

# Predictive UC Analytics Web Application First Steps Guide



# The Predictive UC Analytics Web Application Interface

The Predictive UC Analytics web interface allows administrators to monitor and analyze UC traffic from anywhere on the network without having to install the admin client. The admin client is needed for initial configuration of the product and its data sources, collection, processing, and maintenance tasks, but many of the advanced analytics features are only available in the web interface. These features include real-time trending, dashboards, monitors, viewpoint maps, and predictive KPI models.

Administrators can also configure additional logins to grant different levels of access to managers and other employees in the organization who need to be able to access that information. To avoid having to manage every privilege for every login, administrators can create custom privilege groups and assign them to logins. Administrators can also configure tenants, granting ownership of a section of the directory organization to tenant administrators. The "Admin View" feature allows administrators to act as other logins to test their security privileges.

# **Secure Authentication**

For all of these authentication methods, we strongly recommend configuring the web server to use HTTPS (secure HTTP). The web server will not allow LDAP accounts to log in at all unless it is secure. Note the URL in the browser the first time you attempt to log in. If it starts with "http://" instead of "https://", please refer to the last section of the First Steps Guide for the admin client.

Predictive UC Analytics supports these authentication methods for authenticating logins:

- Local: Predictive UC Analytics manages these user accounts and their passwords locally in its database. You may configure rules for minimum password length, password complexity, and password expiration. If a user forgets their password, an administrator can reset it.
- LDAP: Predictive UC Analytics manages these user accounts but not their passwords. The web server forwards these logins and passwords to an LDAP server (usually a Windows Domain Controller) to validate them. You may configure multiple LDAP servers/domains for logins to use, and you may use LDAP security group membership to grant privileges.
- Alternative Authentication: Predictive UC Analytics supports a number of alternative authentication methods that require additional professional services to configure and test. The most popular of these methods are Integrated Windows Authentication (IWA) via Kerberos/NTLM, Active Directory Federated Services (ADFS), and Google OAuth.

**Note:** When you first install the product, the admin client will create the first administrator accounts as local logins with no password. These accounts have full access to the admin client, but they will not be able to log into the web interface until you set an initial password for them in the "User Manager" component of the admin client.

# Navigation

After logging in with an admin account, the navigation bar at the top should show from left to right:

• The navigation menu button

- The title of the current page
- An "Admin View" selection for testing other manager accounts.
- Icons for changing manager settings, viewing general info, and viewing the status for tasks running in the background.

If the navigation menu is not already open, click the menu button on the left to open it. The darker menu items represent sub-menus with additional selections beneath them. The pin icon at the very bottom can toggle the menu state between: keep hidden, icons only, or keep open.

≡	PREDICTIVE UC Analy
Das	hboard 🕂
Ana	lytics 🔒
Ass	urance 💎
Ass	ignment 📥
Sec	urity 🔳
Sett	ings 🗘
Sea	rch Q
Help	o ?
Log	out 🕞
	I

#### **Manager Settings**

Click the login name or the person icon next to it in the top-right corner to access manager settings. This will open a dialog box to allow you to change generic options for your login like color scheme, tool-tips, or password. You may only change the password for local logins, not LDAP or alternative logins.

Manager Settings		?	×
Manager:	admin		
Layout Color:	default	,	,
Menu Tool-Tips:	Show menu tool-tip descriptions		<b>r</b>
Old Password:			
New Password:			
Confirm Password:			
			_
	OK Cano	el:	

#### **Common Features**

The web interface has a few common features and icons that you may see in several different components. These features work the same way regardless of which component they appear in. Explanations for individual components will refer back to this section.

#### **Shareable URL**

Many components will have an icon that that looks like three dots connected with lines. That icon will open a small popup containing a URL and a "Copy" button. The "Copy" button will copy the URL to your clipboard. The URL can be used to share content with other people, or embed content using Iframes in your CRM, wallboard, or intranet sites without having to be authenticated.

### **Run Report**

I - Many components will have an icon that that looks like a paper behind a bar chart. That icon will open a dialog to run a report. The report will use the filters from the current entity (ie. Monitors, KPI Models, ViewPoints).

