (interpreted) call records, under column headings (see Viewing Formatted Call Records for details).

   Valid/recognizable data indicate success you may click Next to confirm and continue.
8. When your tests are successful, the wizard will inform you with a Congratulations page. As you click Finish, the system will assign this CDR source a call collection status = enabled.

NOTES:

Once complete, you should perform the following basic setup:

- Complete the newly created outgoing rate plan for the site via the Rate Plans function.
- Identify how to rate calls from this site via the Trunk Groups function.
- Set up the individuals and/or organizations to charge for calls via the Personnel and Cost Center functions.

After completing a basic setup, enable rating for this site via the Call Processing Status function. Until you enable rating, calls are being collected, but not rated.

If rating is enabled before completing a basic setup, calls will be costed incorrectly. The only way to correct this problem after the fact is to (1) complete the basic setup as discussed above and then (2) run the Re-process Call Records function.

CDR Formats

This section describes all standard call record formats, by switch / source manufacturer:

Avaya | Avaya (formerly Nortel) | Cisco | Microsoft | Mitel |
NEC | Panasonic | Tadiran | Toshiba | Unify (formerly Siemens) | Other

Avaya

Format	Name
101	Avaya MERLIN Legend (Standard ISDN)
102	Avaya System 25
103	Avaya PARTNER/ACS (4 lines / 12 extensions)
105	Avaya PARTNER II (15/24-digit numbers, ring time)
106	Avaya MERLIN Legend with Ring / Talk Time
108	Avaya Merlin MAGIX (Standard ISDN)
110	Avaya Merlin MAGIX with Ring / Talk Time
120	Avaya System 75 (Teleseer format)
146	Avaya Legacy DEFINITY systems (serial output only, no Ring Time)
149	Avaya Legacy DEFINITY systems (serial output only, Ring Time)
154	Avaya CM Aura/DEFINITY systems (Expanded Meet-me Conferencing)
158	Avaya CM Aura/DEFINITY systems (Custom format with VDN, bandwidth, time zones)
175	Avaya CM Aura/DEFINITY systems (Standard format)
176	Avaya CM Aura/DEFINITY systems (Survivable CDR via SFTP)
197	Avaya Aura Session Manager (Legacy)
200	Avaya Aura Session Manager (Standard Format)
335	Avaya IP Office 3.2 - 4.2 (CDR output)
338	Avaya IP Office 4.2 or greater - Outputs SMDR Format
370	Avaya Distributed Office (RSP)
915	Avaya CM Aura/DEFINITY systems (Special processing for internal calls)
1013	Avaya IP Office for Small Community Networking
1023	Avaya Aura Session Manager (Enhanced Format)
1026	Avaya CM Aura/DEFINITY systems (Custom format with UCID)
1030	Avaya CM Aura/DEFINITY systems (Custom format with UCID, VDN, bandwidth)
1035	Avaya CM Aura/DEFINITY systems (Custom format with 13-digit Authorization Codes)
1060	Avaya Session Border Controller for Enterprise (SBC)

Avaya (formerly Nortel)

Format	Name
511	Avaya (formerly Nortel) Meridian SL1 X11 (New Format)
517	Avaya (formerly Nortel) SL1 X11 (Old Format)
518	Avaya (formerly Nortel) Norstar
523	Avaya (formerly Nortel) BCM (Legacy)
526	Avaya (formerly Nortel) Communication Server 1000 Release 4.0
527	Avaya (formerly Nortel) BCM50, BCM 3.7 (Norstar Format)
552	Avaya (formerly Nortel) Communication Server 1000 Release 4.0
95	Avaya (formerly Nortel) SL100

Cisco

Format	Name
355	Cisco UCME / UC500
1010	Cisco Unified Communications Manager 9.X+

1011	Cisco Unified Communications Manager 9.X+ (splits internal calls into two records)
1051	Cisco Unified Border Element (CUBE)

Microsoft

Format	Name
940	Microsoft Lync

Mitel

Format	Name
489	Mitel 3300
493	Mitel SX-2000 (Standard Format)
495	Mitel SX-2000 (Extended Format)
571	Mitel SX-200

NEC

Format	Name
500	NEC Electra 8/24
501	NEC NEAX 2400 IMS
502	NEC Electra Mark II
503	NEC Electra Pro Level II
505	NEC NEAX 2000 IPS
506	NEC NEAX 2000 IVS
507	NEC Electra Elite IPK
509	NEC Electra Elite IPK II

Panasonic

Format	Name
530	Panasonic DBS (Direct Output - DBS 40, 72, 96, 192)
531	Panasonic KX-T
532	Panasonic CPC-B
535	Panasonic DBS 576 HD
536	Panasonic KX-TDA

Tadiran

Format	Name
580	Tadiran Coral
583	Tadiran Coral 9.8x - 8-digit Numbering
584	Tadiran Coral 9.8x (4-digit numbering)
585	Tadiran Coral 9.8x - 4-digit Numbering, Long Account
586	Tadiran Coral 9.8x - 8-digit Numbering, Long Account
587	Tadiran Coral v10+ - 4-digit Numbering, no Cost Field

Toshiba

Format	Name
508	Toshiba Strata CTX
611	Toshiba Perception
615	Toshiba Strata DK 280 (Release 1 & 2)

617	Toshiba Strata DK 280 (Release 3)

Unify (formerly Siemens)

Format	Name
540	Unify (formerly Siemens) ROLM 9751 CBX - No ISDN
541	Unify (formerly Siemens) ROLM 8000 II
543	Unify (formerly Siemens) ROLM 9751 CBX
545	Unify (formerly Siemens) ROLM 9751
548	Unify (formerly Siemens) ROLM 9751 CBX
740	Unify (formerly Siemens) HICOM 150 OffPro
929	Unify (formerly Siemens) HICOM HiPath 4000

Other

Highlighted formats indicate... = a Centrex system = another Call Accounting system

Format	Name
770	3COM NBX
524	Aastra Nexspan V3/V4 Extended Format
1050	ACME Packet Net-Net 5000 (RADIUS Format)
925	Alcatel OmniPCX Extended Format
21	Comdial DXP
49	Ericsson MD110 CIL
52	Ericsson MD110 ANI
451	Executone IDS ECPU (Software Version 3.0)
565	Executone SRX System One & Two
65	Fujitsu 640 ABCS
67	Fujitsu Focus 9600, R15
74	Fujitsu Series 3
17	INFO Monitor MP - Nortel DNC50 NCP
179	INFO Monitor MP - 5ESS BCP (Standard Format)
186	INFO Monitor MP - 5ESS BCP (Medium Format - MDR Translator)
189	INFO Monitor MP - 5ESS BCP (Expanded Dialed Digits)
43	INFO Monitor MP - Nortel DNC50 NCP (Expanded Dialed Digits)
55	INFO Monitor MP - Nortel DNC50 NCP (Ring Time)
56	INFO Monitor MP - Nortel DNC50 NCP (Expanded Dialed Digits + GFP28 Patch)
59	INFO Monitor MP - Nortel DNC50 Euro 6
191	InteCom RL 11/12
443	InterTel AXXESS
463	ITT 3100L
470	Iwatsu ADIX
381	Samsung OfficeServ™ 7400
26	SBC/Ameritech Centrex (new ACDRS format)
927	ShoreTel
675	Sprint Protégé
992	VeraSMART Formatted Data (CDR polled from remote server)
993	VeraSMART Formatted Data (Extensions associated with the "[None]" CDR Source)
994	VeraSMART Formatted Data (CDR pushed from remote server)
995	SBC VeraSMART Formatted Data (CDR polled from remote server)
996	SBC VeraSMART Formatted Data (Extensions associated with the "[None]" CDR Source)
997	SBC VeraSMART Formatted Data (CDR pushed from remote server)
633	Vodavi StarPlus 1224 EX
634	Vodavi 2856

635	Vodavi DVX

Call Collection Methods

Generic Methods

Collect from File (Local)	(for a TeleBoss, Avaya IP Office 4.2+, or CS 1000 with a DBA toolkit)
Collect from File (Remote)	(for an Avaya Aura DEFINITY One/IP600)
Direct Connect	(for CDR sources connected by serial cable)
Direct Connect over IP	(for CDR sources using a serial-to-IP converter or an Aastra NeXspan)

Avaya-Specific Methods

Avaya Aura via SFTP	
Avaya (formerly Nortel) BCM	The system also supports a BCM legacy method (not recommended)
IP Office (Local) / (Remote)	(for legacy IP Office versions)
Real Time RSP	(for CM Aura series and Distributed Office via Reliable Session Procol)

Cisco-Specific Methods

Cisco UCM 9.X+ and higher
Cisco UCM Express / Unified Communications 500

Collection from a Call Accounting System

Call Accounting System by Modem
Call Accounting System by Network
Collect from Pushed File ***Recommended***

Collection from a Pollable Storage Unit (PSU)

PollComm Direct	(for a PSU connected directly by a cable)
PollComm Network	(for a PSU connected by network)
PollComm Remote	(for a PSU connected by modems)

Methods for Other Switch Manufacturers

3COM NBX
Centrex ACDRS
Ericsson CIL over Ethernet
INFO Monitor MP
Microsoft Lync
RADIUS Client

Cisco Redirect Reason Codes

Value	Description
0	Unknown
1	Call Forward Busy
2	Call Forward No Answer
4	Call Transfer
5	Call Pickup
7	Call Park
8	Call Park Pickup
9	CPE Out of Order
10	Call Forward
11	Call Park Reversion
15	Call Forward all
18	Call Deflection
34	Blind Transfer
50	Call Immediate Divert
66	Call Forward Alternate Party
82	Call Forward On Failure
98	Conference
114	Barge
129	Aar
130	Refer
146	Replaces
162	Redirection (3xx)
177	SIP-forward busy greeting
207	Follow Me (SIP-forward all greeting)
209	Out of Service (SIP-forward busy greeting)
239	Time of Day (SIP-forward all greeting)
242	Do Not Disturb (SIP-forward no answer greeting)
257	Unavailable (SIP-forward busy greeting)
274	Away (SIP-forward no answer greeting)
303	Mobility HandIn
319	Mobility HandOut
335	Mobility Follow Me
351	Mobility Redial
354	Recording
370	Monitoring
399	Mobility IVR
401	Mobility DVOR
402	Mobility EFA
403	Mobility Session Handof

415	Mobility Cell Pickup
418	Click to Conference
434	Forward No Retrieve
450	Forward No Retrieve Send Back to Parker
464	Call Control Discovery (indicates that the call is redirected to a PSTN failover number)
480	Intercompany Media Engine (IME)
496	IME Connection Timed Out
512	IME Not Enrolled
528	IME Socket Error
544	IME Domain Blacklisted
560	IME Prefix Blacklisted
576	IME Expired Ticket
592	IME Remote No Matching Route
608	IME Remote Unregistered
624	IME Remote IME Disabled
640	IME Remote Invalid IME Trunk URI
656	IME Remote URI not E164
672	IME Remote Called Number Not Available
688	IME Invalid Ticket
704	IME Unknown
720	IME PSTN Fallback
738	Presence Enabled Routing
752	Agent Greeting
783	NuRD
786	Native Call Queuing, queue a call
802	Native Call Queuing, de-queue a call
818	Native Call Queuing, redirect to the second destination when no agent is logged in
834	Native Call Queuing, redirect to the second destination when the queue is full
850	Native Call Queuing, redirect to the second destination when the maximum wait time in queue is reached

Cisco Termination Cause Codes

Rules:

911 calls are always stored (regardless of cause codes or duration)

Calls with cause codes 0 , 8, 9, 16, 17, 18, 19, 20, 31, 41, 126, 128, 393216, 458752 are always stored (regardless of duration)

Calls with cause codes 2, 3, 21, 27, 28, 29, 34, 39, 54, 55 are always discarded

All other calls are stored if their duration is greater than 0

Code	Description
0	No error
1	Unallocated (unassigned) number
2	No route to specified transit network (national use)
3	No route to destination
4	Send special information tone
5	Misdialed trunk prefix (national use)
6	Channel unacceptable
7	Call awarded and being delivered in an established channel
8	Preemption
9	Preemption—circuit reserved for reuse
16	Normal call clearing
17	User busy
18	No user responding
19	No answer from user (user alerted)
20	Subscriber absent
21	Call rejected
22	Number changed
26	Non-selected user clearing
27	Destination out of order
28	Invalid number format (address incomplete)
29	Facility rejected
30	Response to STATUS ENQUIRY
31	Normal, unspecified
34	No circuit/channel available
38	Network out of order
39	Permanent frame mode connection out of service
40	Permanent frame mode connection operational
41	Temporary failure
42	Switching equipment congestion
43	Access information discarded
44	Requested circuit/channel not available
46	Precedence call blocked

47	Resource unavailable, unspecified
49	Quality of Service not available
50	Requested facility not subscribed
53	Service operation violated
54	Incoming calls barred
55	Incoming calls barred within Closed User Group (CUG)
57	Bearer capability not authorized
58	Bearer capability not presently available
62	Inconsistency in designated outgoing access information and subscriber class
63	Service or option not available, unspecified
65	Bearer capability not implemented
66	Channel type not implemented
69	Requested facility not implemented
70	Only restricted digital information bearer capability is available (national use)
79	Service or option not implemented, unspecified
81	Invalid call reference value
82	Identified channel does not exist
83	A suspended call exists, but this call identity does not
84	Call identity in use
85	No call suspended
86	Call having the requested call identity has been cleared
87	User not member of CUG (Closed User Group)
88	Incompatible destination
90	Destination number missing and DC not subscribed
91	Invalid transit network selection (national use)
95	Invalid message, unspecified
96	Mandatory information element is missing
97	Message type nonexistent or not implemented
98	Message is not compatible with the call state, or the message type is nonexistent or not implemented
99	An information element or parameter does not exist or is not implemented
100	Invalid information element contents
101	The message is not compatible with the call state
102	Call terminated when timer expired; a recovery routine executed to recover from the error
103	Parameter nonexistent or not implemented - passed on (national use)
110	Message with unrecognized parameter discarded
111	Protocol error, unspecified
122	Precedence Level Exceeded
123	Device not Pre-emptible
125	Out of bandwidth (Cisco specific)
126	Call split (Cisco specific)
127	Interworking, unspecified

129	Precedence out of bandwidth
131	Call Control Discovery PSTN Failover (Cisco specific)
132	IME QOS Fallback (Cisco specific)
133	PSTN Fallback locate Call Error (Cisco specific)
134	PSTN Fallback wait for DTMF Timeout (Cisco specific)
135	IME Failed Connection Timed out (Cisco specific)
136	IME Failed not enrolled (Cisco specific)
137	IME Failed socket error (Cisco specific)
138	IME Failed domain blacklisted (Cisco specific)
139	IME Failed prefix blacklisted (Cisco specific)
140	IME Failed expired ticket (Cisco specific)
141	IME Failed remote no matching route (Cisco specific)
142	IME Failed remote unregistered (Cisco specific)
143	IME Failed remote IME disabled (Cisco specific)
144	IME Failed remote invalid IME trunk URI (Cisco specific)
145	IME Failed remote URI not E164 (Cisco specific)
146	IME Failed remote called number not available (Cisco specific)
147	IME Failed Invalid Ticket (Cisco specific)
148	IME Failed unknown (Cisco specific)
262144	Conference Full (was 124)
393216	Call split (was 126)
458752	Conference drop any party/Conference drop last party (was 128)
16777257	CCM_SIP_400_BAD_REQUEST
33554453	CCM_SIP_401_UNAUTHORIZED
50331669	CCM_SIP_402_PAYMENT_REQUIRED
67108885	CCM_SIP_403_FORBIDDEN
83886081	CCM_SIP_404_NOT_FOUND
100663359	CCM_SIP_405_METHOD_NOT_ALLOWED
117440591	CCM_SIP_406_NOT_ACCEPTABLE
134217749	CCM_SIP_407_PROXY_AUTHENTICATION_REQUIRED
150995046	CCM_SIP_408_REQUEST_TIMEOUT
184549398	CCM_SIP__410_GONE
201326719	CCM_SIP_411_LENGTH_REQUIRED
234881151	CCM_SIP_413_REQUEST_ENTITY_TOO_LONG
251658367	CCM_SIP_414_REQUEST_URI_TOO_LONG
268435535	CCM_SIP_415_UNSUPPORTED_MEDIA_TYPE
285212799	CCM_SIP_416_UNSUPPORTED_URI_SCHEME
83886207	CCM_SIP_420_BAD_EXTENSION
369098879	CCM_SIP_421_EXTENSION_REQUIRED
402653311	CCM_SIP_423_INTERVAL_TOO_BRIEF
419430421	CCM_SIP_424_BAD_LOCATION_INFO
1073741842	CCM_SIP_480_TEMPORARILY_UNAVAILABLE

1090519081	CCM_SIP_481_CALL_LEG_DOES_NOT_EXIST
1107296281	CCM_SIP_482_LOOP_DETECTED = 0x42000000 + EXCHANGE_ROUTING_ERROR
1124073497	CCM_SIP_483_TOO_MANY_HOOPS
1140850716	CCM_SIP_484_ADDRESS_INCOMPLETE
1157627905	CCM_SIP_485_AMBIGUOUS
1174405137	CCM_SIP_486_BUSY_HERE
1191182367	CCM_SIP_487_REQUEST_TERMINATED
1207959583	CCM_SIP_488_NOT_ACCEPTABLE_HERE
1258291217	CCM_SIP_491_REQUEST_PENDING
1291845649	CCM_SIP_493_UNDECIPHERABLE
1409286185	CCM_SIP_500_SERVER_INTERNAL_ERROR
1442840614	CCM_SIP_502_BAD_GATEWAY
1459617833	CCM_SIP_503_SERVICE_UNAVAILABLE
2801795135	CCM_SIP_503_SERVICE_UNAVAILABLE_SER_OPTION_NOA
1476395110	CCM_SIP__504_SERVER_TIME_OUT
1493172351	CCM_SIP_505_SIP_VERSION_NOT_SUPPORTED
1509949567	CCM_SIP_513_MESSAGE_TOO_LARGE
2701131793	CCM_SIP_600_BUSY_EVERYWHERE
2717909013	CCM_SIP_603_DECLINE
2734686209	CCM_SIP_604_DOES_NOT_EXIST_ANYWHERE
2751463455	CCM_SIP_606_NOT_ACCEPTABLE

Configuring Extension Ranges

Use this function with a Cisco Unified Communications Manager (CUCM) telephone system version 6.0 or higher, to identify virtual extensions.

> ***NOTE***: 'Virtual extensions' -- for example, CTI (Cisco Telephony Integration) route points -- are not distinguished from trunks and must be identified manually.
>
> If not identified, VeraSMART will treat virtual extensions as trunks whenever they appear as source or destination of calls. This means that incoming or outgoing calls from these extensions will be categorized as 'TANDEM' by mistake.

Configuring Cisco UCM Extension Ranges

1. Access: Call Accounting > Call Collection > CDR Source.
   Select an entry that is using the CUCM 6.0 and higher collection method, then More Actions > Configure Extension Ranges.
2. To view the extensions recognized automatically, open the **Automatically discovered ranges** tab.
3. To work with extensions added manually, open the **User-defined ranges** tab. Then...
   a. To add a range of extensions, click Add, enter the first and the last extension in the range, and then save your entries.
   b. To delete one or more ranges of extensions, mark them, click Delete, and confirm.

Configuring EMMC Trunk Access Codes

Use this page to identify all trunk access codes (TACs) programmed to carry calls via the Expanded Meet-me Conferencing (EMMC) unit.

EMMC is an IP device which allows Avaya switches to handle up to 300 parties on a conference call. The switch programming uses dedicated trunk access codes (TACs) to connect to the EMMC; TACs for EMMC are one to four digits (0-9).

1. Enter an EMMC TAC, exactly as programmed for the switch.
2. If your installation uses multiple TACs to connect to the EMMC, enter them separated by commas.
3. When complete, click Next to continue.

NOTES:

(1) Whenever conference calls use the EMMC, the CDR provides the used TAC as the destination trunk group. Unless EMMC 'TACs' are identified, your call accounting system would interpret these conference calls as either "Outgoing" (if placed from an internal number) or as "Tandem" (if placed from an external number).

If properly identified, conference calls using EMMC will be processed correctly. Your call accounting system will assign the following values:

- Call type = **EMMC**
- Special code = **MC** (See Note 2, below)
- Call direction = **Internal** (if placed from an internal number) or **Incoming** (if placed from an external number)

Non-conference calls will be treated as usual, except that internal calls will have special code = **NC** (to indicate that these are non-conference calls -- see Note 2, below).

---

(2) Special codes are tags used for reporting and/or filtering purposes.

Detail call accounting reports can include special codes in the detailed pages of the report.

The Discard Calls and Special Call Processing functions can use special codes as filters to create discard rules or special processing rules, respectively.

Viewing Raw Call Records

The Raw Call Record Viewer is used to validate the settings of the selected Call Collection Method.

It displays call records as received either directly through a COM port, collected from a file, or polled from a call record storage device. They have not been processed yet.

> ***NOTE:*** The first line of numbers (123456789a123...) is used to help count out field placements (in case there is a need to analyze your call records). Underneath, the calls from the raw record file will appear.
>
> If the viewer displays readable fields, the settings are correct.
>
> If the viewer displays "garbage" characters, go back and try changing the Call Collection Method settings. The wizard will then return to this viewer, to verify your changes.

Sample - correct settings

The following are sample call records when Call Collection Method settings are correct:

```
123456789a123456789b123456789c123456789d123456789e123456789f123456789g123456789h
N 094 00 DN283 T000017 06/01 10:53:00 00:01:30.0 15853816000
N 098 00 DN229 T000016 06/01 10:54:00 00:01:16.0 3816000
N 099 00 A001006 DN627 06/01 10:53:29 00:02:00.0
N 100 00 A001011 DN257 06/01 10:51:59 00:03:30.0
N 101 00 DN255 T000021 06/01 10:24:48 00:30:54.0 15853810115
```

Although field placement and appearance will vary from phone system to phone system, you will be able to pick out familiar fields -- such as date and time stamp, extension used, trunks, dialed numbers, and so on.

Sample - incorrect settings

The following is an example of the "garbage characters" that you may see when the settings are not correct:

```
123456789a123456789b123456789c123456789d123456789e123456789f123456789g123456789h
@###@@&%$$$@@@@@""@@@%&@@@@@@@@@@@####
^****$^%($^%*)(*&(*)(&*(&###############^%%%%%%%%%%%%%
)$#@&%*!#*(((((((((((((^%$#$##@#@@@@$%%*********&######
```

Viewing Formatted Call Records

The Formatted Call Records Viewer displays call records that have been interpreted by the system and converted to a common format that can be processed through rating.

The table below shows examples of two formatted call records beneath appropriate column headings. The first is an outgoing call and the second, incoming. You can look at the values under the column headings and determine if they are valid.

Date/time	Duration	Dialed/CLI number	Source	Destination	Account code	Authorization code
5/16/08 09:00:00	00:14:00	3816000	1000	801	1234	872198
5/16/08 09:02:00	00:01:30		802	1100		

Things to look at:

- Are the date, time, and duration reasonable?
- Do dialed/CLI numbers (1), source (2), and destination (3) look valid?
- If you use account and/or authorization codes, are these numbers valid?

(1) Dialed/CLI numbers = telephone number called (outgoing call) or blank/caller ID (incoming call).

(2) The source = extension that made the call (outgoing call) or incoming trunk number (incoming call).

(3) The destination = extension that received the call (incoming call) or outgoing trunk number (outgoing call).

If the formatted calls look valid, most likely you have chosen the correct format interpreter. Running some reports after rating some calls will verify this for certain.

If the formatted records do not look valid, back up and choose a different format interpreter. Once you make another choice, you will be sent back to this viewer to verify your selection.

Call Home Setup

Use this function to identify the modem port used by remote, dial-up Pollable Storage Units (PSUs) to place emergency poll requests.

1. Access: Call Accounting menu > Call Collection > Call Home
2. Select the modem port in the Server PC.
3. Select its baud rate (transmission speed).
4. Select to enable or disable the port for receiving emergency poll requests.
5. Save your changes.

Call Sender Setup

Use this function to set up a modem port for call collection by a remote call accounting system.

> ***NOTE:***
> This option is part of a solution intended for a centrally managed telecom network serving one or more call accounting clients. Clients collect CDR locally and save the data for the central site to provide network-wide call accounting services.
>
> ---
>
> Contact Customer Support for details if you think your network is a candidate for this telemanagement solution.

1. Access: Call Accounting menu > Call Collection > Call Sender
2. Select the modem port in the Server PC.
3. Select its baud rate (transmission speed).
4. Select to enable or disable the port for accepting polls by another call accounting system.
5. Save changes.

Call Rating

This section discusses the following topics:

About Rate Plans

Rate Plans represent the set of call rating instructions for a site.

The descriptions below summarize features in the types of plans supported by VeraSMART (click ⊞ to expand). As you read, note the terms used:

- ***NANP*** = North American Numbering Plan zone: U.S.A. & territories, Canada, and some Caribbean nations (details under Glossary > NANP)
- ***Site*** = Point or gateway in a telephone system with trunk/lines connecting to the public switched telephone network (PSTN). To ensure proper rating, each site should associate a rate plan for the carrier servicing those lines. This is done via the CDR Source itself and by adding the trunk groups for remote gateways, if any.
- ***Tiered rates*** = A method to compute the cost of a call that uses an ***initial*** rate per minute and interval (to set a minimum cost) and an **additional** rate per minute and interval (to set the cost for the remainder of the call). Standard Plans allow configuring tiered rates for up to three time-of-day periods.
- ***Interval*** = duration of the minimum billable unit of service used by the carrier; typically, 6 or 60 seconds.

Standard Plans

⊞ NANP Standard

These plans use the built-in database of global calling areas to identify the destination and type of calls from a site in the NANP zone. Plan must be added by the user, who should review the defaults (0.05/minute and 6-second intervals for domestic calls and 0.40/minute for international calls) and configure more accurate, tiered rates for domestic and frequently called international calling areas.

> ***NOTE***: This plan offers fairly accurate Local call reporting, as VeraSMART provides built-in rates for all major metro Telcos in the US and Canada. If you wish for more accuracy or less hands-on configuration, you may consider ordering a custom NANP rate plan from your VeraSMART support specialist.

⊞ Non-NANP Standard [Requires a Multinational license]

These plans use the built-in database of global calling areas to identify the destination and type of calls from a site outside the NANP zone. Plan must be added by the user, who should configure a default rate per minute and more accurate, tiered rates for domestic and frequently called international calling areas.

> ***NOTE***: These plans do not offer accurate Local call reporting -- particularly, in countries that do not use long distance toll codes, as all calls would be reported as 'National'. If you wish for more accuracy or less hands-on configuration, you may consider ordering an enhanced or custom non-NANP rate plan from your VeraSMART support specialist.

⊞ Zero Cost

This is the built-in plan for free incoming calls. This plan is not editable.

Custom & Enhanced Plans

⊞ Non-NANP Enhanced Locals [Requires a Multinational license]

These plans offer a complete database of calling areas for accurate Local call reporting outside the NANP zone. Plan must be ordered for a specific site and installed by the user. Default and tiered rates must be configured for domestic and frequently called international calling areas.

⊞ Non-NANP Enhanced Tariff [Requires a Multinational license]

This type of plan provides complete rate tables for a site and carrier outside the NANP zone, which must be ordered and installed by the user. Rates are based on the carrier standard tariff, no customizations. Configuration of rates is not required; however, rates to specific calling areas may be edited and/or overridden.

⊞ Non-NANP Custom [Requires a Multinational license]

This type of plan provides complete rate tables for a site and carrier outside the NANP zone. Rates can be based on any custom plan with the carrier, provided costs are derived from dialed numbers, day of the week, time of day, and duration of calls (i.e., plans based on volume discounts or first-N-minutes-free are not supported). Configuration of rates is not required; however, rates to specific calling areas may be edited and/or overridden.

⊞ NANP Custom

This type of plan provides complete rate tables for a site and carrier in the NANP zone. Rates can be based on any custom plan with the carrier, provided costs are derived from dialed numbers, day of the week, time of day, and duration of calls (i.e., plans based on volume discounts or first-N-minutes-free are not supported). Configuration of rates is not required; however, rates to specific calling areas may be edited and/or overriden.

Other Plans

⊞ Special Rate Plan

These are plans created and maintained by users. They are based on dialed patterns to differently-rated calling areas, with associated call types and rates.

These plans are no longer as efficient as standard plans; however, they are still supported for upgrading systems that had used them in prior VeraSMART releases.

⊞ Meter Pulse Rate Plan [Requires a Multinational license]

Used to cost calls from localities that have carriers with pulse metering systems for charging calls and the CDR source can provide the number of pulses in call records.

These plans use a single rate (the cost per pulse in the pre-selected currency) for costing calls by the simple calculation: rate x pulses. Meter pulse systems are becoming increasingly rare.

Configuring Rate Plans

Rate Plans represent the set of a carrier's rating instructions for the calls it services through the PSTN.

Use the Rate Plans function to ...

- Add or edit a plan
- Edit rates in a standard or enhanced locals plan
- Edit rates in an enhanced tariff or custom plan
- Edit rates in a special rate plan
- Export and import plan rates (for editing to/from an Excel spreadsheet)
- Add rate plan overrides (to create rules for exceptions to specified rates)

PLEASE NOTE:

For standard, enhanced, and custom plans, the system will use the provided set of calling areas from which to derive the destination/origin and type of calls placed/received on site.

To set up a standard or enhanced locals plan, you should prepare the following information IN ADVANCE:

Plan attributes:

- Should all calls be rated or only the OUTGOING & TANDEM (with INCOMING calls free)?
- Is there a 'Value Added Tax' (VAT) that the carrier applies to the cost of all calls?
- What is the default rate used if there is no configured rate or override for a calling area?

Rates for domestic calling areas and frequently called international areas:

- Will there be a minimum cost for a call? (if yes, set 'initial' rate values)

Overrides: Are there any exceptions to the above rates? (if yes, add a rate override)

See also:

- About Rate Plans for a description of the different types of plans offered in VeraSMART
- CDR Source to associate a rate plan with the telephone system main site (the default trunk group)
- Trunk Groups to associate a rate plan with the trunk groups connecting to the PSTN on remote gateways

Adding or Editing a Plan

1. Access: Call Accounting menu > Call Rating > Rate Plans.
   a. To add a new plan, click the Add Standard Rate Plan button (or select another rate plan type -- Special or Meter Pulse -- to add).
   b. To clone an existing custom plan, select its *rate plan name* and then click More Actions > Clone Rate Plan.
   c. To edit an existing rate plan, select its *rate plan name* and then click Edit Attributes.
2. Set attributes. Depending on the plan, these would be:
   a. For all plans:
      - Rate plan name (up to 100 characters, unique)
      - Call direction (*read-only on edits:* ALL, OUTGOING & TANDEM, or INCOMING)
      - Currency (from list in the Currency Conversions table. If the currency does not exist, you may add it at this point before selecting it)
      - Format dialed digits (mark to format with dashes, as in 1-*585-555-1212* or 011-44-20-123456)
      - VAT (value added tax, 0.0000% to 1000.0000%. Default = 0)

   b. For a standard plan only:
      - Country (from the system list)
      - Default rate per minute (in the specified currency)
      - Default interval (in seconds)

      NOTE: Carriers typically quote call services at a rate per minute with a billing **interval** (in seconds) as a minimum unit of service. The shorter the interval, the more precise the billing. For example, a 61-second call is billed as 120 seconds if using a 60-second interval, and as 66 seconds if using a 6-second interval.

      If you do not know the interval, use 6 seconds for rate plans for US carriers and 60 seconds otherwise.

   c. For a special plan, mark to select if it is a North American Numbering Plan.
   d. For a meter pulse plan, enter the rate per pulse in the specified currency.

3. Save your entries.

Editing Rates (Standard or Enhanced Locals Plan)

1. Access: Call Accounting menu > Call Rating > Rate Plans.
   From the Rate Plans list view, select the to edit, and open the Rates tab to view current entries.
2. Locate the rate or rates to edit.
   a. For global mobile rates, filter on jurisdiction = 40.
   b. For specific geographic rates, filter on the appropriate country code range.
   c. For domestic areas, filter list by the country code associated with the rate plan.
   In a standard plan you will see these rate lines (calling areas):

   In an NANP plan:
   - In-LATA In-State
   - In-LATA Inter-State
   - Inter-LATA In-state
   - US Inter-State
   - Canada
   - Caribbean

   In a Non-NANP plan:
   - Local
   - National
   - Mobile
   - Short Code
   - Operator Assisted
   - Premium
   - Non-Geographic
   - Toll Free
3. To edit a single entry, click its *name* link; for multiple entries, mark them and click More Actions > Bulk Edit Rates.
4. Mark box to configure rates. The page displays the form to enter rates for the first period.
   a. If this plan has the same rates throughout the day, skip to the next step.
   b. If plan has two periods in the day, click the Define 2nd Time of Day button. Then enter the start time of Rate Period 1 and Rate Period 2 in the format *hours:minutes* AM or PM.

   > ***Example:*** To have PEAK rates from 8AM-9PM and OFF-PEAK rates from 9PM-8AM, set start time = 8:00 AM for Rate Period 1 and 9:00 PM for Rate Period 2.

   c. To set up three periods, click the Define 2nd Time of Day and then the Define 3rd Time of Day buttons and enter start times for all periods.

   > ***Example***: To have DAY rates from 8AM-5PM, EVENING rates from 5PM-11PM, and NIGHT rates from 11PM-8AM, set start times = 8:00 AM, 5:00 PM, and 11:00 PM.

5. Define rates for each period:

Initial Rate/min. & Interval	This sets the minimum cost of a call, computed for the entire interval as follows: **Rate/min. X interval ÷ 60** <rounded up to currency decimal precision> To disable setting a minimum cost, set both initial initial rate/min. and interval to '0'.
Additional Rate/min. & Interval	This sets the cost for the remainder of the call, computed for every additional interval increments.

> ***Example 1***: If initial Rate/min=0.30 & interval=180 secs and additional Rate/min=0.10 & interval=60 secs:
> ... a 2-min call will cost 0.90 (minimum cost) = 0.30 x 3 mins
> ... a 9 1/2 min call will cost 1.60 = 0.90 (first 3 mins) + 0.70 (add'l 6.5 mins, billed as 7)
> ... a 10-min call will cost 1.60 = 0.90 (first 3 mins) + 0.70 (add'l 7 mins)
>
> ***Example 2***: If initial Rate/min & interval=0 and additional initial Rate/min=0.10 & interval=6 secs:
> ... a 2-min call will cost 0.20 (= 0.10 x 2 mins)
> ... a 9 1/2 min call will cost 0.95 (= 0.10 x 9.5 mins)
> ... a 10-min call will cost 1.00 (= 0.10 x 10 mins)

6. Save your entries.

Editing Rates (Enhanced Tariff or Custom Plan)

1. Access: Call Accounting menu > Call Rating > Rate Plans.
   From the Rate Plans list view, select the to edit, and open the Rates tab to view current entries.
2. Locate the rate or rates to edit. To edit a single entry, click its *name* link; for multiple entries, mark them and click More Actions > Bulk Edit Rates.
3. Mark box to configure rates, then set:
   - Initial rate/min. (in the specified currency) and interval (in seconds). This sets the minimum cost of a call, computed for the entire interval. To disable setting a minimum cost, set BOTH this rate/min. and interval to '0'.
   - Additional rate/min. and interval: This sets the cost for the remainder of the call duration, computed by interval increments (i.e., 61 additional seconds are costed as 120 seconds for 60-second intervals, and as 66 seconds for 6-

second intervals).

4. Save your entries.

Exporting Rates (Standard & Enhanced Local Plans)

1. Access: Call Accounting menu > Call Rating > Rate Plans. Click the *rate plan name* and then open its Rates tab to view current entries.
2. Select the list of rates to export, using search criteria:
   - [NANP Standard Plan] NANP countries, non-NANP wireline or mobile
   - [Non-NANP Standard Plan] In-country, International wireline or mobile
   - Rate line name, Jurisdiction range, or Country code range
3. Once you have the rate lines you want to include, select More Actions > Export Rates.
4. We recommend you save the *rates*.XLSX file to your PC.

Importing Rates (Standard & Enhanced Local Plans)

1. Access: Call Accounting menu > Call Rating > Rate Plans. Click the *rate plan name* and then open its Rates tab to view current entries.
2. Start by exporting the rates that you wish to modify in Excel, first (see process above).
3. Prepare the rate entries in the worksheet to import.

> ***NOTE***: The exported file will include the following instructions to modify rate entries.
>
> **General instructions**:
> (1) Do not modify grayed-out areas (header row and columns A-D).
> (2) Do not add rows; do not add or delete columns.
> (3) You may delete the rows for rate lines that you do not wish to modify.
> (4) The green-shaded column highlights the minimum entry to specify a non-default rate.
> (5) A rate line with ALL fields BLANK (columns E-S) will be set to use the Default Rate.
>
> **Rate entries**:
> (1) To use time-of-day rates, enter their period Start times (from left-to-right order).
> (2) Fields for rate periods not in use must be left BLANK.
> (3) Initial rate/min. is optional. If BLANK, calls will be rated at the 'Additional rate/min.' value.
> (4) Additional rate/min. is required for each rate period in use.
> (5) Intervals are optional. If BLANK, the value will be set to 60 seconds.

4. When the spreadsheet changes have been saved, select More Actions > Import Rates.
5. Browse to the saved file and click Import.

Editing Rates (Special Rate Plan)

1. Access: Call Accounting menu > Call Rating > Rate Plans.
   From the Rate Plans list view, select the to edit, and open the Rates tab to view current entries.
2. Click the *dialed digits* to edit --or-- click More Actions > Add Rate. Enter and/or select:
   - Dialed digits: pattern for calling area, including its toll code if applicable. The pattern is up to 24 telephone digits (0 to 9,*, #) and/or wildcards (? = single digit, % = any number of digits).
   - Call type (from the system list)
   - Initial rate/min. (in the specified currency) and interval (in seconds). This sets the minimum cost of a call, computed for the entire interval. To disable setting a minimum cost, set BOTH this rate/min. and interval to '0'.
   - Additional rate/min. and interval: This sets the cost for the remainder of the call duration, computed by interval increments (i.e., 61 additional seconds are costed as 120 seconds for 60-second intervals, and as 66 seconds for 6-second intervals).
3. Save your entries.

> ⊞ Tips on creating special rates:
>
> We recommend using your phone book (or telephone rating guide, if available) to identify distinct groups of "calling areas" that have similar rating in your plan. Prepare a "rate table" similar to the Rate Plan Details grid. Below are some suggestions:
>
> (1) Group calling areas by call type you wish to set -- for example, "Local" or "Directory" or "Mobile" -- making sure these call types are already defined in the database.
>
> (2) List all distinct dialed number patterns to place calls to each service area. For example, the pattern for direct dial national calls is **1%** (NANP) or **0%** (NON-NANP). You should find the list of international patterns in your phone book, although you may not need to define areas seldom called.
>
> **NOTE**: Because the system processes more specific patterns first, you should identify a "generic" pattern and then "weed out" the exceptions. Leave the most "generic" entry (**%**) to rate any calls not specifically identified.
>
> Example:
> If calls to area code 585 are 0.03 per minute and those to 585/442 are free, you should add the two entries **585%** and **585442%.**

Adding Rate Plan Overrides

1. Access: Call Accounting menu > Call Rating > Rate Plans.
   From the Rate Plans list view, select the standard of interest.
2. Click More Actions > Add Rate Override or the *override name* to edit and enter:
   - Override rule name (unique)
   - Description
   - Match on calls meeting these criteria:

     (a) dialed digit pattern -- up to 24 characters consisting of routing codes if used, numbers, and/or wildcards (? = single digit, % = any number of digits)

     -- and, optionally --

     (b) Special code (use only if CDRs or processing rules set 'special code' flags to a call)
   - On matching calls you can assign a special code (optional)
   - Assign a rate method from (a) Use current rating setup -- or -- (b) Assign your own call type (from system list), rate per minute (in specified currency), and interval (in seconds) used to round up fractions of a minute when computing call costs -- for example, if interval = 60 seconds, a call of 61 seconds is costed as 120 seconds; if interval = 6 seconds a call of 61 seconds is costed as 66 seconds.

Edit Rate (Standard Plan)

Use this form to configure tiered rates for one or more calling areas (referred to as 'rate lines') in a standard rate plan. Obtain the required information from the carrier (telephone service provider), including if calls to these areas are costed at different rates for different times in a day.

> ***NOTE***: Carriers typically quote call services at a rate per minute with a billing interval (in seconds) as a minimum unit of service. The shorter the interval, the more precise the billing. For example, a 61-second call is billed as 120 seconds if using a 60-second interval, and as 66 seconds if using a 6-second interval.
>
> ---
>
> If you do not know the interval, use 6 seconds for rate plans for US carriers and 60 seconds otherwise.

Procedure

1. Mark box to configure rates. The page then displays the form to enter rates for the first period.
2. Define the different times of day when different rates apply:
   a. If this plan has the same rates throughout the day, skip to the next step.
   b. If plan has two periods in the day, click the Define 2nd Time of Day button. Then enter the start time of Rate Period 1 and Rate Period 2 in the format *hours:minutes* AM or PM.

   > ***Example:*** To have PEAK rates from 8AM-9PM and OFF-PEAK rates from 9PM-8AM, set start time = 8:00 AM for Rate Period 1 and 9:00 PM for Rate Period 2.

   c. To set up three periods, click the Define 2nd Time of Day and then the Define 3rd Time of Day buttons and enter start times for all periods.

   > ***Example***: To have DAY rates from 8AM-5PM, EVENING rates from 5PM-11PM, and NIGHT rates from 11PM-8AM, set start times = 8:00 AM, 5:00 PM, and 11:00 PM.

3. Define rates for each period:

Initial Rate/min. & Interval	This sets the minimum cost of a call, computed for the entire interval as follows: **Rate/min. X interval ÷ 60** <rounded up to currency decimal precision> To disable setting a minimum cost, set both initial initial rate/min. and interval to '0'.
Additional Rate/min. & Interval	This sets the cost for the remainder of the call, computed for every additional interval increments.

> ***Example 1***: If initial Rate/min=0.30 & interval=180 secs and additional Rate/min=0.10 & interval=60 secs:
> ... a 2-min call will cost 0.90 (minimum cost) = 0.30 x 3 mins
> ... a 9 1/2 min call will cost 1.60 = 0.90 (first 3 mins) + 0.70 (add'l 6.5 mins, billed as 7)
> ... a 10-min call will cost 1.60 = 0.90 (first 3 mins) + 0.70 (add'l 7 mins)
>
> ---
>
> ***Example 2***: If initial Rate/min & interval=0 and additional initial Rate/min=0.10 & interval=6 secs:
> ... a 2-min call will cost 0.20 (= 0.10 x 2 mins)
> ... a 9 1/2 min call will cost 0.95 (= 0.10 x 9.5 mins)
> ... a 10-min call will cost 1.00 (= 0.10 x 10 mins)

4. Save your entries.

Configuring Call Types

Call Type is a CDR source-specific term used in classifying and reporting the telephone service, source, or destination used by the call.

The system allows setting up cost and duration adjustments by call type.

Each CDR source in the system comes with a default set of call types, which you can modify.
Rating, custom rate plans, and imported wireless invoices may add to the list.

System Call Types (click to expand)

Built-in Call Types	
IDDD	Calls outside the in-country jurisdictions
Incoming	Calls from an external phone number
In-LATA1	In the US and Canada, a call to a number within its LATA and state/province
In-LATA2	In the US and Canada, a call to a number within its LATA, but out of state/province
In-State	In the US, a call to a number outside its LATA, but within its state
Internal	Calls to another extension within the same CDR source
Local	Calls to a number within the local jurisdiction
National	Calls to a number within its own country, outside other closer jurisdictions
Added by rating calls of these types	
Directory	Calls to directory assistance/enquiries services
Canada	Calls to another extension within your telephone system
Caribbean	Calls to a number outside the NANP (toll code 01 or 011)
Premium	Calls to 'premium' jurisdictions (for example, 900 calls in the NANP)
Special	Calls to emergency or other 'special' numbers
Toll Free	Calls to a number in your local area or a 'toll free' jurisdiction
Added by wireless invoice imports (Vendor-dependent)	
Anytime	Calls placed at peak rate periods
M2M	Calls to another number serviced by the same wireless vendor (mobile-to-mobile)
MMS	Calls involving messages with pictures or videos (multimedia messaging)
N&W	Calls placed at off-peak rate periods (nights & weekends)
SMS	Calls involving text messages (short message service)

Working with Call types

1. Access: Call Accounting menu > Call Rating > Call Types.
2. To add or modify an entry, click Add or the *call type* link to edit. To make the same change in multiple items, mark them and click More Actions >Bulk Edit.
   a. Provide information:

      Call type -- (required) Name for this type of call, up to 10 characters, unique for the CDR source

      CDR source -- (Add only, required) Source for this type of call. All or selected from system list

      Reporting name -- (required) Name for this type of call to appear in detail reports, up to 20 characters. Not unique.

      The system provides the following defaults: 'International' for IDDD and 'Long distance' for In-LATA1, In-LATA2, In-State, and National.

      Cost Adjustments

      Percent markup -- (required) percent added or subtracted to/from the base cost or override rate, Default = 0.

      Surcharge-- (required) additional charge in the server currency. Default = 0.

> ***NOTE***: Call type cost adjustments result in a reported cost = base cost + (base cost x markup %) + surcharge. Where 'base cost' is computed by the Rate Plan or the ***override rate*** set below for this type of call.

Network correction time -- (required) in seconds or minutes:seconds or hour:minutes:seconds. Default = 00:00:00.

This value is used with CDR sources without answer supervision. It is intended to account for the time it takes to connect the call with the called party, so that the system will charge for "talk-time" only

---

Minimum duration -- (required) the shortest length for a call of this type to be stored -- in seconds or minutes:seconds or hour:minutes:seconds). Default = 00:00:00.

This "filter" is carried out after applying network correction, if any. Calls below the minimum duration are rejected.

Override Rate -- (optional) rate for costing this type of call from this CDR source (instead of the standard Rate Plan). Enter:

Rate per minute (in the system currency)

Interval (in seconds) to set the billing units of service in costing a call -- for example, if a call is charged in 60-second intervals, a 61-second call is billed for 120 seconds.

---

b. Save your entries.

3. To delete one or more entries, mark then, click More Actions >Delete, and confirm.

> ***NOTE:*** You cannot delete system call types or call types associated with existing rate plans or stored call records.

Configuring Trunks

Trunk is the call accounting term for a communication channel between telephone switching systems; the field in a call detail record that contains the identifier for the specific route used by the call. Also known as "line," "used access code," and "circuit ID."

NOTES:

(1) The system automatically adds undefined trunks that appear in call records to the "[Unassigned]" trunk group. To correct this problem, move the unassigned trunks to the appropriate trunk group and then reprocess the call records associated with those trunks.

(2) Systems using a switch data import utility should use the (external) switch administration application to add and delete trunks and trunk groups. Such systems only need to use the Trunk groups function to identify the outgoing/tandem and/or incoming call rate plans for trunk groups.

Add / Block Add Trunks

1. Access**:** Call Accounting menu > Call Rating > Trunks.
2. Click Add -- or for a range of consecutive trunk numbers, click Add > Block Add.
3. Enter trunk identifiers EXACTLY as reported by the CDR source.

   NOTE: Trunk identifiers can use letters, numbers, and such special characters as pound [#], asterisk [*], minus [-], plus [+], period [.] EXACTLY as reported by the switch. However, for a block add, the identifiers must be in the format from xd to xD where x = any valid character string, d and D = numeric string with d < D. For example, TN501 - TN520 (20 trunks) is a valid range; TN501 - TS520 is not. You can 'block add' up to 400 trunks at a time.

4. Enter call capacity. This represents the maximum number of simultaneous calls that the trunk can handle (default = 1).
5. Select the trunk group from the system list.
6. Save your entries.

Edit / Bulk Edit Trunks

1. Access**:** Call Accounting menu > Call Rating > Trunks.
2. Click the *trunk* to edit -- or -- mark the desired entries and select More Actions > Bulk Edit .
3. Enter the call capacity. This represents the maximum number of simultaneous calls that the trunk can handle (default = 1).
4. Save your entries.

Move Trunks to/from Groups

1. Access**:** Call Accounting menu > Call Rating > Trunks.
2. Select the CDR source and click Search.
3. Mark the trunks to be moved and select More Actions > Move to Trunk Group.
4. Select the new trunk group.
5. Save your entries.