#### **Chart Options**

🛍 - Many components will have charts with an options icon to allow you to control how the chart looks.

#### **View Details**

• Many components will have an icon that that looks like a document with a magnifying glass over it. That icon will open a dialog to display session detail records for the currently selected: directory entity, KPI model, trending chart, etc. Filters and a date range will be pre-configured based on your current selection, and you will be able to adjust the filters in the dialog.

	Filters		▲ Date	Time	Traffic Group	Gateway (Dest)	Address (Source)	Gateway (Source)
	Thers		2019-05-06	02:10:23 PM	Incoming	SEP00000041160	+19793358917	atlan.vgw-01.telemat.
Date Range:	2019-04-30 00:00:0	0 to 2019-05-06 23:59:5	9 2019-05-06	02:09:52 PM	-	INTERNAL	+14067455330	-
					Incoming			houst.vgw-01.telema.
Stored Filter Set (			2019-05-06	02:09:07 PM	Incoming	INTERNAL	+16084133041	tornt.vgw-01.telemat.
No filter sets create	ed.		2019-05-06	02:07:12 PM	Incoming	INTERNAL	+14808383210	sacra.vgw-01.telema.
			2019-05-06	02:05:34 PM	Incoming	INTERNAL	+19176452694	bostn.vgw-01.telema.
			2019-05-06	02:05:26 PM	Local	chicg.vgw-01.telema	3546	INTERNAL
			2019-05-06	02:05:25 PM	Incoming	INTERNAL	+17049411662	tornt.vgw-01.telemat.
			2019-05-06	02:04:42 PM	Incoming	INTERNAL	+14063603948	seatt.vgw-01.telemat.
			2019-05-06	02:04:14 PM	Incoming	INTERNAL	+17814121928	tornt.vgw-01.telemat.
Filters (using ANI	) logic)		2019-05-06	02:04:12 PM	Incoming	INTERNAL	+19159227314	atlan.vgw-01.telemat
Data Source	is (='Generated CUCM')		× 2019-05-06	02:04:04 PM	Incoming	SEPC8F9F968AE61	+17854485552	sacra.vgw-01.telema
			2019-05-06	02:04:02 PM	Local	atlan.vgw-01.telemat	3055	INTERNAL
			2019-05-06	02:04:01 PM	Local	houst.vgw-01.telema	3309	INTERNAL
			2019-05-06	02:04:00 PM	International	chicg.vgw-01.telema	3656	INTERNAL
			2019-05-06	02:03:59 PM	Incoming	INTERNAL	+13614464725	sacra.vgw-01.telema
			2019-05-06	02:03:55 PM	Incoming	INTERNAL	+18015106337	bostn.vgw-01.telema
			2019-05-06	02:03:54 PM	Incoming	INTERNAL	+17854485552	sacra.vgw-01.telema
			2019-05-06	02:03:52 PM	Incoming	INTERNAL	+14696837751	seatt.vgw-01.telemat
			2019-05-06	02:03:51 PM	Incoming	INTERNAL	+13218429840	houst.vgw-01.telema
			2019-05-06	02:03:47 PM	Incoming	INTERNAL	+15413684745	tornt.vgw-01.telemat
			2019-05-06	02:03:42 PM	Incoming	SEPF84F57953028	+13235813477	chicg.vgw-01.telema
			2019-05-06	02:03:18 PM	Incoming	INTERNAL	+18604773336	chicg.vgw-01.telema
			2019-05-06	02:03:16 PM	Local	houst.vgw-01.telema	3402	INTERNAL

**Note:** The administrator may apply security restrictions on whether your login can view details, how much detail it can see, and which columns/filters it can see.

The "Filters" icon on the left allows you to modify the filters and the date/time range to apply to the detail records displayed on the right. The "Columns" icon on the left allows you to add, remove, or rearrange the columns displayed on the right. After making changes to filters or columns, click the "Refresh" icon (which looks like a right arrow) to refresh the detail records on the right. This tool provides a great interactive method to test various filter combinations. Once the filters show a specific

data set you need to see often, we recommend that you save them as a stored filter set to reuse later. You may also click the "Run Report" button to run a report with the current filters applied.

#### **Filters**

In addition to the filter configuration in the detail dialog above, reports, monitors, viewpoint maps, and KPI models all allow you to configure filters to separate the data you need to see for each specific instance. For example, you may want a monitor that only shows video conferences with poor call quality, a KPI model showing international calls by country, or a report that only shows IM and email to/from addresses ending in "@telemate.net".

Filters are configured the same way no matter what they are used for, and stored filter sets can be shared between components. We strongly recommend saving combinations of filters that you may need use again later. If you have trouble finding the right combination of filters to apply, we recommend using the view details dialog to test filter changes interactively.

Filters						-
Stored F	ilter Set <u>(usi</u>	ng OR la	igic)			
Filter	Set #1				Ū	1 × 1
Filter	Set #2				ū	1 ×
Filters (u	sing AND lo	gic)				
Data Sou				is (='Generated Audio' or ='Generated CUCM')		×
Departme	ent					×
Criteria:	Current •	ls ▼	= •		Add	
	Current	ls Not	= <			
	Prior	NOL	<=			
			>			
			>= Between			-
			Like			
Save F	ilters As			Add Filter Type: Please Select		Ŧ
Saver	ILCIS AS			Add Filter Type: Please Select		•

**Note:** The administrator may apply security restrictions to restrict which filters your login can use. In addition, security filters may exist that will always be applied to your login automatically.

To add a new filter, select the desired filter name from the "Add Filter Type" selection box. When you select one, a new filter definition line will be added to the "Filters" list, and a panel of controls will open below it to allow you to specify the criteria to include or exclude. At any time, you may show or hide the criteria panel by clicking on a filter definition line in that list. In the screenshot above, a "Data Source" filter had been configured previously and the "Department" filter name had just been selected from the "Add Filter Type" selection.

To filter traffic, you need to use the criteria panel to specify exactly what you want to include or exclude. Include filters tell the engine "I only want to include x, y, and z". Exclude filters tell the engine "I want to include everything except x, y, and z". For most filter types, the easiest way to do this is to click the small "..." button on the right side of the criteria panel to bring up a list of values to select from:

Multiselect		?	×
Use the search options to narrow down the	e list of choi	ces.	
Starts With V 5			
User Extension			
5000			<u>_</u>
5001			
5002			
5003			
5004			
5005			
5006			
5007			
5008			
5009			
5010			
5011			•
Use for the prior leg			
Exclude the selected items			
Combine the selected items			
	ОК	Cancel	

By default this list will only show up to the first 1000 options. If you choose a filter type with thousands of values to choose from, then you will need to use the search options to narrow down the list to find what you are looking for. Select the appropriate values, check the exclude box if you wish to exclude these values from the report, and click OK.

Some filter types do not show a "…" button. These tend to be values not tracked in their own special table in the database, like external phone numbers and email addresses. The number of internal addresses are bound by the size of your organization, but the number of external addresses could easily be in the millions. It is also important to keep in mind that the "…" button works well when you want to select a small number of specific values, perhaps fewer than 25, but not when you want to specify a range of 1000 values.

In those cases, you need to specify the appropriate values from the "Is/Not" selection box, the comparison operator selection box, manually type in the search criteria, and then click the "Add" button to add it to criteria list below. As you add filter criteria, it shows up in the list below the criteria control

panel as well as in the filter definition line above it. The text in the line above may be abbreviated due to limited space, but it attempts to make the selected filter logic clear.

e:		is (='Generated	d Audio' or ='Generated C	UCM')			3
sion							3
Current	t▼ ls ▼	Between 🔻 5	5000	and	5999	Add	
ls	Between	5000 5999				×	-
Not	=	5009				×	
Not	=	5010				×	
	sion Current Is Not	sion Current ▼ Is ▼	sion is ('5000''5999 Current ▼ Is ▼ Between ▼ 5 Is Between 50005999 Not = 5009	sion     is ('5000''5999') and not (='5009' or ='5009' or ='5000''5999')       Current ▼     Is     ■       Between     \$5000    5999       Is     Between     \$5009	sion     is ('5000''5999') and not (='5009' or ='5010')       Current ▼     Is       Between ▼     5000       Is     Between 50005999       Not     =	sion     is ('5000''5999') and not (='5009' or ='5010')       Current ▼     Is     ▼       Between     5000     and       Is     Between     5000       Not     =     5009	sion       is ('5000''5999') and not (='5009' or ='5010')         Current ▼       Is       Between ▼       5000       and       5999       Add         Is       Between       50005999       ×       ×       ×         Not       =       5009       ×       ×