Delete Trunks

1. Access**:** Call Accounting menu > Call Rating > Trunks.
2. Select the CDR source and click Search.
3. Mark the trunks to be deleted, select More Actions > Delete, and confirm.

   NOTE: You cannot delete trunks associated with stored call records. If you wish to remove these call records so that you can delete the trunks, you should archive the call record database first and then delete the call records.

Configuring Trunk Groups & Service Rates

Trunk Group is the call accounting term for a group of telephone trunks or lines programmed at the switch to carry calls requiring a specific telephone service. This telephone service may be for incoming and/or outgoing traffic, billable as per the designated rate plan. "Trunk groups" are also known as "facilities."

NOTES:

(1) The system automatically adds undefined trunks that appear in call records to the "[Unassigned]" trunk group. To correct this problem, move the unassigned trunks to the appropriate trunk group and then reprocess the call records associated with those trunks.

(2) Systems using a switch data import utility should use the (external) switch administration application to add and delete trunks and trunk groups. Such systems only need to edit the trunk group and identify the rate plans for incoming and outgoing/tandem calls.

Add / Edit / Delete Trunk Groups

1. Access: Call Accounting menu > Call Rating > Trunk Groups
2. To add or modify entries, click Add -- or -- the *trunk group* to edit. Then:
   a. Enter and/or change:
      - Trunk group name (up to 27 characters)
      - (Add only) CDR source (selected from list)
      - Outgoing and incoming rates plan (selected from list).
      - Time zone (selected from list; default = CDR source's zone)
      - IP (mark if this is a group of IP trunks, to be excluded from a Grade Of Service-type report)

   b. In a system licensed for Tie Line Reconciliation, mark the box to identify a Tie Line trunk group.

   c. To override CDR source local settings for the outgoing rate plan, enter an area code, local exchange, and/or local rate method.

      Multinational systems allow overriding the country/city codes of SPECIAL or METER PULSE plans for a CDR source outside the North American Dialing Plan (NANP) zone.

   d. Save your entries.
3. To delete an entry, select Delete and confirm.

NOTE: You cannot delete a trunk group associated with trunks. To delete a trunk group no longer in use, you must delete or move all trunk member associations first. See Delete trunks for details.

Configure Trunk Group for Tie Line Reconciliation

Tie Line Reconciliation is a licensed feature. Unless the option is enabled, settings related to this feature will not be available. See Tie Line Reconciliation Setup for details.

1. Access: Call Accounting menu > Call Rating > Trunk Groups > *trunk group*.
2. Mark the Tie Line box and save.
3. Complete the setup:
   - Set the time difference between this switch and the system server via the CDR sources function
   - Specify guidelines to match Tie Line call pieces via the Tie Line Reconciliation Setup function

Finding the Cost of a Call

Use this function to view how a rate plan (including applicable special call processing and/or call type adjustments) costs a call for which you provide sample data such as time and date, duration, call direction, dialed digits, and CDR source.

Use this function for a variety of applications, including:

- Comparison shopping between rate plans
- Testing the effect of special call processing
- Troubleshooting a rate plan

Procedure

1. Access: Call Accounting menu > Call Rating > Cost a Sample Call.
2. Enter sample call data:
    - Date and time (can select using calendar icon)
    - Duration (in seconds or minute:seconds or hour:minute:seconds -- default 10 minutes)
    - Call direction (INCOMING, INTERNAL, OUTGOING, TANDEM)
    - Dialed number (up to 24 characters, including appropriate toll codes)
    - Associated trunk (selected from list)
3. Click Go.

   The bottom of the page will display the following information:
    - Base cost
    - Cost (server currency)
    - [Multinational systems] Local cost (rate plan currency)
    - Call destination
    - Reported dialed number
    - Reported and actual call type
    - Rating information (rate plan rates and/or special call processing rules used in costing the call)

Tools

This section discusses the following topics:

- Configuring Call Alerts
- Configuring Special Rating Rules
- Stripping Codes from Dialed Numbers
- Configuring Call Destination Names
- Discarding Call Records
- Reprocessing Call Records
- Deleting Call Records
- Deleting Inventory Records
- Tie Line Reconciliation
- SBC Configuration

Configuring Call Alerts

Use the Call Alerts functions to monitor calls that require immediate attention -- such as possible switch fraud, toll theft/abuse, or other problem conditions.

Set up call alert rules

View call alert status

View call alert log

How does switch fraud happen?

Telephone systems with auto-attendant, voice mail, or remote access lines are common targets of toll theft. One scenario is a hacker using a computer to dial into a switch and trying thousands of dial-out codes; codes that work are then used or sold. Like corporate secrets, there are many other ways to steal authorization codes -- the unfortunate result is an astronomical phone bill for switch owners.

How can Call Alerts help?

The system can monitor calls as they are processed, logging an alert if one of the calls you are tracking trips the count or cost triggers for its type. Alarm notification is by e-mail so that the person on call can have time to act and minimize damages.

Set Up Call Alert Rules

1. Access: Call Accounting or Wireless Call Accounting menu > Tools > Call Alerts.
   The page lists all rules configured for alerts, the conditions to match, alert triggers, and whether or not to log all calls that match rule.
2. To delete rules, mark them, select More Actions > Delete, and confirm.
   To add or modify rules, click Add or the *rule name* to edit.
   a. Enter notification details:
      - Rule name (text, up to 50 characters)
      - E-mail address (required, one or more addresses separated by semi-colons -- typed in or selected from the system list)
      - Message (required, text up to 3000 characters. You may insert call record attributes, which will appear between dollar signs -- as in **$Last CDR$**)

   b. Mark "EC500 alert for account code 88888" to track extension-to-cellular calls from an Avaya CM telephone system.

      NOTE: If marked, alert would be triggered if calls (1) used the EC500 feature of an Avaya CM, (2) match the configured conditions and alert times below, and (3) exceed the trigger cost.

   c. Select the conditions to match:
      - Authorization code (specific code or blank to ignore -- see NOTE below)
      - Extension Used (specific number or blank to ignore -- see NOTE below)
      - Inventory ID (specific number or blank to ignore -- see NOTE below)
      - Dialed digits (required, dialed number pattern -- default = **%** -- see NOTE below)

        NOTE: You may use wildcards (? = single character in that position; % = any number of characters) -- for example, **????** matches 3411 but not 34111 or 341; **34%1** matches 3411, 34111, and 341, but not 34.

      - Cost (required, amount to match or exceed -- default = **0.00**)
      - CDR source (specific item from list or blank to ignore)
      - Trunk group (specific item from list or blank to ignore)
      - Call type [Ignored for EC500 alerts] (specific value from list -- note that 'All' does not include 'Incoming' and 'Internal')
      - Duration - select "less than or equal to" or "greater than or equal to" and then enter the duration (in seconds or minutes:seconds or hour:minutes:seconds).

   d. Select the alert times:
      - Days of the week (mark days to include -- see NOTE below)
      - Time of day range (enter the start and end times)

        NOTE: A time range may cross over from one day to the next - for example, from 5:00 PM of one day to 8:00 AM of the next - in which case, you must make certain to include the intended consecutive days of the week.

   e. Mark "log all" to keep a log of every call that matches the call alert rule (otherwise, only the call that triggered the alert is logged).

   f. Provide alert trigger values for calls that match alert conditions:
      - Trigger count [Ignored for EC500 alerts] (number of calls to set off alert if exceeded within 1 hour -- default = **0** -- that is, every matching call causes an alert)

- Trigger cost (total cost of calls to set off alert if exceeded within 24 hours [EC500] or 1 hour [all other alerts] -- default **= 99,999** in server currency).

View Call Alert Status

Use this function to view a summary of call events that match rules for call alerts.

1. Access: Call Accounting or Wireless Call Accounting menu > Tools > Call Alerts Status.
2. The page shows for each rule:
    - "Trigger" vs. "current" tracking statistics ("Trigger" refers to hourly count and cost limits set for tracking calls; "current" refers to tracked totals accumulated in the past hour).
    - Date of the last occurrence
3. The page also lets you add, edit, or delete rules:
    - For adds or edits, see Set Up Call Alert Rules, above.
    - To delete rules, mark them, select More Actions > Delete, and confirm.

View Call Alert Log

Note that this list will show only the logged records since the last automatic clean-up of the system temporary storage (as defined in System Preferences) and/or that have not been manually deleted.

1. Access: Call Accounting or Wireless Call Accounting menu > Tools > Call Alert Log.
2. You may filter by rule, CDR source, date, inventory or dialed number.
3. You may select to view details or a summary view.
   Details display the date & time and other pertinent information of the call records that either triggered an alert or contributed to it (if the rule required all matching calls to be logged). To view the log related to specific alerts, mark the rule names of interest and then select More Actions > View Alert Log.
4. To delete any of the logged call alerts, mark the records to be deleted, select Delete, and confirm.

Configuring Special Rating Rules

Use the Special Call Processing function to view or modify the table of processing exception "rules" for special calls. Its applications include:

- Processing calls dialed through a discount service provider
- Extracting DNIS information from incoming 800 or 900 calls (see NOTE below)
- Providing permanent privacy to some extensions (numbers will not be stored)
- Providing different call rates to specific extensions
- Handling area code splits (rating calls to new area code as the old area code)
- Extracting DNIS data from CDR sources that provide the DNIS number in the extension field

Related Topics:
Stripping Codes from Dialed Numbers
Configuring Call Location Names
Discarding Call Records

1. Access: Call Accounting menu > Tools > Special Call Processing.
2. To delete one or more entries, mark them, click Delete, and confirm.
3. To add or modify an entry, click Add -- or -- the *rule name* to edit. Then proceed as indicated below. When complete, save your entries.
4. Enter the name of this rule, a description (optional note to state its purpose), and select its processing order.

   > ***NOTE:*** Rules are implemented by their processing order, in case more than one rule applies (if two rules have the same order, the one with a more significant dialing pattern is used -- for example, "315%" is more significant than "3%").

5. Enter criteria to match:
   - CDR source (All or a select number of installed Call Accounting CDR sources)
   - Trunk group (All or a trunk group from the selected CDR source)
   - Trunk (All or a trunk from the select group)
   - Call direction (All, OUTGOING & TANDEM, INCOMING, INTERNAL, OUTGOING, TANDEM)
   - VoIP type (All, non-VoIP, VoIP)
   - Unanswered, Video, Transferred, Conference (All, yes, no)
   - Dialed digit pattern -- up to 24 characters and/or wildcards, including any long distance routing code, if applicable
   - Extension used -- up to 20 characters and/or wildcards

     > ***NOTE:*** Wildcard contents can be used to extract DNIS data, as instructed in step 6b. However, use this feature only if the site subscribes to DNIS for its 800/900 lines and the CDR source provides the number dialed by the caller in the 'extension used' field (NOT in a DNIS field).

   - Special code -- up to 50 characters and/or wildcards

     > ***NOTE:*** Wild cards match **?** = single character; **%** = match any number of characters

6. Enter instructions to process matched calls:
   a. Assign a special code (code to tag onto the call record. Detail reports can include it as an optional column/field.)
   b. Assign DNIS. Enter the DNIS pattern to tag in the call record.

      Entries conform to the following wildcard replacement rules: characters represented by a match on "?" or "%" in the 'extension used' field are passed in the same order they appear. For example: extension used = **800???%** and assign DNIS = **%**, results in matching 800-585-1234 (number dialed by a caller) and placing DNIS **1234** in its call record.
   c. Cost using this dialed number, then mark box to replace the new number in the stored call record. Entries conform to the following replacement rules for wildcards (?, -, %):
      - Single characters represented by a match on "?" are passed in the same order they appear to a cost as "?" (keep the digit) or to a "-" (discard it). For example: a match on ?381???? and cost as -381????, results in 1-381-6000 costed as 381-6000.
      - Multiple characters represented by a match on "%" are passed to a cost as "%" (for example: a match on 585% and cost as 716%, results in 585-385-6000 costed as 716-385-6000).
7. Assign a rate method to cost matched calls:
   - Use current rating setup
   - Assign a rate plan (from system list)
   - Assign a rate plan and local calling area (select plan from system list, then enter the area code, local exchange, and local rate method)
   - Assign a call type (from system list)
   - Assign your own call type, rate per minute, and interval. Select the call type from the list, enter the rate per minute and the interval (in seconds) used to set the billing units of service in costing a call.

     > ***Example***: If interval = 60 seconds, a call is charged in 60-second increments (i.e., 66 seconds are billed as 120 seconds); if interval = 6 seconds, 66 seconds are billed as 66 seconds.

Stripping Codes from Dialed Numbers

Some CDR sources output call records with the dialed access code as prefix of the dialed number. Some examples include:

- Avaya (formerly NORTEL) telephone systems on outgoing calls
- Cisco Unified Communications Manager on incoming calls

Because access codes are not easily identified by the call collection process, you must use the Strip Leading Digits function as correction.

1. Access: Call Accounting menu > Tools > Strip Leading Digits.
2. For a new entry, click Add -- then:
    a. Enter:
        - Description (optional note to state its purpose)
        - Leading digits to strip from dialed numbers (for example, **9**)
    b. Select:
        - Call direction (All, OUTGOING TANDEM, INCOMING, INTERNAL, OUTGOING, TANDEM)
        - CDR Source (selected from system list)
        - Trunk Group (All or selected from the system list for the above CDR source)
    c. Save your entries.
3. To remove one or more entries, mark them, click Delete, and then confirm.

Configuring Call Destination Names

The system includes a default list of location names for reporting as call destinations (or origins); however, you can create custom entries to override the default calling area names.

Typical applications for this function:

- Providing labels for frequently-used numbers (for example, "Headquarters - NY")
- Identifying new area codes and exchanges
- Configuring local calls

1. Access: Call Accounting menu > Tools > Call Destinations.
2. To add or modify an entry, click Add or the *call destination* to edit.
    a. Enter a/or select:
        - Description (optional note)
        - Call destination name (up to 24 characters)
        - CDR source (All or one of the installed Call Accounting CDR sources)
        - Trunk group (All or a trunk group from the selected CDR source)

    b. Enter a dialed digit pattern -- up to 24 dialed characters and/or wildcards (? = single digit, % = any number of digits).

    c. Optionally, enter call direction (All, INCOMING, INTERNAL, OUTGOING, OUTGOING & TANDEM, and TANDEM).

    d. When complete, save your entries.
3. To delete entries, mark them, click Delete, and confirm.

Discarding Call Records

Use this function to filter calls that you do not wish to track (typical examples are internal calls or calls from a private line).

Use this function with care. Discarded calls can never be retrieved.

1. Access: Call Accounting menu > Tools > Discard Call Records.
2. To add or modify an entry, click Add or the *rule name* to edit.
   a. Enter rule name and description (optional note to state its purpose).
   b. Select:
      - CDR source (All or a select number of installed Call Accounting CDR sources)
      - Trunk group (All or a trunk group from the CDR source selected above)
      - Trunk (All or a trunk from the group selected above)
      - Call direction (All, OUTGOING & TANDEM, INCOMING, INTERNAL, OUTGOING, TANDEM)
      - VoIP type (All, non-VoIP, VoIP)
      - Unanswered, video, transferred, or conference call (All, yes, no)
   c. Enter:
      - Dialed digit pattern, including any long distance routing code, if applicable. The pattern is up to 24 characters and/or wildcards (? = single digit, % = any number of digits)
      - Extension used -- up to 20 characters and/or wildcards (? = single digit, % = any number of digits)
      - Inventory ID used -- up to 20 characters and/or wildcards (? = single digit, % = any number of digits)

        NOTE: The 'Inventory ID' filter is typically used for CDR sources configured to assign calls to an 'Inventory ID' instead of 'Extension Used' (such as Microsoft Lync) or to special calls (such as voice mail calls in an Avaya IP Office).

      - Special code -- up to 50 characters and/or wildcards (? = single digit, % = any number of digits)
   d. When complete, save your entries.
3. To delete entries from the list view, mark them, click Delete, and confirm.

Reprocessing Call Records

Use this function to send stored call records within a specific date range, rate plan, and CDR source through the rating process. Optionally, you may elect to delete records that encounter more stringent storage criteria under a new call type minimum duration or discard call record rules.

We recommend reprocessing call records after updating call rating functions.

1. Access: Call Accounting menu > Tools > Re-process Call Records.
2. Enter the date range for the calls to reprocess.
   Optionally, you may select a rate plan and/or a CDR source as additional filters.
3. [Multinational systems]
   Select a currency conversion date (calls rated using different currencies will be re-rated at the currency in effect at this time - see Currency Conversions)
4. Mark the box if you wish to delete discarded records (if the call record encounters a more stringent storage criteria under a new call type minimum duration or discard call record rules).
5. [Systems using the 'SBC CDR Matching' option]
   Mark the box if you wish to remove the link between previously matched SBC/PBX calls (each set of matched CDR pairs will be unlinked and then re-costed individually - see SBC Configuration).
6. Click Re-process Records (an informational message provides the number of matching records).
   Click the OK button to re-process them.
7. Check the Status Log to follow the completion of this process.

TECHNICAL NOTE

Re-processing sends the set of matching call records through a subset of the rating algorithm, including:

- applying special call processing & discard call record rules
- reassessing the trunk group /rate plan for the call and then computing its base cost
- reassessing the call destination, call type name, markup, and surcharge
- masking of reported dialed number (from System Preferences)
- setting the start date in UTC (from time zone on Trunk Group/CDR Source)
- (Multinational systems) updating currency to USD conversion rates
- (SBC CDR Matching systems)
  - normalizing dialed digits (toll codes removed, country/area/city codes added)
  - applying any un-matching of PBX-SBC CDRs and re-costing them individually

> ***NOTE***: PBX calls that are matched to SBC calls will not have their costs changed, unless their corresponding SBC call gets unlinked or deleted after applying special call processing/discard rules.

Re-processing does NOT:

- reapply call type network correction time
- implement call record alerts
- add new trunks, inventory items, authorization or account codes
- mask of reported dialed number (from inventory item or auth. code)
- discard abandoned, unanswered, internal, incoming, or tandem calls based on changed CDR source 'store/discard' settings for this type of calls

Deleting Call Records

Use this function to purge call records from all or a specific CDR source, for the specified date range.

NOTE: Call records should be purged only in extreme situations. Normally, there is no need to do so as the system deletes call records and other data files in automatic schedules, provided the call records have been archived (see Auto-deletion Parameters for details). This function, by contrast, does not perform any checks on whether or not call records have been archived.

See also

System Preferences *(to set the length of times data files are kept in storage)*

Archives (to backup the current database tables & stored call records)

1. Access: Call Accounting menu > Tools > Delete Call Records.

   The page displays a list of CDR sources, the number of stored call records from each, and the date stamp of the oldest and most recent call records.
2. Select the CDR source.
3. Enter the start and end dates, using the format accepted by the regional settings in the Server.
4. Click Delete.

   Call records from the named CDR source, within the specified date range will be removed from storage.

Deleting Inventory Records

Use this function to remove inventory item or authorization code records permanently.

1. Access: Administration menu> Utilities > Delete Inventory Item Records or Delete Authorization Codes.
2. Search for the records of interest and then mark them.
3. To delete database records, click More Actions > Delete , and then confirm.

   NOTE: This action removes all traces of inventory items or authorization codes and all their associations and assignments -- including charges charges from closed accounting periods.

4. To delete history records, click More Actions > Delete History, and then confirm.

   NOTE: This action resets the assignment date to its origin, effectively making the current owner (cost center or personnel) its only owner. If the current owner is a more recent Personnel record, the assignment date reverts to the Personnel start date.

Tie Line Reconciliation

Use this function to set guidelines used in tracking an off-net Tie Line call, in order to re-assign the call charges to its on-net origin.

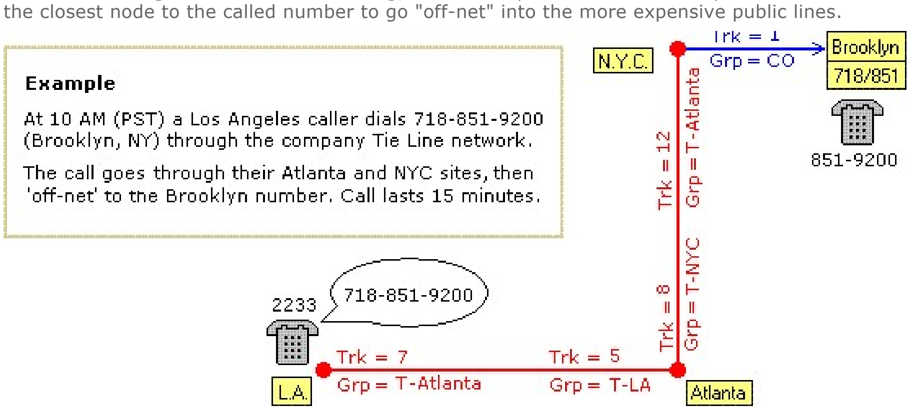
> ***NOTE***: Tie Line Reconciliation is a licensed option; it is only available if this feature has been enabled.

⊞ What is 'Tie Line Reconciliation'?

Tie Line Reconciliation is a call accounting feature designed for a multi-switch network, interconnected by private "Tie" lines.

Such networks are typically distributed over a wide area. Callers at any node can dial remote extensions as internal calls; they can also place a local call through a remote node.

To take advantage of this low-cost routing, calls are kept "on-net" as far as possible and then use the closest node to the called number to go "off-net" into the more expensive public lines.



In such an environment, VeraSMART would receive multiple call records – one from every switch (CDR source) involved in the transaction.

Assuming they had set up call type = “T-Line” and trunk group rates at 10¢ per call, the above example would have generated these records:

Switch	Time	Duration	Origin	Destination	Dialed Number	Cost (before reconciliation)	Cost (after reconciliation)
L.A.	10:00	0:15:00	Extension 2233	Trunk 7 (T-Atlanta)	7188519200	$ 0.10 (T-Line)	**$ 0.05 (Intra-LATA)**
Atlanta	13:00	0:15:00	Trunk 5 (T-LA)	Trunk 8 (T-NYC)	7188519200	$ 0.10 (T-Line)	**$ 0.10 (T-Line)**
N.Y.C.	13:00	0:15:00	Trunk 12 (T-Atlanta)	Trunk 1 (CO)	7188519200	$ 0.05 (Intra-LATA)	**$ 0.00 (Intra-LATA)**

The reconciliation process searches for and pairs off the last call record to the originating one, then charges the original caller for the “off-net” call. (The middle leg is ignored.)

1. Access**:** Call Accounting menu > Tools > Tie Line Reconciliation.
2. Enter the guidelines to match the originating and terminating legs of a Tie line call:
    - Duration range (0 - 3600 seconds - default = 300 seconds). This value allows for delays between switching links. If the duration reported for a "terminating leg" is within this range, the call is considered a match.
    - Start time range (0 - 3600 seconds - default = 300 seconds). This value allows for variances among the internal clocks on individual switches. If the start times are no farther apart than the range specified here (taking into account time zone differences), they will still be considered a match.
3. Set the Tie line reconciliation status = Enable .
4. Save your entries.
5. Use the links at the top of the page to identify the "Tie Line" trunk groups and to set the differences in local times at every CDR source site connected by Tie Lines.

TECHNICAL NOTES:

Once enabled, the Tie Line Reconciliation process will run every night at 11 PM. It will search the call record database for Tie Line call pairs within the last 5 days and link them together as two legs of the same call. Calls with less than 7 dialed digits and less than 18 seconds duration are ignored.

The process uses the following criteria for creating the link:

- Reported trunks are members of a trunk group identified as "Tie Line" (via the Trunk Groups function).
- One record qualifies as the "originating" leg (origin=extension; destination=Tie Line trunk); the other as "terminating" (origin=Tie Line trunk; destination=non-Tie Line trunk).
- Reported dialed numbers (after the removal of any access codes) are identical.
- Variation on the start times -- after adjusting for the switch time differences (see CDR Source for details on setting up switch times differences) -- is within the range specified in the Tie Line Reconciliation function.
- Variation on the reported call duration is within the range specified in the Tie Line Reconciliation function.

For each set of matching call records, the process replaces the originating record's Cost, Adjusted Cost, Call Type, Default Rate, and ReRate Flags fields with the values from the terminating record. The terminating record's Cost and Adjusted Cost are set to zero. The Tie Link field in each record will contain a link to its pair.

When complete, the process logs an Informational message stating how many Tie Line call records were found and how many were reconciled.

Conditions that result in calls NOT being considered for Tie Line Reconciliation:

- Calls older than five (5) days from the server current date/time
- Calls with less than 7 dialed digits
- Calls with a duration of less than 18 seconds

SBC Configuration

Use this function to set guidelines used in matching the 'on-net' and 'off-net' legs of call records routed via a Session Border Controller (SBC), in order to re-assign the call charges to its on-net origin. You can also use this function to run the CDR matching process immediately (instead of waiting for the evening automatic run).

NOTE: SBC CDR Matching is an option; it is only available if this feature has been enabled by your license.

Prerequisite

You will need to have a configured SBC CDR Source:

- Acme Packet SBC (PDF)
- Avaya SBC (PDF)
- Cisco Unified Border Element (CUBE) (PDF)

Configure SBC CDR Matching

1. Access**:** Call Accounting menu > Tools > SBC Configuration.
2. Enter the guidelines to match the PBX originating and SBC terminating legs of off-net calls:
   - Duration range (0 - 360 seconds - default = 10 seconds). This value allows for delays between switching links. If the duration reported for a "terminating leg" is within this range, the call is considered a match.
   - Start time range (0 - 360 seconds - default = 30 seconds). This value allows for variances among the internal clocks on individual switches. If the start times are no farther apart than the range specified here (taking into account time zone differences), they will still be considered a match.
3. Enable the SBC CDR matching feature.
4. To simply save this configuration, click the Save button and select 'Save'; to apply and then run the matching process immediately, select 'Save and Run CDR Matching' and then enter how far back (in days) to look for matches.

TECHNICAL NOTES:

Once enabled, the SBC CDR Matching process will run every night at 11 PM. It will search the call record database for call pairs within the last 7 days and match them using this criteria:

- One record (source = PBX, direction = OUTGOING) qualifies as an "originating" leg of a call; the other as "terminating" (source = SBC, direction = TANDEM, duration > 0:00:00).
- The normalized dialed numbers are identical (the rating process 'normalizes' dialed digits by removing routing codes and adding country/city/area codes as prefix).
- Variation on the start times (UTC) is within the value specified in this function (the rating process converts local time to UTC by adjusting for the CDR source time zone differences).
- Variation on the reported call duration is within the value specified in this function.

For each set of matching call records, the process replaces the originating record's cost with the values from the terminating record (call costs are converted to the source's rate plan currency). The terminating record's cost is set to zero.

When complete, the process logs how many SBC call records were evaluated and how many matches were made.

SEE ALSO:

- SBC Matching

Wireless Call Accounting

Wireless Call Accounting gives you a comprehensive look at your wireless usage and costs.

> The system can read electronic invoices from the five major wireless service providers, process call and charge records, and assign them to the owners of the wireless accounts and devices (cellphones, air cards, etc.). The system then delivers the information you need to optimize service and performance, improve employee productivity, and effectively assign actual usage costs throughout your enterprise.

This section is devoted to functions used to set up, import, and review wireless invoice information.

NOTE: The following features are documented under the indicated topic:

- Wireless Devices: Inventory
- Call Detail: Call Detail
- Reports: Reports
- Tools: Call Alerts

Invoice Imports

Use this function to import invoices that you previously downloaded from the vendor portal.

> ***NOTE***: If you have invoices from several billing periods to import, make certain to import the older ones first. Repeat procedure with each period's invoice until all files have been collected.

Procedure

1. Obtain the invoice data files from your vendor's portal (see Wireless Invoice Downloads for details).
2. Access: Wireless Call Accounting menu > Invoices > Invoice Import, then select the vendor.
3. The page displays the required files from this vendor. Click the Upload File button to locate and upload them.
4. After all required files have been uploaded, the import begins automatically.
5. When import completes, you will be able to review the invoice using the Wireless Invoices function.

Incomplete Imports

Use this function to display the list of invoices that are being imported and processed in the background.

The list shows the import date, batch ID, vendor, and the status of the import.

1. To refresh page, click the Refresh button.
2. To cancel an import, mark its entry and click Delete.

Wireless Invoices

Use this function to review imported invoices for your wireless devices, analyze findings, and -- if warranted -- identify savings.

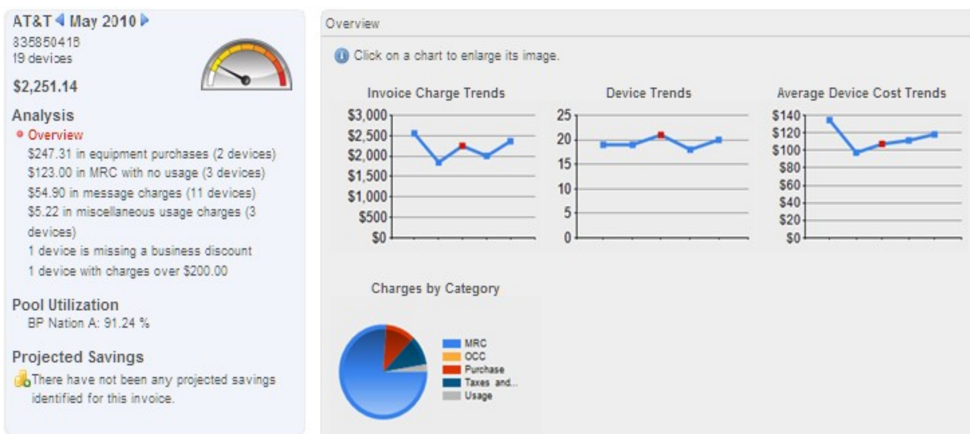
> ***NOTE***: The system identifies any one of these conditions as a 'Finding':
> - Voice usage and/or overage charges
> - Device not on a shared minutes plan
> - Usage charges for roaming, directory assistance, or miscellaneous
> - Device has monthly charges (MRC) but no usage
> - Charges for equipment insurance or purchases
> - Missing business discount
> - Device charges are over threshold (set in System Preferences)

Invoice Analysis

1. Access: Wireless Call Accounting > Invoices > Wireless Invoices.
2. To work with an invoice, locate it and select Invoice Analysis -or- the *invoice date* link -or- its gauge icon.

> ***NOTE***: To delete an invoice, locate it, select Delete and confirm.

3. You will see a page similar to this example:



The left panel provides general information (vendor, invoice date, account, number of devices in the account, and invoice charges) and allows you to select different views.

- You may move through previous and next month's invoices by clicking the date left and right arrows.
- The gauge displays potential for savings -- increasing from white to red -- based on 'findings' listed under the Analysis group.

Analysis - Overview

This view displays the following invoice statistics:

- Trends for invoice charges, devices, and average device cost (to compare the current invoice -- marked by the red dot -- with the past two / next two invoices, if this information is available).
- Charges by Category -- a pie chart illustrating a comparison of the MRC (monthly recurring charges), OCC (other common charges), Purchases, Taxes and Surcharges, and Usage)

Analysis - Device Findings

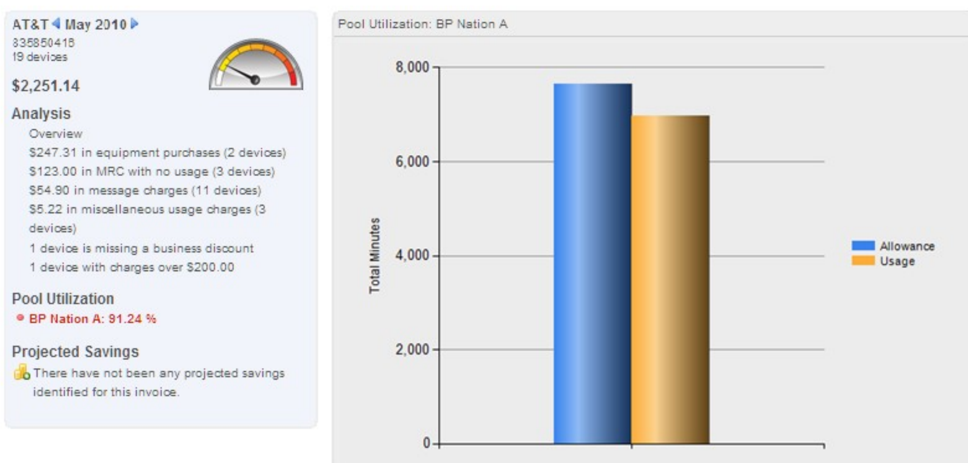
These views provide information on expenses 'found' on the invoice, which will help identify future savings on this account. It also allows you to reassign devices and e-mail charge information.

On the Analysis section, you can hover over a 'finding' to view recommendations to help in eliminating or reducing this expense. See Wireless Analysis Recommendations (PDF) for details.

On the device details section, you can:
- Click to print a summary of this Analysis page
- Click to view detailed charges.
- Click to reassign device.
- Click to email charge details to designated recipients.

Pool Utilization

Pool utilization (if pooling information is available on invoices from this vendor, this section displays the allowance, usage, and percent utilization of all pooled plans in the invoice)



Projected Savings

This feature lets you enter projected monthly savings for this account.

> ***NOTE***: This is an amount that you estimate, after a review of this invoice findings and planned actions by your organization. These actions may include cutting questionable expenses and/or unnecessary options or features.

1. Click the icon.
2. Enter:
   - Monthly savings that you expect to achieve (a positive or negative amount to increase or offset the total savings for an account).
   - Date when projected saving starts
   - Applicable comments.
3. Save your settings.

The amount you entered for this invoice will be included every month in the total Savings for the account. After 12 months, the amount will be removed from Savings calculations.

You can see total savings for the account in the **Wireless Savings** and **Wireless Savings Trend** widgets (included by default in the 'Invoices' dashboard).

E-mail Analysis Findings

Use this function to e-mail the selected findings from the Invoice Analysis.

1. Access: Invoice Analysis. Then select a finding and click its e-mail icon.
2. When the pop-up opens, complete form:
   - Recipients
   - Message
   - Include charge and/or usage details
3. Click Send.

Wireless Accounts

Use this function to view all Wireless Accounts, their associated vendor, and whether or not they can be included in imported invoices. You can also use this function to add (or delete) an account and to disable (or re-enable) it for import.

NOTE: In the case of multiple accounts included in a single invoice, having an invoice 'disabled' will exclude from the import; any charges derived from it will not be generated.

See also

Wireless Devices

Procedure

1. Access: Wireless Call Accounting menu > Invoices > Wireless Accounts.
2. To create a new account:
   a. Select More Actions > Add.
   b. Enter the account number and vendor.
   c. Save your entries.
3. To remove an account:
   a. Mark desired invoices.
   b. Select More Actions > Delete
   c. Confirm your deletion(s).
4. To enable / disable account for imports:
   a. Mark desired entry or entries.
   b. Click Disable Invoice Import (to exclude account and its charges from an invoice import)
   -- or -- Enable Invoice Import (to allow account and its charges to be imported)

Wireless Charges

Use this function to view all charges for the selected accounting period(s).

1. Access: Wireless Call Accounting menu > Charges > Wireless Charges (or other configured view).
2. Filter the list as desired.

> ***NOTE***: By default, the list displays the Inventory ID, charge description, amount, date of charge, accounting period, cost center & personnel owners, charge category, and vendor.
>
> ---
>
> A system administrator may add or remove filters and display columns from available fields for the Wireless Charges table via the User-defined Views function.

3. To view details for a specific charge, click its *charge description* link or View.

Wireless Devices

Wireless Devices represent the two types of Wireless Call Accounting inventory. They are both associated with a vendor, which provides voice, messaging, and data services and then bills for them via invoices that you import monthly. The inventory types include:

- **Wireless Account Number** -- this represents the inventory item billed for contractual services with a vendor for a set of *wireless numbers*.
- **Wireless Number** -- this identifies the inventory item, under a *wireless account*, which places and receives calls, messages, and data transfers, and gets billed for them on the invoice. A wireless number is associated a product (Air Card, Blackberry, Feature Phone, iPad, iPhone, Smart Phone, or Tablet), which is determined from the charge descriptions in the invoice.

Wireless Call Accounting inventory will be added automatically any time you import and process invoices with new items -- up to the licensed size.

Note to System Administrators:

The system allows...

- creating user-defined fields and user-defined views for the Inventory table

- configuring the layout of its add/edit/detail pages via the Inventory Types function

- importing entries via any one of several 'Personnel and Inventory' Import Data functions

Assignments

Wireless inventory can be assigned to an individual (Personnel) or directly to a Cost Center for tracking its usage and charges. If the inventory type allows *separate charge and inventory assignments*, an item assigned to a Cost Center (for billing charges) can be given ownership to Personnel (for tracking usage). The owner does not need to be a member of that Cost Center.

NOTE: Inventory views can be configured to display 'Bill to' and 'Owner' columns to show split assignment information. In addition, such views can have the 'Personnel and Owner' filter which allow showing all inventory used by an individual, regarless of the billed entity.

What would you like to do?

View Inventory Item Details
Add or Edit Inventory
Reassign Inventory
Assign Charges
Associate Cost Center-owned Inventory with Personnel
Deactivate Inventory

Organization

The system uses the Organization table and its multi-level hierarchy to mirror your own organization and provide the structure to handle enterprise report distribution.

Together, the Organization and Inventory tables, are used to track telephone activity, internal charges, and inventory assigned to individuals or organizations.

This section discusses MACD (move-add-change-delete) functions used by Organization and Inventory Administrators, as well as Advanced Administration functions used by System Administrators.

Personnel

Personnel is the standard term for the first level in your organization hierarchy, below that of Cost Center. It refers to individuals in your organization that can have assigned inventory and can be charged for phone usage and other billable features.

Key personnel can be configured with login accounts in one of the system roles (such as MySMART User, Report User, CDR Administrator, etc.) and as recipients of EZ-Burst Reports (What is this?).

What would you like to see?

- **Personnel Detail Record**
- **View Personnel Details**
- **Adding Personnel**
- **Editing or Bulk-editing Personnel**
- **Assigning or Associating Inventory**
- **Assigning or Associating Auth Codes**
- **Setting a Password for User**
- **Adding Personnel to EZ-Burst Distributions**
- **Assigning Internal Charges to Personnel**
- **Moving Personnel to another Cost Center**
- **Deactivating Personnel**

Note to System Administrators:

The system allows...

- creating user-defined fields for this table
- creating views of this table (including summarized views for dashboard widgets), configuring the layout of the add/edit/detail pages, and setting up fields for standard exports (via the User-defined Views function)
- importing table via any one of several 'Personnel and Inventory' Import Data functions

For details, look up the above topics under Administration & Setup.

Personnel Detail Record

The Personnel Details page displays the individual's name *(last name, first)* and the cost center to which he/she belongs. Other details appear under a series of tabs described below.

From this page, you can also view this individual's telephone usage and other charges, as well as perform the following actions:

Edit attributes	Assign security groups / roles
Assign / associate inventory items	Set password (for VeraSMART login)
Assign / associate authorization codes	Disable / Enable Login
Assign charges (one-time charges)*	Reassign (to another Cost Center)
Assign charge rules (recurring charges)	View membership in EZ-Burst Distributions

* In systems with Enhanced Chargeback.

> ***NOTE:*** The labels 'personnel' and 'cost center' are configurable by a system administrator via the Configure Organization Levels function. The list views, add / edit /detail forms are configurable via the User-defined Views function.

Attributes tab

Attributes (expandable section) displays fields configured for this form. On an edit you will see:

- Last name (up to 50 characters) and first name (up to 32 characters)
- Cost Center (selected from system list) and assignment date (default = today's date)
- EZ-Burst option (disabled, e-mail link to reports, e-mail reports as attachment)

  > ***NOTE***: Default EZ-Burst option is 'disabled', unless changed by the System Preferences setting (other options).

- EZ-Burst manager (No, Cost Center Manager, Department Manager)
- Manager (name of individual to whom this person reports)
- E-mail address (required for EZ-Burst recipients or if so configured by your administrator via System Preferences. Can be used to log into MySMART or VeraSMART with a password -- see ***Login and Security*** below)
- Windows domain account (may be required if so configured by your administrator via System Preferences). Lets network users log into MySMART or VeraSMART without a password -- see ***Login and Security*** below)
- Employee number (unique, up to 25 characters. May be required if so configured by your administrator via System Preferences)
- Private (mark to exclude name from directory listings)
- Personnel location (if field is shown, location details from the Location record also appears as a separate section)
- ... any user-defined fields configured for this form

Login and Security VeraSMART access and security-related attributes may include...

- E-mail address (In Attributes section. Default login if system is configured for VeraSMART to authenticate user access. This login requires a password)
- Windows domain account (In Attributes section. Can be used to log in if your system is configured for Windows to authenticate user access. This login does not require a password when the user is already logged onto the company's network)
- Login ID (optional. Can be used as an alternate login, if the user does not have e-mail or does not want to use it to log in. This login method requires a password.)

> ***NOTE***: For login methods that require a password, you have these password options:
>
> [When adding Personnel]
>
> **User requests system-generated password** (user must request a password on first access, at the Login page. Requires user to have an e-mail address.)
>
> **System generates password and e-mails to user** (user will receive a system-generated password immediately. Requires user to have an e-mail address)
>
> **Set password now** (you provide a new password 6 to 12 characters long)
>
> [When editing Personnel]
>
> **Do not modify** (this lets the user keep the current password or request one at the Login page)
>
> **System resets password and e-mails to user** (user will receive a new password immediately. Requires user to have an e-mail address)
>
> **Reset password manually** (you provide a new password 6 to 12 characters long)

- Login disabled (yes or no) -- To change status, select More Actions > Disable Login (or Enable Login).
- Login expiration date (date when this user login expires -- this date may be in the future -- and access to VeraSMART or MySMART is disabled)
- Last login (date/time stamp for the last time this user accessed VeraSMART or MySMART)

Location Details (expandable section) displays the location name and description, as well as all user-defined fields for Locations.

Security tab

Roles Displays one of two views (interchangeable by clicking the link).

- Effective roles displays a simplified list with duplicate or lesser roles removed.
- All assigned roles and security groups shows the complete list of roles assigned directly or via a security group.

Data Access Displays one of two views (interchangeable by clicking on the link).

- Effective data access shows what the user can actually do.
- All assigned data access shows the complete list of assignments. Click the [+] to expand specific sections. This view allows selecting table entries to grant access.

Other tabs

Assignment Displays the records of this individual's assignments to cost centers. The date entries are used to apportion usage and charges, whenever personnel has moved to different organizations.

To change organizations, select More Actions > Reassign Personnel.

To change an assignment date, select Edit Assignment -or- click the *assignment date* link.

Inventory Item Displays all inventory items assigned to /associated with this entry-- including product information and internal monthly recurring charges (MRCs). In the grid, each Inventory ID link opens its details page.

To change any of the above information, select More Actions > Assign -or- Associate Inventory.

Authorization Code Displays all authorization codes assigned to /associated with this entry. In the grid, each a Authorization Code link opens its details page.

To change any of the above information, select More Actions > Assign -or- Associate Authorization Codes.

Assigned Charges	Displays all internal charges assigned to this individual for the selected accounting period. Systems with Wireless Call Accounting would also display invoice charges. Depending on the type of charge, you may be able to change this information... ▪ Internal one-time charges: Edit Charge -or- Delete Charge -or- More Actions > Assign Internal Charges ▪ Internal recurring charges: View Charge -or- More Actions > Assign Charge Rules (to edit or delete this type of charge, use the Charge Rules tab) ▪ Invoice charges: View Charge ***System Administrators***: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.
Charge Rules	Displays all rules within the selected accounting period that result in recurring charges for this entry. To change any of the above information, select: Edit Charge -or- Delete Charge -or- More Actions > Assign Charge Rules. ***System Administrators***: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.
Call Details	Displays calls associated with this Personnel record. If the system administrator has pre-configured summarized views, you can toggle between the non-summarized and summarized views by clicking the and icons (top right corner). System administrators can use this page to update the cost of a call and/or the account code (to correct dialed errors).

View Personnel Details

This page displays the list of attributes for the selected Personnel record.

Default fields include:

- Personnel name
- Cost Center
- EZ-Burst option (disabled, e-mail link to reports, e-mail reports as attachment)
- EZ-Burst manager (No, Cost Center Manager, Department Manager)
- E-mail address
- Employee number
- Windows domain account
- Private (yes or no -- whether or not name is excluded from directory listings)
- Personnel location
- Login ID
- Login disabled (yes or no)
- Last login
- User ID number

This form is configurable by a system administrator (via the Configure User-defined View function).

Adding Personnel

1. Access: Organization menu > Organization > Personnel or other configured view.
2. Click Add and enter:
    - Last name (up to 50 characters) and first name (up to 32 characters)
    - Cost Center (selected from system list) and set assignment date (default = today's date)
3. To set EZ-Burst options, select:
    - EZ-Burst option (disabled --or-- e-mail link or reports as zipped attachments)
    - EZ-Burst manager (No --or-- add to the 'EZ-Burst Managers' distribution list as a Cost Center or Department Manager)

    > ***NOTE***: EZ-Burst is a report output that results in the report sectioned off into individual sub-reports by department, cost center, or personnel with the appropriate sections e-mailed as zipped files or made available by links.

4. Enter other attributes: E-mail address (required, for EZ-Burst recipients)
    - Employee number (unique, up to 25 characters)
    - Private (mark to exclude name from directory listings)
    - Personnel location (selected from system list)
    - Any user-defined fields configured for this form
5. To assign extension inventory at this time, select:
    - Associated CDR source (from system list)
    - Extension (enter the ID or select from system list)

    > ***NOTE***: If the number does not exist, it will be added to the Extension inventory.

6. To set up login access to MySMART (or VeraSMART):

    > ***NOTE***: The system is designed to use the e-mail address as Login ID. First time users will have a password automatically generated and e-mailed to them.

    a. If not using the standard login option (see NOTE above), set:
        - Alternate login (for users without an e-mail account. Requires setting a password)
        - Windows domain account (to allow access to users logged into your Windows network)
        - Login disabled (mark to black-list this user)

    b. Mark membership in the appropriate Security Groups, if any.
7. Save your changes.

Editing or Bulk-editing Personnel

1. Access: Organization menu > Organization > Personnel or other configured view.
2. To modify attributes for a specific entry:
    a. Select the *Personnel name* of interest and then click Edit.
    b. Modify information as required (see Personnel Detail Record for field information)
    c. Save your changes.
3. To change common field values in multiple records:
    a. Mark the records to change, select More Actions > Bulk Edit, and follow wizard's instructions.
    b. Select the fields to change and then provide new values.
    c. Review entries and then finish.

Assigning or Associating Inventory

Inventory can be 'assigned' to an individual owner (Personnel) or to a Cost Center (an organization) for usage tracking and/or charge allocation purposes. If your system administrator has enabled 'associated Personnel' (a System Preference), inventory assigned to cost centers can also be associated with multiple individuals.

> The 'Associated Personnel' feature is used strictly for information purposes in a Directory listing. For example, a call center has an assigned central phone number which it owns and for which it pays charges. This phone number must be associated with all its operators so that they appear in the Directory listing.

Procedure

1. Access: Organization menu > Organization > Personnel or other configured view.
2. Select the *Personnel name* interest.
3. For a new assignment:
   a. Select More Actions > Assign Inventory Item.
   b. Select item from system list, set an assignment date, and then save your changes.
4. For a new association:
   a. Click More Actions > Associate Inventory Item.
   b. Select item from system list and then save your changes.
5. To remove an association or assignment, use its Unassign or Disassociate link.

> ***NOTE***: Unassigning an Asset inventory that is a child of another inventory will also 'un-parent' the asset.

Assigning or Associating Auth Codes

Authorization codes can be 'assigned' to an individual owner (Personnel) or to a Cost Center (an organization) for usage tracking and/or charge allocation purposes. If your system administrator has enabled 'associated Personnel' (a System Preference), authorization codes assigned to cost centers can also be associated with multiple individuals.

1. Access: Organization menu > Organization > Personnel or other configured view.
2. Select the *Personnel name* of interest.
3. For a new assignment:
   a. Click More Actions > Assign Authorization Code.
   b. Select item from system list, set an assignment date, and then save your changes.
4. For a new association:
   a. Click More Actions > Associate Authorization Code.
   b. Select item from system list and then save your changes.
5. To remove an association or assignment, use its Unassign or Disassociate link.

Setting a Password for User

1. Access: Organization menu > Organization > Personnel or other configured view
   --or--
   Administration menu > Security > Login Accounts.
2. Select the desired *Personnel* record.
3. Select More Actions > Set Password.
4. Provide new password, confirm and then save entry.

Adding Personnel to EZ-Burst Distributions

EZ-Burst is the term for a report output that results in the report being sectioned off into individual sub-reports by cost center or department. The appropriate sections are then made available to recipients as per the EZ-Burst option in his/her Personnel record. The options are:

(a) 'E-mail EZ-Burst reports as attachment' will send the report as a 'zipped' e-mail attachment.

(b) 'E-mail links to EZ-Burst reports' will save report in the system server. Recipients can access them via MySMART > My Reports (they may also receive a notification e-mail).

---

1. Access: Organization menu > Organization > Personnel or other configured view.
2. Select the *Personnel name* of interest.
   To add to the 'EZ-Burst Managers' list:
3. Click Edit and enable the option as either Cost Center or Department Manager.
4. Set EZ-Burst option (E-mail link or reports as zipped attachments).

NOTE to Administrators:
To add Personnel to other EZ-Burst Distribution Lists or to create such lists, see EZ-Burst Distribution.

Assigning Internal Charges to Personnel

Internal Charges refer to charges against inventory or organizations that you wish to track, but -- unlike call charges from CDR sources -- they must be assigned manually.

1. Access: Organization menu > Organization > Personnel or other configured view.
2. Select the *Personnel name* of interest.
3. To view, assign, or modify one-time charges, open the Assigned Charges tab:
   a. For a new charge:
      i. Select More Actions > Assign Charges.
      ii. Select a charge code from the system list --or-- enter a description, one-time cost, date, and accounting period.
      iii. Save your entries.
   b. To modify a specific charge, click its *charge code name* link and enter your changes.
   c. To remove a charge: locate entry, select ▼ Delete Charge, and confirm.

   NOTE: Dates for one-time charges are used for information only and as such, may be used as criteria in reports or data exports. It is independent of the accounting period and does not determine when a charge will go into effect.
4. To view, assign, or modify the rules for setting recurring charges, open the Charge Rules tab:
   a. For a new charge:
      i. Select More Actions > Assign Charge Rules.
      ii. Select a charge code from the system list, set the start and end dates, and then save your entries.
   b. To modify a specific charge, click its *charge code name* link and enter your changes.
   c. To remove a charge: locate entry, select ▼ Delete Charge, and confirm.

Moving Personnel to another Cost Center

1. Access: Organization menu > Organization > Personnel or other configured view.
2. You may wish to open the Assignment tab to view past and present assignments.
3. To move this entry to another cost center:
    a. Mark the entries and select More Actions > Reassign.
    b. Select the new Cost center and assignment date (default = *today's date*).
    c. Save your entries
4. To modify assignment dates for an entry, open the Assignment tab, click the *assignment date* to change and provide a new date.
5. To reactivate the last assignment, open the Assignment tab, select ▼ Delete assignment for the entry of interest, and confirm.

Deactivating Personnel

1. Access: Organization menu > Organization > Personnel or other configured view.
2. Mark the entries of interest and select More Actions > Deactivate.
3. Review items and enter a deactivation date (default = *today's date*).
4. When complete and click Deactivate and Return.

> ***NOTE:*** The automatic cleanup program runs nightly, deleting call / charge records slated for removal (System Administrators: this is a System Preference). "Deactivated" entries are then scanned; those without associated charges are then removed from the database.

Cost Centers

Cost Center is the standard term for the second level in the company organization hierarchy, above that of Personnel and below Department (if such level exists).

The system uses the Cost Center and Personnel tables to track owned inventory, as well as call activity and assigned internal charges.

What would you like to see?

- **Cost Center Detail Record**
- **Adding or Editing Cost Centers**
- **Bulk Editing Cost Centers**
- **Assigning Personnel to Cost Centers**
- **Assigning Inventory to Cost Centers**
- **Assigning Auth Codes to Cost Centers**
- **Assigning Internal Charges to Cost Centers**
- **Deactivating / Reactivating Cost Centers**

Note to System Administrators:

The system allows...

- creating user-defined fields for this table
- configuring the page layout (via the User-defined Views function)
- importing and exporting table via the Import Data and Export Data functions

For details, look up the above topics under Administration & Setup .

Cost Center Detail Record

The Cost Center Details page displays the cost center name and other details under a series of tabs (see table below). From this page, you can also...

Edit attributes	Assign Authorization Codes
Assign Personnel	Assign Charges
Assign Inventory	Assign Charge Rules

> ***NOTE:*** The labels 'personnel' and 'cost center' are configurable by a system administrator via the Organization Levels function.

Attributes & Other tabs

Attributes

Displays fields configured for this form. These may include...

- Department (if level exists -- selected from system list)
- Percent markup per call or charge (-100 to 1000)
  NOTE: These cost adjustments only apply to internal charges. They do not apply to allocated charges.
- Surcharge per call or charge (server currency)
- Minimum cost per call or charge (server currency)
- GL Segment value (financial reporting feature -- default = yes, include this cost center as a general ledger entry for allocating expenses)
- Enable Payment Cards (This field is only displayed when 'Payment Cards for Purchasing' is licensed. This enables all personnel in the cost center for payment card transactions in the wireless portal. See Payment Card Purchasing for more information.)
- ... any user-defined fields configured for this form

Personnel

Displays the records all Personnel assigned to this cost entry. In the grid, each *personnel name* opens its Personnel Details page.

To change any of the above information, select More Actions > Assign Personnel.

Inventory Item

Displays all inventory items assigned to /associated with this entry -- including product information and internal monthly recurring charges (MRCs). In the grid, each Inventory ID link opens its details page.

To change any of the above information, select More Actions > Assign -or- Associate Inventory.

Authorization Code

Displays all authorization codes assigned to /associated with this entry. In the grid, each a Authorization Code link opens its details page.

To change any of the above information, select More Actions > Assign -or- Associate Authorization Codes.

Assigned Charges

Displays all internal charges assigned to this organization for the selected accounting period. Systems with Wireless Call Accounting would also display invoice charges.

Depending on the type of charge, you may be able to change this information...

- Internal one-time charges: ▼ Edit Charge -or- ▼ Delete Charge -or- More Actions > Assign Internal Charges
- Internal recurring charges: ▼ View Charge -or- More Actions > Assign Charge Rules (to edit or delete this type of charge, use the Charge Rules tab)
- Invoice charges: ▼ View Charge

> ***System Administrators***: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.

Charge Rules

Displays all rules within the selected accounting period that result in recurring charges for this entry.

To change any of the above information, select: ▼ Edit Charge -or- ▼ Delete Charge -or- More Actions > Assign Charge Rules.

> ***System Administrators***: Charges recently added to an accounting period may not appear unless you Reprocess Charges for the accounting period.

Adding or Editing Cost Centers

1. Access: Organization menu > Organization > Cost Center.
2. Click Add -- or -- locate the *cost center* to modify and then click Edit.
3. Set the attributes:
    - Department (if level exists -- selected from system list)
    - Cost adjustments

      \- Percent markup per call or charge (-100 to 1000)
      \- Surcharge per call or charge (server currency)
      \- Minimum cost per call or charge (server currency)

      NOTE: Reported cost = the largest of (a) charge + (charge x markup / 100) + surcharge -- or -- (b) minimum charge. These cost adjustments only apply to internal charges. They do not apply to allocated charges.

    - Any User-defined Fields configured for cost centers
4. Save your entries.

Bulk Editing Cost Centers

Use this function to change common field values in multiple records.

1. Access: Organization menu > Organization > Cost Center.
2. Mark desired records, select More Actions > Bulk Edit , and follow wizard's instructions.
3. Select the fields to change and then provide new values. See Cost Center Detail Record for field information.
4. Review entries and then finish.

Assigning Personnel to Cost Centers

1. Access: Organization menu > Organization > Cost Center > *Cost center name*.
2. Click More Actions > Assign Personnel, select name from system list, and set an assignment date.
3. Save your changes.

Assigning Inventory to Cost Centers

1. Access: Organization menu > Organization > Cost Center > *Cost center name*.
2. For a new assignment:
    a. Click More Actions > Assign Inventory Item.
    b. Select item from system list, set an assignment date, and then save your changes.
3. To remove assignment, use its Unassign link.

Assigning Auth Codes to Cost Centers

1. Access: Organization menu > Organization > Cost Center > *Cost center name*.
2. For a new assignment:
    a. Click More Actions > Assign Authorization Code.
    b. Select item from system list, set an assignment date, and then save your changes.
3. To remove assignment, use its Unassign link.

Assigning Internal Charges to Cost Centers

Internal Charges refer to charges against inventory or organizations that you wish to track, but -- unlike call charges from CDR sources -- they must be assigned manually.

1. Access: Organization menu > Organization > Cost Center.
2. Select the *cost center name* of interest.
3. To view, assign, or modify one-time charges, open the Charges tab:
   a. For a new charge:
      i. Select More Actions > Assign Charges.
      ii. Select a charge code from the system list --or-- enter a description, one-time cost, date, and accounting period.
      iii. Save your entries.
   b. To modify a specific charge, click its *charge code name* link and enter your changes.
   c. To remove a charge: locate entry, select Delete Charge, and confirm.

   > ***NOTE***: Dates for one-time charges are used for information only and as such, may be used as criteria in reports or data exports. It is independent of the accounting period and does not determine when a charge will go into effect.
4. To view, assign, or modify the rules for setting recurring charges, open the Charge Rules tab:
   a. For a new charge:
      i. Select More Actions > Assign Charge Rules.
      ii. Select a charge code from the system list, set the start and end dates, and then save your entries.
   b. To modify a specific charge, click its *charge code name* link and enter your changes.
   c. To remove a charge: locate entry, select Delete Charge, and confirm.

Deactivating / Reactivating Cost Centers

1. Access: Organization menu > Organization > Cost Center.
2. To reactivate previously deactivated cost centers, select search filter 'Inactive only' then...
   a. For multiple reactivations, mark the entries of interest and select More Actions > Reactivate.
   b. For a single reactivation, click the *cost center name* and then select More Actions > Reactivate.
3. To deactivate cost centers, select search filter 'Active only' then...
   a. For multiple deactivations, mark the entries of interest and select More Actions > Deactivate.
   b. For a single deactivation, click the *cost center name* and then select More Actions > Deactivate.
   c. Select disposition of currently assigned Personnel:
      - Unassigned (active, but moved to the [Unassigned] cost center
      - Deactivated
      - Reassigned to (cost center selected from system list)
   d. Select disposition of currently assigned Inventory Items and Authorization codes:
      - Unassigned (active, but moved to the [Unassigned] cost center)
      - Deactivated
      - Reassigned to (select Cost Center from system list)
   e. When complete, click Deactivate and Return.

> ***NOTE:*** The automatic cleanup program runs nightly, deleting call and charge records slated for removal (as per System Preferences). "Deactivated" entries are then scanned; those without associated charges are then removed from the database.

Organization Administration

This section is devoted to configuration functions that require a System Administrator.

Configure Organization Levels

Use this function to set the number and names for all active organization levels in the hierarchical structure of your company.

The system uses the Organization table to track telephone activity and expenses charged to individuals or organizations. Multiple hierarchical levels provide the structure to handle call accounting, invoice or other charges, and report distribution and can be easily configured for customers for whom you manage telecom services.

By default, the system uses five active levels: "Personnel" and "Cost Center" for the required first two levels and "Department," "Division," and "Branch" as the optional third to fifth levels.

1. Access: Organization menu > Organization > Configure Organization Levels
2. Select the number of organization levels to use (2 to 5).
3. Enter the names used in your company for the levels selected (up to 15 characters).
4. Save your settings.

Configure Departments

Department is a user-defined term for the third level in the company organization hierarchy, above that of "cost center" and below "division."

1. Access: Organization menu > Organization > Department.
2. To add or edit a department:
   a. Click Add -- or -- the *department name* to edit.
   b. Enter the department name (up to 50 characters) and select the division above this department.
   c. Save your entries.
3. To merge departments, select More Actions > Merge.
   a. Select the participants:
      - Department name (organization whose members will be moved into another)
      - Merge with department (organization that will receive the members of the former)
   b. Click Merge and confirm.

> ***NOTE:*** After the merge, the moved department will be deleted from the database. All cost centers, personnel, associated inventory, as well as other assignments and charges will be allocated to the selected department.

See also

Organization Structure to set up & rename organization levels
User-defined Fields and User-defined Views to configure how you view this table

Configure Divisions

Division is a user-defined term for the fourth level in the company organization hierarchy, above that of "department" and below "branch."

1. Access: Organization menu > Organization > Division.
2. To add or edit a division:
    a. Click Add -- or -- the *division name* to edit.
    b. Enter the division name (up to 50 characters) and select the branch above this entry (if level exists).
    c. Save your entries.
3. To merge divisions, select More Actions > Merge.
    a. Select the participants:
        - Division name (organization whose members will be moved into another)
        - Merge with division (organization that will receive the members of the former)
    b. Click Merge and confirm.

> ***NOTE:*** After the merge, the moved division will be deleted from the database. All its lower levels, as well as their assignments and charges will be allocated to the selected division.

See also

Organization Structure to set up & rename organization levels

Configure Branches

Branch is a user-defined term for the top level in the company organization hierarchy, above that of "division."

1. Access: Organization menu > Organization > Branch.
2. To add or edit a branch:
   a. Click Add -- or -- the *branch name* to edit.
   b. Enter the branch name (up to 50 characters) and then save your entry.
3. To merge branches, select More Actions > Merge.
   a. Select the participants:
      - Branch name (organization whose members will be moved into another)
      - Merge with branch (organization that will receive the members of the former)
   b. Click Merge and confirm.

> ***NOTE:*** After the merge, the moved branch will be deleted from the database. All its lower levels, as well as their assignments and charges will be allocated to the selected branch.

See also

Organization Structure to set up & rename organization levels

Merge Cost Centers

1. Access**:** Administration menu > Utilities > Merge Cost Center Records
2. Select the participants:
    a. Cost center name (organization whose members will be moved into another)
    b. Merge with cost center (organization that will receive the members of the former)
3. Click Merge and confirm.

NOTE: After the merge, the cost center emptied of personnel will be deleted from the database. All associated inventory, as well as other assignments and charges will be allocated to the selected cost center.

Delete Organization Records

1. For Personnel records, access: Administration menu > Utilities > Delete Personnel Records.
   a. To delete database records, mark records of interest, click More Actions > Delete, and then confirm.

      NOTE: This action removes all traces of personnel records and their associations. You cannot delete the Personnel record if you are logged in with his/her user login.

   b. To delete history records, mark records of interest, click More Actions > Delete History, and then confirm.

      NOTE: This action resets the assignment date to the current 'parent' cost center, back to the creation of the Personnel record (removing any interim assignments).

2. For higher levels:
   - Cost Centers: access Administration menu > Utilities > Delete Cost Center Records. Mark records of interest, click More Actions > Delete, and then confirm.
   - Departments: access Organization menu > Departments. Mark desired entries, click More Actions > Delete, and confirm.
   - For higher levels, access Organization menu > Division or Branch, select Delete for the entry to remove, and confirm.

   NOTE: All lower levels entries, assignments, a/or charges will be set as [Unassigned].

Internal Charges

Internal Charges refer to charges against inventory, wireless numbers, or organizations that you wish to track, but -- unlike call charges from CDR sources -- they must be assigned manually via internal charge functions.

This section is devoted to Internal Charge functions used by Charge Administrators, as well as Advanced Administration functions used by System Administrators.

Assigning Internal Charges

Use this function to view assigned charges from Call Accounting/Internal or from Wireless Call Accounting sources. Depending on licensed options, the system provides default views with added functionality:

The 'Internal Charges' view is used to display charges assigned via charge rules (see Assigning Recurring Charges). Systems with the Enhanced Chargeback option will also display one-time charges assigned manually via this function's add or edit pages -- or -- via charge distribution lists (see Configuring Distribution Lists).

The 'Wireless Charges' view is only available on systems with Wireless Call Accounting. It is used to display charges from Wireless Invoices (see Wireless Invoices). These may not be modified.

1. Access: Organization menu > Internal Charges > Internal Charges.
2. Click Add -- or -- the *charge description* to edit.

   > ***NOTE #1*** You can only edit one-time direct or distributed charge assignments; recurring charge assignments will open pages of read-only information.
   >
   > ***NOTE #2*** To delete entries, mark them, click Delete, and confirm.

3. For adds or edits, enter charge information:
   - Description (up to 50 characters or click ▫ to select a charge from the Charge Code table)
   - Cost (in server currency)
   - Charge date

     > ***NOTE***: This date is used for information only and as such, may be used as criteria in reports or data exports. It is independent of the accounting period and does not determine when the charge will go into effect.

   - Accounting period in which the charge will go into effect
   - Internal charge type
   - Any user-defined fields enabled for the add / edit charge form
4. In an add, choose the assignment type (personnel, cost center, inventory item, wireless number, authorization code, or distribution list) and then one or more entries from the selected type.

   > ***NOTE:*** A distribution list for a charge must already exist. If you do not see the list needed, you can cancel and add distribution list to identify it now.

5. In an edit of distributed charges, mark to redistribute on save.

   > ***NOTE***: This will look up all charges that use this distribution list in the selected accounting period and reprocess them using the saved information.

6. Review charge assignment and then finish configuration (in an Add) or save entries (in an Edit).

Charge Codes

Charge Codes are identifiers for items, features, or services (such as digital sets, voice mail, caller ID, installation, repair, etc.) provided to users, typically at some cost.

Such costs may be "recurring" (billed at every accounting period) or -- in systems with the Enhanced Chargeback option -- "one-time" (billed once, at the time services are enabled or provided).

You can assign charge codes to inventory items, wireless numbers, authorization codes, personnel, and cost centers via the Charge Rules (recurring charges) and Internal Charges (one-time charges) functions.

Working with Charge Codes

1. Access: Organization menu > Internal Charges > Charge Codes.
   The list of charge codes, their description, code type, cost, charge type, and end date appears.
2. To add or modify an entry:
   a. Click Add or the *charge code* to edit.
   b. Provide required information:
      - Charge code -- name for this entry, up to 20 characters
      - Description -- up to 50 characters
      - Cost -- positive or negative value in the server currency
      - Internal charge type (selected from system list of Internal Charge Types)
   c. Mark if the charge is recurring and if so, whether it should be prorated (with a minimum cost value).

      NOTE: Prorated charges are computed as the largest of (a) minimum cost - or - (b) cost x (days in effect / days in accounting period).

   d. Save your settings.
3. To delete / deactivate an entry:
   a. Mark desired entries and click the Delete button.
   b. Enter the end date for this charge code (this date must be after the 'start date' of all currently active charge rules associated with this charge code).
   c. Confirm deletion/deactivation.

      NOTES:
      Recurring charge codes that have associated charge rules will be ***deactivated*** (not deleted) as of the specified date. Associated charge rules will be processed as follows:
      - Past charge rules (ended before this date): no change
      - Current charge rules (started, but not ended): their end date will be moved back to match this date
      - Future charge rules (not started): will be deleted

      Charge code deletions have no effect on "one-time" charges already assigned for an earlier date.

      Inactive charge codes will eventually be deleted by the system as set by the 'charges auto-deletion parameter' in System Preferences.

4. To reactivate an inactive entry:
   a. Mark desired entries and click the Reactivate button.
   b. Confirm reactivation.

Charge Rules

Charge Rules refer to the method used to assign charges for features or services to Personnel or Cost Centers or their assigned inventory, and which recur every accounting period throughout a specified date range.

The system requires predefining the Charge Codes to identify those billable items -- digital sets, voice mail, caller ID, installation, repair, etc.-- before assigning them via this ('Charge Rules') function.

Note to System Administrators: The system allows creating User-defined Fields (UDFs) for Charge Rules, and configuring Charge Rules list views and form via the User-defined Views function.

Adding a Charge Rule

1. Access: Organization > Internal Charges > Charge Rules.
2. Click Add and move through the wizard using the Next and Back buttons.
   - Charge Codes must be configured prior to creating a Charge Rule.
3. Provide the following information:
   - **Charge Code**: Codes for the charges to assign (from the system list of 'recurring' Charge Code charges)
   - **Start date**: Date when charge goes into effect (required, default = today's date)
   - **End date**: Date when charge ends (optional, a blank indicates an indefinite period)
   - **[Other]**: Any User-defined Fields enabled for Charge Rules
   - **Assignment Type**: Choose from Personnel, Cost Center, Inventory Item, Authorization Code, or Wireless. Then choose one or more entries from the selected type.
4. When complete, review the summary of the configured charges and click Finish.

If the start date is in the past, you have the option to create a one-time charge in the current period for past amounts and start recurring charges at this time.

- **'Yes'** will create the rule for recurring charges starting on the current period and a one-time charge for the amount that would have been charged in prior periods.
  - For start dates in a closed period, you must choose Yes.
- **'No'** will create only the rule for recurring charges, starting as configured.

Editing a Charge Rule

1. Access: Organization > Internal Charges > Charge Rules.
2. Click the desired charge code.
3. Edit the Start date/End date.
4. Click Save.

Editing Multiple Charge Rules at Once

1. Select the Charge Codes to edit and click the More Actions drop-down button.
2. Select Bulk Edit.
3. Use the Next/Back buttons to move through the wizard.
4. Select whether you want to edit the End date, Start date, or both.
5. Enter new End/Start dates.
6. Be sure to click Finish to ensure your changes have saved.

Deleting a Charge Rule

1. Access: Organization > Internal Charges > Charge Rules.
2. Click Delete and confirm by clicking OK.
   - You cannot delete a Charge Rule assigned for a closed period. If necessary, you may edit the end date to stop any further assignments.

Delete Multiple Charge Rules at Once

1. Select the Charge Codes to delete and click the More Actions drop-down button.
2. Select Delete.
3. Click OK when the warning pops up.

Distribution Lists

Systems with Enhanced Chargeback allow you to share a one-time charge among multiple entities apportioned (a) equally among a pre-selected "distribution list" of Personnel, Cost Centers, or Inventory --or-- (b) by a specified percentage among selected Cost Centers.

What would you like to see?

- Add or edit a distribution list
- View distributed charges (after assignment via the Internal Charges function)
- Redistribute charges (after assignment via the Internal Charges function)

Add or Edit a Distribution List

NOTE: To remove an entry not already in use for charge assignments, select Delete and confirm.

1. Access: Organization menu > Internal Charges > Distribution Lists.
2. Click Add or select Edit next to the list to modify.
3. Enter a name (up to 50 characters) and optionally, a description.
4. Choose who/what to distribute by:
   - Personnel (All, selected Personnel, selected Personnel by Cost Center)
   - Cost Center (All, selected Cost Centers, selected Cost Centers distributed by percentage)
   - Inventory Item (All, selected Inventory Items, selected Inventory Items by CDR Source)
5. If the distribution is by...
   a. All Personnel or Inventory Items: mark the appropriate entries to exclude
   b. Selected Personnel, Inventory, or Cost Centers: mark the appropriate entries to include
   c. Selected Cost Centers distributed by percentage: mark the entries to include and then set their percentages
6. On an edit, select to apply after saving...

   NOTE: This refers to looking up all charges assigned on the selected accounting periods by this distribution list and reprocess them using the saved information immediately.

   - no (distributed charges will not be reprocessed; saved information will apply from this point forward)
   - all open and pending accounting periods
   - currently open accounting period only
   - most recent pending accounting period only
7. When complete, save your settings.

View Distributed Charges

1. Access: Organization menu > Internal Charges > Internal Charges.
2. Locate the charge of interest, and click its *distribution list* link.
3. The resulting pop-up will display the charge amount, date, and accounting period of charge, along with a list of the assignments:
   - Assigned to
   - Assignment type
   - Amount

Redistribute Charges

1. Access: Organization menu > Internal Charges > Distribution Lists.
2. Locate the distribution list to process and select its Redistribute option.
3. Select the time range through which to look for charges assigned by this distribution list and then reprocess them. Choices are...
   - Currently open accounting period
   - Most recent pending accounting period
   - All open and pending accounting periods
4. Click OK to proceed or Cancel to exit without reprocessing distributed charges.

Internal Charge Types

Internal Charge Types are informational, high-level groupings of charges assigned manually via these functions:

- Charge Rules ('recurring' Charge Codes)
- Internal Charges ('one-time' charges assigned directly or via non-recurring Charge Codes)
- Ticket Charges (for one-time, recurring, or distributed charges)
- Product non-recurring (NRC) and (MRC) recurring charges

Use this function to add or edit internal charge types.

1. Access: Organization menu > Internal Charges > Internal Charge Types.
2. The system provides the default 'Internal' and 'Uncategorized' charge type values.
   To add a new entry, click the Add button -- or -- to edit an entry, click its *Internal Charge Type* link. Then...
   a. Enter its name (up to 50 characters).

      NOTE: You cannot rename the 'Uncategorized' internal charge type.

   b. Click Save.
3. To delete an Internal Charge Type, mark box, click Delete, and then confirm.

   NOTE: You can only delete entries added to the Internal Charge Type table.

Look Up Charges by ID

Use this function to look up information related to a charge that appeared in a report based on a Charge Assignment Report that outputs charge details.

1. Access: Organization menu > Internal Charges > Lookup Charges by ID.
2. Enter the *tracking ID* [from report] and click the View Charge Details link.
3. The system then displays charge information, including...
    - Authorization code, cost center, inventory item, or personnel responsible for charge
    - Charge type
    - Description
    - Charge amount
    - Charge tag
    - Date of charge
    - Accounting period
    - Service provider
    - Charge code details (if appropriate for the charge)

Locations

Location refers to the site or setting common to a set of personnel, inventory items, CDR sources, or charge code records. The system uses "location" as a category under which to organize, report, search, and/or control access of data.

Locations have an associated set of attributes (such as "Address 1," "Address 2," "Building," "City," "Country," "Facility Name," "Floor," "Mail Stop," "State," "Zip") that can be modified, added to, or removed from views via the User-defined Fields and User-defined Views functions.

Inventory Management systems can create a multi-level hierarchy of locations to organize physical inventory (see Setting up a Hierarchical Structure of Locations for details).

Working with Locations

1. Access: Organization tab > Organization > Locations.
2. To add or edit entries, click Add -- or -- the *location name* to edit.
   a. Enter:
      - Location name (up to 50 characters) to display on forms and reports. Must be unique with respect to its parent location, if any.
      - Location import name -- unique name used ONLY when importing locations, to map to the 'location name' above (default = same as 'Location name')

        NOTE: Inventory Management systems allow setting up a location hierarchy, with locations under different parents having the same name -- for example, you could have a 'Conference Room' in two different locations:
        Headquarters (parent location) > **Conference Room** (child location)
        Annex (parent location) > **Conference Room** (child location)
        However, in order to import them, you would have to use distinct names, such as '**Conference Room 1**' and '**Conference Room 2**', with the appropriate mapping set up above.

      - Description (up to 255 characters)
      - Parent location (selected from system list) to establish a multi-level hierarchy in an Inventory Management system. Locations without parents are at the 'root' of the hierarchy
      - Any attributes set up via the User-defined Fields function (up to 25 characters)

   b. Save your entries.
3. To attach external files -- images, spreadsheets, text files, etc.- related to a location, access the desired location record and expand its Attachments section:
   a. To upload a file, use the Select File button, optionally enter a comment, and click the Upload File button.
   b. To open an attached file, use the *file name* link.
   c. To edit the comment associated with an attachment use its *comment* link, re-enter text and then click Save.
   d. To remove a file attached to ticket, select its icon and confirm.
4. To remove entries, mark them, click Delete, and confirm.

Setting up a Hierarchical Structure of Locations

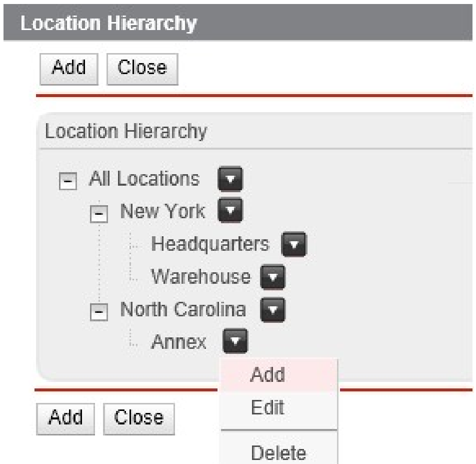
[Requires Inventory Management]

NOTE: You should plan your location structure as a way to organize your physical inventory structure.

For example, look at the highest geographic level used in your organization -- country, region, state, city, etc. -- all the way to the building or facility with traceable equipment. Keep the same type of 'location' at the same level -- i.e. level 1 = region, level 2 = city, level 3 = building.

Keep in mind that nested inventory items (in parent-child relations) must be CO-LOCATED, I.e., if a 'router' is in a building, its children 'ports' and grand-children 'extensions' must be in the same building (they cannot be in a level below or above).

1. Access: Organization menu > Organization > Locations.
2. Select More Actions > Manage Hierarchy (see Location Hierarchy).
   The page displays a tree-like structure, with expandable branches and sub-branches (indicated by and icons):



3. You can add, move, or edit properties of locations at any level:
   a. Click the Add button and enter location properties (see Working with Locations).
      Use the 'Parent Location' field to establish its position in the hierarchy.
   b. Drag-and-drop an existing location (and its children, if any) from one node to another.
   c. Locate the desired node and use its icon to...
      - Add -- a 'child' location to this node
      - Edit -- location properties at this node
      - Delete -- location at this node

Administration

This section is devoted to advanced functions used by System Administrators.
It includes the following topics:

Import & Export

This section is devoted to the following administrative functions:

- **Import Data**
  - Text File Imports
    - Currency Imports
    - Organization & Internal Charge Imports
    - Call Accounting Imports
  - Active Directory Imports
  - ASA Imports
  - Cisco UCM Imports
  - Import Field Descriptions
  - Import Changes Log
  - Rejected Import Records
  - Unprocessed Import Records
- **Export Data**
  - Export UDF Order (View only)
- **EZ-Share Export**
  - EZ-Share Calculated Fields

Import Data

Use this function to import system data, configure import exclusions (typically, for LDAP imports), and schedule the import.

Configure the import

NOTE: You will be expected to have a prepared text file or set the interface to the data source. For details, see:
- Text file imports
- Interface Guide for ASA Imports (PDF)
- Interface Guide for Cisco Data Imports (PDF)
- Interface Guide for Active Directory Imports (PDF)

1. Access: Administration menu > Import & Export > Import Data. Click Add for a new import or click the import name to edit an existing one.
2. Use the appropriate import type and configure import (click link for details):
   - Avaya ASA -- for Extensions, Trunks, and Personnel
   - Microsoft Active Directory -- Personnel and Inventory
   - Cisco UCM -- Personnel and Inventory, Cisco Devices, and Matter Codes
   - Text File -- Personnel and Inventory & other tables
3. We recommend to run the import immediately (use its Run Now selection) so that you can take corrective action if there are any problems.
4. The Status Log will display the result of the operation. If there are errors or ambiguities, the log will contain a link to the Rejected Import Records or Unprocessed Import Records, which will have an explanation of the problem.

Import Exclusions

Use this function to exclude import records that could not be filtered out from the import data stream.

NOTE: You may wish to use this function after you have run the first import and discovered non-user or other unwanted directory entries have been imported.

1. Access: Administration menu > Import & Export > Import Data
2. Click the Import Exclusion yes or no link for the desired import.
3. The page displays the list of values excluded from imports from the selected source.
4. Click Add Import Exclusion or the *source field* link to edit.
5. Select a source field and then enter the value you wish to exclude.

   NOTE: The value field allows wildcards. The wildcard syntax must be a valid C# regular expression that will match the entire value from the imported data (for example, to exclude all names that start with 'Mac' the expression would be **mac.***). To exclude a blank field, add a source field with no value.

   For more information, see http://msdn.microsoft.com/en-us/library/az24scfc.aspx.
6. Save your settings.

Repeat as required, until all unwanted entries have been identified. Then run the import again, making sure that auto-deletion is enabled, to clean the database of unwanted entries imported earlier.

Schedule Import

Use this function to set a schedule to run an import configured for (a) method = 'Schedule import' and (b) files located in the /VeraSMART Data directory on the server.

NOTE: Imports configured with the method = 'Upload File' will NOT be able to be scheduled or run on demand.

1. Access: Administration menu > Import & Export > Import Data.
2. Locate desired import and select Schedule Import.

> ***NOTE:*** The wizard will prompt you for information in a series of pages. You can navigate using the Next and Back links -- or you can Cancel (to return to the list view).

3. Set the frequency and the date and time of the next import:
   - Never run (default)
   - Run once, on the next run date
   - Run monthly, starting on the next run date
   - Run weekly, starting on the next run date
   - Run every [*number of*] days starting on the next run date
   - Run every [*number of*] hours starting on the next run date
   - Run daily
   - Run on custom dates
4. Unless you selected 'never run', click Next to choose...
   - the next run date/time
   - the days on which to run the import and then the next run date/time
   - the custom dates to run (you need at least 2 dates)
5. Click Finish to complete the setup.

Text File Imports

Purpose

VeraSMART provides text file import tools for a quick and efficient import of information for the data tables below.

[Click on its link for details on importable fields and their restrictions]

Currency Conversions	Currency
Organization & Internal Charges	Assigned Charges Charge Rules Cost Center Merge EZ-Burst Distribution List Locations Organization excluding Personnel Personnel and Inventory Personnel Deactivate
Call Accounting	Account Codes Call Destinations PCI Business Numbers Trunks

Prerequisites

Prepare or arrange for the delivery of text files, with these features:

- **Header** -- Optional (configurable number of header rows)
- **Field separator** -- caret, comma, pipe, space, or tab
- **Field order/mapping** -- Configurable (when setting up the import, each field will be displayed as a column with a 'drop-down' of importable choices. If file includes fields that should be excluded, you will be able to set them as '[Ignored]')

Allowable characters for field values (click to expand)

Text fields allow all alphanumeric ASCII characters, alphabetic extended ASCII characters, plus the following printable ASCII characters:

: & + = , ( ) - _ ! / $ # @ * \ space

Personnel names also allow apostrophes (') and question marks (?). Location names allow apostrophes ('). See Import Field Descriptions for a table of ASCII characters.

Currency fields only allow currency symbols, 0-9 digits, decimal point, 1000's separator, and representations of negative numbers (minus sign and/or parentheses).

Any field with a value that begins and ends in a square bracket [...] will be treated as an empty field.

Procedure

1. ***Access***: Administration menu > Import & Export > Import Data.
   For a new import, click Add Import and select the link for the data table (source type = Text File). To modify an existing import of this type, simply click its *import name* link.

   NOTE: The wizard will prompt you for information in a series of pages. You can navigate using the Next and Back links -- or you can Cancel (to return to the list view).

2. ***Define import:***
   a. Enter a name for this import.
   b. Select import method (upload file on demand -or- schedule import from server).

   NOTE: The 'upload file' method requires the file to be ALREADY in place (server or client machine) to complete configuration. The 'schedule import' requires the file to be under the **\VeraSMART Data** folder in the VeraSMART server.

   c. In a 'Personnel and Inventory' import:
      i. Select what to import:

- Inventory items/Authorization codes with assignments (see NOTE)
- Inventory items/Authorization codes only (see NOTE)
- Personnel only

> ***NOTE:*** For inventory items, select their classification (Call Accounting or Wireless Call Accounting).

ii. Mark to update existing database records only (in other words, import will not be used for adding or reactivating records).

iii. Preserve shared line assignments (When checked, existing assignments will not be changed even if the import file indicates a different personnel has been assigned. This will keep the shared line assignments intact. Assignments will still occur for new and unassigned inventory.)

3. ***Select input file***:
   a. Set:
      - number of header rows to skip
      - number of columns
      - separator character (caret, comma, pipe, space, tab)
   b. Mark box if you wish not to make status log entries when no files are present.
   c. If you elected to upload file, click the Upload File button, browse to the import file, and then select it.

4. ***Map file columns to database fields:***

   Select the database field that corresponds to each column in your import file. Refer to the data table at the top of this page (it includes links to importable fields for each import type).

5. ***Specify default values:***

   Depending on the import, you can provide default field values for records that omit this information.

   'Replace invalid characters with a valid one' allows you to replace invalid characters with an alphanumeric value of your choosing (a-z, A-Z, or 0-9). If you select this checkbox but do not enter a replacement character, the invalid characters simply will be stripped out.

   > ***NOTE***: Invalid characters in text fields are normally ignored or cause the import record to be rejected (for example, if the field is used as a record identifier).

Import	Set default for...
Assigned charges	CDR source and Inventory Type
Authorization codes	CDR source
Call Destinations	CDR source and call direction
Charge rules	(A) How to charge for rules starting in the past. Choices result in (a) recurring charges every accounting period from the start date --OR-- (b) create a one-time charge for the lump sum of prior periods and start recurring charges from the current period onwards.
	(B) Allow the creation of duplicate recurring charges -- meaning, allow assigning multiple recurring charges for the same Charge Code to the same item (Inventory Item, Personnel, Cost Center).
Inventory	CDR source and 'allow extension update with an undefined CDR source'
PCI Business Numbers	Delete all existing Business Numbers prior to import (mark to delete)
Personnel	(A) Add a new Personnel when no Personnel Match is found
	(B) Automatically generate employee numbers if not present in the data. Choice applies only to new personnel. It allows setting a prefix (to help identify its origin), to be followed by a number up to the max length for the field as set in System Preferences. Numbers will be assigned consecutively (to avoid duplicates) and will be padded with 0's.
Trunks	CDR source

6. ***Specify auto-deletion settings*****:**

   [for 'Personnel and Inventory' or 'Call Destination' imports]

   Mark box to enable the auto-deletion feature (this would result in the deactivation or deletion of records that have been processed by the previous run of the import, but no longer appear in the data file when the import runs again).

7. ***Specify a Personnel ID field***:

   [If auto-deletion was enabled on Personnel imports]

   Select a field that the system can use as a unique identifier for personnel import records as they get processed into the database. Your choices will be limited to:

   - Personnel name (Note that this is not a unique field and may result in ambiguities, leaving the import record unprocessed)
   - Any unique-value field such as employee number or e-mail that appears in most records in the database (Note that imported records missing a value for this field will be rejected.)
   - Any text user-defined fields for Personnel.

8. ***Specify Personnel match field***

   If import records include personnel fields, select the field that the system can use as an alternate identifier to match import records associated with existing personnel. Your choices will be limited to:

   - None -- this would result in imports not being able to match records in the database added by methods other than this import.
   - Any unique-value field such as employee number, e-mail, or Windows domain account, that (a) appears in most records in the import file, (b) appears in most records in the database, and (c) does not change often.
   - The personnel name itself -- this will allow the import to match records added to the database by any means, but will not be able to update personnel names if they change.

   NOTE: Although not required, it is a good practice to have a 'personnel match field' other than an individual's name. This results in unequivocal matches that can update even a personnel name (should this change).

   For example: You added (manually) a "Smith, Bill" with employee number "123-45-6789." An import with "Smith, William | 123-45-6789" and 'personnel match field' = employee number will be able to find and update the first name in the existing record. The same import without a 'personnel match field' cannot be processed (the system will not know if it is the same record or a mistake).

9. ***Import summary***:

   When complete, review your entries and then...

   - If you elected to upload the files, click the Save and Run Now button to start the import.
   - If you elected to schedule import, click the Save button, and then proceed to schedule or run this import.

Currency Imports

This page describes importable fields for the table of currency conversions.

On Valid Date Formats

The system will expect a date representation with only the month, day, and year using separators such as dashes, slashes, periods, spaces, and commas -- appropriate for the system culture (See Regional Settings). Other values that render the date ambiguous will be rejected.

Examples:

Imported value	Interpreted in USA (MDY)	Interpreted in Canada (DMY)	Interpreted in Japan (YMD)
06-01-09	June 1, 2009	January 6, 2009	January 9, 2006
06.01.09	June 1, 2009	January 6, 2009	January 9, 2006
6/1/9	June 1, 2009	January 6, 2009	January 9, 2006
1 Jun 2009	June 1, 2009	June 1, 2009	June 1, 2009

On Valid Text Field Characters

Text fields allow all alphanumeric ASCII characters, alphabetic extended ASCII characters, plus the following printable ASCII characters:

: & + = , ( ) - _ ! / $ # @ * \ space

Currency Fields

Purpose	To add or update entries in the Currency Conversions list, to be used by rate plans and/or invoices and set their conversion values in the system currency (Regional Settings). ***NOTE #1*** You may import multiple entries for the same currency with unit values for exchange under different effective dates (order is not important). These 'historical' entries are used to apply the correct exchange when re-rating calls from a CDR Source or when recalculating invoice charges in the past. ***NOTE #2*** After importing currency conversions, we recommend using the Reapply Currency Conversions function to correct charges based on this information.
Standard Fields	
Currency code	(required, unique) text up to 5 characters. ***NOTE:*** ISO codes for country currencies are 3-letter identifiers. We recommend getting the code and name for a currency from Internet sites such as OANDA.com, that also offer historical exchange rates.
Currency name	(required) text up to 50 characters
Currency precision	(required) number of decimal precision to use when calculating conversion
Effective date	(required) date when this value became effective. ***NOTE:*** There can only be one future date in the database for this currency (the system will ignore all conversion entries beyond the earliest date in the future).
Unit value in the system currency	(required) The exchange rate for this currency for the time between the 'effective date' indicated above through the next date in which a different exchange rate exists.

Organization & Internal Charge Imports

This page describes standard importable fields for these tables:

- Assigned Charges
- Charge Rules
- EZ-Burst Distribution List
- Locations
- Organization excluding Personnel
- Cost Center Merge
- Personnel and Inventory
  - Special Use Case: Importing Inventory with Associated Personnel
  - Special Use Case: Importing Inventory with Split Assignments
- Personnel Deactivation

On Valid Date Formats

The system will expect a date representation with only the month, day, and year using separators such as dashes, slashes, periods, spaces, and commas -- appropriate for the system culture (See Regional Settings). Other values that render the date ambiguous will be rejected.

Examples:

Imported value	Interpreted in USA (MDY)	Interpreted in Canada (DMY)	Interpreted in Japan (YMD)
06-01-09	June 1, 2009	January 6, 2009	January 9, 2006
06.01.09	June 1, 2009	January 6, 2009	January 9, 2006
6/1/9	June 1, 2009	January 6, 2009	January 9, 2006
1 Jun 2009	June 1, 2009	June 1, 2009	June 1, 2009

On Valid Field Characters

Text fields allow all alphanumeric ASCII characters, alphabetic extended ASCII characters, plus the following printable ASCII characters:

: & + = , ( ) - _ ! / $ # @ * \ space

Personnel names also allow apostrophes (') and question marks (?). Location names allow apostrophes ('). See Import Field Descriptions for a table of valid ASCII characters.

Currency fields only allow currency symbols, 0-9 digits, decimal point, 1000’s separator, and representations of negative numbers (minus sign and/or parentheses).

Any field with a value that begins and ends in a square bracket [...] will be treated as an empty field.

Assigned Charges

Purpose	To assign one-time internal charges to inventory, Personnel, or Cost Centers.
	NOTE #1: Each import record can only reference one 'assigned to' entity (to assign the same charge to more than one entity, you must import distinct records).
	NOTE #2: This import can add new, non-recurring charge codes, as well as Call Accounting or IT Financial Management inventory for a single CDR Source.
	NOTE #3: This import cannot be used to create Personnel, Cost Center, or Internal Charge Type records (in fact, it will reject unrecognized entries from those tables).
Standard Fields	
Charge Code	(optional) name for a one-time charge code, up 20 characters ■ If entry is in the database, the system will use its existing cost, description, and internal charge type values when assigning the charge ■ If entry is new, the system will create the charge code with the information provided when assigning the charge
Charge Date	(required) date to apply charges to the nearest open or pending period
Cost	(required, if charge code is new or it is not provided; ignored, if charge code already exists) cost of charge, currency symbol optional

Description	(required, if charge code is new or it is not provided; ignored, if charge code already exists) text to describe charge, up to 50 characters long
GL Codes (Legacy)	(optional) ***NOTE***: GL Codes must be enabled in System Preferences. Credit and/or Debit GL codes for the charge; ignored if charge code is part of the import and it already exists
Internal Charge Type	(required, if charge code is not provided; ignored, if charge code already exists) name of an existing internal charge type; default = 'Internal'
Assigned to Fields	
Cost center	(required, if assigning charge to a Cost Center; otherwise, field MUST be blank or not mapped) name of an existing Cost Center
Inventory ID	(required, if assigning charge to an inventory item; otherwise, field MUST be blank or not mapped). ▪ If mapped and entry exists, it can only reference a Call Accounting or IT Financial Management inventory ▪ If entry does not exist, it will be added using the selected default CDR Source and product when configuring import.
	NOTE: For IT Financial Management inventory, use CDR source = **[Telecom source]**.
Personnel name --or-- other Personnel match fields	(required, if assigning charge to Personnel; otherwise, field MUST be blank or not mapped) If mapping the Personnel name, entry in the format ***last name, first name*** must exist in the database. You may use instead one of the following Personnel match fields: - E-mail address - Employee number - Personnel user-defined field (must be able to identify Personnel uniquely)
	NOTE: You can only map one field for the Personnel entity: either the Personnel name or any of the matching fields. A record missing a value for the mapped field will be rejected.

Charge Rules Fields

Purpose	To add or update internal Charge Codes - AND - assign them as monthly recurring charges to inventory, Personnel, or Cost Centers via Charge Rules.
	NOTE #1: Each import record can only reference one 'assigned to' entity (to assign the same charge rule to more than one entity, you must import distinct records). ***NOTE #2:*** This import adds charge rules and will either 1.) add new charge codes or 2.) only allow editing of existing ones, depending on if the 'only update existing charge codes' checkbox is selected on the Specify Default Values page. ***NOTE #3:*** This import cannot be used to create Personnel, Cost Center, Inventory or Internal Charge Type records (in fact, it will reject unrecognized entries from those tables).
Charge Code Fields	
Charge code	(required, unique) name for code for a recurring charge, up 20 characters ▪ If entry is new, the system will create the charge code with the information provided in this record when assigning the charge ▪ If entry is in the database, the system will update its cost, description, etc. as provided. See WARNING below for unintended consequences.
	WARNING: If costs or charge types are changed for a charge code, existing charge rules based on this code will also apply these changes in the coming accounting periods.
Cost	(required, if charge code is new) cost of charge -- currency symbol IS allowed
Description	(required, if charge code is new) text up to 50 characters
Internal Charge Type	(optional) name of an existing internal charge type; default = 'Internal'
Minimum cost	(required if charge is prorated) currency, -99999999999999 to 99999999999999 -- currency symbol IS allowed

Prorate	(optional) Flag to indicate if charge should be prorated if starting or ending in the middle of an accounting period. Values 1 (true) or 0 (false = default)
Charge Rule - Duration Fields	
Start & **End dates**	Date range when charges are applicable. Start date is required; end date is optional.
	NOTE: If the start date is in the past, you will have the option to create a one-time charge dated at the time of the imports (for amounts due from prior periods) AND then set the rule to start on the current accounting period.
Charge Rule - Assigned to Fields	
Cost center	(required, if assigning charge to a Cost Center; otherwise, field MUST be blank or not mapped) name of an existing Cost Center
Inventory ID & CDR source	(required, if assigning charge to an inventory item; otherwise, BOTH fields MUST be blank or not mapped) both entries must exist in database
	NOTE: Only Call Accounting or IT Financial Management inventory IDs may be referenced. For IT Financial Management inventory, use CDR source = **[Telecom source]**.
Personnel name --or-- other Personnel match fields	(required, if assigning charge to Personnel; otherwise, field MUST be blank or not mapped) If mapping the Personnel name, entry in the format ***last name, first name*** must exist in the database. You may use instead one of the following Personnel match fields: - E-mail address - Employee number - Personnel user-defined field (must be able to identify Personnel uniquely)
	NOTE: You should only map one field for the Personnel entity: either the Personnel name or any of the matching fields; a record missing a value for the match field will be rejected.