**Note:** The "LIKE" comparison operator uses SQL wildcards, so '\_' will match any single character and '%' matches any number of characters. So "LIKE 5%" would mean "Starts With 5", "Like %5" would mean "Ends With 5" and "LIKE %5%" would mean "Contains 5".

In the example above, traffic will only be included in the report if it matches both the "Data Source" filter AND the "User Extension" filter (note the "using AND logic" reminder above). To match the first filter, the traffic must be generated by the "Demo" or the "UCCX" data source. To match the second, the traffic must be assigned to a "User Extension" in the range between "5000" and "5999" EXCEPT for "5009" and "5010" (which were specifically excluded).

To remove one part of a filter's criteria, for example the "Not = 5009" criteria line above, click the "x" button on the right of that criteria. To remove the entire "User Extension" filter, click the "x" button on the right of that filter's definition line.

As mentioned above, the normal filters always use "AND" logic. Suppose you need to specify filters to include all traffic that is either from the "Demo" data source or has an extension in the range from "5000" to "5999". If you glance above the "Filters" box to the "Stored Filter Sets" box, you should spot a reminder that says "using OR logic". The solution is to add a Data Source filter set to "Is = Demo" and click the "Save Filters As" button. Then clear that filter and add an Extension filter set to "Is Between 5000..5999" and click the "Save Filters As" button. Then clear that filter and check both of the new "Stored Filter Sets".

Stored Filter Set ( <u>using OR logic</u> )	
Demo Data Source	G ×
Extensions 50005999	G ×
Filter Set 1	G ×
Filter Set 2	G ×

Stored filter sets can be used for much more than providing OR logic. Any time you find yourself needing to use the same filter values multiple times, save them. If you want to combine them with AND logic later on instead of OR logic, click the "Copy" button on the right (which copies their filter criteria down to the "Filters" list below) instead of checking them. When you save a set of filters for a report, you can use that filter set in Monitors and Viewpoint (and vice versa).

**Note:** Some reports will not provide the option to use or save filter sets. This includes older custom reports and newer reports that provide a limited filter set. Only a report that provides the full set of UC traffic filters can take advantage of stored filter sets.

#### Manage Destinations (Alarm Notification Delivery)

Most alarm notifications are sent to the same group of people, setting that up multiple times is a pain. In the "Manage Destinations" section, you can create, edit and delete destinations to be used in Predictive UC Analytics.

From the Destinations dialog you can add a destination by clicking the "+" button in the top-right corner of the list. To edit an existing destination, click on its name. To delete a destination, click on the "x" button to the right of it.

Name			
	Delivery Method		+
Alarm with No Notification	None		
Default Alarm Destination	Email	di	>
Development	Email	Ð	>
т	Email	Ð	>
IT Managers	Email	ø	>

There are a number of alarm delivery methods to choose from. For example, you can send a simple text email to alert a specific person/group, generate an SMTP trap, send an IM message to Cisco Spark, or run a report and have that delivered to someone automatically. The Predictive UC Analytics delivery mechanism allows custom scripts to be written to provide custom delivery methods for you as a professional service.

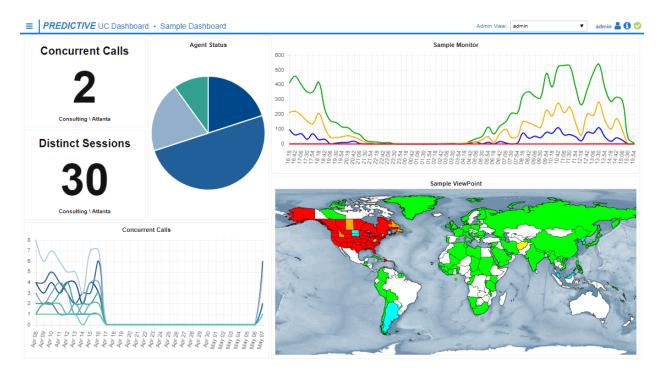
**Note:** The "!Alarm with No Notification" destination allows alarms to be created, but no notification will be sent. This is useful when you still want to track alarms in Assurance in areas like UC Devices and Network Devices.

Destination	? ×
Name:	IT Managers
Delivery:	Email 🔹
TO:	john.smith@telemate.net
CC:	bob.jones@telemate.net;alex.richards@telemate.net
Subject:	Predictive UC Analytics Alarm
Body:	
	Test Delivery Method
	OK Cancel

# **Dashboards**

The dashboard component allows you to build custom single-page dashboards that combine display information from several different analytics components. It allows you to add, move, and resize "widgets" that act as windows into KPI models, monitors, viewpoint maps, and real-time contact center statistics. Once completed, a dashboard can be locked to prevent accidental changes, and then it can be shared with specific privilege groups/roles.

We strongly recommend that administrators create dashboards to share with non-administrators instead of allowing non-administrators to create their own. For example, you may create a "Sales Manager" dashboard that looks the same for every sales manager login, but filled with data specific to his or her sales department. A regional sales manager would see the same dashboard filled with data from multiple sales departments.



#### **Creating Dashboards**

Because you may have several different concerns regarding your data, you can create several different dashboard "pages" that you can switch between quickly. To create a new dashboard, click on the Dashboard category icon in the navigation menu. When hovering over the icon it will become a "+" symbol. To edit the current dashboard page, the gear icon will appear when hovering over the icon for the dashboard in the menu. Clicking either icon will open up the Dashboard properties window.

Dashboard	+
Sample Dashboard	==
Analytics	ġ.
Assurance	•
Assignment	*
Security	U
Settings	00
Search	Q
Help	?
Logout	¢

Dashboard	
Sample Dashboard	۵
Analytics	ġ.
Assurance	••
Assignment	*
Security	U
Settings	00
Search	Q
Help	?
Logout	•

#### **Dashboard – Properties**

When you create a dashboard, you will be required to specify a name. The icon and description are optional, and will be used in the navigation menu. The description is displayed as a popout when hovering over the dashboard name or icon in the menu. If you are logged in with an admin account with access to view other managers, you will also be allowed to share it with a security group (in which case other members of that group will be able to see it but not modify it).

Dashboards support a number of different types of widgets. Currently, widgets based on Monitors, ViewPoints, KPI Model Scores, KPI Model Views and Contact Center data can be created. You can add a widget by selecting the desired widget type from the "Add Widget" drop down. To edit an existing widget, click on its name. To delete a widget, click on the "x" button to the right of it.

Locking a dashboard will prevent the widgets from being moved and resized on the page. The settings for the dashboard and "widgets" can still be edited via the settings dialog.

Dashboard Pr	operties: Sample Dashboard			?	<b>x</b>
Name:	Sample Dashboard			::	•
Description:	Sample dashboard and widgets.				
Share With:	(Not Shared)				•
Name		Туре	Style		
Sample Contac	t Center	Contact Center	Pie	ø	×
Sample KPI Mo	del Score	KPI Model Score	Summary/Box	ø	×
Sample KPI Mo	del View	KPI Model View	Line	ø	×
Sample Monito	r	Monitor	Line	ø	×
Sample ViewPo	bint	ViewPoint	Мар	ø	×
Lock (No ch	anges can be made to the dashboard or widg		Please Select) Delete	Cancel	•

#### **Dashboard Widget - Common**

There a number of common properties shared between the different widget types.

 Custom Name – When a custom name is provided it is used as the title for the widget. The custom name can also be used as a description to better identify what is being displayed in the widget.