EZ-Burst Distribution List Fields

Purpose	To create or update the distribution lists of reports output as 'EZ-Burst'.
Standard Fields	
Distribution list name	(required, unique) text up to 50 characters
E-mail address	(required) text up to 255 characters in SMTP format: name@domain.
Cost center	(optional, but at least one existing cost center a/or department must be specified)
Department	(optional, but at least one existing cost center a/or department must be specified)

Location Fields

Purpose	To create or update the table of system Locations.
	NOTE: You may import any number of location levels in a hierarchy. The '>' symbol may be used to indicate a 'parent' location (as in 'parent' > 'child'). If a parent level does not exist, it will be added; if it exists, it will be updated with its children information. For example, an import with these two lines: **Location name | Description** **Rochester > Headquarters > Floor 11A | Equipment room** Would import 3 location names (Rochester, Headquarters, and Floor 11A) and their hierarchy of three levels. The description, however, applies to the lowest level.
Standard Fields	
Location name	(required, unique) text up to 255 characters; apostrophes are allowed. The '>' symbol may be used to indicate a 'parent' location (as in 'parent' > 'child').
Description	Text up to 50 characters

Organization Excluding Personnel Fields

Purpose	To create or update the Organization table, from the Cost Center level to up to the number of enabled levels.

	NOTE: Organization level names are configurable. Your system will use your selected names. When importing records with more than one organization level, values for all intervening levels must also be provided (records with missing intermediate levels will be rejected).
Standard Fields	
Branch	If enabled, name for the 5th level in the organization, up to 50 characters
Division	If enabled, name for the 4th level in the organization, up to 50 characters
Department	If enabled, name for the 3rd level in the organization, up to 50 characters
Cost Center	(required) Name for the 2nd level in the organization, up to 50 characters
Markup	Percent markup of call and internal charges for Cost Center, -100 to 1000
Min. Charge	Minimum cost applied to call and internal charges for Cost Center
Surcharge	Surcharge to add to cost of call and internal charges for Cost Center, 0 to 999999999999

Cost Center Merge Fields

Purpose	To update the Cost Center table, by merging two or more cost centers into one entity. ***NOTE:*** 'Cost Center' is the default name for the 2nd level of the company organization. Your system will use your selected name.
Standard Fields	
Cost Center	(required) Existing name for a cost center that will have all its assignments (personnel, inventory, and charges) moved into the other cost center. After the merge, an emptied cost center will be deleted.
Merge with Cost Center	(required) Name (up to 50 characters) for the cost center that will receive all personnel, inventory, and charge assignments of the above cost center. If entry does not exist, it will be added with default attributes.

The order of records in the import file is important. For example...

	Import One	Import Two	Import Three
Imports 'One' and 'Two' would end with a single cost center C containing all data from A, B, and C. Import 'Three' would end with cost centers C (with data from B & C) and B (with data from A)	**CC | Merged CC** **A | C** **B | C**	**CC | Merged CC** **A | B** **B |** C	**CC | Merged CC** **B | C** **A | B**

Personnel and Inventory Fields

Purpose	To create or update Personnel records (only), Inventory and/or Authorization Code records (only), or records from the combined tables for inventory/authorization code assignments to Personnel and/or Cost Centers.

	NOTE #1: This import can add new auth. codes, personnel, cost centers, inventory items, wireless numbers, locations, or security group names; it cannot be used to create CDR Sources, Inventory Types, or Products (records with unrecognized entries will be rejected).
	
	NOTE #2: This import can update attributes of existing personnel and inventory/auth codes; it can also be configured to auto-delete records that have been processed by a prior run of the import, but no longer appear in the data file when import runs again.
	
	NOTE #3: If note-type UDFs (User-defined Fields) are assigned to Personnel, Wireless Numbers, or Inventory Items, and are mapped during the import process, then there will be an option to 'Append imported notes to existing notes'.
	Select this checkbox to add the text from the import file to the END of the existing text (instead of overwriting it). Each newly appended section of text will be time stamped and will begin with "FROM: Import".
	
	NOTE #4: If Security Groups are mapped, the user will have the option to "Append security groups instead of replacing" -- this option will add Personnel to the specified Security Groups, but will NOT remove them from groups that are not in the list.
	This 'add only' option will be the default for new imports.
	
	NOTE #5: **Wireless Number Country Import Option** (Requires multinational license) If Inventory Classification is 'Wireless' and 'Wireless Number' is mapped, user has the option to assume that imported numbers start with a Country Code of their choosing, or to assume that imported numbers are already formatted properly with a Country Code. Country will determine format of the phone number.
	Assume country (default)
	▪ Select a country from drop-down -- import will append the selected country's Country Code to wireless numbers
	    ▪ Default country = United States (+1)
	    ▪ If import finds a properly formatted wireless number for a country other than the one the user has selected, the selected country's Country Code will NOT be appended to the wireless number
	    ▪ If wireless number is valid in 1+ countries, import will default to selected country
	Numbers start with a Country Code
	▪ Assumes wireless numbers are in proper international formatting (E.164) -- import will strip out invalid characters

	***NOTE #6:* Replace invalid Personnel locations with a default location** If selected, this option will override the default behavior and assign a default location to the Personnel instead of creating a new location. User must enter the default location to be associated with the Personnel.
Special Use Case #1	To import an inventory item or authorization code assigned to a cost center, but have it associated with multiple personnel under that cost center so their names appear in directory listings. Requires enabling 'associated personnel' as a System Preference. *Not available for wireless numbers.* See Importing Inventory with Associated Personnel.
Special Use Case #2	To import an inventory item assigned to a cost center for charges and also to a personnel as its primary 'owner' for usage. Requires enabling the 'allow separate charge and inventory assignment' feature for the Inventory Type. *Not available for wireless numbers.* See Importing Inventory with Split Assignments.

Standard Inventory Fields

This import only works for inventory of a selected classification. Here we list all mappable fields for all all classifications -- indicated as: asset [AS], call accounting [CA], IT financial management [IT], telecom [TE], wireless [WI], or [All]. Configured functionality for the inventory type will determine which fields will be available.

Inventory Management or Invoice Management systems will display additional fields.

This import can be configured for updates of CA inventory records without selecting a CDR Source. If enabled, the import will attempt to match imported inventory to existing inventory based on ID only. If no match is found --or-- multiple matches are found, the import record will be rejected.

Assignment date	[AS, CA,TE, IT] date NEW inventory was assigned to personnel or cost center; ignored on existing inventory (i.e. it cannot be used for re-assignments). Dates cannot be in the future or in a closed period. If assigned to personnel, date must be on or after personnel became active.
Authorization code	[CA] ***authorization code*** dialed, unique for CDR source
CDR source	[CA] (required; if not provided, the source configured as default is used) entry must exist in the database
Connected Inventory ID	[AS, CA,TE, IT] If inventory type allows 'connected inventory', this entry identifies one -- of possible many -- physical equipment-interconnections. Entry must exist in the database.
Internal Order Number	[All] text up to 50 characters. Information field, used in procurement systems
Inventory ID	[AS, CA,TE, IT] required identifier for inventory item (except for Assets with ID's that are 'auto-generated' by VeraSMART -- in which case, the Inventory Item Name must be a mapped field). Up to 20 alphanumeric characters exactly as they would appear in a call record from its source (PBX or invoice) -- should not include dashes, parentheses, spaces, or periods
Inventory item name	[AS, CA,TE, IT] text up to 50 characters (required for Asset inventory with 'auto-generated' Inventory IDs)
Inventory location	[All] text up to 50 characters. If it does not exist, it will be added
Inventory secondary location	[AS, CA,TE, IT] text up to 50 characters
Inventory type	[AS, CA,TE, IT] (required; if not provided, the type configured as default is used) entry must exist in the database
Invoice Validation Currency and **Maximum** charge category items	[All] **Currency** Text, 5 characters for an existing currency code (if not provided, 'USD' is used)
	[All] Threshold amounts for the following charge categories (used to validate invoice items linked to this inventory): - Maximum Adjustments - Maximum MRC (monthly recurring charges) - Maximum OCC (other recurring charges) - Maximum Purchases - Maximum Taxes & Surcharges - Maximum Total Charges - Maximum Usage
MEID/IMEI/ESN	[WI] Text up to 50 characters. Use this field to assign wireless devices to personnel. This is beneficial for assigning devices that do not have a wireless number, such as 'WiFi Only' devices.
Parent Inventory ID	[AS, CA,TE, IT] identifier of inventory item that is over this item in the hierarchy. If provided, entry must exist in the database
Private inventory item	[All] Flag to indicate if this record should be included in the Personnel Directory. It will will be set to TRUE if value (case insensitive) = true or a non-zero numeric. It will be set to FALSE if value (case insensitive) = false. If blank, it will be set to FALSE (new record) or not changed (on existing records). Any other value is rejected.
Product	[AS, CA,TE, IT] text up to 50 characters. If provided, entry must exist in the database and must be congruent with the inventory type
Service Term Length	[All] number of months -- information field, used in procurement systems
Unbilled Usage Rule	[WI] text up to 50 characters. Exact name of the unbilled usage rule, case sensitive -- intended to pair with a wireless number
Upgrade Eligibility Date	[All] date used on Mobility Management systems for processing updates on device associated with this wireless number; otherwise, it is informational only
Vendor Install/Activation	[All] date used in Invoice Management systems to validate invoice items linked to this inventory item
Vendor Disconnect Date	[All] date used in Invoice Management systems to validate invoice items linked to this inventory item; otherwise, it is informational only

Vendor Order Number	[All] text up to 50 characters. Information field, used in procurement systems
Wireless Number	[WI] required identifier for phone or device number. Up to 20 alphanumeric characters exactly as they would appear in a wireless invoice -- should not include dashes, parentheses, spaces, or periods
Standard Personnel Fields	
Personnel names are not unique. When importing personnel, you will be asked to select a 'personnel match' field to help with identifying and updating records already in the database. If auto-deleting personnel, you will be also asked to select a 'personnel ID' field that is unique. Import records with missing information (crucial for establishing uniqueness) may be rejected or left unprocessed.	
Cost center	Name for cost center, up to 50 characters. If cost center does not exist, it will be added under the '[Unassigned]' department.
E-mail address	(Unique) text up to 255 characters in the *username@domain* format, associated with Personnel
Employee number	(Unique) Personnel ID. Text up to the limit set in System Preferences (default = 25 characters) When configuring import, the administrator has the option to have the system auto-generate this number for new personnel if missing from the import.
EZ-Burst Manager	Select one of these values: No, Cost Center Manager, or Department Manager
EZ-Burst option	One of these values: - Linked (EZ-Burst reports will be mailed as links) - Attached (EZ-Burst reports will be mailed as zipped attachments) - Disabled Any other value - including blanks - will be interpreted as 'Disabled'
First name	Personnel first name. text up to 32 characters
Initials	If provided, initials will be appended to the first name
Is Owner	Flag with one of these values: blank (= ignore), 0 (= Personnel is not the owner) or 1 (= Personnel is the owner). Used ONLY when importing inventory assignments that allows separate charge and inventory assignments ('billed to' Cost Center, usage to Personnel 'owner'). See Special Use Case: Importing Inventory with Split Assignments.
Last name	Personnel last name. text up to 50 characters - can use 'personnel name' as alternate
Login expiration date	Optional, date (may be in the future) when login is to be disabled for this user
Login ID	Optional, designated ID to log into VeraSMART, used instead of e-mail address
Manager	Name -- in *last name, first name* format -- of this individual's manager
Personnel location	Name of the location associated with this Personnel record. If it does not exist, it will be added to the System Location table
Personnel name	Text up to 84 characters in *last name, first name* format - can use 'Last name' as alternate: Personnel names in the format *last name, first name* will be split correctly into first and last names; any other format will be interpreted as a last name only.
Private Personnel	(flag) Flag to indicate if this record should be included in the Personnel Directory. It will be set to TRUE if value (case insensitive) = true or a non-zero numeric. It will be set to FALSE if value (case insensitive) = false. If blank, it will be set to FALSE (new record) or not changed (on existing records). Any other value is rejected.
Security Groups	Names of security groups to which this individual belongs. Field size is up to 255 characters, it may include multiple entries (up to 50 characters each) separated by either semicolons (;) or TAB characters. If group does not exist (as a security group name or its import alias), it will be added to the database without roles.

Windows account	(Unique) the username of an existing user account, associated with this individual
Windows domain	Existing domain name, associated with the Personnel user account and/or e-mail address
Windows domain account	(Unique) the domain\username of an existing user account, associated with Personnel

Special Use Case: Importing Inventory with Associated Personnel

If 'associated Personnel' is enabled in System Preferences, inventory or authorization codes assigned directly to Cost Centers can also be 'associated' to any number of Personnel that belong to the same cost center, strictly for information purposes. Associated personnel will appear under a separate tab in inventory detail records.

Example:
A call center (CC01) has been assigned a central telephone extension (4357) that can reach any of the call center operators Joe, Sam, Lucy, and Caroline. To have the operators' names appear associated to this extension in their directory listing, you would configure an import as follows:

(1) Make certain all Personnel involved in the associations already exist in the database.

(2) Prepare a text file that contains the three fields for the cost center, extension, and personnel names. The record that has the direct 'bill to' relationship would have the cost center and extension, with a blank for the personnel field; all other records would repeat the cost center and extension AND would add the personnel names.

For example:

```
CC01|4357|
CC01|4357|Smith, Joe
CC01|4357|Jones, Sam
CC01|4357|Pierpont, Lucy
CC01|4357|Arras, Caroline
```

(3) When creating the configuration to import the file, select the 'Personnel and Inventory' text import for 'inventory items/authorization code assignments'.

Special Use Case: Importing Inventory with Split Assignments

If 'separate charge and inventory assignments' is enabled for the Inventory Type, inventory assigned directly to a Cost Center for billing, can also be assigned to an individual, as 'owner' for reporting usage. This individual does not need to belong to the Cost Center being billed.

Example:
A help desk center (CC02) is responsible for an extension (6501) used by an outside technician (Mary) who helps out on some projects. To have the extension usage appear under the technician's name (as 'owner'), but have charges billed to the Cost Center, you would configure an import as follows:

(1) Make certain all Personnel involved in the split assignments already exist in the database under their proper organization.

(2) Prepare a text file that contains the four fields for cost center, extension, personnel, and 'is owner' flag. The record that has the direct 'bill to' relationship would have the cost center and extension, with blanks for the personnel and 'is owner' fields; the other record would repeat the cost center and extension AND would add the personnel name and 'is owner' flag with value = 1.

For example:

```
CC02|6501||
CC02|6501|Goodall, Mary|1
```

(3) When creating the configuration to import the file, select the 'Personnel and Inventory' text import for 'inventory items/authorization code assignments', making sure you select the column named 'Is Owner' for each record that assigns primary ownership to the referenced personnel.

Personnel Deactivation

Purpose	To deactivate *active* Personnel records (only).
	NOTE: This import cannot deactivate Personnel records that are linked as 'Manager' of other personnel.
Standard Fields	

Personnel names are not unique. When importing personnel deactivations, you will be asked to select a 'personnel match' field to help with identifying and updating records in the database.

Import records with invalid information or not enough information to determine uniqueness will be rejected or left unprocessed.

Deactivation date	Optional, date when deactivation was effective. Date may NOT be in the future; if not provided, date is set when import runs.
E-mail address	(Unique) text up to 255 characters in the *username@domain* format, associated with Personnel
Employee number	(Unique) Personnel ID. text up to 25 characters
First name	Personnel first name. text up to 32 characters
Initials	If provided, initials will be appended to the first name
Last name	Personnel last name. text up to 50 characters - can use 'personnel name' as alternate
Personnel name	Text up to 84 characters in *last name, first name* format - can use 'Last name' as alternate: Personnel names in the format *last name, first name* will be split correctly into first and last names; any other format will be interpreted as a last name only.
Windows account	(Unique) the username of an existing user account, associated with this individual
Windows domain	Existing domain name, associated with the Personnel user account and/or e-mail address
Windows domain account	(Unique) the domain\username of an existing user account, associated with Personnel

Call Accounting Imports

This page describes standard importable fields for these tables:

- Account Codes
- Call Destinations
- PCI Business Numbers
- Trunks

On Valid Field Characters

Text fields allow all alphanumeric ASCII characters, alphabetic extended ASCII characters, plus the following printable ASCII characters:

: & + = , ( ) - _ ! / $ # @ * \ space

Personnel names also allow apostrophes (') and question marks (?). Location names allow apostrophes ('). See Import Field Descriptions for a table of valid ASCII characters.

Currency fields only allow currency symbols, 0-9 digits, decimal point, 1000's separator, and representations of negative numbers (minus sign and/or parentheses).

Any field with a value that begins and ends in a square bracket [...] will be treated as an empty field.

Account Codes

Purpose	To add or update entries in the Account Code table.
Standard Fields	
Account Code	Code for account as it appears in a call record from CDR sources
Account Name	Name to use in reports and listings for this account code. If not supplied, the code will be used
E-mail address	Address associated with account, to e-mail reports output as EZ-Burst -- 255 characters in SMTP format: name@domain.xxx
Markup (%)	Percent markup on call charges associated with account (-100 to 1000) -- the percent sign is NOT allowed
Surcharge	Surcharge applied on call charges associated with account -- currency symbol IS allowed
Minimum Charge	Minimum charge applied on call charges associated with account -- currency symbol IS allowed

Call Destinations

Purpose	To add or update entries in the Call Destinations table.
Standard Fields	
Call Destination	Name to appear in detail reports for this destination. System will truncate name to 24 characters if the field contains more than 24 characters when imported
Dialed Digit Pattern	Up to 24 characters - representing a pattern of telephone digits and/or wildcards (? = single digit, % = any number of trailing digits)
Trunk group	If provided, entry must exist in database

PCI Business Numbers

Purpose	To add or update business numbers for the Personal Call Identification (PCI) feature.
Standard Fields	
Dialed number	Number designated as 'business'

Nickname	(optional) name for the location or entity called, up to 50 characters long -- for example, ***Travel Agency*** or ***Headquarters***

Trunks

Purpose	To add or update entries in the Trunk and Trunk Group tables.
	This import cannot create CDR sources. Import records with unrecognized entries will be rejected.
Standard Fields	
Call capacity	Maximum number of simultaneous calls that the trunk can handle; if not provided, default value (=1)will be used
CDR source	Long name for the CDR Source -- entry must exist in the database
Trunk	Trunk identifier, EXACTLY as it appears in a call record from this source. Entry can use letters, numbers, and such special characters as pound [#], asterisk [*], minus [-], plus [+], period [.]
Trunk Group	Name of group that this trunk belongs to, up to 27 characters. If not provided, the trunk group '[Unassigned]' will be used

Active Directory or Custom LDAP Imports

Use this function for imports of the Personnel and Inventory tables from Microsoft Active Directory or a custom LDAP system.

To prepare import, see Active Directory Imports (PDF).

1. Access: Administration menu > Import & Export > Import Data.
2. For a new import, click Add Import and select the Personnel and Inventory link for Microsoft Active Directory (or Custom LDAP). To modify an existing import of this type, simply click its *import name* link.

   NOTE: The wizard will prompt you for information in a series of pages. You can navigate using the Next and Back links -- or you can Cancel (to return to the list view) or Reset Wizard (to start all over again).

3. Define Import name (up to 50 characters) and then select what to import (inventory with assignments, inventory only, or personnel only).
   - If importing Inventory, select its classification (from the list of licensed inventory options -- Call Accounting, Wireless Call Accounting, Telecom, Asset, etc.)
   - If importing 'Assets', mark to allow Inventory Items having an inventory item name, but no Inventory ID (default = unmarked).
4. Mark to update existing database records only (in other words, import will not be used for adding or reactivating records).
5. Preserve shared line assignments (When checked, existing assignments will not be changed even if the import file indicates a different personnel has been assigned. This will keep the shared line assignments intact. Assignments will still occur for new and unassigned inventory.)
6. Specify Connection:
   - Directory Server URL (see NOTE below)
   - Network login & password to access it

     NOTE: Optionally add a colon (:) and the port number used for LDAP connections.

7. Select the database field that corresponds to each column in your import file.
8. Specify default values (depending on the type mapped fields, you may have to provide values for records that omit information):
   - Allow extension updates with an undefined CDR source (more info)
   - CDR source
   - Product (typically, Extension)
   - E-mail domain, Login domain, and Domain controller URL
   - Adjust inventory IDs -- if enabled, must select:

     Use last n characters in the selected field [n = All or 3 to 20 characters]
     Prepend prefix (to last n characters, above)
9. If 'inventory ID' is one of the mapped fields, mark box to adjust the value provided by the LDAP source to match the number reported by the CDR source. If marked, select:
   - Use last n characters (after stripping all non-digit characters)
   - Prepend prefix (to last n characters)
10. Verify that the mapped fields give you the desired information in the data preview. If correct, click Next; otherwise, click Back to correct your entries from prior steps.
11. Mark box to enable the auto-deletion feature.

    NOTE: A Personnel, Inventory, or Authorization Code record would be deactivated after importing a file that no longer contains the record (PROVIDED the record had been previously processed -- imported or matched in the database-- by an import with 'auto-deletion' enabled.

12. If auto-deletion was enabled, select the field that the system can use as a unique identifier for personnel import records as they get processed into the database (later, if the personnel record is omitted in the import, it can be safely deleted).

    NOTE: We recommend enabling auto-deletion and then keeping the default: 'objectsid' (Active Directory)

13. If import records include personnel fields, select the field that the system can use as an alternate identifier to match import records associated with existing personnel (whether or not these were added manually or via another import).

    NOTE: Although not required, it is a good practice to have a 'personnel match field' other than an individual's name. This results in unequivocal matches that can update even a personnel name (should this change).

For example: You added (manually) a "Smith, Bill" with employee number "123-45-6789." An import with "Smith, William | 123-45-6789" and 'personnel match field' = employee number will be able to find and update the first name in the existing record. The same import without a 'personnel match field' cannot be processed (the system will not know if it is the same record or a mistake).

Your choices will be limited to:

- [None] This would result in imports not being able to match records in the database added by methods other than this import.
- any unique-value field such as employee number, e-mail, or Windows domain account, that (a) appears in most records in the import file, (b) appears in most records in the database, and (b) does not change often. See note below.
- any text/digit user-defined fields for Personnel.
- the personnel name itself. This will allow the import to match records added to the database by any means, but will not be able to update personnel names if they change.

14. LDAP Settings:
    - Root distinguished name -- this is the point in the LDAP directory tree to begin the search for entries to import. For example in Active Directory, this might be:
      CN=*users*, OU=*organizational unit*, DC=*mydomain*
    - Search filter (this is used to minimize unwanted records)

      NOTE: You MUST use appropriate LDAP syntax. Improperly specifying these fields may adversely affect the import process. Contact your network administrator if you have any questions regarding these field values.

      If after running the import, you still have unwanted records passing through the filter, you can specify those items via the Import Exclusions function after completing the configuration (see below).
15. Proceed to schedule imports for this data source.

Import Exclusions

1. Access: Administration menu > Import & Export > Import Data
2. Click the Import Exclusion yes or no link for the desired import.
3. The page displays the list of values excluded from imports from the selected source. Click Add Import Exclusion or the *source field* link to edit.
4. Enter a source field (use the Select Mapped Field link) with the value you wish to exclude.

   NOTE: The value field allows wildcards. The wildcard syntax must be a valid C# regular expression that will match the entire value from the imported data (for example, to exclude all names that start with 'Mac' the expression would be **mac.***). To exclude a blank field, add a source field with no value.

   For more information, see http://msdn.microsoft.com/en-us/library/az24scfc.aspx.
5. Save your settings.

   NOTE: Repeat as required, until all unwanted entries have been identified. Then run the import again, making sure that auto-deletion is enabled, to clean the database of unwanted entries imported earlier.
6. To delete an import exclusion, locate the entry of interest, select Delete, and confirm.

ASA Imports

***NOTE**:* This type of import requires having set up the appropriate interface to the switch administration software. This includes having added the CDR source with extensions, trunks, and personnel to be imported from the ASA Server. See the ASA Interface Setup Guide for details.

1. Access: Administration menu > Import & Export > Import Data.
2. For a new import, click Add Import and select the Extensions, Trunks and Personnel link for source type = Avaya ASA. To modify an existing import of this type, simply click its *import name* link.
3. Select:
   - Folder where import files are located
   - CDR Source to use for import
4. Select data import format:
   - ASA (Avaya), use [Unassigned] Cost Center for new Personnel
   - ASA (Avaya), use 3rd field as Cost Center for Personnel
   - ASA (Avaya), use 3rd, 4th and 5th fields as Cost Center
5. Mark to match on unique personnel names (if not marked, an import record is considered unique if it matches both Personnel and Cost Center values).

   ***NOTE**:* You should use this feature only if you are certain personnel names are unique and you wish to allow cost center reassignments automatically (by default, imported personnel records that have a new cost center remain unprocessed and you must verify the change manually via the Unprocessed Import Records function).
6. Mark to delete Extensions and Trunks for the selected CDR Source, if they are not present in the import data
7. When complete, click Save Configuration. The system will name this import ASA-*CDR Source name*.
8. Proceed to schedule import for this CDR source.

Cisco UCM Imports

Use this function for the following imports from a Cisco Unified Communications Manager (version 6.1 or higher):

- Personnel and Inventory
- Cisco Devices (inventory items and their assignments)
- Matter codes (account codes)

NOTE: These imports require that the Cisco UCM used as source for the import has already been configured as a CDR Source.

Personnel & Inventory Import

1. Access: Administration menu > Import & Export > Import Data.
2. For a new import, click the Add button and select Personnel and Inventory (source type = Cisco Unified Communications Manager 6.1+). To modify an existing import of this type, simply click its *import name* link.
3. Follow wizard instructions to define import and other required information:
   a. Enter an import name and select what to import (radio button):
      - inventory items / authorization codes with assignments
      - inventory items / authorization codes only
      - personnel only

   b. If importing inventory items, select its classification (from the list of licensed inventory options).
   c. Mark to update existing database records only (in other words, import will not be used for adding or reactivating records).
   d. Preserve shared line assignments (When checked, existing assignments will not be changed even if the import file indicates a different personnel has been assigned. This will keep the shared line assignments intact. Assignments will still occur for new and unassigned inventory.)
4. Map which Cisco fields to import into the VeraSMART database fields.
   A default mapping is shown below (all other fields are ignored):

VeraSMART fields	Cisco fields
E-mail address	Mail ID
First name	First Name
Initials	Middle Name
Inventory ID	Directory Number
Inventory Item Name	Description
Last name	Last Name

5. Specify default values (for records that omit this information):
   CDR source (Cisco UCM used as source of import data)
   Product (default = Extension)
   Alternate Personnel last name (select from: none, Alerting Name, Description)
   E-mail domain
6. Verify that the mapped fields give you the desired information in the data preview. If correct, click Next; otherwise, click Back to correct your entries from prior steps.
7. Specify auto-deletion settings:
   - Mark box to enable the auto-deletion feature.
   - If auto-deletion was enabled, select the field that the system can use as a unique identifier for personnel import records as they get processed into the database (later, if the personnel record is omitted in the import, it can be safely deleted).

8. Select a Personnel match field.
   If import includes personnel fields, select the field that the system can use as an alternate identifier to match import records associated with existing personnel (whether or not these were added manually or via another import). Your choices will be limited to:
   - [None] This would result in imports not being able to match records in the database added by methods other than this import.
   - any unique-value field such as e-mail address that (a) appears in most records in the import file, (b) appears in most records in the database, and (b) does not change often. See note below.
   - the personnel name itself. This will allow the import to match records added to the database by any means, but will not be able to update personnel names if they change.

   NOTE: Although not required, it is a good practice to have a 'personnel match field' other than an individual's name. This results in unequivocal matches.

> ***For example***: You added (manually) a "Smith, Bill" with employee number "123-45-6789." An import with "Smith, William | 123-45-6789" and 'personnel match field' = employee number will be able to find and match the existing record. The same import without a 'personnel match field' cannot be processed (the system will not know if it is the same record or a mistake).

Cisco Devices Import

1. Access: Administration menu > Import & Export > Import Data.
2. For a new import, click the Add button and select Cisco Devices (source type = Cisco Unified Communications Manager 6.1+).
   To modify an existing import of this type, simply click its *import name* link
3. Follow wizard instructions to define import name and other required information.

> ***NOTE***: This import requires that Personnel and Extensions from the Cisco UCM source for this import have already been imported or manually configured.
>
> After a successful import, devices will be added as inventory items of the selected inventory type / product and will be ***connected*** to the appropriate extension, as configured in the Cisco UCM.

4. Map which Cisco fields to import into the VeraSMART database fields.
   A default mapping is shown below (all other fields are ignored).

VeraSMART fields	Cisco fields
E-mail address	Mail ID
First name	First Name
Initials	Middle Name
Inventory ID	ID
Inventory Item Name	Description
Last name	Last Name

5. Specify default values (for records that omit this information):
   CDR source (Cisco UCM used as source of import data)
   Product (default = Extension)
   Alternate Personnel last name (select from: none, Alerting Name, Description)
   E-mail domain
6. Verify that the mapped fields give you the desired information in the data preview. If correct, click Next; otherwise, click Back to correct your entries from prior steps.
7. Select a Personnel match field.
   If import records include personnel fields, select the field that the system can use as an alternate identifier to match import records associated with existing personnel (whether or not these were added manually or via another import). Your choices will be limited to:
   - [None] This would result in imports not being able to match records in the database added by methods other than this import.
   - any unique-value field such as e-mail address that (a) appears in most records in the import file, (b) appears in most records in the database, and (b) does not change often. See note below.
   - the personnel name itself. This will allow the import to match records added to the database by any means, but will not be able to update personnel names if they change.

> ***NOTE***: Although not required, it is a good practice to have a 'personnel match field' other than an individual's name. This results in unequivocal matches.
>
> ***For example***: You added (manually) a "Smith, Bill" with employee number "123-45-6789." An import with "Smith, William | 123-45-6789" and 'personnel match field' = employee number will be able to find and match the existing record. The same import without a 'personnel match field' cannot be processed (the system will not know if it is the same record or a mistake).

Matter codes Import

1. Access: Administration menu > Import & Export > Import Data.
2. For a new import, click the Add button and select Matter Codes (source type = Cisco Unified Communications Manager 6.1+).
   To modify an existing import of this type, simply click its *import name* link.
3. Follow wizard instructions to define import:
   - Import name
   - CDR Source (Cisco UCM used as source of import data)

Import Field Descriptions

This page describes the use for the following fields (click heading to open details):

It also provides an ASCII table indicating valid characters for text fields.

> ***NOTE***: Invalid characters will be either ignored or cause the import record to be rejected; however, when configuring the import, the Import Wizard gives you the option to replace invalid characters with an alphanumeric value (a-z, A_Z or 0-9) to avoid rejections.

Alternate name

This 'alternate name' is used to import Cisco UCM extensions that do not have a Personnel owner in the Cisco database. Instead, it will use the designated alternate name (the CUCM 'Description' or 'Alerting Name') as its VeraSMART Personnel last name. If selecting 'None,' the extension will remain unassigned.

Date Format

The Date format is used when the date values in an import stream are ambiguous and/or may be misinterpreted by the system -- for example, undelimited values like '060109' ALWAYS need identification and so do values from different cultures (6/1/09 is June 1, 2009 in the U.S., but January 6, 2009 in Canada).

> ***NOTE***: If you do not specify a date format, the system will try to interpret all date fields individually; however, if you DO specify a format, ALL date fields in the import stream MUST conform to it. Improperly specifying this field will result in rejected records.

The syntax will expect a date representation with only the month, day, and year using the characters in the table below; if separators are used (such as commas, spaces, periods, dashes, slashes, etc.) these must also be identified. No other values are allowed.

Character	Description
M	Month -- 1 to 12, leading 0 optional for single-digit months. Must be delimited by a separator
MM	Month -- 01 to 12, leading 0 required for single-digit months
MMM	Month -- text (full name or 3-letter abbreviation), case insensitive
d	Day -- 1 to last day of the month, leading 0 optional for single-digit days. Must be delimited by a separator
dd	Day -- 01 to last day of the month, leading 0 required for single-digit days
y	Year -- 0 to 99, leading 0 optional for single-digit years. Must be delimited by a separator
yy	Year -- 00 to 99, leading 0 required for single-digit years
yyyy	Year -- four-digit value

Examples:

Date format	Imported value	Interpreted results
MMddyy	010609	January 6, 2009
ddMMyy	010609	June 1, 2009
dd-MM-yy	01-06-09	June 1, 2009
yy.MM.dd	01.06.09	June 9, 2001
d/M/y	1/6/9	June 1, 2009
d MMM yyyy	1 Jun 2009	June 1, 2009

Extension updates with an undefined CDR Source

This option is used ONLY when importing ...

- Updates to existing Call Accounting inventory
- Inventory is not mapped to specific CDR Sources
- Inventory IDs are unique across the network of CDR Sources

If enabled, the import will attempt to match imported inventory to existing inventory based on ID only. If no match is found --or-- multiple matches are found, the import record will be rejected.

Personnel ID

The 'personnel ID' is used in support of Personnel auto-deletion in a Personnel and Inventory import. It should be a field in the import stream that uniquely identifies each Personnel record (any imported record missing a value for this field will be rejected). A good personnel ID field should:

- Have a unique value for each personnel record in the import file
- Have a value in all of the import records
- Have values that do not change often

If there is no other suitable personnel match field in your data, it is recommended to select the personnel name as the personnel ID field.

Personnel Match

The 'personnel match' is a field in an import record used as an alternate identifier, to match import records with existing personnel records in the database (whether or not these were added manually or via another import). A good personnel match field should:

- Have a unique value for each personnel record in the import file
- Have a value in most (if not all) of the import records, even though it is not required to be in all import records
- Have a value in most (if not all) of the personnel records in the database, in order to be able to find matches
- Have values that do not change often

If there is no other suitable personnel match field in your data, it is recommended to select the personnel name as the personnel match field. This will allow matching import records to personnel records that were added to the database by other means (however, the import will not be able to update personnel names if they have changed).

Manager Match

Each personnel record has a 'Manager' field. This is useful for identifying the employee's manager in a personnel directory as well as allowing the system to assign manager approvals for orders. An import needs a way to uniquely identify each manager entry, similar to the personnel match.

If 'Manager' is selected as an import field, then the import wizard will present you with a 'Manager match field' on the same screen as the 'Personnel match field.' It is recommended that you choose e-mail address, employee number, or windows domain account for the manager match. If your import file does not have these values, then you can choose 'Name' as the match.

Things to consider:

- There needs to be a personnel record for the manager in VeraSMART if you are importing the manager field. If a personnel record for the manager does not exist, then the personnel record you are trying to import will get rejected.
- If you choose 'Name' as the manager match field, then the manager field on the personnel record will update as long as there is only one manager in VeraSMART with that name.
- If you choose 'Name' as the manager match field, and there are multiple managers in the system with that name, then that personnel record will get rejected because the specified manager is not unique.

Add new Personnel if no Personnel Match is found

This option works best on imports configured to use personnel matching fields with unique values to avoid getting unprocessed import records, should the import include records that have the same Personnel names as others in the database -- see 'Personnel ID' or 'Personnel Match' above.

In all cases, import records with matched names will update their corresponding records in the database. Processing of unmatched names depends on this option:

- If marked, unmatched names will be added as new Personnel to the database.
- If unmarked, the import will generate unprocessed records for the import operator to decide.

Automatically generate employee numbers if not present in the data

This option works on imports of new personnel whose import records are missing this information.

It allows setting a prefix (to help identify its origin), to be followed by a number up to the max length for the field as set in System Preferences. Numbers will be assigned consecutively (to avoid duplicates) and will be padded with 0's.

For example, if the maximum length set for employee numbers is 9 characters and you set the prefix to be XXX, the system would auto-generate numbers in this order: XXX000001, XXX000002, etc. Every time the import runs, it will pick up after the last number, up to the maximum value of XXX999999. Should the XXX series end, the administrator can configure or modify the import to a different prefix -- for example, YYY --- and the process will start with YYY000001 once again.

⊞ *Root Distinguished Name*

The 'root distinguished name' is the point in the LDAP directory tree to begin the search for entries to import. For example in Active Directory, this might be:
CN=*users*, OU=*organizational unit*, DC=*mydomain*

> ***NOTE:*** You MUST use appropriate LDAP syntax. Improperly specifying this field may adversely affect the import process.

⊞ *Search Filter*

The 'search filter' is a text string in LDAP syntax, used to focus the search in the LDAP directory tree (see *Root Distinguished Name*, above) and leave out unwanted directory records.

> ***NOTE:*** You MUST use appropriate LDAP syntax. Improperly specifying this field may adversely affect the import process. Contact your network administrator if you have any questions.
>
> If after running the import, you still have unwanted records passing through the filter, you can specify those items via the Import Exclusions function after completing the configuration.

⊞ *Server URL*

The 'server URL' identifies the Active Directory or 'generic LDAP' server that will be the source of directory data. The syntax for this field is:

***server_name*[:*LDAP_port*]**

Where server_name = is the name or IP address of the server, optionally followed by a colon (:) and the port number used for LDAP connections. Active Directory imports do not generally require a port number as the default port used by the application will work.

Valid Characters for Text Fields

Alt #	Char	Valid	Alt #	Char	Valid	Alt #	Char	Valid	Alt #	Char	Valid
32	[Space]	Yes	88	X	Yes	144	É	Yes	200	╚	No
33	!	Yes	89	Y	Yes	145	æ	Yes	201	╔	No
34	"	No	90	Z	Yes	146	Æ	Yes	202	╩	No
35	#	Yes	91	[	No	147	ô	Yes	203	╦	No
36	$	Yes	92	\	Yes	148	ö	Yes	204	╠	No
37	%	No	93	]	No	149	ò	Yes	205	═	No
38	&	Yes	94	^	No	150	û	Yes	206	╬	No
39	'	Yes*	95	_	Yes	151	ù	Yes	207	╧	No
40	(	Yes	96	`	No	152	ÿ	Yes	208	╨	No
41	)	Yes	97	a	Yes	153	Ö	Yes	209	╤	No
42	*	Yes	98	b	Yes	154	Ü	Yes	210	╥	No
43	+	Yes	99	c	Yes	155	¢	No	211	╙	No
44	,	Yes	100	d	Yes	156	£	No	212	╘	No
45	-	Yes	101	e	Yes	157	¥	No	213	╒	No
46	.	Yes	102	f	Yes	158	₧	No	214	╓	No
47	/	Yes	103	g	Yes	159	ƒ	Yes	215	╫	No
48	0	Yes	104	h	Yes	160	á	Yes	216	╪	No
49	1	Yes	105	i	Yes	161	í	Yes	217	┘	No
50	2	Yes	106	j	Yes	162	ó	Yes	218	┌	No
51	3	Yes	107	k	Yes	163	ú	Yes	219	█	No
52	4	Yes	108	l	Yes	164	ñ	Yes	220	▄	No
53	5	Yes	109	m	Yes	165	Ñ	Yes	221	▌	No

54	6	Yes	110	n	Yes	166	ª	Yes	222	▐	No
55	7	Yes	111	o	Yes	167	º	Yes	223	▀	No
56	8	Yes	112	p	Yes	168	¿	No	224	α	Yes
57	9	Yes	113	q	Yes	169	⌐	No	225	ß	Yes
58	:	Yes	114	r	Yes	170	¬	No	226	Γ	Yes
59	;	No	115	s	Yes	171	½	No	227	π	Yes
60	<	No	116	t	Yes	172	¼	No	228	Σ	Yes
61	=	Yes	117	u	Yes	173	¡	No	229	σ	Yes
62	>	No	118	v	Yes	174	«	No	230	µ	Yes
63	?	Yes**	119	w	Yes	175	»	No	231	τ	Yes
64	@	Yes	120	x	Yes	176	░	No	232	Φ	Yes
65	A	Yes	121	y	Yes	177	▒	No	233	Θ	Yes
66	B	Yes	122	z	Yes	178	▓	No	234	Ω	Yes
67	C	Yes	123	{	No	179	│	No	235	δ	Yes
68	D	Yes	124	|	No	180	┤	No	236	∞	No
69	E	Yes	125	}	No	181	╡	No	237	φ	Yes
70	F	Yes	126	~	No	182	╢	No	238	ε	Yes
71	G	Yes	127	⌂	No	183	╖	No	239	∩	No
72	H	Yes	128	Ç	Yes	184	╕	No	240	≡	No
73	I	Yes	129	ü	Yes	185	╣	No	241	±	No
74	J	Yes	130	é	Yes	186	║	No	242	≥	No
75	K	Yes	131	â	Yes	187	╗	No	243	≤	No
76	L	Yes	132	ä	Yes	188	╝	No	244	⌠	No
77	M	Yes	133	à	Yes	189	╜	No	245	⌡	No
78	N	Yes	134	å	Yes	190	╛	No	246	÷	No
79	O	Yes	135	ç	Yes	191	┐	No	247	≈	No
80	P	Yes	136	ê	Yes	192	└	No	248	°	No
81	Q	Yes	137	ë	Yes	193	┴	No	249	∙	No
82	R	Yes	138	è	Yes	194	┬	No	250	·	No
83	S	Yes	139	ï	Yes	195	├	No	251	√	No
84	T	Yes	140	î	Yes	196	─	No	252	^{n}	Yes
85	U	Yes	141	ì	Yes	197	┼	No	253	^{2}	No
86	V	Yes	142	Ä	Yes	198	╞	No	254	■	No
87	W	Yes	143	Å	Yes	199	╟	No	255	[nbsp]	No

* Personnel and location names allow apostrophes (').
** Personnel names allow question marks (?)

Import Changes Log

Use this function to review changes introduced by a data import.
Log entries will be purged periodically by the system cleanup process (storage time limits specified via System Preferences).

1. Access: Any menu > Help > View Status Log.
2. Look for the data import of interest and click its View Import Changes Log link.
3. A list with these tabs will appear:

Personnel	Shows a list of changes, under these sub-tabs: **Added** - grid shows new entries added by the import **Edited** - grid shows before/after values for personnel name & cost center assignment, employee number, e-mail address, network login, location, and office number. Changed values are highlighted. **Deleted** [appears only if import was set for auto-deletion] - grid shows all entries flagged as 'deactivated' by the import
Inventory Item	Shows a list of changes, under these sub-tabs: **Added** - grid shows new entries added by the import **Edited** - grid shows before/after values for personnel & cost center assignments, description, and type. Changed values are highlighted. **Personnel associations added** - grid shows new associations resulting from the import **Personnel associations deleted** - grid shows previous associations, now removed by the import **Deleted** [appears only if import was set for auto-deletion] - grid shows all entries flagged as 'deactivated' by the import
Authorization Code	Shows a list of changes, under these sub-tabs: **Added** - grid shows new entries added by the import **Edited** - grid shows before/after values for personnel & cost center assignments. Changed values are highlighted. **Personnel associations added** - grid shows new associations resulting from the import **Personnel associations deleted** - grid shows previous associations, now removed by the import **Deleted** [appears only if import was set for auto-deletion] - grid shows all entries flagged as 'deactivated' by the import
Security Group	Shows a list of changes, under these sub-tabs: **Added** - grid shows new entries added by the import **Personnel records added to groups** - grid shows new associations resulting from the import. **Personnel records removed to groups** - grid shows removed associations resulting from the import.
Cost Center	Shows the list of cost centers added by the import.
Locations	Shows a list of changes, under these sub-tabs: **Added** - grid shows new entries added by the import **Edited** - grid shows before/after values for Description, Floor, Building, Mail stop, Country, Zip, State, City, Address 2 Address 1, Facility name, and Location UDFs (if any). Changed values are highlighted.

Rejected Import Records

Whenever an import data file includes records that the system cannot accept because of errors in one or more fields, the records at fault are rejected.

The system logs rejected import records, with an explanation of the errors that caused the failure.

1. Access: Any menu > Help > Status Log. Then:
2. Locate the import of interest where comments include 'Data import completed with *x* rejected import records.' and click the link.
3. The page shows:
   - The name and date of import
   - A link to export rejected import records log to file (this allows to create a comma-delimited text file of the grid -- see below -- and then to open or save it to a user-specified location)
   - A grid containing the rejected records, each followed by the error message column, with the error description.

Unprocessed Import Records

Unprocessed import records are records set aside because they cannot be uniquely correlated with database records and require the system administrator to resolve the ambiguity -- for example, an import with two inventory item records, each assigned to a different owner.

The system keeps a log of unprocessed records from the last import of its kind, with each import overwriting its prior Unprocessed Record file.

1. Access: Administration menu > Import & Export > Import Data -- then click the link where 'Unprocessed Records' = yes.
2. The resulting page shows:
   - Message ("Displaying ***x*** of ***y*** unprocessed import records")
   - A link to Export Unprocessed Import Records Log to File (this allows to create a comma-delimited text file of the unprocessed import records -- and then to open or save it to a user-specified location)
   - Description of the problem and its manifestation in the import record.
   - Select action to resolve problem.
3. To process the import record on display, select the appropriate action. Depending on the issue, this could be:
   - Choose correct record
   - Choose primary owner
   - Choose cost center as primary owner and add personnel associations
   - Choose record to update or add new record
4. To postpone an action, select to 'Skip record' .
5. Click the Apply, Apply and Go to Next, or Apply and Go to Previous link.
6. Repeat procedure until all unprocessed records have been resolved.

Export Data

Use this function to extract a copy of the following tables, formatted as pipe-delimited text files:
- Inventory item, Organization levels 1 to 5, Location
- Account Code, Authorization Code, Trunk
- Charge Rules

For details, see the Export File Format below.

1. Access: Administration tab > Import & Export > Export Data.
2. Select the file type and then click the Begin Export link.
3. The wizard will prompt you to review or enter the required information in a series of pages. You can navigate using the Next and Back links -- or you can Cancel (to return to the list view) or Reset Wizard (to start all over again).
   a. Enter the export file name and location, for example: **D:\Data\Personnel.exp**.

   > ***NOTE***: UNC paths (***\\Server\SharedFolder\FileName.exp***) are allowed.

   b. In a Trunk, Inventory Item, or Authorization Code export, select the CDR source.
   c. Review the export configuration and click Finish.

Export File Format

Branch	

Header: 01 | version
Records: Branch name
	Example (file name = branch.exp):
	`01|VeraSMART_Branch_1.0`
	`East Branch`

Division	

Header: 02 | version
Records: division | branch (blank, if level does not exist)
	Example (file name = div.exp):
	`02|VeraSMART_Division_1.0`
	`North East Div|East Branch`

Department	

Header: 03 | version
Records: department | division (blank, if level does not exist)
	Example (file name = dept.exp):
	`03|VeraSMART_Department_1.0`
	`National Sales|North East Div`

* User-defined fields selected for imports & exports would appear at the end of the record.	

Cost Center *	

Header: 04 | version
Records:
cost center | department (blank, if level does not exist) | markup | surcharge | minimum cost
	Example (file name = ccenter.exp):
	`04|VeraSMART_CostCenter_1.0`
	`Sales-1|National Sales|0|0|0`

* User-defined fields selected for imports & exports would appear at the end of the record.	

Personnel (split name record) *	

Header: 10 | version
Records: personnel last name | personnel first name or blank | cost center | e-mail address | employee number | location | network login
	Example (file name = per.exp):
	`10|VeraSMART_SplitPersonnel_1.0`
	`Smith|Joe|Sales-1|jsmith@roch.com|12345|East Region|roch\jsmith`

* User-defined fields selected for imports & exports would appear at the end of the record.

Personnel (standard record) *	

Header: 05 | version
Records: personnel name | cost center | e-mail address | employee number | location | network login
	Example (file name = per.exp):
	`05|VeraSMART_Personnel_1.0`
	`Smith, Joe|Sales-1|jsmith@roch.com|12345|East Region|roch\jsmith`

* User-defined fields selected for imports & exports would appear at the end of the record.

Inventory Item *	

Header: 06 | CDR source name | version
Records:
Inventory ID | type | personnel name | cost center | description
	Example (file name = ext-rochester.exp):
	`06|Rochester|VeraSMART_Extension_1.0`
	`6833|Extension|Smith, Joe|Sales-1|Digital phone`

* User-defined fields selected for imports & exports would appear at the end of the record.

Authorization Code	

Header: 07 | CDR source name | version
Records: authorization code | personnel name or blank | cost center
	Example (file name = auth-rochester.exp):
	`07|Rochester|VeraSMART_AuthCode_1.0`
	`6546|Smith, Joe|Sales-1`

Trunk	

Header: 08 | CDR source name | version
Records: trunk | trunk group
	Example (file name = trunk-rochester.exp):
	`08|Rochester|VeraSMART_Trunk_1.0`
	`6800|Roch-CO`

Account Code	

Header: 09 | version
Records: account code | account name | markup | surcharge | minimum cost | e-mail address
	Example (file name = account.exp):
	`09|VeraSMART_AccountCode_1.0`
	`12345|Acme, Inc.|0|0|1.00|myacct@xyz.com`

Location*	

Header: 11 | version
Records: location name | description
	Example (file name = location.exp):
	`11|VeraSMART_Location_1.0`
	`Headquarters|Central operations`

* User-defined fields selected for imports & exports would appear at the end of the record.

Charge Rule*

Header: 12 | version	**Example** (file name = charge.exp):

Records:
charge code | Inventory ID | CDR source | personnel name | cost center | description | cost | prorate (0 = no; 1 = yes) | start date | end date | min. cost
	`12|VeraSMART_ChargeCode_1.0`
	`Caller ID|3333|Rochester|||CLI fee|1.50|0|5/1/2004||0`
	`Voice Mail|||Doe, John|CC20|VM fee|3.50|0|5/1/2004||0`
	`Maint||||CC20|Maintenance fee|50.00|0|5/1/2004||0`

* User-defined fields selected for imports & exports would appear at the end of the record.	

Export UDF Order (View only)

Use this function to view the order of user-defined fields in a standard export of the Contacts, Cost Center, Department, Internal Charges, Inventory Item, Location, and Personnel tables.

1. Access: Administration menu > Utilities > View Export User-defined Field Order
2. Select database table of interest (Contacts, Cost Center, Inventory Item, Location, Personnel, or Recurring Charge).
3. The page displays the list of user-defined fields associated with standard exports of this table. They appear in the order required at the end of each standard record in this table.

EZ-Share Export

Use this function to configure exports of system data. You can also use this function to schedule automatic exports or generate the export now.

See also

EZ-Share Users Guide (PDF)

Configure Export

1. Access: Administration menu > Import & Export > EZ-Share Export.
2. Click Add or the EZ-Share export name to edit. To clone an export, locate it and select Clone.

> ***NOTE:*** An EZ-Share user may not edit exports that he/she did not create, but may run and schedule exports created by other users.

3. Configure the export:

> ***HINT*** Use the Generate Sample Output button as you configure the export. This opens a pop-up window to view a sample output based on your current selections.

Export Attributes -- Set export name and other general attributes.

Use the Export Attributes tab to configure these settings (defaults in **red**):

EZ-Share Export name	Unique designation for this export, up to 50 characters
Comment	Optional informational text, up to 50 characters
Output file name	File name must include path from the system server ***NOTE***: UNC paths (***\\Server\SharedFolder\FileName***) are allowed.
File output option	Used when scheduling export, to differentiate between consecutive outputs: **Overwrite existing output file** or append a date/time stamp to the output file name. If selecting to append a date/time stamp, you may choose its format from list of supported formats for file names.
Summarize output by distinct rows, totaling numeric fields	Mark to summarize output by distinct rows: If not marked, export contains one row per record that matches the selection criteria. *For example*: Late fees|1.50 Late fees|5.00 Late fees|3.25 If marked, export summarizes output. *For example (same data as above):* Late fees|9.75
Use zero for null field values	Mark to use a zero for null field values (otherwise, output is a blank)
Replace embedded new lines with	Mark to replace embedded new lines with these choices: **[None],** \r\n, CRLF, or space ( )
File format	**CSV**, ASCII, Unicode, UTF8, Excel, XML ***NOTE:*** For ASCII, Unicode, or UTF8, select whether the output is delimited or fixed length fields. If delimited, choose: - Delimiter: caret(^), comma(,), pipe (|), space, or tab - Enclose field values in double quotes (") - Replace any instance of delimiter with a space
Wrap multi-line text fields	This option (Excel only) formats Note fields by wrapping multi-lines of text, instead of displaying them on one line without wrapping.

Header record	Applies to first record in file: ■ No Header ■ **Column Captions** (selected in the Output Formatting tab) ■ Custom Header (free-from text, up to 255 characters)
Footer record	Applies to last record in file: ■ **No Footer** ■ Custom Footer (free-from text, up to 255 characters)
E-mail options	If you wish to notify that an export completed and/or e-mail the export files, provide the following information: ■ Sender address ■ Recipient addresses ■ Subject ■ Message body Mark to send e-mail notification only (and NOT attach the export file)
Reporting database options	The system reports against the **current** database by default. ■ If available, you can click the link to report against the active archive database ■ If not available, use the Create and Restore Archive button to set the desired archive to an active status for reports

⊞ **Field Selection** -- Select fields to export.

Open the **Field Selection** tab. The page displays a hierarchical 'tree' of data objects (branches) and fields (leaves) based on the 'Output is based on' entity.

1. Select the 'base entity' (this defines the data available for the export).

> ***NOTE:*** The relation of the base entity to other database objects will determine which fields can be selected for direct output (one-to-one) and which for aggregate functions (one-to-many or many-to-many).
>
> **Example:**
> If *Inventory Item* is the base entity, *Personnel* and *CDR Source* fields can be selected for direct output; however, *Call Record* can have aggregate fields (e.g., *total call cost* or average *duration*).

2. Expand the tree branches.

> ***NOTE:*** Branches are data objects which can be ⊞ expanded (or ⊟ collapsed) to show its fields and its own related data objects.
>
> - **Blue branches** will only allow selection of 'aggregate fields.'
>
> - **Green branches** indicate object has fields that can be selected for output as well as for groupings (sorting and subtotalling).
>
> All fields in the tree (selectable or not) can be used as filters (you may click the filter icon to setup selection criteria by this filter).

3. Mark the fields you wish to include in the export.
4. If you wish to output values calculated from other fields, use the Add Calculated Field button to create them.

> ***NOTE:*** Calculated fields require advanced knowledge of SQL expressions. See EZ-Share Calculated Fields for more information.
> Newly created fields can be used as filter, edited, or deleted.

⊞ **Output Formatting** -- Set the output format.

Open the **Output Formatting** tab. You will see two or more links under this tab: 'Output fields', 'Total line', and a 'Subtotal line' link per enabled 'sort by' field.

The **Output Fields** link opens a page that lists the fields selected for export and allows you to set:

- Field order (as they will appear in the export rows. To change, drag the number box up or down to the desired position)
- Caption (field name by default. To change, enter desired text)
- Formatting (no formatting by default. To change, select from drop-down list - see below)

Data type	Format options		
Text	none, change to upper case, change to lower case, left trim, right trim		
Date / Time	Day, Month DD, YYYY DD/MM/YYYY DD-Mon DD-Mon-YY DD-Mon-YYYY HH:MM (24 hr) HH:MM:SS (24 hr) HHMMSS MM/DD	MM/DD/YY MM/DD/YYYY MM/DD/YYYY HH:MI:SS (24 hr) MMDDYY MMDDYYYY MMYY MMYYYY Mon DD YYYY HH:MM (12 hr) Mon-DD	Month DD, YYYY Month-DD Month-YY Mon-YY YYDDD YYYYDDD YYYYMMDD YYYY-MM-DD HH:MI:SS (24 hr)
Integer	none, duration (hh:mm:ss), or hours as decimal		
Currency / Decimal	none, currency using regional options, currency without currency symbol, implied decimal, number using regional options, number with decimals only		
Digits	none		

- Row sorting (the system allows row sorting based on up to 9 fields. To sort your output, locate the principal field to sort by and set it to 1st ASC or DESC, as required. For a secondary sort, set the next field to 2nd ASC or DESC. Repeat until sorting is completed)
- Subtotaling (for output other than an Excel format, sorting by a field opens up its subtotaling option. You may add (), modify (), or remove () "subtotaling" for a 'sort by' field)

The **Subtotal line** page allows you to configure the line or lines at the end of a group of rows that have the same 'sort by' field value.

You may set up one or more subtotal lines with any number of fields of these types:

- Static text
- Record counter
- New line (line break)
- Any one of the fields selected for output

You can change the order and number of the fields, text and aggregate function, as well as field formatting for the Subtotal lines.

The **Total line** page allows you configure line (or lines) at the end of the output.

Click Add total line and set up your configuration, which consists of either a new line (line break) or any number of fields of these types:

- Static text
- Record counter
- New line (line break)
- Any one of the fields selected for output

You can change the order and number of the fields, text and aggregate function, as well as field formatting for the Total line.

⊞ **Selection Criteria** -- Set criteria / filters.

Open the Select Criteria tab to identify filters for data to be included in the export.

Click Add Selection Criteria to set up a simple filter based your selection of a field and its value (see table below).

Click Add Custom Criteria to prepare an SQL expression to define the filter (note that this function requires advanced knowledge of SQL).

Your choices will appear in sections identified by the criterion name. Click ⊞ to expand and ⊟ to collapse section. To remove a criterion, open its section and click Remove Criteria.

Simple filters for selection criteria are based on the data type of the selected fields, choices are (defaults in **red**):

Text / HTML	Matches-or does NOT match pattern(s) [patterns allow wildcards (**%** = string of characters or ? = single character) separated by ";"]
	Blank -or- NOT blank
Flag	**All** -or- true -or- false
	All -or- include only
Date/time	**All**
	Predefined (current month including today, current week (Monday-Today), last month, last week (Monday-Sunday), last work week (Monday-Friday), today, yesterday)
	From [mm/dd/yyyy] to [mm/dd/yyyy]
	Previous [number of] days (excludes today
Numeric / Duration	Between [***min value***] and [***max value***]
	Blank -or- NOT blank

⊞ **Trending** -- Enable trending.

To have EZ-Share trend data, the user should already have selected output fields (Field Selection tab) that meet these requirements:

- One (1) NUMERIC field -- this is the number to be trended
- One (1) DATE field -- this can be a date/date-time field or Accounting Period name
- The output format cannot be fixed width

NOTE*: If these conditions are not met, the checkbox to 'Enable Trending' will be disabled and the user will receive information describing why trending is disabled.*

If the requirements are met (you have selected exactly 1 numeric field and 1 date field), mark the checkbox to 'Enable Trending' and enter the following information:

- Value to trend –- read only. Auto populates with the selected numeric field to be trended
- Date field –- read only. Auto populates with the selected date/date-time field (or accounting period)
- Trend by –- select to trend data by month (default), by quarter, or by year
- Date Range –- select the date range to trend: Last year, Maximum date range (default), This year, This year and last
- Function –- select which mathematical function to trend by: Average, Maximum, Minimum, Sum (default)

4. When complete, you can use the Save button to save this export configuration or Save and Run Now to save it and then generate an export file immediately.

Schedule Exports

1. Access**:** Administration menu > Import & Export > EZ-Share Export.
2. Mark desired exports and click Schedule Marked.
3. Review the exports (note the warning below) and then click Next.

    WARNING! The EZ-Share Exports listed below will be assigned a new schedule. Any existing schedules for these exports will be overwritten.

4. Select the frequency and then click **Next**:
    - Never run (default)
    - Run once on next run date/time
    - Run monthly starting on next run date/time
    - Run weekly starting on next run date/time

- Run every [number of] days starting on next run date/time
- Run every [number of] hours starting on next run date/time
- Run daily
- Run on custom dates

5. Based on the selected frequency, enter run options and then click **Next**:
   - Days of the week on which to run export
   - Next run date/time
   - Custom dates to run (up to 12 custom date/times -- entered from left to right)
6. Click Finish.

Run Export Now

1. Access**:** Administration menu > Import & Export > EZ-Share Export.
2. Locate the export you wish to run (you should click its *name* link to make sure this is the target export).
3. When ready, select Run Now.
   Once you submit the request, you may check the EZ-Share Log for its completion status.

EZ-Share Calculated Fields

NOTE: This document provides the most common arithmetic, string, and conditional expressions used when configuring calculated fields in an EZ-Share Export.

See ***SQL Server Books Online*** for more information. We recommend using the Validate button to check your syntax any time you enter an expression.

Constants & Fields

You can insert database fields in an expression by clicking its icon. To define a constant value (text, numeric or even a blank space), simply enter the value. Text must be enclosed in apostrophes. For example:

Calculated Field	Expression	Sample Output
Personnel Name	[Personnel Name]	"Personnel Name","Text Constant","Blank Space","Numeric Constant" "Smith, John","GL-1234"," ","12.5" "Doe, Jane","GL-1234"," ","12.5"
Text	'GL-1234'	
Blank space	' '	
Number	12.5	

Arithmetic

Arithmetic can be performed on numeric fields using standard arithmetic operators and parentheses to group complex operations. For example:

Calculated Field	Expression	Sample Output
Total plus Tax	([Total call cost]+[Total charge amount])*1.08	"Personnel Name"," Total call cost ","Total charge amount","Total plus Tax" "Smith, John","10.00","40.00","54.00"

Concatenation

Text fields are concatenated with the + operator. For example, to create a single field that contains the person’s name as well as their billing number separated by a colon:

Calculated Field	Expression	Sample Output
Name & Number	[Personnel Name]+': '+ [Inventory ID]	"Name & Number" "Smith, John: 6446"

Substrings

A substring of a text field can be used with SQL Server's LEFT, RIGHT, and SUBSTRING functions. For example, to create fields from a person's name that are the first 5 characters, the last 3 characters, and that is 4 characters starting with the 3rd character:

Calculated Field	Expression	Sample Output
FirstFive	LEFT([Personnel name], 5)	"Personnel name","FirstFive","LastThree","MiddleFour" "Smith, John","Smith","ohn","ith," "Doe, Jane","Doe, ","ane","e, J"
LastThree	RIGHT([Personnel name], 3)	
MiddleFour	SUBSTRING([Personnel name], 3, 4)	

Splitting Strings

VeraSMART provides two helper functions to split a text field on a particular character and return the left or right side. These functions are defined as:

dbo.EZShare_SplitStringLeft(*text_field*, '*X*')

The above will return all characters from the start of text_field up to the '*X*' character.

dbo.EZShare_SplitStringRight(*text_field*, '*X*')

The above will return all characters after the '*X*' character up to the end of text_field.

Calculated Field	Expression	Sample Output
LastName	dbo.EZShare_SplitStringLeft([Personnel name], ',')	"Personnel name","FirstName","LastName" "Smith, John","John","Smith" "Doe, Jane","Jane","Doe" "Barnum, P.T.", "P.T.","Barnum"
FirstName	dbo.EZShare_SplitStringRight([Personnel name], ',')	

Current Date/Time

The current date/time is available using the GETDATE() function; adding 1 day to a date uses the DATEADD(d, 1, GETDATE()) function — See SQL Server Books Online for more date manipulation functions.

Calculated Field	Expression	Sample Output
RightNow	GETDATE()	"Personnel Name","RightNow","Tomorrow" "Smith, John","2009-10-07 14:06:08","2009-10-08 14:06:08" "Doe, Jane","2009-10-07 14:06:08","2009-10-08 14:06:08"
Tomorrow	DATEADD(d, 1, GETDATE())	

Auto-incrementing Number

The SQL Server ROW_NUMBER function allows creating fields to output auto-incrementing numbers:

row_number() over (order by <field list>) + <starting number>

The <field list> is one or more fields separated by commas to order the results. You can also add an offset to start the numbering at a different value.

Calculated Field	Expression	Sample Output
RowNumber	row_number() over (order by [Inventory ID])	"RowNumber","Starting at 51","Personnel name","Billing Number" "1","51","Smith, John","6111" "2","52","Doe, Jane","6266"
Starting at 51	row_number() over (order by [Inventory ID]) + 50	

Conditional Outputs and Debit/Credit Indicators

A field that outputs different values based on values in another field can be constructed using SQL Server CASE statement. A simple case statement takes the form:

CASE WHEN <condition> THEN <true value> ELSE <false value> END

The CASE statement also allows multiple WHEN statements, evaluated in order, for more complex conditionals. For example, to create a field that outputs 'CREDIT' when a numeric field is above zero, 'DEBIT' when a numeric field is less than zero, or 'ZERO' when a numeric field is equal to zero:

Calculated Field	Expression	Sample Output
DebitCredit	CASE WHEN [Total charge amount] > 0 THEN 'CREDIT' WHEN [Total charge amount] = 0 THEN 'ZERO'ELSE 'DEBIT' END	"Total charge amount","DebitCredit" "12.00","CREDIT" "0","ZERO" "-4.50","DEBIT"

Security

This section is devoted to the following administrative functions:

- **Login Accounts**
- **Security Groups & Roles**
- **Authentication Configuration**

See also

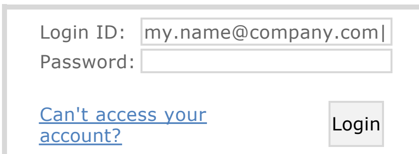
System Preferences (General Security Settings) -- to set up password time-enforcement policy in order to match your company policies.

Login Accounts

1. Access: Administration menu > Security > Login Accounts.

   > ***NOTE***: This list view -- as well as the personnel details and edit pages it leads to -- are configurable via the User-defined Views function. By default, they include such security-related fields as e-mail address, Windows domain account, login ID, security groups and roles, last login, etc.

2. Select the desired *Personnel* record. This opens the Personnel Details page.
3. Click Edit to change user access information:
   - E-mail address (user's e-mail -- for access as *login ID* in systems configured for 'forms authentication') -- see example below:

   - Windows domain account (user's Windows login credentials -- for access via the Login via Windows link in systems configured for 'Windows authentication')
4. For forms authentication, provide login and security information:
   a. Login ID (optional. Can be used as an alternate login, particularly if the user does not have e-mail or does not want to use it to log in)
   b. Password -- select option:
      - Do not modify (this keeps the user's current password. If user had no password, he/she must request one on first time access. At that time, the system will e-mail an auto-generated password.)
      - System resets password and e-mails to user (requires user to have an e-mail address)
      - Reset password manually (here you provide a new password 6 to 12 characters long)

      > ***NOTE***: If system has been configured for strong passwords (Authentication Configuration), the new password must also contain at least three of the following classes of characters: (1) upper case letters, (2) lower case letters, (3) numerals 0-9, or (4) 'special' characters {}[],. <>;:'"?/|\`~!@#$%^&*()_-+=

5. Mark the security group or groups you wish to assign this user.
6. Save your settings.

   > ***NOTES***: Typically, this is all you will need to provide access to VeraSMART. For special user a/or data access rights, see the sections below.

See also

⊞ Add/remove Roles and Data Access

1. From the Personnel Details page, open the Roles sub-tab. You will see a grid with the roles assigned to this user in one of two views (interchangeable by clicking the link):
   - 'Effective roles' is a simplified list with duplicate or lesser access rights removed.
   - 'All assigned roles' shows the complete list of assignments.
2. To add roles, go to More Actions > Assign Roles.

   NOTE: If assigning a role that requires access to the application, make certain to include the 'VeraSMART: login' role. If assigning a role with data access restrictions, make certain to identify accessible data in the Data Access sub-tab.

3. To remove an assigned role you must be in the 'All assigned roles' view:
   a. If role was assigned directly, click its Un-assign role link.
   b. If role was assigned by membership in a security group, you may have to un-assign the security group and then re-assign directly the roles you wish for this user.
4. Open the Data Access sub-tab. You will see one of two views (interchangeable by clicking the link):
   - 'Effective data access' is a simplified list with duplicate or lesser access rights removed.
   - 'All data access' shows the complete list of assignments.
5. To add data access you must be in the 'All assigned data access' view:
   a. If access was assigned directly, click the select icon for the data table you wish to assign.
   If access was assigned by membership in a security group, you may have to un-assign the security group and then re-assign directly the roles and data access you wish for this user.

Set Password (for a user that requires setting a password manually)

1. From the Personnel Details page, select More Actions > Set Password.
2. Provide new password, confirm and then save entry.

Disable Login

To 'black list' this user:
from the Personnel Details page, select More Actions > Disable Login and then confirm.

To reverse this action:
from the Personnel Details page, select More Actions > Enable Login and then confirm.

To set a date when login should expire:
from the Personnel Details page, click Edit and set a value for the Login Expiration Date.

Security Groups & Roles

A Security Group is a collection of entitlements (user roles and data access) designed to simplify their assignment to users. The idea is to configure the group's entitlements and then add users as members to the group -- rather than configure entitlements, again and again, individually for each user.

The system comes with a set of built-in security groups that cover common VeraSMART user functions and responsibilities. All that is required is to review the roles/data access for the groups of interest and assign them key Personnel.

> ***NOTE***: The list below shows built-in groups available to a freshly installed system, licensed for all modules & options. Upgrades from prior versions will also include all your previously added security groups.

Built-in Security Groups (click to view list)

Generic Groups

Everyone	Applies to all active Personnel. Includes a single role (MySMART: Report Inbox) that allows users to retrieve reports in their 'Inbox'
System Administrators	Allows logging into VeraSMART and performing all functions -- except identifying personal calls

Call Accounting & Wireless Call Accounting

Call Accounting Technicians	Allows logging into VeraSMART and performing all Call Accounting functions. No data restrictions
Call Accounting Users	Allows logging into VeraSMART for viewing call detail records. No data restrictions
Wireless Call Accounting Technicians	Allows logging into VeraSMART for importing and viewing Wireless Invoices. No data restrictions

InSight Analytics

Usage Management Analytics Users	Allows logging into VeraSMART and viewing Usage Management analytics. No data restrictions.

Reporting

Report Designers	Required for designing reports. No specific access is granted, so membership must be coupled with the 'VeraSMART: login' role
Call Accounting Report Users	Allows logging into VeraSMART and running Call Accounting reports. No data restrictions
Organization Chargeback Report Users	Allows logging into VeraSMART and running Organization Chargeback reports. No data restrictions
Wireless Call Accounting Report Users	Allows logging into VeraSMART and running Wireless Call Accounting reports. No data restrictions

Other Features

Inventory Managers	Allows logging into VeraSMART and managing Inventory. No data restrictions.
Personal Call Identification Managers	Allows logging into VeraSMART and managing the Personal Call Identification functions
Personal Call Identification Users	Required for identifying personal calls. No specific access is granted, so membership must be coupled with the 'MySMART: login' role

See also

- Import Data - to prepare Personnel text imports that includes security group assignments
- Login Accounts - to set individual security and login attributes to specific Personnel
- Report Designer - to identify security groups that can run specific system reports
- Dashboard Designer - to identify security groups that can view specific system dashboards
- User-defined Views - to identify security groups that can access specific views

Procedure

1. Access: Administration menu > Security > Security Groups.
2. ***To add or edit groups***:
   a. Click Add or the *group name* to edit and then click Edit.
   b. Enter a security group name (up to 50 characters).
   c. Optionally enter an import alias (up to 400 characters). This is used in a Personnel Import with security group assignments, to 'translate' an external term for this security group.
   d. Save your entries.
3. ***To set up roles and data restrictions*** (see table below):
   a. Access the *group name* details page.
   b. Open the Roles tab to view current group configuration.
      - To assign roles, click More Actions > Add Roles, mark desired entries, and click Select.
      - To delete roles, mark desired entries, click More Actions > Remove Roles, and confirm.
   c. Open the Data Access tab to view current configuration. If there are data restrictions to change (CDR Source, Cost Center, Locations, Workflows, etc.), click its icon, mark desired entries, and click Select.
4. ***To assign Personnel to this group***:
   a. Access the *group name* details page.
   b. Open the Personnel tab to view current group members.
      - To add group members, click More Actions > Assign Personnel, mark desired entries, and click Select.
      - To delete group members, mark desired entries, click More Actions > Remove Personnel, and confirm.

   NOTE: Personnel can be assigned to multiple security groups. Because this may result in duplication of rights or mutually exclusive restrictions, users ultimately get 'effective roles' which result in the greatest access, least restrictive combination.
5. ***To view this group's access to system reports, dashboards, and user-defined views***:
   a. Access the *group name* details page and open the appropriate tab.
   b. Note that changes to these restrictions are carried out via these functions:
      - Report Designer - to identify security for specific reports
      - Dashboard Designer - to identify security for specific system dashboards
      - User-defined Views - to identify security for specific views

Roles & Data Restrictions Table

NOTE: A VeraSMART system will include the list of roles to access all licensed features. The list below shows the complete list available to a system licensed for all modules & options.

Roles	Has Access to...	Data Restrictions	Editing Permissions
Analytics: Access	Data analytics (will count against 'Analytics User' license)	None	View-Only
Analytics: View Usage Management	Usage Management analytics	None (require 'Analytics: Access' and 'VeraSMART: Login')	View-Only
Announcements: Manage	Announcements and Security Banner	None	Edit
Archives: Restore	Restore archives	None	NA
Assigned Charges: View	Assigned charges (read-only views)	None	View-Only

Call Accounting: Manage	Call collection and rating functions	CDR source	Edit
Call Accounting: View CDR	View call detail records	None	View-Only
Currency Conversions: Manage	Currency conversions	None	Edit
Dashboards: Configure Personal	Configure own dashboards	None	Edit
Dashboards: Configure System	Dashboard Designer	None	Edit
Data Analytics: Manage	Configure available entities for Analytics reporting	None	Edit
EZ-Share: Design	EZ-Share functions	None	Edit
EZ-Share: Run	Run pre-configured EZ-Share Exports	None	View-Only
Import/Export: Manage	Configure, run, delete Imports and run Exports	None	Edit
Import/Export: Run	Run Imports on demand or scheduled and run Exports	None	View-Only
Internal Chargeback: Manage	Internal charge functions	None	Edit
MySMART: Login	MySMART and Report Inbox	None	View-Only
MySMART: My Inventory	My Inventory section in MySMART	None	View-Only
MySMART: Report Inbox	Report Inbox in MySMART	None	View-Only
MySMART: View Dashboards read-only	Dashboards (read-only, no drill-downs)	None	View-Only
Organization & Inventory: Manage	Personnel, Cost Centers, Locations, Inventory (moves-adds-changes)	Cost Center & Location	Edit
Organization & Inventory: View-only	Personnel, Cost Centers, Locations, Inventory (view only)	Cost Center & Location	View-Only
Organizational Hierarchy: Manage	Add and edit entries to any pre-configured organization level	None	Edit
Personal Call Identification: Access	Identify personal and business calls	None	View-Only
Personal Call Identification: Manage	Personal Call Identification admin functions	None	Edit
Reports: Design	Report Designer	None	Edit
Reports: EZ-Burst	Use EZ-Burst output for reports	Cost Center	View-Only
System: Manage	All functions in VeraSMART	None	Edit
User Defined Field Pick-list: Manage	Edit UDF pick-lists	None	Edit
VeraSMART: Login	VeraSMART, MySMART, and the Report Inbox	[Reporting] Cost Center	NA
Wireless Invoice: Manage	Import and view wireless invoices	None	Edit
Wireless Usage: View	View wireless usage pages	None	View-Only

Data Restrictions

Roles with Data Restrictions have the ability to limit the results of users assigned to that role based on the options selected.

- Reporting Data Access: Cost Center
- Process Management Data Access: Workflow, Ticket Location
- Organization and Inventory Data Access: Cost Center, Personnel location
- CDR Management Data Access: CDR Source

To view/change Data Restrictions, navigate to the Role within its corresponding Group, and click the Data Access tab. Users will either see specific Data Access options, or “No data restrictions”.

If Data Access options exist, “Access to all” is the default, but can be changed using the icon to limit/expand options.

Authentication Configuration

Use this function to set up the following security features:

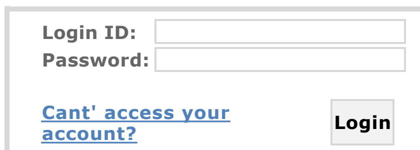
- **Authentication method (used to recognize and validate user logins into VeraSMART)**
- **Server Host URL and SSL (used to construct the appropriate links to e-mailed items)**
- **General settings (used to require strong passwords and/or authentication for report recipients and directory users)**

Procedure

1. **Access: Administration menu > Security > Authentication Configuration.**
2. **Select the authentication methods:**

<table>
<tr><td>Forms authentication</td><td>Your choices:

[None] -- results in a Login page with only the 'single sign-on' option. All other forms authentication options (such as 'Change Password') will not be available for self or for editing login accounts.
VeraSMART Form Authentication -- results in a Login page that allows users to enter a Login ID and Password (which must match the e-mail address or login ID in their Personnel record).



VeraSMART Form Authentication Via URL -- similar to selecting '[None]' above, except that a user can add a query parameter at the end of the URL (for example: http://localhost/VeraSMART/Login.aspx?formslogin=1) to turn forms authentication on for his/her session.
</td></tr>
<tr><td>Single sign-on</td><td>Your choices:

[None] -- results in a Login page with only the 'forms authentication' enabled.
Integrated Windows Authentication -- results in a Login page that includes a <u>Login via Windows</u> button or link to provide network access to users (recognized by the Windows domain account in their Personnel record)
Calero SSO* -- prompts you for additional information. To enable Calero SSO, you must contact your Calero representative.

Calero Cloud Services URL -- provided by Calero.
Calero SSO Client ID -- provided by Calero.
Calero SSO Client Secret -- provided by Calero.
Calero SSO Personnel Lookup Field -- E-mail address (default), Employee Number, Office Number, or Windows domain account.
This is the identifying field on the personnel record that VeraSMART uses to match to the identifying value from the Identity Provider.
Calero SSO Logout Behavior -- Logout with Identity Provider (default) or Logout Local Only (logs the user out of VeraSMART only).
Calero SSO Login Button Caption -- the text for the button on the login page. Default text is ‘Calero SSO Login’.

*Contact your Calero representative to learn more about Calero SSO.
</td></tr>
</table>

3. **Select server host URL and SSL settings:**

<table>
<tr><td>Host URL</td><td>The VeraSMART server name.

NOTE: Typically the server name will work inside a local network. If e-mailed links do not work, try the full computer name or consult your network administrator for the appropriate URL.</td></tr>
<tr><td>SSL Settings</td><td>SSL settings are intended ONLY for servers that have installed a Secure Socket Layer certificate of protection.

Mark the appropriate VeraSMART server configuration:
▪ Website is configured to use SSL (this setting is used by the system to configure external calls to the server as 'HTTPS://')
▪ Website is configured to use SSL for localhost requests (this setting is used by the system to configure internal calls to access charts or dashboards as 'HTTPS://localhost' (see NOTE below)

NOTE: If the SSL certificate was issued for a specific server, internal calls to charts or dashboards may not work. If this is the case, disable the 'use SSL for localhost requests' setting.</td></tr>
</table>

4. **Select General Security settings:**

<table>
<tr><td>Require authentication for...</td><td>Report recipients
▪ If enabled, personnel receiving e-mail links to reports will be directed to the Login page.
▪ If disabled, e-mailed links will access the report page directly.

Personnel Directory
▪ If enabled, users have to log into the application to access the Personnel Directory feature
▪ If disabled, users can access it directly from the URL http://<VeraSMART Server>/verasmart/enu/Personnel/Directory.aspx</td></tr>
<tr><td>Session Timeout (1 - 480 Minutes)</td><td>Determines the length of time VeraSMART will allow a user to remain logged in but inactive before automatically terminating the session.
▪ Default is empty (blank) -- if left empty (blank), the default Session Timeout (configured from web.config) will determine the length of the session.
▪ Value must be between 1 and 480 minutes (8 hours).</td></tr>
</table>

5. **Determine your Password Security Settings:**

<table>
<tr><td>Password Minimum Length (6-30 characters)</td><td>Determine how many characters (letters, numbers, and special characters) must be included in passwords. Default = 6, Calero recommends 9+.</td></tr>
<tr><td>Password Complexity Setting</td><td>Set the complexity requirements for passwords.
▪ No complexity settings [default]
▪ All constraints met -- password must include all 4 of these constraints:
    ▪ 1 English upper-case character (A-Z)
    ▪ 1 English lower-case character (a-z)
    ▪ 1 numeric character (0-9)
    ▪ 1 special character {}[],.<>;:'"?/|\`~!@#$%^&*()_-+=
▪ At least three constraints met -- password must include 3 of the 4 constraints listed above</td></tr>
<tr><td>Password Consecutive Character Setting</td><td>Determine whether or not consecutive characters are allowed in passwords. (Example: AAA or 33)
▪ No consecutive character setting [default]
▪ No more than 2 identical consecutive characters -- password can have 2 of the same characters in a row, but not 3 or more</td></tr>
</table>

Password cannot be the same as the last N passwords (0 - 24 previous passwords)	**Enter a value for "N". Options are 0-24, default = 0, which indicates that passwords can be reused repeatedly.**
Number of days before account passwords expire (0-999, 0 = no expiration)	**Enter the number of days that can pass before a password expires. Options are 0-999, with 0 [default] indicating that account passwords never expire.**

6. **When complete, save your entries.**

System Configuration

This section is devoted to the following administrative functions:

System Preferences

Use this function to configure system-wide features.

1. **Access: Administration menu > System Configuration > System Preferences.**
2. **Expand the section of interest and enter your settings.**
3. **When complete, save your entries.**

⊞ Accounting Period Management

Accounting Period and Fiscal Year will be generated:This setting determines if Fiscal Years & Accounting Periods will be generated...

(a) Monthly, with fiscal years starting in the selected month. This setting automates the management of accounting periods.

(b) Manually. This setting requires user intervention to add, edit, and close accounting periods.

⊞ Auto-deletion Parameters

These settings are used by the 'cleanup' program, to remove old call records, invoice charges, inactive personnel and inventory records, reports, and temporary files. Cleanup tasks run nightly, weekly, or monthly as indicated below.

- **Call records in database (62-999 days, default = 90) [Runs nightly]**

  This setting also determines the length of an archive for historical reporting. Since you can only report on call activity within this range of time (current or archive), use a value that will satisfy your report users. System storage requirements will be affected by this value. A setting over 365 days is not recommended, as it may slow response times.

- **Charges in database (62-999 days, default = 540) [Runs weekly]**

  This setting also determines (a) the removal of deactivated personnel and inventory and (b) the closing of pending periods in systems without Enhanced Chargeback.

- **Reports on web server (8-999 days, default = 90) [Runs monthly]**

  This setting only affects reports saved in users' report inboxes.

- **Raw call records and logs (8-999 days, default = 120) [Runs nightly]**

  This setting also affects temporary files created by installations and updates.

- **E-mail log records and logs (8-999 days,default = 30)[Runs nightly]**

- **Additional raw call record attributes (1-90 days, default = 45) [Runs nightly] Requires All CDR Fields license. This setting only affects the additional CDR attributes collected if the 'Collect all available additional CDR attributes' field is selected on the CDR Source.**

  > ***NOTE*: Cleanup activity is logged daily in VeraSMART Data\Log*yyyy-mm-dd* Cleanup.log.**

⊞ Automatic Invoice Import Settings

AT&T DDP drop folder (select folder where AT&T invoice report files are automatically placed every billing cycle)

> ***NOTE*: There is an automatic delivery method for AT&T Wireless accounts that qualify for the Data Delivery Portal (DDP) service. For details, see *Using AT&T Wireless DDP to Deliver Monthly Invoice Reports* (PDF).**

⊞ Calero Cloud Services Integration Settings

These settings allow VeraSMART to access Calero's shared services, including eBonding.

Fields to fill in:

- **Calero Cloud Services URL**
- **Calero Cloud Services username**
- **Calero Cloud Services Password**

Test Calero Cloud Services Settings (if the settings above are configured, click this hyperlink to test that the Calero Cloud Services are configured correctly. Once successfully tested, you must Save.)

⊞ Call Alert Settings

Message -- Text to append to e-mail notification of a call alert.

You can enter your message and/or insert call record attributes:

- **Last CDR that triggered alert (default, represented by $LastCDR$)**
- **Any Inventory Item, Location, Personnel, or Cost Center fields**
- **User-defined fields for above items**

⊞ E-mail Options

- **SMTP mail server name (required to enable e-mail notifications)**
- **SMTP mail server port (1-65535 - default = 25)**
- **Enable STARTTLS (mark to enable TLS communication with the mail server by using the STARTTLS command)**
- **SMTP auth username and password (use only if mail server requires credentials)**
- **Default sender address (required, if e-mail notifications are enabled)**
- **Default sender display name (optional)**
- **All e-mails from VeraSMART will include the following text in the Subject line (VeraSMART automatically will include this text on mail notifications)**
- **Always use system sender as mail sender (mark to use the above default sender)**
- **Include links to item in e-mail (determines whether links to the corresponding report or ticket should be included in e-mail links)**
  - **Yes/No -- Affects all e-mails, link either will or will not be included**
  - **Yes/No, allow user to override -- A checkbox (checked = Yes) will be included when configuring the email so the sender can decide on a case-by-case basis whether the link should be included or not**
    - **'Yes, allow user to override' defaults to checked**
    - **'No, allow user to override' defaults to unchecked**
- **E-mail format preference (plain text or HTML-enhanced)**

> ***CAUTION*: Switching the e-mail format will delete the default message for future reports (Reporting Options, below). Existing reports will keep their currently configured text; however, their formatting may be undesirable and would need to be corrected.**

> ***NOTE:* We recommend using the Send Test E-mail link to verify the above settings.**

⊞ EZ-Share Settings

Set defaults for EZ-Share™ Export:

... justification for fixed-length fields (right or left)

... fill character for fixed-length fields (space or zero)

... field formatting, by data type:

Data Type	Field Formatting Settings
Text	none, change to upper case, change to lower case, left trim, right trim
Date / Date and time / Time	Day, Month DD, YYYY, DD/MM/YYYY, DD-Mon, DD-Mon-YY, DD-Mon-YYYY, HH:MM (24 hour) , HH:MM:SS (24 hour) , HHMMSS, MM/DD, MM/DD/YY, MM/DD/YYYY, MM/DD/YYYY HH:MI:SS (24 hour) , MMDDYY, MMDDYYYY, MMYY, MMYYYY, Mon DD YYYY HH:MM (12 hour) , Mon-DD, Month DD, YYYY, Month-DD, Month-YY, Mon-YY, YYDDD, YYYYDDD, YYYYMMDD, YYYY-MM-DD HH:MI:SS (24 hour)
Integer (also duration)	none, duration (hh:mm:ss), hours as decimal, minutes as decimal, or seconds as integer
Currency / Decimal	none, currency using regional options, currency without currency symbol, implied decimal, number using regional options, number with decimals only

Zip e-mail attachments (This option is checked by default. All EZ-share files will be zipped when sent via e-mail. Uncheck this option to have the files not zipped when e-mailed.)

⊞ General Security Settings

Select options:

- Do not allow CDR Administrators to modify Rate Plans

- Number of days before account passwords expire (0=no expiration)

> ***NOTE:*** **Password aging is only used for access via 'forms authentication' (access via 'Windows authentication' is controlled by your network security policy). If enabled, password aging will be enforced:**
> **- User will be reminded at login of days remaining, starting one week before it expires**
> **- Access will be denied afterwards; users must click the Can't access your account? link at login**
> **to have the system e-mail them a temporary password.**

Insight Analytics Server Settings

These settings allow VeraSMART to access the Analytics Server. System Administrators must work with their Calero technical services representative to ensure proper configuration.

- **Server hostname -- enter the backend host name of the analytics server – obtain this information from the Analytics Administration tool. Field will automatically populate if running SaaS VeraSMART, or if Analytics is installed on the same server as VeraSMART.**
- **Use SSL -- check if SSL is configured on the Analytics Server.**

Test Insight Analytics Server Settings (when the settings above are configured, click this hyperlink to test that the Insight Analytics Services are configured correctly. Once successfully tested, you must Save.)

MySMART

- **Label for the 'My Inventory' section in MySMART**
- **View to use when displaying 'My Inventory' (selected from system list; default = My Inventory)**

Proxy Settings

These settings are used on networks that allow Internet access through a proxy server.

Default (may not need to be changed):

- **Use a proxy server**
- **Use system specified proxy server**

> ***NOTE:*** **If the system specified proxy server is not detected by VeraSMART, you will need to unmark this value and enter a proxy manually with information supplied by your network administrator:**
> **- Proxy address**
> **- Username, Password, Domain (credentials to access proxy server)**
>
> **Optionally, set...**
> **- Proxy address is an auto-config script URL --or--**
> **- Bypass proxy for local addresses -- or -- for the specified addresses**

Regional Settings

- **System currency code (selected from list)**
- **System currency name and symbol (defaults to selected currency code - may override)**
- **System currency precision (0 to 4 decimal places)**
- **System culture (used to display date format, selected from the list of countries -- for example, a date is expressed as 'month/day/year' in the United States and as 'day/month/year' in Spain)**
- **System time zone (selected from list)**

Reporting Options

- Masked dialed digits (number of trailing digits --none, 1-23, or all-- to mask from the 'Dialed Number' in a call detail report or viewer)

> ***NOTE***: Digits should not be masked in systems using the Personal Call Identification feature, as this would make calls difficult to identify.

- Company name -- then mark to have name show in page headers
- Message to include with all future e-mailed reports (free-form text)

> ***CAUTION***: If you had switched the e-mail format above (E-mail Options), you will need to save your preferences before entering any text here.

- Update e-mail message for all user reports (mark to override ALL user reports with the above message)
- Display a warning in report headers if reporting on a non-closed accounting period
- Include totals when exporting to Excel
- Require notification e-mail address for Personnel EZ-Burst (used to reduce the number of e-mails for 'Personnel EZ-Burst' reports. Instead, a single e-mail is sent to notify that report completed. MySMART users must retrieve their own report sections via MySMART)
- Suppress page breaks in printer friendly format
- Reply-to address for e-mailed reports (sender's e-mail -or- default reply-to e-mail)
- Maximum number of records to display on list views (1 to 999999; default = 20000)
- Duration display for ASCII output (seconds, minutes or hh:mm:ss)
- File extension for e-mailed report attachments (text up to 50 chars; default = zip)
- Internal domains (a semicolon-separated list of e-mail domains which are considered 'internal' to the company)

⊞ SNMP Agent Settings

SNMP is an Internet protocol used mostly in network management systems to monitor devices for conditions that warrant attention. VeraSMART now provides an SNMP trap for 'NO CALLS' alerts.

> ***NOTE:*** For information on what is provided to the SNMP Manager and other notification details, obtain the Technical Note ***SNMP Agent for 'No Calls' Alerts*** from the VeraSMART User Community Document Exchange.

- Enable SNMP Agent (mark to enable feature)
- SNMP Manager IP address

⊞ User Interface Settings

- Number of rows per page (50, 100, 250, 500) in VeraSMART list views
- Duration display units (minutes or hh:mm:ss) for call detail views, forms, and reports
- Use general ledger codes (obsolete feature. Do not use in Invoice Management systems)
- Prepend notes fields (mark to place new entries automatically at the top, so that notes read from newest to oldest; default is to append entries, resulting in an oldest-to-newest order)
- Client Logo image (browse to the image of interest and click the Upload File link. The image will be automatically resized proportionately to fit in a space that is 145 pixels wide by 75 pixels high in the VeraSMART header.)

⊞ Wireless Alert Settings

- Threshold amount for above-average total device charge findings (default = 200.00)
- Months to project identified savings (1 to 36, default = 12)

⊞ Other Settings

- **Enable Summary Display Configuration (feature for personnel-related and cost center fields and for reference items in tickets)**
- **Default Personnel EZ-Burst option (disabled, e-mail links, or e-mail reports as attachment)**
- **Enable associated Personnel (feature used on a phone owned by a cost center, whereby you can select the personnel to appear 'associated' with this phone number in a Directory listing)**
- **Move Inventory Items and Authorization Codes to parent Cost Center when a personnel is deactivated**
- **Enable automatic ticket generation**
- **Edit ticket when transitioning (feature for legacy systems -- when enabled, this will bring the user to the ticket-edit page when clicking on any status-transition button on the ticket detail screen)**
- **Require employee number / e-mail address / Windows domain account (these are attributes of a Personnel record; if enabled, validation will be enforced on all forms of data entry for Personnel -- add/edit forms, data imports, and ticket references)**
- **Rollback inactive periods for inventory items to unassigned Cost Center (option for reactivated inventory; if enabled, charges incurred while inactive will be assessed against the [Unassigned] cost center, instead of the old cost center)**
- **Only assign call records received after assignment date to new extension owner (If enabled, reassignment of unassigned extensions to personnel will assign call records from the assignment date to current. If disabled, reassignment of unassigned extensions to personnel will assign all unassigned calls in the active database belonging to that extension to the new personnel assignment)**
- **Workflow technicians can approve on behalf of other users (select whether workflow technicians are allowed to approve tickets on behalf of assigned approvers. This option is enabled by default)**
- **Personal Call Identification - Mark unidentified numbers as business (this option defaults all unidentified numbers to the 'Business' type. This will minimize the need to configure all numbers. This setting is disabled by default)**
- **Employee number maximum length (1 to 25 characters; default = 25)**
- **Verbose ticket rule logging (Log for implementation specialists to analyze ticket rules. If enabled, it will automatically disable overnight. The verbose ticket rule log is located on the application server in the \VeraSMART Data\Log directory)**
- **Unbilled Usage integration (default is None, select 'Calero Cloud' to enable Unbilled Usage tracking for wireless numbers. See Unbilled Usage for more information)**

Regional Settings

VeraSMART regional settings will influence how charges, dates, and times will be computed and/or how they will appear to system users.

1. **Access: Administration menu > System Configuration > Regional Settings.**
2. **Enter your settings:**

Currency	**Use the list to select its code from the system list. Default = USD (US Dollar). Once selected, you will see the default currency name, its symbol, and precision (these may be changed as needed).** **The currency selected here will be used as base for currency conversions in systems with invoice or call rates that come in other currencies.**
Culture	**Use the list to select a country. The system will then use its most common format to interpret and display *dates* and *numeric* values. Default is English (United States).** ▪ **The date representation will use the month (M), day (D), and year (Y) in a specific order -- for example, USA = MDY, Canada = DMY, Japan = YMD.** ▪ **The numeric representation will use separators for decimals and thousands -- for example, USA = 9,999.99, Germany = 9.999,99.**
Time zone	**Use the list to select the time zone with respect to UTC time -- for example (UTC-05:00) is Eastern Time for the US and Canada, (UTC+10:00) is for Canberra, Melbourne and Sydney.** **The time zone selected here will be used as base to calculate the time of day for time-sensitive features such as call detail records obtained from a different time zone.**

3. **When complete, save your entries.**

System Alerts

VeraSMART monitors several system-wide conditions and offers the following alerting features:

System Alerts -- A nightly (10 PM) check for one or more of these conditions:

- **Inventory approaching model size limit**
- **Free disk space falls below threshold**
- **Too many rejected call records**
- **Database offline**
- **A scheduled archive failed to run**

No Call Record Alerts -- A check for intervals without call rating activity from selected CDR sources, under a user-defined schedule.

Regenerate System Alerts -- An immediate check on enabled alert conditions.

⊞ On handling System Alerts ...

A nightly check (10 PM) compares the system state against enabled alerts. If conditions match an alert, the system logs the event and e-mails the appropriate personnel.

(1) A "database offline" event will log the specific "SQL Server" error. An administrator may have to access the Message Log directly by opening \VeraSMART Data\Log\Casw.log on the VeraSMART server.

(2) The system resets the 'rejected call' count when processing the first batch of calls on the next day. See note below.

> ***NOTE*: "Rejected calls" are calls under the minimum duration filter set for its type (see Call Types for details). A large number of rejected calls may mean that this filter is set too high and you are discarding valid calls; it could also mean that these are short calls typical of repeated hacker attempts at breaching your telephone switching system (see Call Alerts for details).**

⊞ On handling No Call Records Alert...

The system uses the monitoring schedule specified for a CDR source (alert time range and allowed interval without calls):

(1) Background checks run continually every five minutes; if the 'alert time range' is in effect and the 'allowed interval without calls' has elapsed since the last call, the system logs the alert and sends the appropriate notifications (via e-mail and/or SNMP alerts).

(2) If conditions persist through the next 'allowed interval without calls' for this CDR source, the system logs another event and sends another alert notification.

System Alerts

1. **Access: Administration menu > System Configuration > System Alerts.**
2. **Click the link for the alert that you wish to track. Then enter:**
   - **[Disk space only] Enter threshold in Megabytes (default = 500).**
   - **Mark to enable alert.**
   - **Enter alert message and select e-mail address(es)**
   - **[Rejected calls] Enter the trigger value and CDR sources**
3. **Submit your choices.**

No Call Records Alerts

1. **Access: Administration menu > System Configuration > No Call Record Alerts.**
2. **The list displays all CDR sources, alert status (enabled/disabled) for e-mail a/or SNMP notifications, as well as the alert message, e-mail addresses, and number of days selected for monitoring.**
3. **To edit alert settings for a single CDR source, click its *name* link. Then...**
   a. **Mark to enable generating alert via e-mail notification and/or via SNMP to a network management system.**

   > ***NOTE*: SNMP alerts require configuring SNMP agent settings (in System Preferences) in an SNMP-managed network. For information on what is provided to the SNMP Manager and other notification details, obtain the Technical Note *SNMP Agent for 'No Calls' Alerts* from the VeraSMART User Community Document Exchange.**

b. If enabled, enter e-mail notification details (message and e-mail addresses).

c. Provide settings:

- Mark the days of the week to monitor
- alert start and end times (time of day to watch for call rating activity
- No call interval (maximum number of minutes allowed without call rating activity during alert times).

d. Submit your choices.

4. To edit alert settings for multiple CDR sources, mark them and click the Bulk Configure button. Then select the fields to edit, enter their new values, and submit your choices.
5. To enable/disable alerts for one or more CDR sources, mark them, and then...

a. [E-mail] select More Actions > Enable (or Disable) e-mail alerts and confirm

b. [SNMP] select More Actions > Enable (or Disable) SNMP alerts and confirm.

Tip on avoiding unfounded No Call Record alerts:

Coordinate monitoring schedules with call collection frequency:

- Start alert time = 10 minutes + polling start time; end alert time = 11:59 PM
- No call interval = smallest of (a) 1 hour + polling interval or (b) 2x polling interval.

Example #1: For a CDR source polled once a day at 11 PM, set alert start time = 11:10 PM, alert end time = 11:59 PM, No call interval = 1500 minutes (25 hours).

Example #2: For a CDR source polled every half hour, set alert start time = 12:10 AM, alert end time = 11:59 PM, No call interval = 60 minutes.

Personal Call Identification

This section discusses how 'Personal Call Identification Managers' can configure this feature for Personnel to apply to their own calls.

It is presented under the following topics:

Note to System Administrators:

This feature requires the 'Personal Call Identification' option and enough licenses for all Personnel required to identify their use of telephone network as 'Business' or 'Personal.'

Such Personnel must be made members of the 'Personal Call Identification Users' security group or have been assigned the role 'Personal Call Identification: Access'.

Unidentified Calls by Personnel

Use this function to view all Personnel that have yet to identify their telephone usage as business-related or personal. You can also use this function to create a notification message for sending to such individuals.

Note to System Administrators:

This feature requires the 'Personal Call Identification' option and enough licenses for all Personnel required to identify their use of telephone network as 'Business' or 'Personal.'

Such Personnel must be made members of the 'Personal Call Identification Users' security group or have been assigned the role 'Personal Call Identification: Access'.

Procedure

1. **Access: Administration menu > System Configuration > Personal Call Identification > Unidentified Calls.**
2. **Set the date and time range and click the Search button.**
   The list displays all Personnel with the 'Personal Call Identification: Access' role that have unidentified calls *PRIOR to the selected date*.
3. **Mark all individuals who you wish to send the notification e-mail and then click the Notify button.**
4. **Enter the e-mail subject and message body and then click the Send button.**

For example:
subject = 'Personal Call Identification'
message =

'You have calls that need to be identified as either Business or Personal.

Please log into VeraSMART ('http://*enter VeraSMART PC name here*/'), access MySMART (side panel) > My Personal Calls, and follow instructions to review and identify your calls.

Thank you.'

You will be able to re-use the subject and message for this notification e-mail, as the latest entries are kept by the system.

Business Numbers

This function is used to display the list of commonly called phone numbers in your organization that are used for business-related activities. The list also shows their 'nickname' (that is, the name for the location or entity called -- for example, *Travel Agency* or *Headquarters*).

These numbers have been imported (via the Import Data function) to help PCI users quickly identify their phone usage.

***NOTE*: PCI stands for Personal Call Identification.**

When users access MySMART - My Personal Calls, to identify their telephone usage, they will be able to see any calls to entries in the 'Business Numbers' list already marked as 'Business'.

A system administrator or Personal Call Identification Manager may mark obsolete entries and delete them.

CDR Source Configuration

Use this function to enable or disable the Personal Call Identification (PCI) feature on individual CDR Sources. You can also use this function to set markups on personal calls and to require identifying incoming calls.

Note to System Administrators:

This feature requires the 'Personal Call Identification' option and enough licenses for all Personnel required to identify their use of telephone network as 'Business' or 'Personal.'

Such Personnel must be made members of the 'Personal Call Identification Users' security group or have been assigned the role 'Personal Call Identification: Access'.

Procedure

1. **Access: Administration menu > System Configuration > Personal Call Identification > CDR Source Configuration.**
2. **Mark each CDR Source that requires the same configuration and then click the Edit button.**
3. **Mark to enable Personal Call Identification.**
4. **Set the personal calls cost calculation (default = base cost only):**
   (a) Based on original cost: markup (-100 to 1000%) and surcharge (0.00 to 999,999,999,999.00)
   -- or --
   (b) Cost per minute (0.00 to 99,999.00)
5. **Select the number of days users have to change their minds about calls they had previously identified as 'business' or 'personal' (default = 30 days for wireline and 60 days for wireless sources).**

   NOTE: **Calls previously identified as 'personal' are not changeable once they appear in a Personal Calls Report.**

6. **Mark to include the following in the list of calls users must identify:**
   - **Incoming calls**
   - **Calls with no cost**
7. **When complete, save your settings.**

Certification Message

[Requires a license for the Personal Call Identification option]

Use this function to edit the message that will be presented to all Personnel required to identify Business and Personal calls. The standard message reads...

> **"I hereby certify that I have accurately identified calls made using the corporate telephone network which were for business in accordance with the company policy, and that I have identified and will reimburse the company the total cost for any personal calls I have made."**

You may use the HTML text formatting tools to create your message.

Set Calls for Personal Call Identification

A system administrator or PCI manager can use this utility to reset (enable or disable) the Personal Call Identification (PCI) feature for selected CDR sources and date ranges. This is useful in cases where you wish to enable or disable PCI after the system was installed and processing calls.

Procedure

1. Access: Administration > System Configuration > Personal Call Identification > Set Calls for Personal Call Identification.
2. Select the CDR sources from the system list.

   NOTE: These CDR Sources MUST have PCI enabled via the CDR Source Configuration function.

3. Select a date range. Choices are:
   - Any
   - Current Month including Today
   - Last Month
   - Last N Months (including current month)
   - Last N Months (excluding current month)
   - Current Week (Monday - Today)
   - Last Week (Monday - Sunday)
   - Last Work Week (Monday - Friday)
   - Today
   - Yesterday
   - Last N Days (excluding today)
   - Custom
4. Select whether to disable or enable PCI for the above choices.
5. Click Apply.

NOTE: A message will notify you of the number of CDRs updated by this action.

Note that CDRs already confirmed as Business or Personal cannot be changed.

User-defined Fields

User-defined Fields, informally called UDFs, allow users to create custom fields of various types.

UDFs can create custom fields for the following data tables:

- **Basic systems: Assigned Charge, CDR Source, Cost Center, Department, Inventory Item, Location, Personnel**
- **Inventory Management systems: Product**

Create a User-defined Field

1. Access: Administration > System Configuration > User-defined Fields.
2. Click the Add button to create a new User-defined Field (UDF).
3. The wizard will prompt you to enter the required information in a series of pages.
4. Navigate through the wizard using the Next/Back buttons, or you can Cancel (to exit) and reset the wizard to start again.
    1. Data table name: Use the drop-down list to select the data table where the new UDF will appear.
    2. Select Data type: Not all data types are available for every data table.
        - Boolean -- field appears as a checkbox on forms (default = 'No' / unchecked).
        - Text -- field allow ASCII alphanumeric characters plus !@#$&*()-_=+\;:,./? and space. When entered via 'text box,' they also allow hyperlinks (as in 'http://' --or-- '\\').
        - Currency, decimal, or integer -- numeric fields that allow decimal digits, decimal point, and 1000’s separator, and negative number representations. Currency fields allow the system-defined currency symbol.
        - Date, date & time, or time -- fields allow all numeric date/time representations accepted by the server. Times accept AM/PM or 24-hour clock representations.
        - HTML -- field allows 'Web' content entered via a built-in HTML editor or cut-and-paste from an existing web page.
        1. Notes -- field allow free-form text, including carriage returns and line feeds. In an import, note fields must be enclosed in quotes (").
    3. Configure User-defined field:
        - Field label -- up to 50 characters.
        - Field is required -- check to require.
        - Minimum/maximum field length or value -- numeric entry only.
        - API Alias -- for users who populate UDFs via API, the individual UDF name can be changed by entering text into the API Alias field. Leaving the field blank keeps the default name.
    4. For text, select entry method:
        - user entry via text box
        - user selection via simple drop-list (for short lists)
        - user selection via pick-list (for long lists)
    5. User level security:
        - Available to all Users
        - Restrict access by user (if you select this, the next window will prompt you to select users that can view and change field values. Search by various fields, including Personnel, Employee number, Cost Center, etc.)
    6. Mark where field is used:
        - Choices always include list views (built-in and/or any configured view). Depending on the data table, they may also include add, edit, detail forms, and standard exports.
        - UDFs are always available for detail reports and EZ-Share Exports.
        - Easily select All by clicking the checkbox next to the words 'Where used'.
    7. If you added a text-type field that uses a drop-down or pick-list, the system now prompts you to configure the list:
        1. Enter the text for the list value in the 'New value' field.
        2. Click Save.
        3. Enter the text for the next list value and Save.
        4. Repeat until all values have been added.
            - The table below the 'New value' field will show you how the list values will appear.
        5. Click close.

Edit a User-defined Field

1. Navigation: Administration > System Configuration > User-defined Fields.
2. Click the Field label of the UDF hyperlink.
3. Move through the wizard and change fields as necessary. You must move through all wizard windows and click Finish for changes to be saved.

Edit the Drop-down/Pick-list for a UDF Text Field

1. Navigation: Administration > System Configuration > User-defined Fields.
2. Locate the UDF that has the drop-down/pick-list and click its Edit List hyperlink.
   - Only UDFs that have drop-down/pick-lists will show the option to Edit List.
3. Use the Add/Delete buttons to modify the list choices.
4. Click Save.

Remove a User-defined Field

1. Navigation: Administration > System Configuration > User-defined Fields.
2. Locate the UDF to remove and click on the Delete icon.
3. Confirm the deletion by clicking OK when the warning appears.
   - System-defined UDFs cannot be deleted. These UDFs will not have the Delete option available.
   - System-defined UDFs can be hidden from forms, reports, or exports. To do this, follow the 'Edit a User-defined Field' instructions and when you reach the step 'Mark Where Field is Used', un-check all.

User-defined Field Values List

Use this function to configure the list of values for a text field that uses a drop-down or pick-list to present users for selection.

1. **Access: Administration menu > System Configuration > User-defined Fields.**
2. **Locate the field from the desired data table and click its Edit List link.**

   ***NOTE*: You can also reach this page from the wizard where you configured this field.**

3. **To add a new entry, click Add Value, enter a list value, and save your entry. Repeat until all values have been identified.**
4. **To remove one or more entries, mark them, click Delete, and confirm.**

User-defined Views

Use this function to configure views of system data tables and forms to match your operations and business practices.

Depending on the data table and licensed options, the system allows a variety of configuration functions -- see the matrix below.

	Configuration Options			
Data Table	**Forms**	**List Views**	**Filters**	**Summarized Views (and Widgets)**
Assigned Charge	Add/edit internal	One or more	User & fixed	Yes
Authorization Code	--	One or more	User & fixed	Yes
Call Alert Log	--	One or more	User & fixed	Yes
Call Details	Add/edit/detail	One or more	User & fixed	Yes
CDR Source	*** Can only change the order of user-defined fields ***			
Charge Rule	Add/edit	One	--	Yes (no widgets)
Cost Center	Add/edit/detail	One	User filters only	Yes
Department	Add/edit/export	One	--	No
Inventory Item	See Inventory Type	One or more	User & fixed	Yes
Location	Add/edit/detail	One	--	No
Personnel	Add/edit/detail	One or more	User & fixed	Yes
Personnel Directory	See Personnel Directory Configuration			
System Audit Log	--	One or more	User & fixed	Yes (no widgets)
System Reports	--	One or more	User & fixed	Yes (no widgets)
User Reports	--	One or more	User & fixed	Yes (no widgets)
Wireless Invoices (1)	--	One or more	User & fixed	Yes
Wireless Usage (1)	--	One or more	User & fixed	Yes
(1) Requires the Wireless Call Accounting (WCA) license.				

1. **Access: Administration menu > System Configuration > User-defined Views.**
2. **To change the field order for CDR source or Contact data tables:**
   a. **Click the Change CDR Source Field Order or Change Contact Field Order link, as desired.**
   b. **Use the up and down arrows -- or -- drag-and-drop the fields to the desired position.**
   c. **Save your entries.**
3. **For other data tables click the Views link for the data table of interest.**
   a. **Depending on the table, you will see a grid with view names, field list, and security groups with access to them, with links to configure lists and forms. If supported, you will see an Add button to create new views.**

      To edit a defined view or work queue, click the *view name* link (under the Configure column) for that entry.

      To add a new view or queue, click the Add button.

   b. **Depending on the table, a series of one or more tabbed pages appear.**

> ***NOTE:*** **You can also get here from a list view by clicking its Edit View icon in the bottom of the main menu.**

⊞ **Attributes tab**

1. Set the list view name (up to 100 characters) and description (up to 250 characters.
2. Depending on the table, you may also set these attributes
   - Publish view as dashboard widget (tables that allow summarized views as widgets must have the summarized view defined)
   - Don't show data until user performs search (if enabled, view loads quickly with a message that directs user to specify filters and click search, or 'click here' to view all results)
   - Publish to menu (if enabled, you may select menu order --or-- which tab and menu order)
3. Set the list view columns (use arrows to select fields and re-arrange their order -- or -- drag-and-drop fields to the desired position).

⊞ Security tab

The grid will display a mark next to every security group with access to this list view. Add or remove marks as desired.

⊞ User Filters tab

***NOTE*: You can add up to 50 fields as search filters.**

1. Use the Add drop-down button to select a field (this will appear on a grid below).
2. You can reorder a filter position (drag-and-drop the boxed number of an item to its desired position) or discard the filter (click its remove button).

⊞ Fixed Filters tab

***NOTE*: You can select up to 50 fixed filters -- these are applied prior to opening the list view, to focus contents presented to the user.**

1. Use the Add drop-down button to pick a field from list and then choose its value.
2. To discard a filter, click its remove button.

⊞ Summarized Views tab

1. Click the Add button for a new summarized view or the ***name*** link to edit:
   - Name and display mode (tabular or bar, line, pie, or stacked bar chart)
   - Summary fields (use the Add drop-down button to pick a field from the list and set its sort value; use the button to remove field)
   - Aggregate fields (use the Add drop-down button to pick a field from the list and set its aggregation and sort values; use the button to remove field)
2. If you have more than one view, you can change the display order (drag-and-drop the boxed number of an item to its desired position).

   ***NOTE*: The display order will be used to drill down to the level below, all the way to the detailed listing (display order =1 is the entry point into the view; display order = 2, would be the view of the next level, and so on).**

3. To discard the view, click its remove button.

c. When complete, save your entries.

***NOTE:* If new views are supported, you can copy fields and filters from another view, then editing the resulting configuration.**

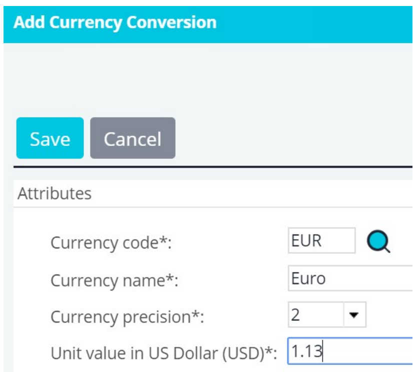
Currency Conversions

[Requires the Multinational option]

Use this function to identify currencies used by rate plans and/or invoices and set their conversion values in the system currency (Regional Settings).

Add Currency Conversion Rates

1. **Access: Administration menu > System Configuration > Currency Conversions**
2. **To add a new currency, click Add and enter these values:**
    1. **Currency code (selected from list)**
    2. **Currency name (defaults to selected currency code -- you may override)**
    3. **Currency precision (0 to 4 decimal places, default = 2)**
    4. **Unit value in System Currency (EFFECTIVE CURRENTLY in the system currency)**

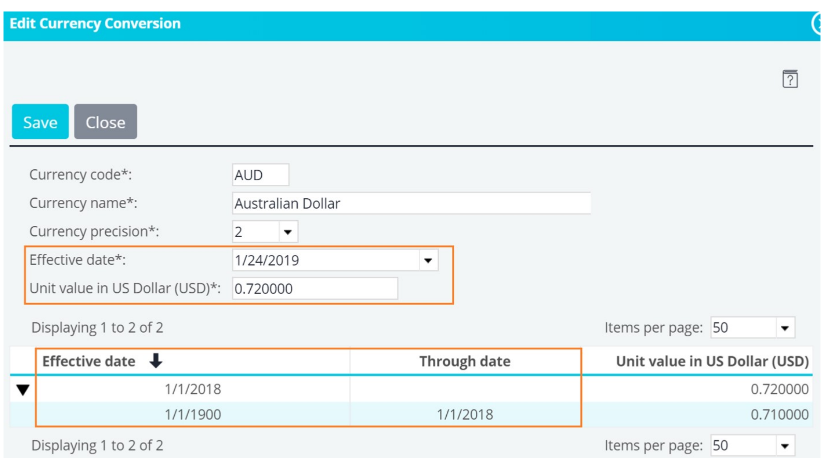


3. **Save your settings.**

Modify Currency Exchange Rates

If exchange rates have fluctuated in the recent past for which you have invoices, you may need to modify currency exchange rates that were already configured in your VeraSMART system.

1. **Access: Administration menu > System Configuration > Currency Conversions**
2. **Click the *Currency code*.**
3. **The Edit Currency Conversion page displays a grid with a history of the different conversion values (Unit value in System Currency) and when they were applicable (Effective date and Through date).**



4. **Modify the 'Unit values in System Currency' and set the date this change went into effect (Effective date).**
    - **Use these historical entries to apply the correct exchange when rating or re-rating calls from a CDR Source -- OR -- when importing or recalculating invoice charges.**
        - **You can backdate the 'Effective date' to ensure that correct currency conversions were applied when they actually occurred. (See EXAMPLE SCENARIO below).**
5. **Save your settings.**

***RECOMMENDATION*:**
After updating currency conversions, use Re-process Call Records to correct charges based on this information.

***EXAMPLE SCENARIO*:**

An invoice in EUROs is dated 1/1/2019. It was received and processed TODAY.

Problem: The conversion to USD is incorrect -- a 100 EURO charge was converted to $80.64, when it should have been $123.29.

Cause: VeraSMART's Currency Conversion table had incorrect values.

Solution:

1. **Navigate to Currency Conversions**
2. **Selected 'EUR'**
3. **Change the 0.8064 'Unit value' to 1.2329**
4. **Change the 'Effective date' to any date *prior to* the invoice date (1/1/2019)***
5. **Save the changes**
6. **Reapply Currency Conversions**

***If you did not change the 'Effective date' from its defaulted date (today), the 'Save' action would have instead added a NEW conversion rate that becomes effective as of TODAY. This scenario leaves the incorrect conversion rate to apply to dates *prior to* today.**

Fiscal Years & Accounting Periods

Use this function to view the status of your accounting cycles and to Reprocess charges in a pending or open period. You can also use this function to close or reopen periods.

Systems licensed for Enhanced Chargeback may also use this function for...

- **Reconfigure accounting periods (for periods managed manually)**
- **Deleting a fiscal year (year contains only closed accounting periods and no charges or calls)**

What are Fiscal Years and Accounting Periods?

A Fiscal Year is an accounting cycle, typically one year, to match a business filing of financial statements.

By default, Fiscal Years are sub-divided into monthly *accounting periods*. The system comes with 3 fiscal years (for the current, preceding, and succeeding years) starting January 1st. A new fiscal year is always added when the current one ends.

Accounting Periods are timed cycles in a *Fiscal Year.* They are used for applying charges and running financial reports. Typically coinciding with months in a year, accounting periods are defined by their starting date and go through four stages -- *future*, *open*, *pending,* and *closed* -- in a partially automated sequence.

- **There is only one *open* period at a time. It ends (becomes *pending*) when the next *future* period starts. All charges are then reprocessed automatically. Reports scheduled to run at this time will have up-to-date charge assignments and allocations.**
- ***Pending* periods remain in that state until *closed* automatically by the system (System Preferences - auto-deletion parameter for charges). Systems that manage accounting periods manually (System Preferences - Accounting Period Management) can also close them manually using this function.**
- ***Closed* periods are locked to disallow any further changes. Systems that manage accounting periods manually (System Preferences - Accounting Period Management) can also open the latest closed period if billing changes are needed.**

Reprocess Charges

Use this feature to initiate the 'charge reprocessing' process immediately. This involves:

- **Redistributing internal charges (as per current distribution lists)**
- **Assigning recurring charges for the period**

> ***NOTE*: Normally, the system reprocesses charges after midnight, every night -- so that you only need to use this feature if you wish to see the day's charge assignments immediately (instead of waiting for the next day).**

1. **Access: Administration menu > System Configuration > Fiscal Years & Accounting Periods.**
2. **Click the Reprocess icon for the desired period.**
3. **When the pop-up message appears, click Continue.**

Close or Reopen a Period

Use this feature to close the oldest period in a 'pending' status or to reopen the latest period in a 'closed' status.

1. **Access: Administration menu > System Configuration > Fiscal Years & Accounting Periods.**
2. **Click the appropriate button 'Close <period name>' or 'Reopen <period name>'.**
3. **When the pop-up message appears, click Continue.**

> ***NOTE*: After an Accounting Period is closed, the period and its charges can no longer be changed.**
>
> **To create an archive of current data after closing a period, use the Manage Archives link.**

Delete a Fiscal Year

Use this feature to delete a fiscal year, after all its periods are closed.

1. **Access: Administration menu > System Configuration > Fiscal Years & Accounting Periods.**
2. **Select More Actions > Delete <FY name>.**
3. **When the pop-up message appears, click Continue.**

Reconfigure Accounting Periods

This function is available to a system administrator for managing accounting periods manually.

Procedure

1. **Access: Administration menu > System Configuration > Fiscal Years & Accounting Periods > More Actions > Reconfigure Fiscal Years & Accounting Periods.**

   The page will list all accounting periods, their status, start date, fiscal year, and comments.
2. **To edit current information, simply enter desired changes and save your settings.**

   > ***NOTE*: You will not be allowed to change the order of existing periods.**

3. **To add future period, click the Add icon and provide its name, start date, and comments.**

   If it is the start of a fiscal year, mark the box and provide the name for the fiscal year. Then save your settings.
4. **To remove a future period, click its Delete icon.**

   > ***NOTE*: You will not be allowed to remove any accounting periods with charges already assigned to them.**

Inventory Types

The Inventory Type table is used to classify and/or tailor inventory items for specific functions.

Call Accounting

This classification represents devices associated with on-premise telephone systems, to identify the origin/destination of calls in traditional call accounting. Its default types are the Extension, Hunt Group, and Voice Mail Port; installations with a Microsoft Lync telephone system will add the SIP URI inventory type.

Call Accounting inventory associated with an established CDR Source will be added automatically, any time new inventory items appear in the CDR data stream -- up to the licensed size for Call Accounting inventory.

Wireless Call Accounting

This classification represents wireless devices and accounts associated with a telecom service provider (source of invoices that contain call detail data and other charges). Its default types / products are the Wireless Account Numbers and Wireless Numbers.

- Wireless Account Numbers identify the entity under which most non-usage charges appear on the invoice.
- Wireless Numbers identify the device placing or receiving calls on the invoice.

The system allows you to further classify wireless numbers under one of five products (Air Card, Blackberry, Feature Phone, iPhone, Smart Phone). You may not configure new wireless call accounting types or products, nor associate product options.

Wireless Call Accounting inventory will be added automatically any time you import and process invoices with new wireless numbers - up to the licensed size.

Removing Unused Inventory Types

1. Access: Administration menu> System Configuration > Inventory Types.
2. Use the More Actions button and select Remove Unused Types.
3. The system will present a list of inventory types without any inventory records or references.
4. Mark those to remove, click Delete, and confirm.

Configuring Inventory Types

1. Access: Administration menu> System Configuration > Inventory Types.
2. For a new entry: select the type (call accounting, telecom, asset) from the Add drop-down button; to edit entry, click its *type* link. To clone an entry, locate it and select Clone.
3. Open the first tab to provide...

Attributes

Enter general information and enable features for this type of inventory:

- Type name
- ID Field caption (term will be used in forms and reports)
- Tab under which to list views of this type of inventory
- Visible in Personnel Directory -- choices: Always, no, or only when assigned to personnel

Systems with Inventory Management can also set:

- Inventory category (term will be used as sub-menu under the Inventory Management > Inventory menu, to list views of this type of inventory)
- Hierarchical display format -- choices: ID, ID (Name), Name, Name (D), Type (ID), Type (Name)

Mark supported functionality:

Feature	Available to	Description
Associate with a CDR Source	Call Accounting	Used as origin or destination of call records
Connected Inventory Items	Call Accounting	Informational feature, used to model physical equipment inter-connectivity
Separate charge and inventory assignments	All	Used for tracking inventory with charges assigned directly to a Cost Center, but have its usage assigned to a Personnel 'owner'

Inventory Type Images	**For types that will be visible in Personnel Directory, select the icon to use in that listing.** **The following list displays some choices:**

(cell phone)	**(voice mail)**	**(cog)**	**(monitor)**
(fax)	**(building)**	**(computer)**	**(phone)**
(modem)	**(calculator)**	**(drive)**	**(printer)**
(pager	**(camera)**	**(email)**	**(telephone)**
(extension)	**(car)**	**(house)**	**(webcam)**
(telephone)	**(CD)**	**(IPod)**	

4. **Open the Configure Inventory Item Forms tab to set up the fields in the add, edit, and general attributes detail forms:**

   Use the right and left arrows to move fields from the available to the selected list, then the up and down arrows to set the display order. To see how your selections will appear on the page, click Refresh Field Layout.

5. **When complete, save your settings.**

> ***NOTE:*** **To delete an entry, select ▼ Delete and confirm.**

You cannot delete the 'Extension' type nor types that have been already associated with inventory items or have been designated as the default type for CDR sources.

Announcements and Security Banner

Use this function to create messages relayed to all VeraSMART users at login.

- **The Security Banner, if enabled, appears before users log in.**
- **Announcements is a 'pop-up' displayed after users login.**

***NOTE*: See the *Using the 'HTML' Widget* topic below to add custom messages to any dashboard.**

Creating Security Banner & Announcements

1. **Access: Administration menu > System Configuration > Security Banner -- or -- Announcements.**
2. **Mark to enable this feature.**
3. **Enter the text to be displayed on the 'pop-up' page..**
   You may use the HTML editor to format your text.
4. **Save your entries.**

Using the 'HTML' Widget to Display Messages on a Dashboard

1. **Access: Administration menu > Reports > Dashboard Designer.**
2. **Select an existing dashboard or create a new one (see Using Dashboards for details).**
3. **To set up the display order in the Favorites and System Dashboards menus:**
4. **Click Add Widget, mark the 'HTML Content' (under Other), and then click on the Add to column (bottom of the selection box).**
5. **Click Edit settings to open the HTML editor.**
6. **Select the icon to show on the title bar for this widget, then enter your message.**
   You may use the HTML tools to format the text and add hyperlinks.
7. **Save your settings.**

Personnel Directory Configuration

The Personnel Directory is a configurable view of the Organization and Inventory tables that may be enabled/disabled for viewing. If enabled, MySMART users will be able to access it for quick Directory look ups. Non-authenticated users may also have access to it via its designated URL (outside the VeraSMART application).

Use this configuration tool to set up...

- **how users can access the Personnel Directory feature**
- **how they can search for names and phone numbers**
- **how the resulting page will appear**

> ***NOTE*: You can also use this tool to update current information from the Organization and Inventory tables into the Personnel Directory immediately.**
>
> ---
>
> **Unless updated manually using this tool, Personnel assignments get updated automatically once a day, at midnight.**

Configure Directory Access, Search, and Display

***HINT:* We suggest that you open the Personnel Directory page first (side panel): MySMART > Personnel Directory) and then access the configuration tool (Administration tab > System Configuration > Personnel Directory).**

This way, you will be able to see immediately the effect of your saved changes.

---

1. **Configure Settings:**
   a. **Authentication -- how users will access the directory:**
      - **To allow unauthenticated access, uncheck the 'Require authentication for Personnel Directory' box**
      - **To require authentication from ALL users, leave the 'Require authentication ...' box checked [and then make sure to set up all personnel in VeraSMART with either Microsoft login details or an e-mail address]**

      > ***NOTE:* In all cases, provide your employees with the Personnel Directory URL that appears on the page.**

   b. **Enable other directory page attributes:**
      - **List Personnel that have no inventory items assigned (default = disabled)**
      - **Auto detect hyperlinks in UDFs (if enabled, inserted fields that represent URLs will be recognized and displayed as Web links. Default = disabled)**
      - **Default view mode (Business card -or- Classic; individual users may switch modes at will)**

      > ***NOTE*: This option applies to user-defined fields that allow 'hyperlinks' in the format HTTP://xxx or HTTPS://xxx or //xxx -- where xxx is a web address.**

2. **Configure filters for users to search the directory:**
   - **For a new filter, select the field under the Add drop-down button.**
   - **To reorder the search filters, simply drag-and-drop the order number to the desired position.**
   - **To delete a filter, click its delete icon.**
3. **Configure the Business Card view by entering your choices in the display area.**
   Use the provided HTML tools to edit text, set font style, size & color, tables, bullets & numbering, alignment, links, and background color.
   - **Use the ENTER key to insert a new paragraph element. Use SHIFT+ENTER to insert a line break.**
   - **Use the Insert Macro button to select Personnel and Inventory fields and insert them into the HTML at the cursor location (fields will be represented in the format $Field Name$)**
   - **Use the Source tool to view and edit the HTML markup language that represents each directory entry -- for example, to insert images, mail links, etc.**

   > ***NOTE:* Make certain to enter valid HTML; incorrect syntax will result in garbled pages. See the Enhanced Personnel Directory (PDF) upgrade notes for tips on displaying Business Card views.**

4. **Configure the Classic view by selecting the fields to display as columns in a tabular form.**
   You can drag and drop field names from the 'available' to 'selected' panels or to change field order.
5. **When complete, save your settings.**

Refresh Directory (Today's Organization Changes)

1. **Access: Administration menu > System Configuration > Personnel Directory.**
2. **Select: More Actions > Update Cache and confirm.**
3. **An informational message displays 'The update of Personnel Directory has started. Monitor progress in the Status Log.'**

> ***NOTE*: Unless refreshed manually using this tool, Personnel assignments get updated automatically once a day, at midnight.**

Push Endpoints

This utility allows system administrators to configure the specific push endpoints and settings to specify the external system to be informed when status updates occur during the mobility ordering or ticket process. Once configured, these endpoints can then be selected when configuring individual workflows.

Adding/Editing an Endpoint

1. Navigate to: Administration > System Configuration > Push Endpoints
2. Click Add or the Endpoint name link.
3. Configure the endpoint Attributes.

Name	Name of the push endpoint
URL	The application will post the state of the ticket to this URL -- this URL will be contacted by VeraSMART every time a mobility order or ticket undergoes a transition, as defined in its workflow.
Format	Ticket status format -- choose either 'Simplified ITSM' or 'Standard'.
Push Failure Notification Email	The email address to receive notifications for status-update failures -- this email will be notified if VeraSMART fails to push a ticket-status update to the configured URL. *NOTE*: This function is not applicable to tickets created from within the application. VeraSMART will only send failure notifications for tickets that it has imported from an external source.
Certificate	If VeraSMART detects that a certificate has *not* been installed, it will default to 'Do not use a certificate', otherwise the user can select the certificate name from the drop-down list, or chose to leave it as 'Do not use a certificate'. In order for a certificate to appear in the selection list, VeraSMART must have access to its private key. You may not see every certificate installed on the host -- the Windows system settings govern which applications may access a certificate's key.
Validate Certificate	VeraSMART will validate the certificate when it sends an update. If the selected certificate is invalid, the application will record a failure in the "Casw" log and will not push an update. Check for yes, unchecked by default. Because certificates expire, it is possible that a certificate may be valid when selected, but invalid when the application attempts to push the update.
Basic Auth Username	When provided, the status update requests will contain a standard HTTP basic authentication header with this username.
Basic Auth Password	When provided, the status update requests will contain a standard HTTP basic authentication header with this password.
Confirm Password	A confirmation field used to ensure that you have correctly entered the Basic Auth Password.

4. Save your changes.

System Logs

Access system logs from the Help menu.

This section describes the following logs:

- **Audit Log**
- **Message Log**
- **E-mail Log**
- **EZ-Share Log**
- **Status Log**
- **Delete Imported Assigned Charges**

Audit Log

System administrators can use this function to display all activity logged for the selected users and system processes, within the specified time period.

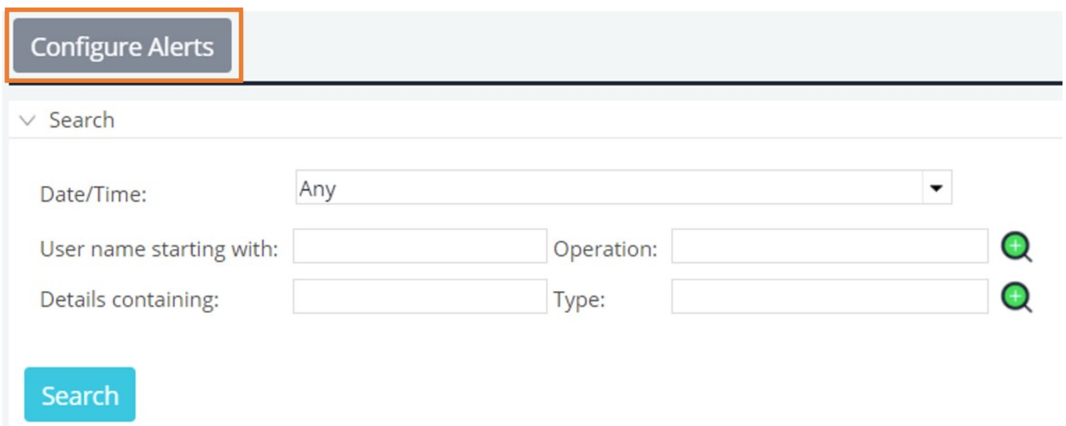
> **The grid displays the date and time, a user's IP address and name, as well as all logged activities (operation / details) performed during the user's work session.**
>
> **System processes responsible for database activities -- for example, [Import] -- will appear under the User Name column.**

1. **Access: Help > Logs > View System Audit Log**
2. **To focus the display, you may filter by date range, operation, details, a/or username.**

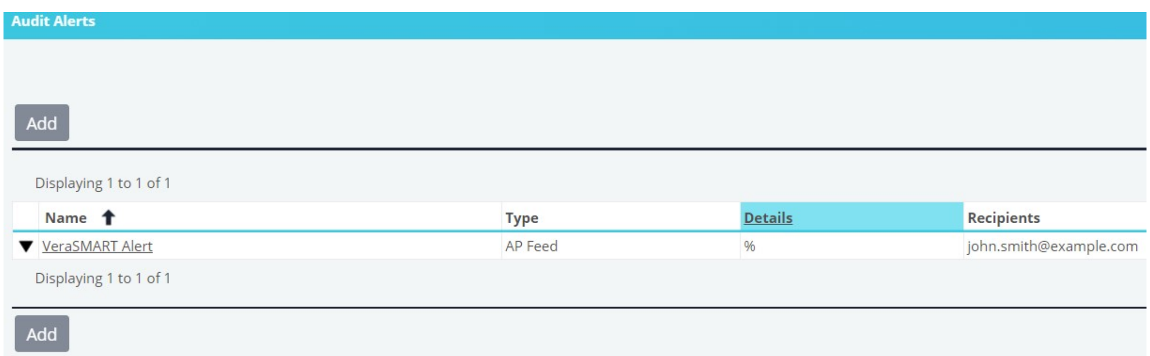
This log is cleared every month, using the system setting: "Automatically delete raw call records and log records older than" from System Preferences.

Configure Audit Log Alerts

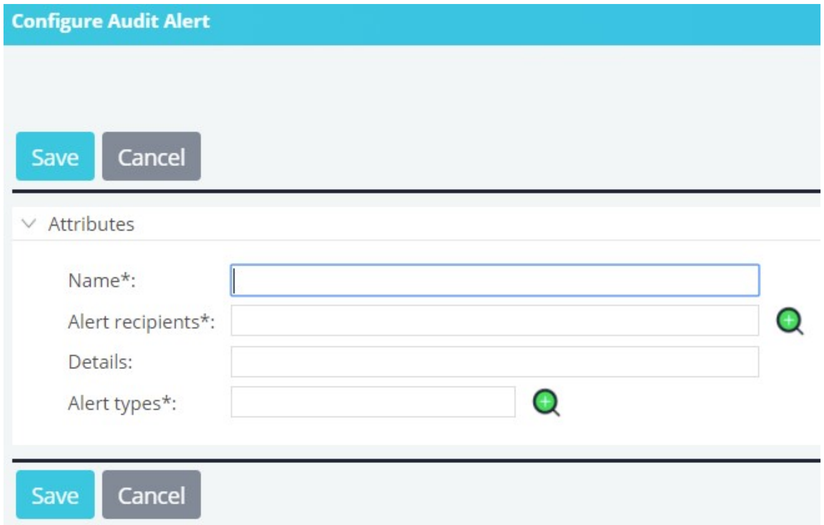
1. **Help > Logs > View System Audit Log**
2. **Select Configure Alerts.**



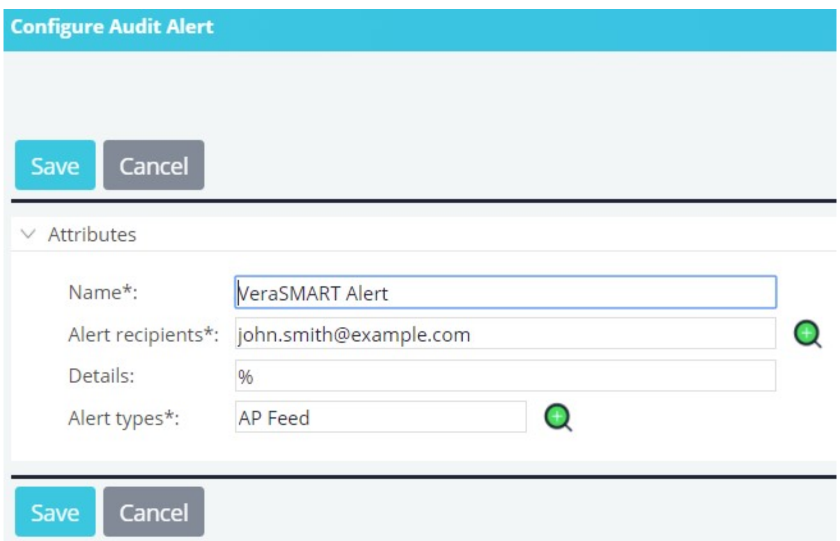
3. **From The Audit Alerts page, you can see a list of the alerts that currently exist.**
   - **If you wish to edit a specific instance, click the down arrow next to the Name.**
   - **Be sure to Save after you make changes.**
4. **To create a new Audit Alert, select Add.**



5. **Fill in the required fields (indicated with *).**



6. To select Alert recipients or Alert Types, click the search magnifying glass.
   - Check the box next to the record(s) you wish to add.
   - Click select.
7. If you leave the Details field blank, it will search for all changes related to that Alert type.
   - You can specify the changes for which you would like to receive alerts by typing that information into the text box.
   - In order to narrow your alert notifications, reference the System Audit Log Details column to match on values for the alert you want to configure.
   - Use the % sign to indicate searching for all changes, or ? to search for any single character.
8. Your new alert will populate here:



9. When the system audit event occurs, you will automatically receive an email notification.
   - NOTE: VeraSMART must be configured with an email server to receive system audit alerts via email.
   - Here is an example of the email contents:

There has been VeraSMART activity matching your alert 'VeraSMART Alert':
Date/Time: 10/27/2017 11:39:18 AM EDT
IP Address: 172.28.36.145
User name: Smith, John (11)
Type: AP Feed
Operation: Edit
Name: Cardenas, Anna
ID: 12
Details:

Message Log

System administrators can use this function to view a log of system messages since the last time they were purged.

1. **Access: Help Menu > Logs > View Message Log.**
2. **To focus the display, select the severity (All = default):**
   - **Fatal**
   - **Severe**
   - **Warning**
   - **Informational**
   - **Miscellaneous**
3. **To reload the page (and display any new messages since last accessed), click Refresh Message Log.**
4. **To purge all messages from the log, click Clear Message Log.**

> ***NOTE:*** **A bulk operation that would result in errors will be logged, with a link to the Error Log for further information and corrective action.**

E-mail Log

Users with access to this function can view the log of all instances where the system has used e-mail.

1. **Access: Help menu > Logs > E-mail Log.**
2. **If necessary, search by the Sent by, Received by, and/or Mail source filters.**
3. **The page displays a listing with these columns (all sortable):**
   - **Date sent**
   - **Sent by**
   - **Received by**
   - **Mail source**
   - **Additional information**

EZ-Share Log

Users with access to this function can monitor the status of system data exports generated via EZ-Share Export recently.

Information includes the export ID and given name, the user that initiated it, start/end run dates, and completion status.

NOTE: **Log entries will periodically be purged by the system cleanup process (storage time limits and other defaults specified via System Preferences).**

1. **Access: Help menu > Logs > View EZ-Share Log. The log notes if a process is running, completed successfully, or with errors.**
2. **Locate the entry of interest.**
   - **Processes with an “Error” status display a link to the message log for further information and corrective action.**
   - **Running processes display a "cancel" link (if they are in a state that allows cancellation).**
3. **To refresh the log, click the Refresh Log link.**

Status Log

Users with access to this function can monitor the status of system tasks.

1. **Access: Help menu > Logs > View Status Log.**
   You can also access the Status Log from the notification message, after initiating a task.
2. **The log notes if a process is running, completed successfully, or with errors.**
3. **Select what to view: ALL or a specific process from the system list.**
4. **Locate the entry of interest.**
   - **Processes with an "Error" status display a link to the Message Log for further information and corrective action.**
   - **Running processes display a "cancel" link (if they are in a state that allows cancellation).**
   - **Imports display a link to the Import Changes Log for information on records added, edited, and deleted.**
5. **To refresh the log, click the Refresh Log link.**

Job Log

The Job Log is for System and VeraSMART administrators to verify that the VeraSMART service is running, as well as the state of various VeraSMART jobs that run in the background.

- **Use the search section to filter on specific job names. You can also search on jobs that are running vs. not running.**
- **View the second section to verify that the VeraSMART service is running. This service should always be running unless there is scheduled maintenance on the VeraSMART system.**
- **View the third section to view the schedule of background jobs. All columns are sortable.**

Delete Imported Assigned Charges

Use this function to delete the list displaying recently imported, one-time assigned charges.

1. **Access: Help menu > Logs > View Status Log.**
2. **Look for an 'Assigned Charges' Import/Export entry and click its Delete these imported charges link.**
3. **A page appears, listing all Assigned Charges records from the import stream.**

   Click the 'Delete and Return' button to confirm the deletion of these charges. Cancel returns to the prior page without deletions.

Reference

The following resources can provide you with additional information:

- **Glossary**
- **Installation and Setup**
  - **System Requirements**
  - **Setup Guide**
  - **Product License**
  - **Checking for Updates**
- **Wireless Invoice Downloads**
  - **AT&T Wireless Invoices**
  - **Bell Mobility (Canada)**
  - **Sprint (PDF format)**
  - **T-Mobile Invoices**
  - **TELUS Mobility**
  - **US Cellular Invoices**
  - **Verizon Wireless Invoices**
- **Call Collection Guides**
- **Feature/Setup Guides**

Glossary

You may click on a link (in blue) below to advance to the first topic beginning with that number or letter.

Numbers	A	B	C	D	E	F	G	H	I	J	K	L	M
	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

***69 Calls**
Number dialed for 'Call Return' -- a telephone feature code offered by telephone service providers in North America to give a called party the time and telephone number of the last received call, and may also offer the facility to place a call back to the calling party.

10xxx (Dial-around Service)
Access code (unique per long distance carrier) dialed before the normal 1+Area Code+Number used to route that call through the carrier associated with that particular access code, instead of your PIC.

Account Code
Telephone switch feature dialed to tag calls – by subject matter, client, etc. – typically, for billing purposes. When users dial an account code during a call, the code is included in the call record. VeraSMART Account Code Detail report provides information on call activity related to accounts.

Account Number
Alphanumeric code in a vendor invoice that identifies a customer account.

Accounting Period

A timed cycle in a *Fiscal Year* used for applying charges and running Charge Assignment reports. Typically coinciding with months in a year, accounting periods are defined by their starting date and cycle through four stages -- *future*, *open*, *pending,* and *closed* -- in a partially or totally automated sequence (depending on System Preferences and license).

- **Systems without the Enhanced Chargeback license have fixed monthly accounting periods. These become "open" the first day of the current month and "pending" at month's end. Pending periods will close automatically when they become older than the System Preference for number of days to keep charges.**
- **Systems with Enhanced Chargeback have the ability to configure accounting periods and fiscal years and manage them manually (see Accounting Period Management in System Preferences).**

Pending periods allow billing changes until they are "closed." After the closing of a period, the system disallows further changes.

Action Lists (Business Process)
Refers to allowing 'ticket actions' (= new ticket requests) from product pages other than the Process Management menu (for example, from Inventory Items or Personnel list views and forms). Attribute of workflows that do not have catalog associations.

Ancillary CDR source

A term for a telephone system that handles call traffic for its own set of local extensions, but its CDR is reported as if collected from another telephone system (known as the "primary" CDR Source).

As a result, all call rating, Inventory, Authorization Code, Account Code, and other CDR Source-related tables will also be associated with the primary CDR Source and its calling area.

Archives
Files containing a "snapshot" of the database from a specific time period. They can be restored as the "active archive" for reporting purposes.

ATM PVC
ATM (Asynchronous Transfer Mode) is a standard switching technique designed to unify telecommunication and computer networks. It operates as a channel-based transport layer, supporting the use of PVCs (Permanent Virtual Connection/Circuit).

Audit Trail
A report that lists all logged operations performed by system users and processes.

Authentication

Mechanism used to recognize/validate a user with an active Personnel record that is accessing the application. The system provides two embedded authentication methods:

- ***VeraSMART Form Authentication* -- uses the login ID or e-mail address and the password as configured in the user's Personnel record. , whereby the users' login ID and password are administered by an external system.**
- ***Integrated Windows Authentication* -- uses the Windows domain account as configured in the user's Personnel record. No password is required to users logged into their Windows network.**

The system supports 3rd party form-based and/or single sign-on authentication tools.

Authorization Code
Telephone switch feature whereby users dial their assigned code to charge a call and/or to use restricted-access facilities. Call Accounting Systems allow associating authorization codes with personnel and cost centers to charge back a call, regardless of the call origin.

Business Hour Schedule
The time ranges of each day of the week and holidays considered 'business hours' and which should be included or excluded in a time calculation for ticket escalation rules.

Business Process
A mechanism designed to tailor service tickets for specific business applications — such as managing requests for IT & telecom services, Human Resource services, client support / help desk, quality control tracking, equipment loans, etc. A *business process* defines a specific sub-system, with its own set of attributes -- such as statuses, priorities, workflows, escalation rules, etc.

Cable
Groups of wires encased in a sheath. These wires are known as pairs or strands and are specifically used for carrying voice, data, or video signals. The system uses the *source* and *destination location* (user-defined fields) to store the termination points for a cable. Copper wires usually terminate on a terminal block on an MDF (main distribution frame), IDF (intermediate distribution frame), wiring closet, wall outlet, etc. Fiber strands usually terminate on such a device as a router, multiplexer, switch, hub or LAN server.

Call Home
Refers to an emergency poll request from a Pollable Storage Unit (PSU) nearing full capacity. The system allows dedicating a modem port for receiving 'Call Homes' from PSUs.

Catalog
A flexible means of grouping 'orderable' products via ticket pending actions. Products represent inventory and other billable items, either singly or as a bundled set. They have such attributes as vendors and may include images.

CDR
Call Detail Recording (formerly known as SMDR – Station Message Detail Recording). A telephone switch capability in which the details concerning the path of a call from originating to termination are recorded in the form of a call record. CDRs include such information as date, time and duration of the call, the call origin and destination, carrier service used, account and/or authorization code (if used), ring time (incoming call, if the switch provides it), and cost of the call (if the source of the call has computed it).

Charge Codes
Identifiers for items, feature, or services (such as digital sets, voice mail, caller ID, installation, repair, etc.), that have associated "recurring" or "one-time" charges. The system allows predefining charge codes and assigning them to inventory items, authorization codes, personnel, and cost centers. These charges are included as additional line items in charge assignment reports.

Charge Tag
Informational groupings of invoice charges for tracking expenses across vendors (for example, *Taxes*, *Usage*, *Equipment*, *Late fees*, etc.). Charge Tag Mapping is the process that matches a *Vendor Charge Description* to a Charge Tag at the time the invoice charge is imported.

The system provides a default set of charge tags for these purposes:

- Internal (for assigned internal charges via charge codes, rules, or tickets)
- Uncategorized (for master account charges)
- Voice (for call type charges)

CLI or CLID
or Calling Line Identification (CLI or CLID), also called *Caller ID*. A service provided by local telephone companies on a per-line basis to pass to their subscribers (in digital form) the phone number of their callers.

Contact
An individual or organization, typically outside the user's organization, which could request service or place an order via the Business Process workflow. The table of Contacts is designed as a quick look-up table to help in entering 'requested for' information (name, number, e-mail) for business processes that enable this feature.

Dashboard
The viewing area in the VeraSMART home page, where users can select to display widgets for quick views of system data.

DIA
Dedicated Internet Access. Line that allows a direct connection to an Internet service provider.

DID
Direct Inward Dialing. Line that allow dialing individual telephone extensions directly from outside, without going through a central switchboard.

DNIS
DNIS (Dialed Number Identification Service) is a telephone feature -- common in 800 and 900 lines -- that identifies the specific number that the caller dialed to reach the premises; this feature allows redirecting/answering the call to/by the appropriate call center.

DS3
Digital Signal 3. A digital signal level 5 T-carrier or T3 line, mostly used between telephony carriers, both wired and wireless.

DSL
Digital Subscriber Line. Technology that provides digital data transmission / high-speed Internet over the wires of a local telephone network. DSL can be used at the same time and on the same telephone line with regular telephone, as it uses high frequency, while regular telephone uses low frequency.

E.164
The 'international public telecommunications numbering plan' recommendation that establishes a standard framework for every country to create its own international phone numbers. An international E.164 number is designed to include all of the necessary information to route a call to an individual subscriber on a nation's public telephone network. VeraSMART rating supports E.164-compliant numbers, with these attributes:

- A telephone number has a maximum of 15 digits
- The first part of the telephone number is the country code (one to three digits)
- The second part is the national destination code (NDC)
- The last part is the subscriber number (SN)
- The NDC and SN together are collectively called the national (significant) number

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EBF
Electronic Billing Format. The Invoice Management subsystem that allows users to import vendor invoices from file. EBF accepts proprietary invoice data files from many vendors, who typically deliver them via CD-ROM or Web downloads. EBF also allows imports from user-prepared Excel and text files, as well as manual entry of invoices (for simple, billable charges).

Erlang
Unit used in telephone traffic calculations, representing the amount of traffic during the *busy hour* (= calls per hour x average call duration). For example, if we expect 300 calls/hour with an average duration of 10 minutes (1/6 hours), then the busy hour traffic is 50 Erlangs.

Escalation
Mechanism by which to monitor the current state of tickets in Process Management, to ensure that the workflow is progressing in an acceptable manner. The system allows setting up 'escalation' rules for a class of tickets, which typically involve some type of timing criteria (business hours spent in a certain status of completion) and actions that involve e-mailing responsible personnel for the delay.

ESN
Electronic Serial Number, a 32-bit control number used for cell phone activation in wireless carrier networks.

Evergreen
A contract that is renewed automatically until cancelled by one party.

Exchange
The second group of three digits in the dialing pattern "NPA-NXX-XXXX" of the North American Numbering Plan (NANP), designating the Central Office code of the customer station.

Extension
A term corresponding to the number of a voice terminal or telephone station; also, the field in a call record that contains this number, indicating the origin of an outgoing call or the destination of an incoming call.

EZ-Burst

Term for a report output available to a Call Detail by Organization, Assigned Charges Report, Allocated Charges Report, or Account Code Detail that results in the report sectioned off into individual sub-reports by department, cost center, or account code with the appropriate sections e-mailed as zipped files or made available by links (as configured in its EZ-Burst Distribution List)

Fiscal Year

An accounting cycle, typically one year, to match a business filing of financial statements.

Fiscal Years are sub-divided into *accounting periods* and are used in budget reporting and analytics. The system, by default, operates using a 'monthly' accounting period method. It comes with 3 fiscal years (for the current, preceding, and succeeding years) starting January 1st. A new fiscal year is always added when the current one ends. Fiscal Years cannot be deleted.

Form authentication

Mechanism used to recognize the user with an active Personnel record and validate his/her login with a password.

The embedded method ('*VeraSMART Form Authentication*') uses the login ID or e-mail address and the password as configured in his/her Personnel record. The system allows installing a 3rd party form-based authentication tool, whereby the users' login ID and password are administered by an external system.

Format
The arrangement or layout of data. In systems with the Call Accounting module, the call collection process that translates switch-specific call record layouts into a standard form, suitable for use by the rating, storing, and reporting functions.

Frame Relay
Data transmission technique used to send digital information. Network providers commonly implement frame relay for voice and data as an encapsulation technique, used between local area networks (LANs) over a wide area network (WAN). Each end-user gets a private line (or leased line) to a frame-relay node. The frame-relay network handles the transmission over a frequently-changing path transparent to all end-users.

GL Segments
GL (general ledger) coding is a widely used accounting tool for managing financial information for an organization. GL coding is structured as a set of multiple segments, each representing an entity or aspect of an organization -- such as cost centers, regions, projects, etc. -- that has activities that generate expenses and revenues. VeraSMART TEM supports up to 10 segments used for allocating invoice expenses and posted internal charges (default = one segment, with values from the 'Cost Center' table).

Grade of service (GoS)
The probability during the busy hour that a phone call may not be serviced because all trunks within a facility are in use. The GoS is calculated using the 'Erlang B' formula (see article in Wikipedia for details).

IMEI
International Mobile Equipment Identity, used by the GSM (Global System for Mobile Communications) network, to identify valid devices

Internal Charges
Charges for features or services assigned to inventory items, authorization codes, Personnel, or Cost centers either manually or via charge rules or tickets. Internal charges are the result of...
(1) a *one-time assignment* (full or allocated) via the All Charges function
-- or --
(2) a *recurring assignment* via the Charge Rules function.

Inventory
The collection of inventory items, typically representing an access point into the telephone network and having such attributes as an ID, 'bill to' entity (personnel or cost center), privacy, and location.

Inventory can be assigned to Personnel or directly to a Cost Center. Certain types of inventory can be configured to have split assignments: charges assigned to Cost Centers; ownership to Personnel from a different Cost Center. In addition, inventory *assigned* to cost centers can be associated with one or more Personnel records (as in a phone pool).

Invoice
In a system with Invoice Management, a statement of itemized account and billing number charges from a vendor. Line item charges can be assigned to personnel, cost centers, and/or billing numbers on a particular accounting period. These charges will appear in Charge Allocation reports.

Invoice Account
The vendor-customer relationship involving contractual services for a set of invoice items under the account. When services are billed in an invoice, appropriate charges are then applied to the individual items and/or directly, to their parent account.

An account may have any number sub-accounts. The top level -- the *master account* -- is the VeraSMART entity associated with payment tracking for vendor invoices.

Invoice Item
Item in a vendor invoice being billed for services rendered.

Invoice items may correspond to either inventory or some other feature or option, for which there is some contractual agreement under an invoice account with the vendor.

ISDN
Integrated Services Digital Network. A public end-to-end digital communications network which has capabilities of signaling, switching, and transport over facilities such as wire pairs, coaxial cables, optical fibers, microwave radio, and satellites, and which supports a wide range of services, such as voice, data, video, facsimile, and music, over standard interfaces.

Jitter
A measure of the "evenness" of pulses or packet transmissions; it is provided as a mean deviation of the spacing between packets during a phone call. In Voice-over-IP networks, it is a "quality of service" measurement, as voice packets sent during a phone conversation must have a consistent flow to avoid "jittery" or choppy sounds.

Jurisdiction
Territories under a telecom regulatory authority. Standard rate plans will offer a database of dialed patterns that will be able to derive the following:

In-Country Jurisdictions	
NANP:	**Non-NANP:**
In-LATA In-State	Local
In-LATA Inter-State	National
Inter-LATA In-state	Mobile
US Inter-State	Short Code
Alaska	Operator Assisted
Hawaii	Premium
Canada	Non-Geographic
Caribbean	Toll Free

International Jurisdictions (NANP and non-NANP)

- ***Country name***
- ***Country name* - Mobile (if available)**

Latency
The time that it takes for a packet of information to reach its destination. In Voice-over-IP networks, it is a "quality of service" measurement, as too much lag-time or delays in packet deliveries contribute to speaker and listener talking over each other.

LDAP
Lightweight Directory Access Protocol. In TCP/IP, a protocol that enables users to locate people, organizations, and other resources in an Internet or intranet directory.

Local Rate Methods

Regional telephone companies (Telcos) offer a choice of local services with different rating structures. These may include:

- ***Flat rates*** **- service includes free local calls for a fixed monthly amount.**
- ***Measured rates*** **- service includes a certain number of free local calls; additional calls incur a per call charge.**
- ***Message rates*** **- service charges are structured into "message units" based on call length and/or distance ("local bands").**

VeraSMART has built-in local rates for all major Telcos and will apply them once you select the rate method.

MACDs
Moves, adds, changes, and deletes. Refers to the administration necessary when users are added to, removed from or change their location, inventory, or devices in the telephone network and/or company organization.

Meter Pulses
Signals sent by telephone exchanges to metering boxes and payphones aimed at informing the caller of the cost of ongoing telephone calls. Each pulse represents a certain fixed cost; more expensive calls generate more pulses per minute than cheaper calls.

MPLS
Multiprotocol Label Switching. Data carrying mechanism, designed to provide a unified data-carrying service for both circuit-based clients and packet-switching clients.

NANP (or NADP)
North American Numbering Plan (or North American Dialing Plan). The telephone numbering system for the United States, US territories (Caribbean and Pacific), Canada, and some Caribbean nations. It is a system that uses country code = 1 and phone numbers consisting of a 3-digit area code + 3-digit local exchange or Central Office + 4-digit subscriber station. The following table displays calling areas in the NANP zone outside the continental U.S.A.

For an up-to-date listing of area codes, visit http://www.lincmad.com/otherplaces.html.

Country	Area Code	Country	Area Code
American Samoa (US)	684	Guam (US)	671
Anguilla (UK)	264	Jamaica	876
Antigua & Barbuda	268	Mariana Islands (US)	670
Bahamas	242	Montserrat (UK)	664
Barbados	246	Puerto Rico (US)	787, 939
Bermuda (UK)	441	St. Kitts & Nevis	869
British Virgin Islands (UK)	284	St. Lucia	758
		St. Maarten	721
Cayman Islands (UK)	345	St. Vincent & the Grenadines (UK)	784
Dominica	767	Trinidad and Tobago	868
Dominican Republic	809, 829, 849	Turks & Caicos (UK)	649
Grenada & Carricou	473	US Virgin Islands (US)	340
Canadian area codes: 204, 226, 249, 250, 289, 306, 343, 403, 416, 418, 438, 450, 506, 514, 519, 579, 581, 587, 604, 613, 647, 705, 709, 778, 780, 807, 819, 867, 902, 905			

Non-NANP are the countries outside the NANP. Telephone numbering varies by region, although there is a movement to standardize to 10-digit numbers, composed by country code + city code + subscriber station. Country codes have starting numbers as follows: Africa=2; Europe=3 and 4; South America=5; Pacific=6; Russia=7; Far East=8; Middle East=9. National and international calls are typically recognized by the toll codes 0 and 00; calls without toll code are intra-city local.

Off-Net Calling
A phone call that originates on the network but the destination is not on the network.

On-Net Calling

A phone call that stays on a customer's private network from beginning to end.

Packets
A unit of data routed between an origin and a destination — for example, a word or chunk of digitized voice information in Voice-over-IP networks. The Quality of Service report is used to monitor "lost packets" levels in VoIP networks; the loss of packets is typically due to traffic "collisions" and contributes to garbled communications.

Pair/strand
'Pair' refers to two copper wires, typically insulated and twisted around each other ('a twisted-pair') to reduce interference. A 'strand' refers to a single fiber strand in a fiber optic cable. Pairs/strands in one cable can be cross-connected to pairs/strands in other cables to create a complete circuit or route. The system uses the concept of

'assignment' to identify the inventory item (typically the extension or phone number) that is attached/serviced by the connecting cables that comprise the entire circuit or route.

PIC
Primary Interexchange Carrier identification code.

POTS
Plain Old Telephone Service. Voice-grade telephone service that remains the basic form of residential and small business service connection to the telephone network in most parts of the world.

Privacy
A feature offered by some telephone systems, whereby called numbers are partially or entirely hidden from view. Privacy may be offered for specific extensions, for calls marked by "private" access codes (if used by the telephone switch), and/or for all outgoing and/or CLI incoming calls in general.

Product
In VeraSMART, 'products' represent equipment or other billable items in generic terms. They have common attributes (product families, vendors, part numbers, images, descriptions) and can carry one-time and recurring charges. Two or more products can be aggregated into another product as a 'bundle.' The system uses the concept of 'Catalog' as a flexible means of grouping 'orderable' products via ticket pending actions.

PSTN
Public switched telephone network. The worldwide voice telephone network. Also called the "plain old telephone system" (POTS) and originally analog only, the heart of most telephone networks today is digital. However, the lines from the home and office to the digital loop carrier (DLC) junction box in the neighborhood typically remain analog. At that point, analog signals are converted to digital.

PSU
Pollable Storage Unit. A device that collects call record data from telephone systems and is able to transmit them when polled. VeraSMART can interface with PSUs via these collection methods: PollComm Direct, PollComm Network, and PollComm Remote.

Quality of Service (QoS) Report
A report that provides statistics to monitor the quality of digitized voice transmissions. This report will provide information on the three major QoS measurements: Packets lost, Jitter, and Latency.

Queue Time
The time that an incoming call spends in a queue, waiting to be transferred to its destination.

Rate Plan
The set of call rating instructions. VeraSMART supports these types of plans:

- Standard plans (use a built-in database of local rates for major US metropolitan zones and phone number patterns that can identify the destination of calls. These plans come with a default rate for non-local calls, which users can edit for more accurate costing)
- Custom plans (separately-installable rate plans, orderable from VeraSMART support for users that wish for more accuracy or less hands-on configuration)
- Special rate plans (created and maintained by users, who have to define rates for specific dialed patterns)

Systems with the Multinational license also offer standard, custom, special, and meter pulse rate plans for calls originating outside the North American Numbering Plan (NANP) zone.

References

(a) In the context of *inventory items*, "referenced inventory items" are cross-references created for informational purposes only.

(b) In the context of *tickets*, "references" are items and/or actions associated with tickets, as allowed for the workflow. Reference types can be other tickets, add/edit/deactivate personnel, inventory, or auth. codes, upgrade inventory, add charge/charge rule/allocated charge, or add inventory associations and/or references -- see (a) above.

Ring Time
The period of time that callers hear a ringing signal, waiting for the call to reach its destination and to be picked up.

Role
A job function associated with the performance of certain VeraSMART operations. For example the role = Organization Administrator is associated with 'moves-adds-changes-deletes' in the Organization database.

Security Group
Mechanism used to define sets of system roles and data restrictions for assignment to users. Members of a security group enjoy all the login rights of the group.

SBC

Session Border Control. A device deployed in Voice over Internet Protocol (VoIP) networks to govern the manner in which phone calls are initiated, conducted and terminated. Used for the purpose of security as well as bypassing long distance charges.

Single sign-on authentication
Mechanism used to validate a user with an active Personnel record that is accessing the application via his/her network login or by some other 3rd party single-sign on solution. This method does not require a password.

The *Integrated Windows Authentication* method uses the Windows domain account as configured in his/her Personnel record.

SIP trunking
Session Initiation Protocol (SIP) trunking is the use of voice over IP (VoIP) to facilitate the connection of a private branch exchange (PBX) to the Internet. In effect, the Internet replaces the conventional telephone trunk, allowing an enterprise to communicate with fixed and mobile telephone subscribers worldwide. (SIP is an IETF standard for initiating interactive multimedia user sessions; a trunk is a line or link that can carry many signals at once, connecting major switching centers or nodes in a communications system.)

In order to take advantage of SIP trunking, an enterprise must have a PBX that connects to all internal end users, an Internet telephony service provider (ITSP) and a gateway that serves as the interface between the PBX and the ITSP. One of the most significant advantages of SIP trunking is its ability to combine data, voice and video in a single line, eliminating the need for separate physical media for each mode. The result is reduced overall cost and enhanced reliability for multimedia services.

With SIP trunking, subscribers can:

- Initiate and receive local and long-distance calls
- Use fixed and mobile telephone sets
- Employ e-mail and texting
- Browse the World Wide Web

SMTP
Simple Mail Transfer Protocol. A TCP/IP protocol that governs electronic mail transmissions and receptions.

SNMP
Simple Network Management Protocol. An Internet protocol for managing devices on IP networks. It is used mostly in network management systems to monitor devices for conditions that warrant administrative attention. VeraSMART now supports an SNMP agent for 'NO CALLS' alerts.

Special Code
A code or "tag" placed in a call record by some call record formats. They can also be added by users via the Special Call Processing function for reporting purposes (for example, "VM" for voice mail calls).

SSL
Secure Sockets Layer. Cryptographic protocol that provides security and data integrity over the Internet.

Summarized view
A depiction of data from a *list view*, but which is...

(a) summarized by key fields vs. aggregate field values (total count, total/avg/min/max value, or earliest/latest time) as pre-configured by an administrator -- and --

(b) selectable by users from the *list view* page as their choice of tabular mode or bar, line, or pie chart.

Switch
The term for the software-controlled communications processor complex that interprets dialing pulses, tones, and/or keyboard characters, and makes the proper interconnections both within the system and external to the system. The switch itself consists of a digital computer, software, storage, and carriers with special hardware to perform the actual connections. A switch provides voice and/or data communications services (including access to public and private networks) for voice and data terminals on a customer’s premises.

Tandem call
A connecting call in a telephone network, coming into a switch through one line and transferred out again through another.

Ticket
The main unit of data in Process Management. It represents a request for work to be done and is often associated with actions that result in Directory moves-adds-changes and/or assignment of charges and/or inventory. tickets may be configured for specific business applications — IT/telecom service orders, client support/help desk tickets, quality control tracking, etc. — via the 'ticket classes' and 'types' mechanism.

Tie Line

(1) A dedicated circuit linking two switches in a network of telephone switching systems. Such networks are commonly used in companies distributed over a wide geographical area: callers at any node can dial remote extensions as if they were on-premises; they can also go off-net to place a local call through a remote exchange. Because this is a cost-efficient routing method, individual switches are programmed to keep calls on-net as much as possible, and then use the closest node to the called number to go off-net and use public phone lines.

(2) VeraSMART option designed for businesses using a network of telephone switching systems interconnected by private "Tie" Lines. Tie Line reconciliation can track all legs of an off-net Tie Line call across multiple switches, in order to create a single call record and thus re-assign the call charges to its on-net origin.

Trunk
The call accounting term for a communication channel between two switches; the field in a call detail record that contains the identifier for the specific route used by the call. Also known as "line," "used access code," and "circuit ID."

Trunk Group
The call accounting term for a group of telephone Trunk/lines programmed at the switch to carry calls requiring a specific telephone service. This telephone service may be for incoming and/or outgoing traffic, billable as per its designated rate plan.

USOC
Universal Service Order Code, used by telecom vendors for identifying services and equipment. The system provides the ability to search invoice reports and listings by USOC.

UTC
Universal Time Coordinated. Also known as Greenwich Mean Time.

VAT
Value added tax. In terms of call tariffs in Europe and other parts of the world, a tax applied to the cost of a call. Carriers or service providers may or may not include the VAT in their rate tables; ultimately, however, VATs are passed on to the subscriber.

Vendor Charge Metrics (VCM)
Mechanism used to correlate and compare vendor charges with specific invoice accounts and billing numbers for the purpose of tracking charge amounts and authorizing their payment. The system creates a VCM record for each new account/billing number charge. The record contains the charged amount and alert threshold values. Invoice sources with payment authorization enabled will compare the charges on subsequent invoices and alert users if the amount exceeds a set threshold.

Widget
Small, interactive data display blocks available for users to add to their VeraSMART dashboards. The system provides a built-in set (call records, Grade of Service, invoice work queues, invoice charges, ticket views, etc.). System administrators can also make new ones available (by creating summarized views of Administration tables).

Wild card
The characters "%" and "?" – used as follows: % = matches any number of characters in that position; ? = matches a single character in that position.

Work queue
A listing of items that wait for some action within a process workflow -- for example, an invoice may be placed in a queue used for auditing charges. Work queues are specialized list views, designed to assist whoever has been assigned the work, to complete it in a timely manner. A default work queue is created when the workflow is configured; however, users may add any number of user-defined work queues via the User-defined Views for any table that supports this feature.

Workflow
The mechanism used to tailor a business process for such applications as managing invoice processes, contracts, or simple requests for equipment, IT, or other services, MACDs, help desk, etc. Each workflow has an associated set of field configurations for ticket add, edit, and detail forms, as well as allowable options — MySMART access, ticket requests by e-mail, charges and Organization changes, status transitions, catalog associations, etc.

Installation and Setup

The following pages can provide you with setup information:

- System Requirements
- Setup Guide
- Product License
- Checking for Updates

System Requirements

These are guidelines to meet minimum requirements for VeraSMART operations.

Operating System

Version	Edition
Windows 7	Professional, Ultimate, or Enterprise (x86 or x64)
Windows 8.1	Professional, Ultimate, or Enterprise (x64 only)
Windows 10	Any edition which includes IIS
Windows Server 2008	Standard or Enterprise (x86 or x64)
Windows Server 2008 R2	Standard or Enterprise (x64 only)
Windows Server 2012	Standard (x64 only)
Windows Server 2012 R2	Standard (x64 only)
Windows Server 2016	Standard (x64 only)

***NOTE*: Customers should always have the most current version of the available Service Packs.**

Browsers

The user interface requires a web browser. Supported browsers include:

- **Microsoft Internet Explorer**
- **Microsoft Edge**
- **Google Chrome**
- **Mozilla Firefox**
- **Apple Safari**

Although many browser versions may work, the latest version of each browser has been tested and certified to run without issues.

Database

Choice is based on the following conditions:

- **The embedded database (SQL Server 2014 Express) comes with the product. It can manage a 10 GB database (about 15 million CDRs), 1 GB of RAM, a single CPU, and must be co-resident with VeraSMART**
- **The full SQL Server -- see table below -- must be used to manage a larger database, more than 1 GB of RAM, multiple CPUs, or a database in a separate server. SQL Server 2008 R2 or higher is recommended.**

Full SQL Version	Edition	Platform
SQL Server 2008	Standard or Enterprise	32-bit or 64-bit
SQL Server 2008 R2	Standard or Enterprise	32-bit or 64-bit
SQL Server 2012	Standard or Enterprise	64-bit
SQL Server 2014	Standard or Enterprise	64-bit
SQL Server 2016	Standard or Enterprise	64-bit

***NOTE*: Customers should always have the most current version of the available Service Packs.**

Setup Guide

This guide will help you set up an initial configuration. The process involves the key tasks outlined below.

NOTE: **Make certain to configure your system in the order indicated. Each task will require preparation. To do so, you should meet with your information contacts — telephone switch service representatives, your own personnel and accounting departments, and so forth — and complete the tasks as outlined here.**

I. Global Preferences

1. Use the System Preferences function to review and at the very least, set:
   - Auto-deletion parameters - call records and charges
   - E-mail options - SMTP mail server name and default sender address
   - Regional settings - system currency, culture, and time zone
   - Reporting options - company name
2. [Multinational systems] Use the Currency Conversions function to identify all currencies to be used for call, internal, and invoice charges.

II. Wireline CDR Sources

1. Administer all CDR sources to output CDR and establish their connection to the VeraSMART server. For details, review the specific interface guide for your CDR sources (available in VeraSMART Help, under Reference > Call Collection Guides).
2. If CDR sources will be located outside the NANP (North American Numbering Plan) zone, install pre-ordered custom Rate Plans or use the Rate Plans function to create standard plans for rating calls from each source).
3. Use the CDR source function to add it to the system. Be prepared to provide this information:
   - Name of CDR source
   - Its location (Country, Area Code/Exchange or City Code)
   - Rating for outgoing calls serviced by its default trunk group:

     For an NANP site: Local rate method (none, flat, measured, or message) and value added tax to be applied to its default outgoing rate plan

     For a non-NANP site: Outgoing rate plan (installed in task II, step 2) and currency used (defined in task I, step 2)
4. Use the Rate Plans function to review the NANP standard rate plan named 'OUTGOING(n)', where n = ID of the CDR source just added. Configure more accurate rates if you do not want to use the default rate of $0.40/minute with a 60-second billing interval.
5. Use the Call Processing Status function to enable rating for all CDR sources.

III. Wireless CDR Sources

1. Download your wireless invoices as per instructions for the specific vendor. For details, see Help: Reference > Wireless Invoice Downloads.
2. Use the Invoice Import function to import invoices previously downloaded.

IV. Personnel & Inventory

1. Prepare text files for importing the Personnel and Inventory table or set up the interface to one of our supported external data sources (Avaya Site Administration, Cisco UCM, or Active Directory). For details, review the specific interface guide -- available in VeraSMART Help > Reference > Options Setup Guides, under Import / Export Options).
2. Use the Organization Levels function to change the number and names for all active levels in the hierarchical structure of your company.
3. Use the Import Data function to configure & run imports for the expected directory files.

V. Further Administration

1. Use the System Alerts function to enable alerts for the following conditions:
   - Number of inventory item records is within 5% of the model size
   - Free disk space falls below the specified threshold
   - Number of rejected calls exceeds a set limit
   - Database is offline
2. Use the No Call Records Alerts function to enable alerts should a CDR Source stop sending call records.
3. Use the Login Accounts function to select key personnel as administrators, report users, MySMART users, etc.
4. Use the Personal Call Identification functions (if licensed), to set up this option. For details, review its setup guide (available in VeraSMART Help, under Reference > Options Setup Guides).

Activate Product License

The Activate License page appears if the serial number entered at installation is not valid or VeraSMART was NOT connected to the Internet and could not validate the serial number.

Follow the appropriate procedure to activate your license and unlock product features.

Change Serial Number (requires an Internet connection)

1. **Obtain the correct serial number (if necessary, call 585.381.0115 to obtain it).**
2. **Select Activate Product button > Change Serial Number.**
3. **Enter the serial number EXACTLY as provided and then click the Change Serial Number button.**

Load Manual License (no Internet connection)

1. **Select Activate Product button > Load Manual License.**
2. **Make a note of the *serial number* and *server signature* displayed on the page. Then call 585.381.0115 with this information.**
3. **A VeraSMART support technician will e-mail you a *license XML file.* Save it to a directory accessible to the VeraSMART server.**
4. **Access VeraSMART and again select Activate Product button > Load Manual License.**
5. **Use the Browse button to retrieve the saved file and then click the Apply License button.**

Checking for Updates

In systems with Wireless Call Accounting (WCA), there will be a daily scheduled process (off-hours) that will check for WCA Invoice Reader updates. If available, they will be downloaded and installed automatically on the VeraSMART server.

You can also use this feature to access the VeraSMART download center immediately and look for and install any available updates.

Procedure

1. **Access: Help menu > About VeraSMART.**
2. **Select More Actions > Check for Updates.**

Wireless Invoice Downloads

Wireless Call Accounting requires the monthly invoice files from each account that you have with your wireless services vendor.

This section discusses how to obtain invoice data files from these vendors:

AT&T Wireless Invoices

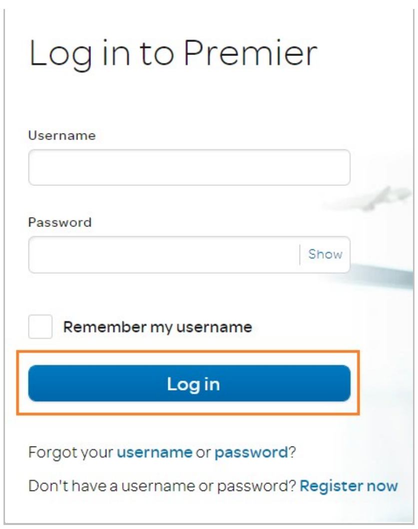
Wireless Call Accounting requires the monthly invoice report files from each account that you have with this vendor.

These instructions will help you obtain the necessary files every month.

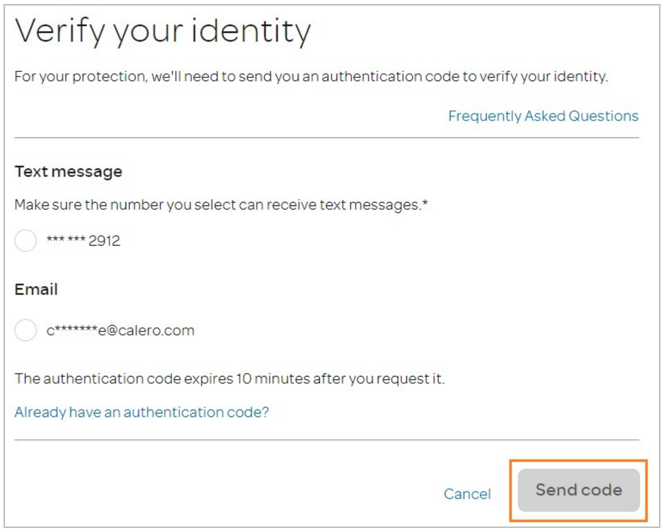
One-Time Setup	**Enroll in AT&T Premier:** **https://www.wireless.att.com/businesscare/registration/selfRegistration.jsp**
Each Month	**1. Request the Raw Data report and then wait for it to be ready (within 24 hours). *NOTE*: Although you request ONE report, it comes distributed over TWO distinct data files named: (1) Raw Data Summary AND (2) Raw Data Usage.** **2. Download the *TWO* raw data files from the AT&T portal (delivered as ZIP files).** **3. Import the required files into VeraSMART using the AT&T invoice import function.**
Required Files	**Two (2) files per Foundation Account Number (FAN), named:** **1. Raw Data Summary for FAN<account> <date>** **▪ Delivered under the name: rawdataoutput_<date>_<account>.csv.zip** **2. Raw Data Usage for FAN<account> <date>** **▪ Delivered under the name: rawdataoutput_<date>_<account>_CDR.csv.zip**

Request Data from AT&T Premier (Monthly)

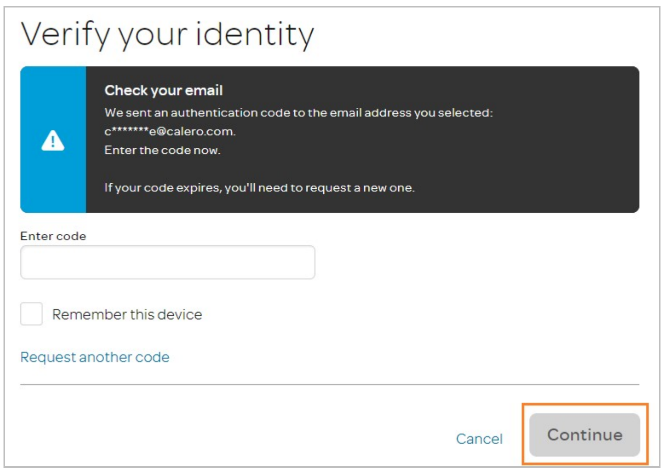
1. **Navigate to: https://www.wireless.att.com/business/index.jsp?_requestid=8238**
2. **Enter your Username and Password.**
3. **Click Log in.**



4. **You will need to verify your identity. Select whether the authentication code should be sent to your cell phone (via text message) or Email.**
5. **Click Send code.**

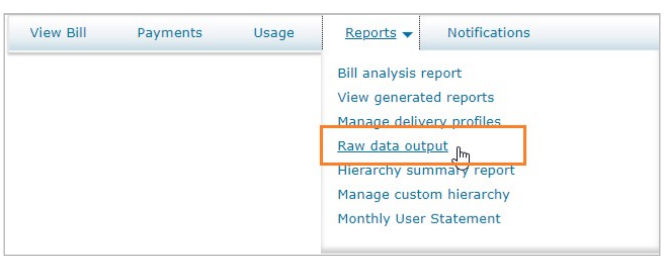


6. Check your text messages or email for the authorization code.
7. Enter the authorization code in the specified field and click Continue.

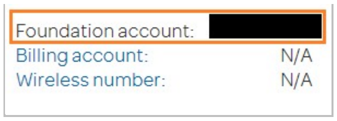


8. Click the Billing menu tab.

9. Expand the Reports menu tab and click Raw data output.

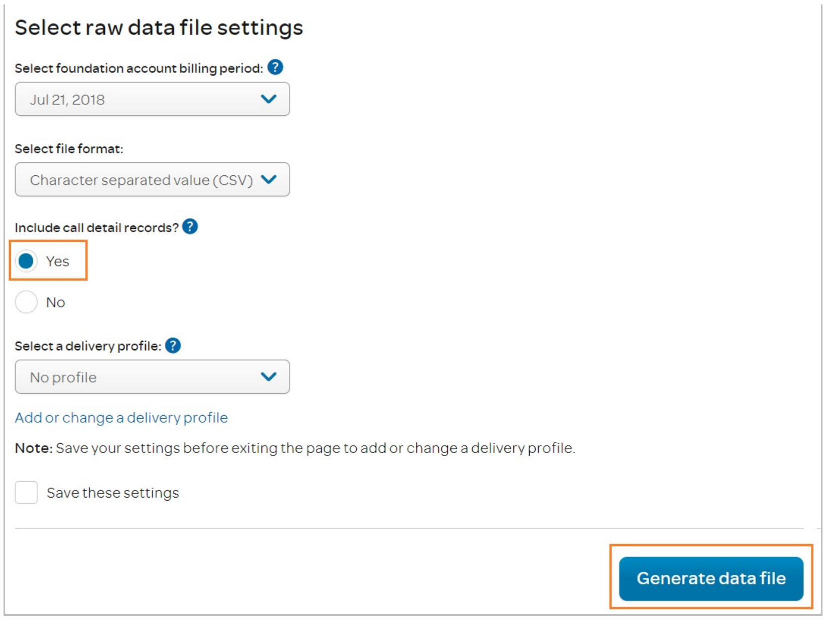


- If you have more than one Foundation account, the Foundation account will have a blue hyperlink. (This example does NOT have more than one).

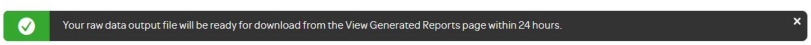


- If there *is* a hyperlink, you have the ability to change to a different Foundation account.

10. Determine the raw data file settings.
    1. Select the foundation account billing period.
    2. Leave the file format at the default (CSV).
    3. Select Yes to include call details records. (The default is No.)
    4. Leave the delivery profile at the default (No profile).
11. Click Generate data file.

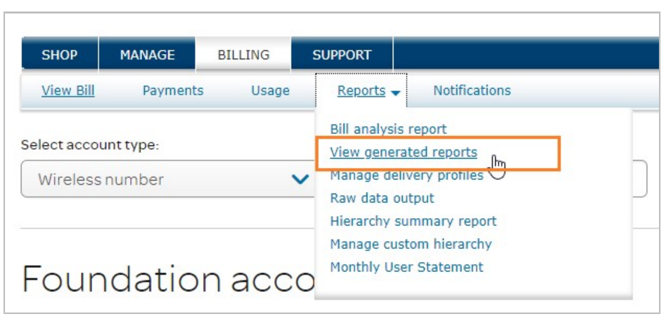


12. You will receive a message telling you when the raw data output file will be ready (generally, 24 hours).



Download Data (Monthly, after Report is Ready)

1. Follow steps 1-8 above to log into AT&T Premier and navigate to the main Billing page.
2. Expand the Reports tab and click on View generated reports.



3. Click on and download the TWO (2) files you requested.
   - One will end in .csv
   - the other will end in _CDR.csv

Bell Mobility (Canada)

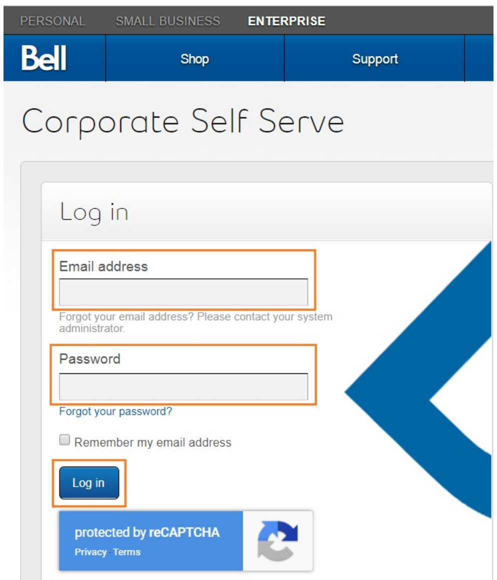
Wireless requires the monthly invoice report files from each account that you have with this vendor.

These instructions will help you obtain the necessary files.

One-Time Setup	**Register as a user with access to download invoice files.**
Each Month	1. **Wait for your monthly bill to be available.** 2. **Download the required files by going to the portal: (https://business.bell.ca/corporateselfserve/Login).** 3. **Import the file into VeraSMART using the Bell Mobility (Canada) invoice import function.**
Required Files	**One ZIP file containing comma-separated files for the account, subscriber, and usage levels.**

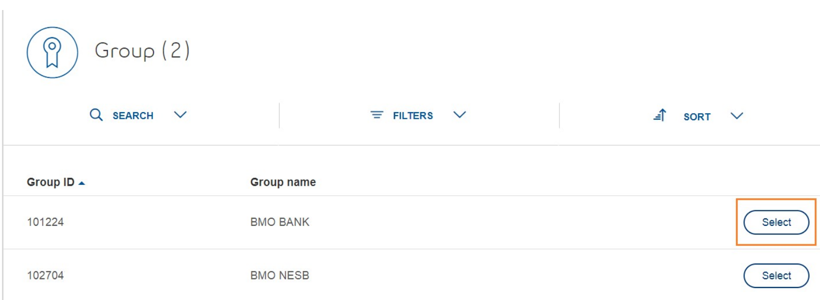
Download Data from Bell Mobility

1. **Navigate to: https://business.bell.ca/corporateselfserve/Login**
2. **Enter your Email address and Password and click Login.**



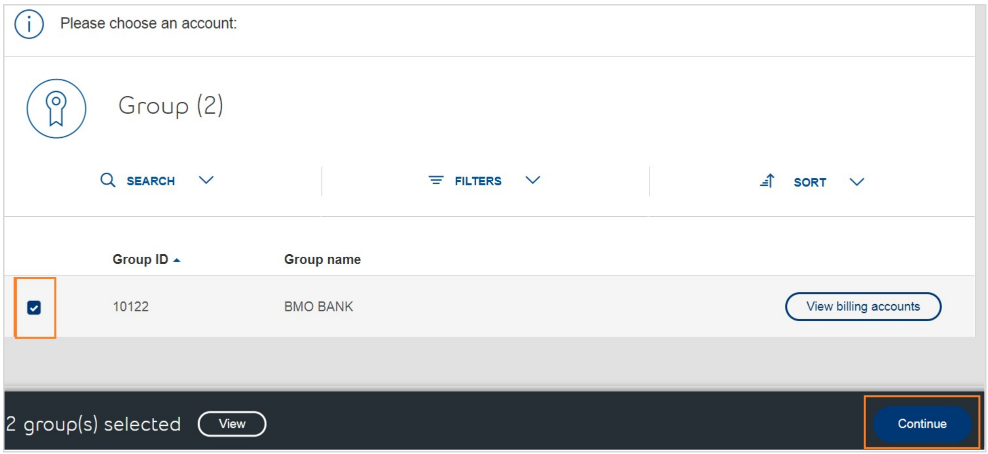
   - **You may need to participate in CAPTCHA to move forward.**

3. **Select the correct Group by clicking the in-line Select button.**

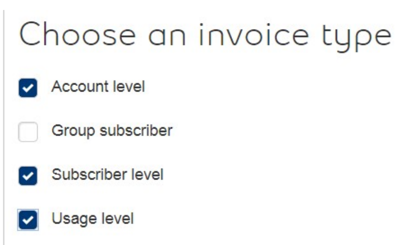


4. **Click Download e-Invoice (CSV).**

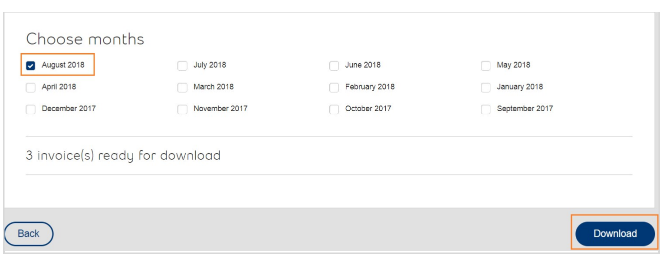
5. **Choose the correct Account by selecting the checkbox, then click Continue.**



6. **Select the invoice types (Account level, Subscriber level, and Usage level) by checking the boxes.**

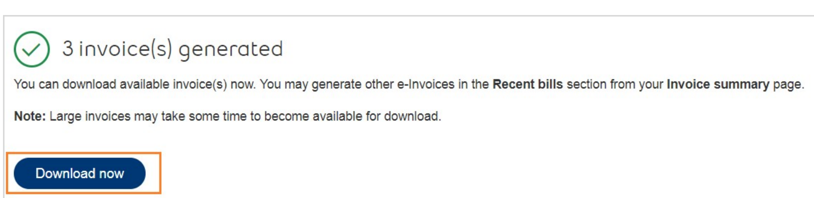


7. **Chose the correct month and click Download.**



- **You will see a Confirmation screen with a status bar, and then a Download now button will appear.**

8. **Click Download now.**



Sprint (PDF format)

Wireless Call Accounting requires the monthly invoice report files from each account that you have with this vendor. These instructions will help you obtain the necessary files.

Key Steps

One-time setup	1. Register for access to My Sprint Business portal (http://sprint.com/business/). 2. You will be provided with a username and password.
Each month	1. Wait for your monthly bill to be available. 2. Download the required files by going to the portal (http://sprint.com/business/). 3. Import the file into VeraSMART using the Sprint (PDF) invoice import function.
Required files	One PDF file containing a printable version of your bill. The default download file name (where *yyyymm* = year and month of the data): <account number>_<invoice date: *yyyymm* >_<internal number>.pdf

Download Data (Monthly, after your bill is ready)

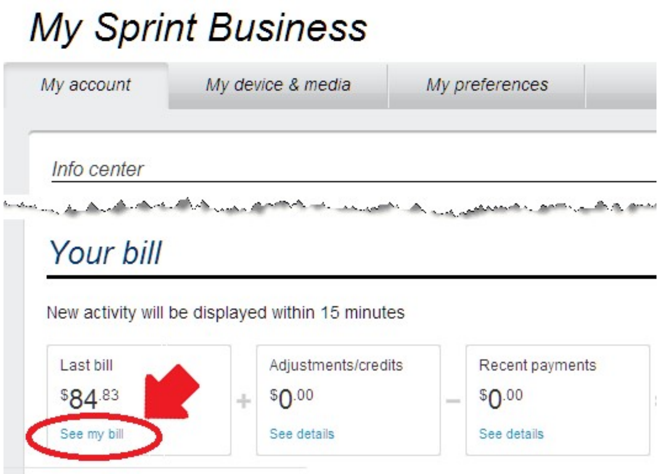
Access Sprint portal.

Step 1. Go to http://sprint.com/business/, select Account Type = My Sprint Wireless and click Go.

Step 2. Sign in with your given username and password.

Retrieve files.

Step 1. Click See my bill.



Step 2. Select Bill Date and then click Printer-friendly Version (PDF) -- for example:

Step 3. When the PDF appears on your screen, save it to your PC (see Note below). Keep the default name -- it will have this format:

<account number>_<invoice date>_<internal number>.pdf

***NOTE:* If you experience difficulties in saving a PDF displayed on your screen, try installing the latest versions for your browser AND for your PDF reader.**

T-Mobile Invoices

Wireless Call Accounting requires the monthly invoice report files from each account that you have with this vendor.

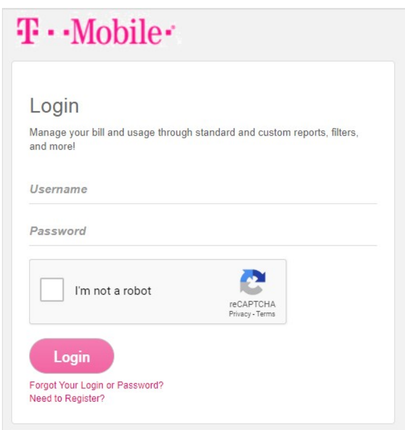
These instructions will help you obtain the necessary files.

Key Steps

One-Time Setup	**Register for I-Billing on your T-Mobile account.**
Each Month	**1. Download the required report files from portal.** **2. Import the files into VeraSMART using the T-mobile invoice import function.**
Required Files	**Four (4) files:** **1. Calero Subscriber Summary Report ########** **2. Calero Statement Detail Normalization BAN ########** **3. Calero Daily Detail Normalization Only BAN ########** **4. Equipment Payment Details** **Each file will initially download as detail_report.csv -- change this name when saving the report locally.**

Request and Download Reports

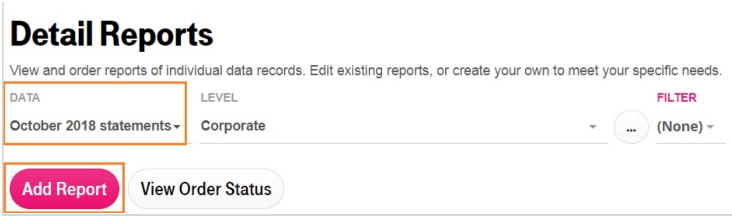
1. **Log into the portal (https://t-mobile.globysonline.com/cv/scripts/DAC0/eng/log.asp) with your Username and Password.**
2. **Confirm that you are not a robot.**
3. **Click Login.**



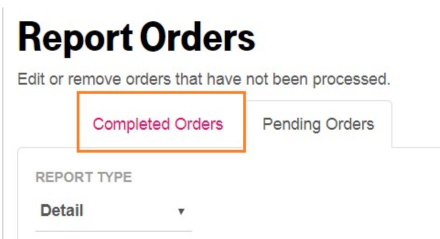
4. **Click the Reports Tab and select Detail Reports.**

5. **Make sure the Data field has the correct month listed.**
6. **Click on the first report download. The 4 necessary reports are:**
    1. **Calero Subscriber Summary Report ########**
    2. **Calero Statement Detail Normalization BAN ########**
    3. **Calero Daily Detail Normalization Only BAN ########**
    4. **Equipment Payment Details**

7. Click Add Report.



8. Click Order.
9. From the Order Report page, chose the following selections:
    1. Order Frequency = One-time
    2. Order Format = CSV
    3. Rows to Return = All data
    4. Order Delivery = decide if you would like to receive an email containing a link to this report.
10. Click Submit Order.
11. The report has been ordered and will download. Click on the Completed Orders tab to view downloaded reports.



12. Select the correct report by clicking its pink hyperlink.
13. Open the file that downloads and save it locally.
14. All files will initially be called detail_report.csv.
    - Calero suggest renaming the reports to match the official report name.

TELUS Mobility

Wireless requires the monthly invoice report files from each account that you have with this vendor. These instructions will help you obtain the necessary files.

Key Steps

One-time setup	**Register as owner or manager for the account and subscribe to 'e.bill downloads' for your monthly invoices. (https://mobility.telus.com/sso/UI/Login).**
Each month	**1. Wait for your monthly bill to be available. 2. Download the required files by going to the portal (https://mobility.telus.com/sso/UI/Login). 3. Import the file into VeraSMART using the TELUS Mobility invoice import function.**
Required files	**One ZIP file (named 'eBill_Download_<account number>_.zip') containing text files of which VeraSMART will use the Invoice summary, Airtime and individual details. We suggest you append the billing date to distinguish it from other months' invoices. For example: eBill_Download_<account number>_08_2014.zip**

Download Data (Monthly, after your bill is ready)

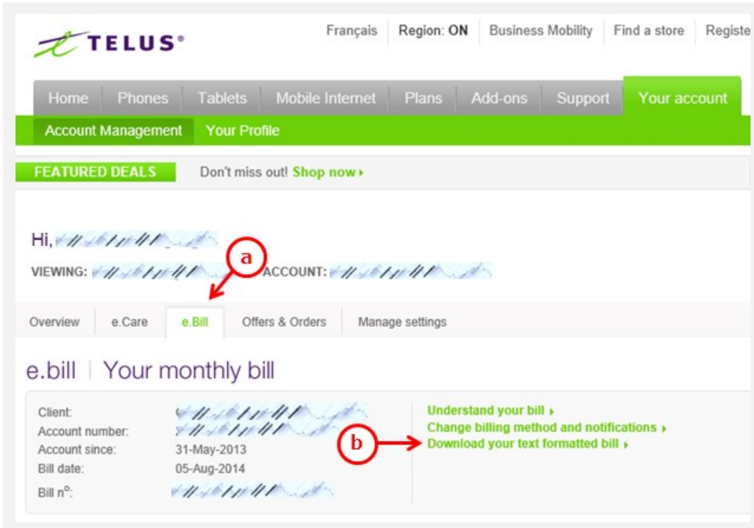
⊞ **Access a TELUS Mobility portal.**

Go to the https://mobility.telus.com/sso/UI/Login

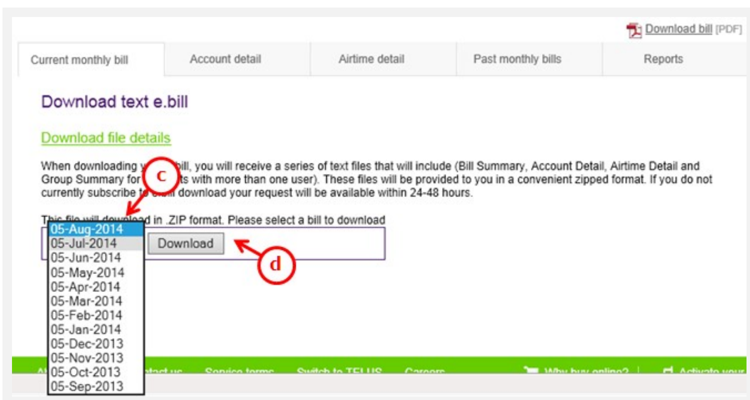
Sign in with your given username and password.

⊞ **Retrieve files.**

(a) Access the e.Bill page and (b) click the 'Download your text formatted bill' link.



Select (c) billing date, and click (d) Download.



When prompted, save the ZIP file to your PC for uploading to VeraSMART.
We suggest you append the billing date to distinguish it from other months' invoices.
For example:

eBill_Download_<account number>_08_2014.zip

US Cellular Invoices

Wireless Call Accounting requires the monthly invoice report files from each account that you have with this vendor. These instructions will help you obtain the necessary files.

Key Steps

One-time setup	1. Register for access to My Account on the US Cellular portal (http://www.uscellular.com/uscellular/). 2. You will be provided with a username and password.
Each month	1. Wait for your monthly bill to be available. 2. Download the required files by going to the portal (http://www.uscellular.com/uscellular/). 3. Import the file into VeraSMART using the US Cellular invoice import function.
Required files	One PDF file containing a printable version of your bill. We suggest you name it: <account number>_<statement date>.pdf

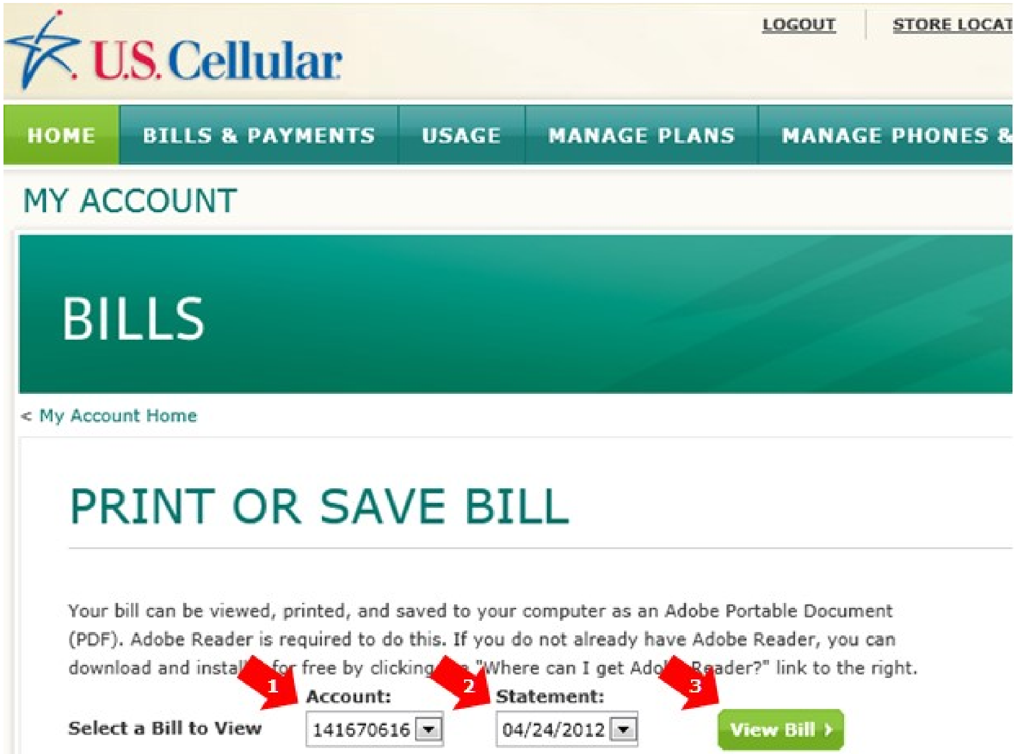
Download Data (Monthly, after your bill is ready)

⊞ **Access US Cellular portal.**

Go to http://www.uscellular.com/uscellular/ and access MY ACCOUNT.
Sign in with your given username and password.

⊞ **Retrieve files.**

Access BILLS & PAYMENTS > Print Or Save Bills.



Select (1) account, (2) statement date, and click (3) View Bill.

When the PDF appears on your screen, save it to your PC (see Note below) for uploading to VeraSMART.

We suggest you name it with the account number and statement date:

<account number>_<statement date>.pdf

NOTE: **If you experience difficulties in saving a PDF displayed on your screen, try installing the latest versions for your browser AND for your PDF reader.**

Verizon Wireless Invoices

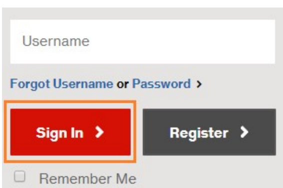
Wireless Call Accounting requires the monthly invoice report files from each account that you have with this vendor.

These instructions will help you obtain the necessary files.

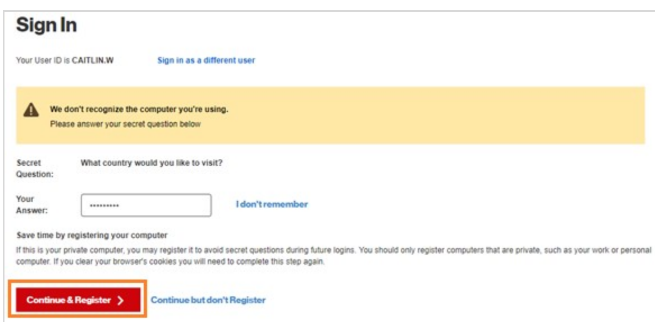
One-Time Setup	**Register for Verizon at: https://myverizonenterprise.verizon.com/vec/public/selfreg/index.html** **If necessary, contact Verizon Customer Service Wireless Support (800-922-0204)**
Each Month	**On or soon after your bill cycle with Verizon completes, download required file from the Verizon portal.**
Required Files	**One zipped file containing these four text files:** **1. Account & Wireless Summary_*yyyymm*.txt** **2. AccountSummary_*yyyymm*.txt** **3. Acct & Wireless Charges Detail Summary Usage_*yyyymm*.txt** **4. Wireless Usage Detail_*yyyymm*.txt** ***NOTE*: DO NOT change file names or extract these files.**

Download Files from Verizon

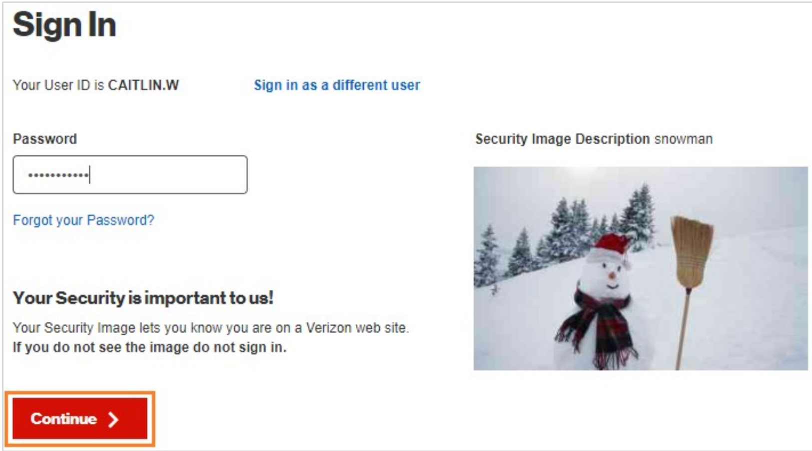
1. **Navigate to Verizon's sign-in page: https://sso.verizonenterprise.com/amserver/sso/login.go**
2. **Enter your Username and click Sign In >.**



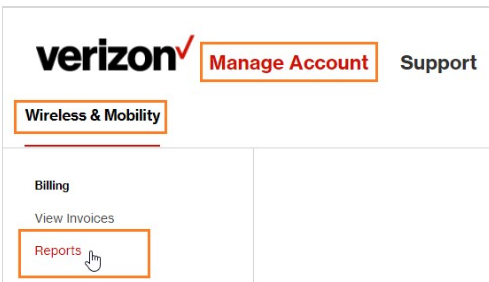
- **If this is the first time you've entered the site from this computer, you will need to answer your Secret Question and click Continue & Register >.**



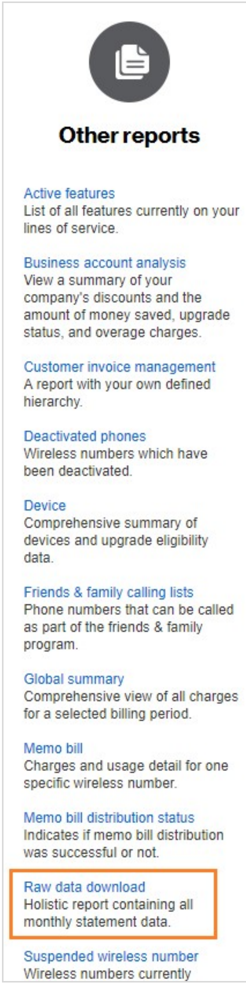
3. **Enter your Password and click Continue >.**



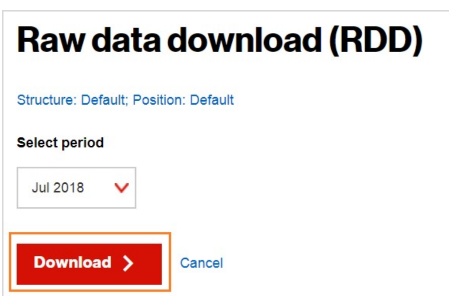
4. **Click on Manage Account.**
5. **Expand the Wireless & Mobility tab and click Reports.**



6. **Click Show More.**
7. **Find Raw Data Download (under Other reports) and click on it.**



8. **Select the appropriate time period from the drop-down list.**
9. **Click Download >.**



10. **Your zip file will now download.**

Call Collection Guides

These guides describe how to set up the interface to these CDR sources:

- **Telephone systems from Avaya, Cisco, and other vendors**
- **Storage systems**
- **Any system, using a direct connection**

Avaya Systems

Avaya DEFINITY One / IP600 (PDF)
Avaya Distributed Office (PDF)
Avaya IP Office (PDF)
Avaya IP Office Small Community Networking (PDF)
Avaya Reliable Session Protocol (PDF)
Avaya Session Manager (PDF)
Avaya Survivable CDR (PDF)
Avaya (formerly Nortel) BCM (PDF)
Avaya (formerly Nortel) CS 1000 (PDF)
Avaya Session Border Control (PDF)

Cisco Systems

Cisco Unified CallManager (PDF)
Cisco UCME / UC500 (PDF)
Cisco Survivable Remote Site Telephony (PDF)
Cisco Unified Border Element [CUBE] (PDF)

Other Vendors

3COM NBX (PDF)
Aastra NeXspan (PDF)
Acme Packet SBC (PDF)
Centrex (PDF)
Microsoft Lync (PDF)
ShoreTel (PDF)

Storage Systems

Call Accounting System (PDF)
Pollable Storage Unit (PDF)
TeleBoss (PDF)

Direct Connections to Any System

Direct Connect (PDF)
Direct Connect over IP using a Serial-to-IP Converter (PDF)

Feature/Setup Guides

These guides describe how to set up and use the following features:

Call Accounting

- **About Call Processing (PDF)**
- **Personal Call Identification (PDF)**

Wireless Call Accounting

- **Wireless Invoice Features by Vendor (PDF)**
- **Wireless Analysis Recommendations (PDF)**

Import / Export Options

- **Active Directory imports: Personnel and Inventory (PDF)**
- **ASA imports: Extensions, Trunks, and Personnel (PDF)**
- **Cisco UCM imports: Personnel and Inventory or Devices (PDF)**
- **EZ-Share Exports Users Guide (PDF)**

Other Options

- **Enhanced Personnel Directory (PDF)**
- **Wireless Portal User Guide (PDF)**
- **InSight Analytics Guide (PDF)**
- **InSight Analytics Data Guidelines (PDF)**
- **Personal Device (BYOD) User Guide (PDF)**

Frequently Asked Questions

This section provides answers to common questions, as well as solutions to difficulties that users have previously encountered.

Click ⊞ to open or ⊟ to close a specific topic -- or click Expand All to open/close all expandable panels.

Call Collection and Processing

⊞ What is the difference between account codes and authorization codes?

Both are programmable PBX features, dialed when placing calls. Account codes are used to "tag" calls for bill backs to the account; authorization codes are used to restrict a user's telephone privileges - much like a password - and assign the call as originating from the user's extension (regardless of its actual origin). PBXs will validate a correct authorization code, but not an account code.

The system supports these PBX features and can charge accounts or inventory owners for calls associated with account codes or authorization codes, respectively. However, because authorization codes are handled with added security, the system provides Account codes reports only.

> ***NOTE*: Some companies like the PBX "validation" feature offered to authorization codes and use them to "tag" accounts, instead. To support this particular application, the system allows swapping auth. code with account functionality (see Editing Attributes under CDR Sources for details).**

⊞ What is the purpose of a call type "reporting name"? How is it useful?

Call types are identifiers of the telephone service and/or called/calling area of a call; their reporting names are the labels that appear on reports. They can be used to simplify reports by grouping call types across multiple rate plans and/or re-labeling types of calls to less confusing names - for example, the system uses 'Long Distance' as reporting name for the In-LATA1, In-LATA2, In-State, and National call types.

⊞ What are my options for collecting calls?

There are several options (for details, see Call Collection Setup Guides):

- By a direct connection by serial cable
- From a storage unit co-located at the CDR source site
- By network transfers from IP telephone systems
- From a Centrex ACDRS or INFO Monitor MP system
- From another VeraSMART call accounting system

⊞ How do I know if my system is still collecting calls, without running a report?

If you have access to Call Accounting functions, open: Call Accounting tab > Call Detail > View Call Records. A grid displaying today's calls will appear by default. You can also search for other criteria.

If you have no access to Call Accounting, open: any tab > Help > About VeraSMART. CDR source information will appear at the bottom of the page.

> ***NOTE*: If you wish to be alerted of no call record activity from CDR sources, a system administrator may consider setting a "no call records" alert condition (see Configuring Call Alerts for details).**

⊞ How do I find out what my CDR source reports as "trunks" and how do I set them up properly?

The system automatically adds trunks to the database whenever they appear in use in a call record coming from a CDR source.

These will appear under the [Unassigned] trunk group via the Trunks list view. Use this list to help you regroup trunks according to the telephone service provided (which will have associated rate plans for charging its use).

> ***NOTE*: Calls will not be costed properly when trunks are added automatically by the system. To correct this problem after the fact:**
> **(1) Use the Rate Plans function to set up the correct costing.**
> **(2) Use the Trunk Groups function to associate the appropriate rate plan & then move unassigned trunks to the proper trunk group.**
> **(3) Run the Reprocess Calls function for the period when trunks were mismatched.**

⊞ What is a Rate Plan and why would I order rate plans for my system?

Rate Plans are tables of rating instructions for costing calls properly. The system comes with a database of global calling areas to identify call destination or origin and local rates for all major U.S. local Telcos.

VeraSMART offers custom rates for the carrier services used at your CDR source sites. They provide true V&H distance calculations and discounts for time of day, day of the week, and holidays. Custom rates offer accurate costing and saves you from a lot of effort. For users interested in cost allocation, we recommend ordering custom rate plans, with timely updates (custom rates may be ordered via VeraSMARTweb support).

⊞ What are local rates and how are they applied and updated?

In North America, phone service for regional calling areas has been divided among various telephone companies (Telco's). Telco's offer a choice of local services with different rating structures:

Flat rates - service includes free local calls for a fixed monthly amount.

Measured rates - service includes x free local calls; additional calls incur a per call charge.

Message rates - service charges are structured into "message units" based on call length and/or distance ("local bands").

The system comes with a built-in database of local rates for every major U.S. Telco. Once the system administrator adds a CDR source and identifies its local services, the appropriate rates will be applied to local calls.

> ***NOTE*: Local rate updates are available to users with an active maintenance agreement from VeraSMART Customer Support site. The download will provide the latest local Telco rates, as well as an up-to-date table of calling areas and country codes.**

⊞ **Some calls from our telephone system display 5-digit dialed numbers with dashes (as in 9-9999), and a call type of 'Internal' or 'Unknown.' What is happening? How can we remove the dashes and set the call type correctly?**

This happens when calls use an outgoing trunk and the dialed number is 5 digits long (an invalid, unrecognized PSTN number; however, it could be — for example — a valid internal number on an inter-connected private network).

The only way to remove dashes in dialed digits is to create a rate plan that does not format dialed numbers and a special call processing rule that filters such calls into that plan:

1. Access: Call Rating > Rate Plans > Add Special Rate Plan. Name it '5-digit Numbers' with call direction = OUTGOING & TANDEM. Then edit the new plan to set Format dialed digits = No. Open the % entry under the Rates tab and then set the rates and call type as desired.
2. Access: Tools > Special Call Processing and add rule (name = 'Remove Formatting') to match on CDR source, call direction = OUTGOING & TANDEM, dialed digit pattern = ????? and then assign the '5-digit Numbers' rate plan on matching calls.
3. (Optional, to correct affected call records in storage) Access: Tools > Re-process Call Records. Set the date range and CDR Source, then click the Re-process Records button.

Charge Assignments/Allocations

⊞ **What are 'accounting periods' and how do they affect call and other charges?**

Accounting periods are billing cycles used for applying charges and running financial reports (typically they coincide with months in a fiscal year).

Accounting periods are defined by their starting date and go through four stages: *future*, *open*, *pending,* and *closed* in a partially automated sequence:

- There is only one currently *open* period at a time.
- When the start date for the next *future* period arrives, it becomes the new open period (while the old open period becomes *pending*). At this time, the system reprocesses all charges and updates assignments and allocations.
- A *pending* period is *closed* automatically when it becomes older than time set for storing charges in the System Preferences function. In Enhanced Chargeback systems, pending periods can also be *closed* manually. At this time, the system locks the closed period to disallow any further changes.

> ***NOTE*: Closed periods immediately preceding a pending period may be reset manually as *pending.***

⊞ **What happens when the currently open period ends?**

The currently open period ends at midnight, on the day the next period begins. This sets in motion the *end-of-period process*. At this time, the system computes all billable items in effect for the period and applies them to the responsible parties.

⊞ **Why would you want to 'close' a period?**

"Closing" a period ensures that all charges are settled and available for Charge Assignment reports. The system automatically protects all "closed" data from changes. This means that you cannot assign new charges for a closed period.

> ***NOTE*: Data from closed periods remain in the current database until deleted by the automatic cleanup feature (see System Preferences).**

⊞ **What types of charges are tracked and reported by the system?**

The system can track charges from such sources as telephone systems and imported invoices, as well as those assigned 'internally' via VeraSMART functions.

- Call Accounting systems can track calls from CDR sources and then compute and assign the call charges against the extension or authorization code used. These charges are reported in Call Accounting and Charge Assignment reports against the inventory and their owners of record at the time of the call.
- Wireless Call Accounting systems can receive account and wireless number charges from imported invoices. These charges are reported in Call Accounting and Charge Assignment reports against the wireless numbers, accounts, and their owners of record at the time of the charge.
- All systems support recurring internal charges. These can be assigned to inventory, Personnel, and Cost Centers via pre-defined charge rules.
- Systems with Enhanced Chargeback will be able to assign one-time internal charges; Process Management can assign internal charges from tickets. Internal charges are reported in Charge Assignment reports.
- Invoice Management systems can receive account and invoice item charges from imported invoices, which are apportioned as per GL Segment allocation methods for the invoice's accounting period. Invoice charge information will appear in Invoice Management reports; financial information will appear in Charge Allocation reports.

> ***NOTE***: Invoice Management also includes a 'posting' feature -- whereby call charges from CDR sources and internal charges can be allocated to GL segments for consolidated financial reporting via the Call Types and Internal Charge Types functions. These charges will appear in the Allocated Charges by Organization Report.

Data Imports

What database tables can I import?

You can import data for most system tables as a text file or in the format native to supported interfaces (Active Directory or ASA imports).

Will an import update / erase data already in the database?

When a personnel record, inventory item, or authorization code is updated from an import record, it will only modify field values explicitly provided in the import record. If the import record has no data for a particular field or the field is not mapped at all, the import will leave the field value in the database record intact.

My data file disappeared after the import ran. Where did it go?

The raw data file containing the import records is moved from the location it is found at into a sub-folder of the VeraSMART Data folder. The location is:

..\VeraSMART Data\Data Import\Save*Status Log ID*

Where the *Status Log ID* = the ID number for the import run in the Status Log.

How does the 'auto-deletion' feature in Personnel and Inventory imports work?

Imports have the option to delete database records that have been processed by a prior run of the import, but no longer appear in the data file when the import runs again.

Auto-deletion requires the ability to identify import records with certainty. This is not difficult for inventory items or authorization codes, because they are unique for a CDR source. Personnel names, however, may not be unique, so in this case you must select a *Personnel ID* field that uniquely identifies each personnel record in the data file (see topic below). When the import runs, database records will be deleted (deactivated) based on these rules:

In a Personnel import, a Personnel record in the database will be deleted (deactivated) if and only if...

(a) The record was processed after the auto-deletion feature was enabled.

(b) Auto-deletion is still enabled and the import no longer contains the personnel record, as determined by the value in the Personnel ID field.

In inventory item / authorization code imports, a inventory item or authorization code in the database will be deleted (deactivated) if and only if...

(a) The inventory item or authorization code record was processed (imported or matched in the database) after the auto-deletion feature has been enabled.

(b) Auto-deletion is still enabled and the import contains inventory item or authorization code data for the same CDR source, but the import no longer contains the inventory item or authorization code record.

> ***IMPORTANT!*** If you modify the auto-deletion setting (or the ***Personnel ID*** field in a Personnel import), the import will clear its memory of which records were previously imported. The next time the import is run, it will begin tracking this information again.

What is the 'Personnel ID' field in a Personnel and Inventory import?

The *personnel ID field* is a field in an import record used as the main identifier for import records. A good personnel ID field should:

- Have a unique value for each personnel record in the import file.
- Have a value in all of the import records.
- Have values that do not change often.

If there is no other suitable personnel match field in your data, it is recommended to select the personnel name as the personnel ID field.

What is the 'Personnel Match' field in a Personnel and Inventory import?

The *personnel match field* is a field in an import record used as an alternate identifier, to match import records with existing personnel records in the database (whether or not these were added manually or via another import). A good personnel match field should:

- Have a unique value for each personnel record in the import file.
- Have a value in most (if not all) of the import records, even though it is not required to be in all import records.
- Have a value in most (if not all) of the personnel records in the database, in order to be able to find matches.
- Have values that do not change often.

If there is no other suitable personnel match field in your data, it is recommended to select the personnel name as the personnel match field. This will allow matching import records to personnel records that were added to the database by other means (however, the import will not be able to update personnel names if they have changed).

Active Directory or Custom LDAP import questions...

What is the 'Server URL' in these imports?

This is *server_name*[:*LDAP_port*] -- that is, the name or IP address of the Active Directory or LDAP server, followed by a colon (:) and the port number used for LDAP connections.

> ***NOTE***: Active Directory imports do not generally require a port number as the default port used by the application will work.

What is the 'Root Distinguished Name' in these imports?

This is the point in the LDAP directory tree to begin the search for entries to import. For example in Active Directory, this might be:
CN=*users*, OU=*organizational unit*, DC=*mydomain*

> ***NOTE:*** You MUST use appropriate LDAP syntax. Improperly specifying this field may adversely affect the import process.

What is the 'Search Filter' in these imports?

Text string in LDAP syntax, used to focus the search in the LDAP directory tree (see 'Root Distinguished Name' FAQ above) and leave out unwanted directory records.

> ***NOTE:*** You MUST use appropriate LDAP syntax. Improperly specifying this field may adversely affect the import process. Contact your network administrator if you have any questions.
>
> If after running the import, you still have unwanted records passing through the filter, you can specify those items via the Import Exclusions function after completing the configuration.

What is the 'Alternate name' in Cisco UCM 6+ imports?

This is used to import Cisco UCM extensions that do not have a Personnel owner in the CUCM database. Instead, it will use the designated alternate name (the CUCM 'Description' or 'Alerting Name') as its VeraSMART Personnel last name. If selecting 'None,' the extension will remain unassigned.

Organization & Inventory

Can I change the system to reflect my company's new organization structure?

Yes. This product supports a hierarchical structure of 2 to 5 organization levels with the built-in names of Personnel, Cost Center, Department, Division, and Branch. You can change the number of levels and their names any time via the Organization Levels function.

What is 'inventory' and 'charge' assignments? ...'associated inventory'?

Inventory can be 'assigned' to an individual owner (Personnel) or to a Cost Center. Inventory assigned to cost centers can also be associated with multiple individuals.

- If 'allow separate charge and inventory assignments' is enabled for the Inventory Type, inventory assigned to Cost Centers (for charges) can be given ownership to an individual.

  > Example Sarah, a Help center operator who works off hours has been issued a different phone to assist Sales after hours. All the charges for this phone should go to Sales; however, its usage must be tracked for Sarah. To implement this, we set the ***charge assignment*** to Sales and the ***inventory assignment*** to Sarah.

- If 'associated Personnel' is enabled in System Preferences, inventory assigned to Cost Centers can also be 'associated' to any number of Personnel, strictly for information purposes.

  > Example A call center has an ***assigned*** central phone number which it owns and for which it pays charges. This phone number must be ***associated*** with all its operators so that they appear in the Directory listing.

Can I import data from our directory/switch administration application?

Yes. Depending on the application, your organization MACDs (moves-adds-changes-deletes) can be imported on a scheduled basis using the built-in Import Data function. The system supports imports from:

- **Avaya Site Administration (ASA)**
- **Microsoft Active Directory**
- **Cisco Unified Communications Manager 6.0+**
- **Any other application that can export to a delimited text file**

Can I set up users to run their own reports? How do I restrict what they can do or see?

Yes. You can grant this right to as many individuals in the Personnel table as your license permits. You can...

(1) Create Security Groups with the appropriate roles and data access rights and selecting key Personnel as their members.

(2) Design or modify existing reports and designate which Security Groups have access to them.

**My telephone system is now configured for longer extension numbers.
Is there a way to modify my existing numbers to comply with the new configuration?**

Yes. The steps to modify the Extension table for a switch are as follows:

1. **Export the affected extensions to Excel by:**
   - **Creating a list view for the CDR source that includes all significant attributes in use (inventory ID, personnel or cost center assignments, private flag, location, product, etc.)**
   - **Use the list view icon to export file to Excel.**
2. **Modify the inventory ID in the Excel file (typically, this involves adding a digit or set of digits at the beginning of each number), then save the file as a CSV text file.**
3. **Use the Import Data function to re-import the file to VeraSMART (use the import type = Personnel and Inventory text import, with a comma (,) delimiter, and 1 header row).**
4. **Carry out your telephone system re-configuration. When complete, confirm that VeraSMART is processing CDR with the new extensions.**
5. **Bulk-deactivate the old extensions.**

PC Resources

Must the system server be dedicated to this application?

Yes, as a rule -- although some switch administration tools have been shown to work co-resident with this product.

Please contact VeraSMART Technical Support before you install any other application software on the system server.

What is the database capacity for this product?

VeraSMART uses either the *Embedded Database* automatically installed with the product or *Microsoft SQL Server Standard Edition* pre-installed on a local or remote Windows Server computer.

- **The Embedded Database is Microsoft SQL Server Express. It is limited to 10 GB of data in the current database (this represents about 15 million CDR) and must be co-resident with the VeraSMART application. There are also performance limitations regarding how the database utilizes such resources as memory (max = 1 GB) and number of of CPUs (max = 1).**
- **The SQL Server Standard edition, on the other hand, has practically no database size limits and may be installed on a remote computer. SQL Server also results in enhanced performance, as it can handle up to 64 GB of RAM and 4 CPUs.**

The About VeraSMART page can provide actual database usage information on databases installed locally.

***NOTE:* You can always upgrade the Embedded Database to the full SQL Server any time, without the loss of your data. Instructions are provided in the User Community site (https://support.veramark.com/) -- go to DOWNLOADS > DOCUMENTS > Installation & Setup > Upgrades > Upgrade to SQL Server 2008 R2 (PDF).**

How much disk space do I need in the server where the system database is located?

Depends on the number of call records in the "current" database and how many archives you keep in storage. Administration tables and reports saved on the Server require additional space.

It is estimated that you need 500 MB per 1 million call records in storage (in other words, if you keep 1.5 million call records in the current database and two archives with roughly the same amount in each, you need about 4.5 GB of disk space).

How can I speed up my system?

Depends. You should have the system server optimized for report generation and multiple user access (all "RAM-intensive" operations):

- Set the Server virtual memory to twice the RAM size. This is done via "My Computer" Properties (Advanced tab > Performance Options button > Advanced tab)

- Keep weekly schedules for disk cleanups and defragmentation.

What browsers work with this product?

Most browsers should work. The latest versions of Microsoft Internet Explorer, Mozilla FireFox, and Google Chrome are certified to work with the product. However, others such as Apple Safari have been shown to work as well.

**My browser shows a "printer friendly" list as one long web page.
How will it break up when printed? Will it have page numbers? Will table grids show?**

Here's what to do, depending on the issue:

- Pagination. To see pagination breaks, select File > Print Preview. Page breaks -- along with the current headers & footers -- will look just as they will print. You can change the appearance of headers, footers, page numbers, etc. from this preview window or from your browser's File > Page Setup function.
- Page width. Internet Explorer does not adjust page sizes when printing. To print wide tables, change the page orientation to 'Landscape' (accessible from your browser: File > Page Setup).
- Grid lines. Most browsers let you print with or without color backgrounds. To show printed grids, set your browser to print backgrounds -- for example, in Internet Explorer: Internet Options > Advanced tab.

Can I send e-mail notifications to my cell phone?

Yes. If you know the correct e-mail address, you can also send these messages to your cellular phone. Here are the e-mail addresses for some cellular phone carriers:

AT&T: yourphonenumber@mmode.com
Cingular: yourphonenumber@cingularme.com
Nextel: yourphonenumber@messaging.nextel.com
Sprint: yourphonenumber@messaging.sprintpcs.com
T-Mobile: yourphonenumber@tmomail.net
Verizon: yourphonenumber@vtext.com
Virgin Mobile: yourphonenumber@vmobl.com

If you don't know the phone carrier for the cell phone number you are attempting to call, you can try teleflip.com universal service: phonenumber@teleflip.com

Reports and Analytics

Why don't I see the currency or time/date formats set for my PC?

VeraSMART uses the 'system culture' set by the System Preferences function and the specific currencies coming from the charges (internal, invoices, or calls) themselves. You may change your personal preference for displaying dates and currency on your screen and personal reports via the Preferences link at the top, left of a VeraSMART page.

> ***NOTE*: If you change your personal preferences, you may notice (a) for currencies you will only see a format change, not a conversion to your local currency and (b) analytics visualizations will not change their display immediately, as InSight Analytics reloads the database -- including new data and display changes -- only once a day, at midnight.**

Why don't I see today's call activity on my Analytics? ,

InSight Analytics does not provide 'live' display of data changes. To avoid system slow-downs or delays, it is designed to reload the database -- including new data and display changes -- automatically, once a day at midnight.

What is in my 'current database' reporting period?

The current image of call records and system tables as stored in the \VeraSMART Data\Data folder of the system Server. To view the dates of the oldest and newest call records in the current database, open Call Accounting tab > Delete Call Records page.

What is an 'archive database' and how can I run a report against it?

An archive is an image of the current database taken at a particular date via the Archives function. Archives are zipped (ARC) files, named by the dates spanned and stored under the \VeraSMART Data\Archives folder in the system Server. You can then copy ARC files to a network drive or backup device for safekeeping.

To report against an archive database, you must:

(1) Return the ARC file of interest to the \VeraSMART Data\Archives folder.

(2) Use the Archives function to restore it to "active status."

(3) Select to report "against the Archive database" when you design the report.

I upgraded my system. Where are my reports?

Except for some naming changes to report templates , all your reports, schedules, and distribution lists have been preserved:

- All 'User Reports' accessible to you will be under the 'My Reports' list view
- All 'System Reports' will be available as templates to add to 'My Reports'
- All your 'Saved Reports' will be under your 'Report Inbox'
- All reports under your 'Favorites' will be under your 'Favorites' drop-down menu

Renamed report types:

- The Organization summaries are now consolidated under one report -- the Call Summary by Organization
- The 'Billing' and 'Cost Center Manager' reports have been combined into one report -- the Assigned Charges by Organization

See System Reports for a list of reports available to a report user; see Report Templates for the list available to a report designer.

I deactivated personnel/inventory a while ago. Why are they still appearing in reports?

Deactivated personnel, inventory items, or authorization codes associated with call records must remain in the database strictly for historical reports. They are marked for deletion and will be removed by the automatic cleanup process once all associated call records get deleted from the database (auto deletion parameters are set by the System Preferences function).

System

⊞ **How do I access VeraSMART or MySMART from another workstation?**

Open your browser and enter the address below, where <VeraSMART_PC> = the name of the machine where VeraSMART is installed:

http://*<VeraSMART_PC>*/

> ***NOTE*: Systems with SSL certificate of protection use "https:" (instead of "http:").**

⊞ **How many users are allowed to access the system or use such options as My Personal Calls, MySMART, or InSight Analytics? Can I tell who has been logging into the system?**

The About VeraSMART page can show you how many user logins are included in your license and how many logins are already counted against it.

The Audit Log can show you all user activity, within a specified time period.

Troubleshooting

⊞ **Call Rating issues.**

⊞ **No calls in reports or 'No call records' alert. What should I do?**

***NOTE*: To receive a 'No call records' alert, you must set it up via System Alerts.**
Check the Call Processing Status for the CDR sources of interest.

- **If rating is enabled, see the *No call collection* FAQ directly below.**
- **If rating is disabled, check the items licensed in the About VeraSMART page. If the inventory item count is within limits, return to the Call Processing Status page and enable rating; otherwise, you must upgrade your license. After the upgrade, return to the Call Processing Status page and enable rating.**

⊞ **No call collection from a CDR source.**

Use the Show Collection Details page to find the collection method, then review solutions for the *Problem: No Call Records* section for the individual method (see Call Collection Methods for details).

⊞ **Call count from CDR source too small.**

Check for conditions that result in discarding or not reporting more calls:

- **In a report, are criteria/filters too strict?**
- **Call Types (minimum duration filter too low?)**
- **Discard Call Records (rules too strict?)**

⊞ **Too many 'rejected calls' alerts.**

***NOTE*: To receive this type of alert, a system administrator must set it up via System Alerts.**

"Rejected calls" are calls under the minimum duration filter set for its call type. A large number of rejected calls may mean that this filter is set too high and you are discarding valid calls; it could also mean that these are short calls typical of repeated hacker attempts at breaching your telephone switching system (see Call Alerts for details).

⊞ **Some of my Special Call Processing entries do not seem to be working properly. Why?**

There can be several reasons. The examples below use "wildcard symbols" ? (represents a single digit) and % (represents any number of digits):

(1) Match rules conflict: you may have more than one "rule" apply (the more significant match always take precedence. For example, 3% vs. 321%, where 321% is more significant).

(2) Your switch output may include extra digits that have been dialed after the actual number (for example, a search for 348???? matches only seven digits; however, if you dial a local number starting with 348 and an auto attendant system is accessed, there could very well be extra digits appended to the dialed number). A second Special Call Processing entry of 348????% will remedy this problem.

⊞ **E-mail issues.**

E-mail notifications are not being received by recipients.

Check e-mail settings in System Preferences, then try to send a test e-mail.

If report e-mails still do not work, contact your network administrator to have your mail/anti-virus software unblock port 25 and/or the VeraSMART report process (reportexport.exe).

Too many e-mails generated by EZ-Burst reports.

Your system has a limit of 1,000 e-mail messages per report output. A report configured for Personnel EZ-Burst will fail if this limit is exceeded at the time the report runs. To avoid this, proceed as follows:

(a) Configure the Personnel record of every report recipient with an *e-mail address* and an EZ-Burst® option to *receive e-mail links to reports*.

(b) When creating reports with Personnel EZ-Burst® output, provide at least one *notification e-mail address* (the recipients of this message can then notify others that the report completed and is available in MySMART > My Reports).

> ***NOTE:*** **Recipients configured with the option *E-mail EZ-Burst reports as attachment* will get individual e-mail messages with the zipped report as an attachment, even if there is a notification e-mail address associated with the report output.**

Browser issues.

My analytics visualizations are not very clear. How can I correct this?

Analytics dashboards are best viewed on a high-resolution screen. Users that experience problems – for example, if displaying analytics on a screen using a projector (which typically have a lower resolution) – are encouraged to zoom their browser down – for example, to 75% – to have text and visualizations fit the screen.

I cannot open a PDF with my browser. Why?

PDF ("Portable Document Format") files require Adobe's Acrobat or Acrobat Reader installed in your PC, for your browser to open it. If you are connected to the Internet, you may download Acrobat Reader freely from http://www.adobe.com.

I am getting JavaScript errors / errors on the page messages. What is happening?

Your browser may be 'caching' pages (placing them in memory for high-speed retrieval of frequently used data). To clear the cache:

- Internet Explorer: Tools > Internet Options > [Browsing History] Delete. Unmark 'Preserve Favorites website data,' mark 'Temporary Internet Files' and 'Cookies,' and then click Delete.
- Mozilla FireFox: Tools > Options... > Privacy. Mark 'Clear history when FireFox closes,' click Settings... and then mark 'Cache' and 'Cookies.'

User access issues.

Product license page appears instead of the Login page.

The Activate License page appears if the serial number entered at installation is not valid or VeraSMART was NOT connected to the Internet and could not validate the serial number.

Follow the procedure suggested on the page to activate your license and unlock product features.

After reaching the limit of my 'Analytics Users' license, I transferred the 'Analytics: Access' rights from one user to another. This new user, however, is not able to see any Analytics. What happened?

License tokens for Analytics Users are strictly counted. Removing a user’s access will free the token for another user; however, it will take 7 days to re-register license and allow viewing rights for the new user.

Cannot login -or- after login, I cannot see some menus or functions.

Contact the system administrator to discuss changing your permissions via the Login Accounts function.

Import issues: data import completed with unprocessed records.

"Unprocessed import records" are records from a data import file that were set aside because they cannot be uniquely correlated with database records and require you to resolve the ambiguity.

The system keeps a log of unprocessed records from the last import of its kind, with each import overwriting its prior Unprocessed Record file. Unprocessed records from the last import are available via links from the Status Log and/or Import Data pages.

Check Unprocessed Import Records for corrective action.

Upgrade issues.

Page errors after upgrading ('JavaScript errors' or 'Error on Page' messages)

Your browser may be 'caching' pages (placing them in memory for high-speed retrieval of frequently used data). To clear the cache:

- Internet Explorer: Tools > Internet Options > [Browsing History] Delete. Unmark 'Preserve Favorites website data,' mark 'Temporary Internet Files' and 'Cookies,' and then click Delete.
- Mozilla FireFox: Tools > Options... > Privacy. Mark 'Clear history when FireFox closes,' click Settings... and then mark 'Cache' and 'Cookies.'

Where are my reports?

Except for Organization summaries consolidated under one report, all your reports, schedules, and distribution lists have been preserved:

- All 'User Reports' accessible to you will be under your 'My Reports' list view
- All 'System Reports' will be available as templates to add to 'My Reports'
- All your 'Saved Reports' will be under your 'Report Inbox'
- All reports under your 'Favorites' will be under your 'Favorites' drop-down menu.

My 'active' archive for reports disappeared after the upgrade. What happened?

The upgrade enhanced many system features, including database elements. Your current database was upgraded immediately, without data losses. An archived database will be upgraded as soon you restore it via the Archive Management function, making it 'active' and available for reports.

About VeraSMART

This page is accessible from the Help menu under any tab. It displays the VeraSMART version, install date, and serial number.

It also allows access to the features listed below.

= Requires having logged in as a system administrator.

Licensing Functions

Refresh License (Refresh License button)

[Requires Internet access from the VeraSMART server]

Connects to the VeraSMART licensing facility, to enable product components and/or options recently added to your license.

Load Manual License (Refresh License button)

Activates the product after registering by phone — used whenever the VeraSMART server does not have an Internet connection. See Product License for details.

Change Serial Number (Refresh business License button)

[Requires Internet access from the VeraSMART server]

Connects to the VeraSMART licensing facility, to replace the product serial number because (a) it was entered incorrectly at installation —or— (b) you have been issued a new serial number. See Product License for details.

More Actions

View Trademarks (More Actions button)

Opens page listing all trademarks used by the application and/or product support.

Online User Community (More Actions button)

Connects to the VeraSMART user community web site, where you can find product documentation and software to download, as well as an interactive blog where users can view FAQs and post comments. Register using your product serial number and business e-mail address.

Check for Updates (More Actions button)

[Requires Internet access from the VeraSMART server]

Connects to the VeraSMART download center to look for and install available updates.

Send VeraSMART configuration data to Veramark (More Actions button)

Allows you to view (click to show/hide data) and send configuration data to a VeraSMART support facility. If connected to the Internet from the system server, you may also send this information each month automatically.

***NOTE*: If you do not have an Internet connection from the server, you can download the appInfo.xml file to a different location and then send it to the VeraSMART support facility.**

Send unrecognized wireless charge descriptions to Veramark (More Actions button)

[Available in systems with a Wireless Call Accounting, Mobility Expense Management, or legacy Wireless Expense Management license]

Allows you to view (click to show/hide data) and send unrecognized invoice charge descriptors to a VeraSMART support facility. If connected to the Internet from the system server, you may also send this information each month automatically.

***NOTE*: If you do not have an Internet connection from the server, you can download the UnknownCharges.zip file to a different location and then send it to the VeraSMART support facility.**

Add-ons, Modules, and Options

Add-ons (Add-ons tab)

Includes the versions of additional or custom packages added to the system -- such as default rate information, custom rates, invoice readers, hot fixes, and service packs.

Modules (License tab)

Displays stand-alone applications enabled by license in your installed product.

⊞ **Call Accounting (CA)**

The CA application is designed to track wireline phone usage, based on data collected in real-time from on-premise telephone systems. It calculates call costs and assigns expenses to responsible parties. CA reports and viewers allow making informed decisions to...

- **Track under/over utilized facilities to optimize your network**
- **Identify and resolve long call queues to increase caller satisfaction**
- **Crack down on network abuse, security threats, and harassing calls**
- **Encourage responsible use of telecom resources**
- **Reduce telecom costs**

⊞ **Organization and Personnel Directory**

These base components provide the corporate structure of personnel, cost center, and higher levels that allows the allocation of inventory usage and charges. It also sets the framework for directory look-ups in MySMART, user access and security, and report distribution.

⊞ **Wireless Call Accounting (WCA)**

The WCA application is used to track wireless phone usage, based on data downloaded monthly from the Internet, from your AT&T, Sprint, T-Mobile, or Verizon accounts. Reports and viewers with wireless data allow making informed decisions to...

- **Simplify operations and expense assignments to responsible parties**
- **Identify savings opportunities by optimizing features and cutting unnecessary options**
- **Encourage responsible use of wireless resources**

⊞ **Options (License tab)**

Displays the options enabled by license in your installed product.

All CDR Fields

All CDR Fields is an option for Call Accounting (CA) that allows collecting and reporting (using EZ-Share) all of the additional raw (unprocessed) fields that are available from the switch.
VeraSMART can collect raw CDR data from: Cisco Unified Communications Manager 9.X+ (Format #1010), Cisco Unified Border Element (Format #1051), and Acme Packet (Format #1050).

Enforce HIPAA Compliance

System option that tightens security by (a) disabling Forms Authentication -- i.e. users must login via Windows and (b) entering all security-related actions in the Audit Log.

> ***NOTE***: Users are responsible for all other security measures, which include:
> (a) Operating system is a Windows Server
> (b) Website is configured to use SSL
> (c) Login accounts are managed via Microsoft Active Directory imports.

Enhanced Chargeback

System option that allows creating charge codes for one-time charges, as well as assigning one-time and distributed internal charges to Personnel, Cost Centers, Inventory, and Authorization Codes; enables the full functionality of Fiscal Years and Accounting Periods. Includes a single EZ-Share Export, editable by users.

EZ-Share

System option that allows creating highly configured exports of system databases. A single, editable EZ-Share Export is included with the Enhanced Chargeback option. Full functionality is included in the Invoice Management component.

Multinational

System option that allows currency conversions of call and invoice charges for reporting purposes.

Personal Call Identification

CA or TEM option designed for users to review their phone usage in MySMART and mark dialed numbers as personal/non-business calls.

SBC CDR Matching

SCD CDR Matching is an option for Call Accounting. SBC Matching is utilized for the purpose of matching SBC (Session Border Controller) calls with their originating CDR Source and applying the SBC rate to those calls.

Tie Line Reconciliation

CA option designed for businesses using a network of telephone switching systems interconnected by private "Tie" Lines. Tie Line reconciliation can track all legs of an off-net Tie Line call across multiple switches, in order to create a single call record and thus re-assign the call charges to its on-net origin.

Actual Usage and Product Updates

Items counted against license (License tab)

The bottom of the page displays a grid that shows the list of items limited by your license such as CDR sources, inventory items, MySMART and VeraSMART users, etc. — and how many items are counted against it. Items with unlimited license will not appear in the list.

Database capacity (Database tab)

Displays a grid that shows system capacity and actual usage for databases installed locally on the system server.

> ***NOTE***: The system uses either the Embedded Database provided with the product or Microsoft SQL Server pre-installed on the local PC or on a remote database server. The Embedded Database is limited to about 10 GB of data (this represents about 15 million call records in the current database). The full SQL Server, on the other hand, has no limits other than the capacity of the disk where the data is located.

Organization entries (Organization tab)

Displays a grid that shows the number of records in each organization level in use.

⊞ **CDR Sources (CDR Source tab)**

Displays a grid that shows information on all CDR and invoice data sources:

- **Name, short name, and local calling area (main number and country)**
- **Call record format and collection method used**
- **Number of CDR processed and time stamp of the most recent**

⊞ **Product Updates (Product Updates tab)**

Displays when updates were last checked and a grid of product features, their installed version and the latest available version.

> ***NOTE*: Currently, this function only supports updates to wireless invoice readers in systems with Wireless Call Accounting, Mobility Expense Management, or Wireless Expense Management (legacy) and to the look-up table for rate plans offered by wireless vendors.**