- Title Sizing There are three sizing options for widget titles. Default is a static size and will not change if the widget size changes. Fill is dynamic sizing and will adjust based on the size of the widget. Hidden hides the title.
- 3) Caption Sizing There are three sizing options for widget captions. Default is a static size and will not change if the widget size changes. Fill is dynamic sizing and will adjust based on the size of the widget. Hidden hides the caption.
- 4) Chart Style Some of the chart styles are not available for every widget. The available styles include Line, Line Filled, Pie, Polar Area, Doughnut, Bar, Bar Stacked, and Summary/Box charts. Summary/Box charts will only display a number representing the value of the selected data.
- 5) Legend Style There are a number of legend placement styles. Hidden hides the legend. Horizontal displays the legend horizontally across the bottom for the chart. Vertical (Bottom) has the legend displayed vertically below the chart. Vertical (Right) positions a vertical legend to the right of the chart. Vertical (Left) positions a vertical legend to the left of the chart.

#### **Dashboard Widget - Monitor**

When you create a widget based on a real-time traffic monitor, first you must select an existing monitor. If you do not have an existing monitor already configured you will need create one in the Monitors component. After selecting your monitor, configure the common widget properties and set the time range slider. The slider narrows the time range displayed in the charts. For real-time monitors the slider allows you to select ranges like "past 1 hour", "past 2 hours to 5 hours ago", or past 24 hours.

Dashboard Wid	get Properties		? 🗙
Monitor: Custom Name:	Sample Monitor		•
Title Sizing: Chart Style: Legend Style:	Default Line Hidden		<b>T</b>
24 hours ago	0		Current
		ОК	Cancel

#### **Dashboard Widget - ViewPoint**

When you create a widget based on ViewPoint, first you must select an existing ViewPoint view. If you do not have an existing view already configured you will need create one in the ViewPoint component. After selecting your view, configure the common widget properties and set the time range slider. The slider narrows the time range displayed in the charts. For ViewPoint the slider allows you to select ranges like "past 1 hour", "past 2 hours to 5 hours ago", or past 24 hours.

**Note:** Zooming and repositioning the ViewPoint maps require you to hold down the CTRL key while using the mouse. To drag/reposition a map, hold down the CTRL key, click and hold with the mouse button, and then move the mouse. To zoom in or out of a map, hold down the CTRL key and use the mousewheel to control the zoom. The dashboard can not be locked.

Dashboard Widg	jet Properties	? X
ViewPoint: Custom Name:	Sample ViewPoint	•
Title Sizing: Legend Style:	Default Hidden	<b>T</b>
24 hours ago		Current
using the mouse.	nd repositioning the ViewPoint maps require you to hold down the CTRL To drag/reposition a map, hold down the CTRL key, click and hold with t move the mouse. To zoom in or out of a map, hold down the CTRL key a ontrol the zoom.	he mouse

#### Dashboard Widget - KPI Model Score

Creating a widget based on a KPI Model Score requires you to select the KPI Model and KPI Model View before you can select the KPI Model Score. If you do not have an existing KPI Model already configured you will need create one in the KPI Model component. After selecting your model, view and score, you will be able to select the period type. The lowest period type is determined on what the base period type is set to in the KPI Model. Next you will need to select a client/parent to chart. Since there could be hundreds of client/parent combinations for the model, the list is based on those that have already been checked in the KPI Model component for the selected view.

**Note:** The KPI Model Score widget is presented in the summary/box style. The value shown is only for a single client and single score.

Dashboard Widge	t Properties		? X
KPI Model:	Audio Counts		•
KPI Model View:	!Default		•
KPI Model Score:	Concurrent Calls		•
Custom Name:			
Period Type:	Quarter Hour		T
Department \ Divisio	on: Consulting \ Atlanta		T
Title Sizing:	Default		T
Caption Sizing:	Default		۲
		OK Can	cel

#### Dashboard Widget - KPI Model View

Creating a widget based on a KPI Model View requires you to select the KPI Model and KPI Model View before you can select the KPI Model Score. If you do not have an existing KPI Model already configured you will need create one in the KPI Model component. After selecting your model, view and score, you will be able to select the period type. The lowest period type is determined on what the base period type is set to in the KPI Model.

The client/parent combinations available for the widget are inherited from the KPI Model View on creation of the widget. If you change the selected clients in the KPI Model View, the clients in the widget will not change. If you need to update the client/parent values after creating the widget you can do so by clicking the link at the bottom of the dialog "Update configured clients from KPI Model View".

**Note:** The KPI Model View widget is displayed as one of the line or bar chart styles. The data plotted is for a single score.

Dashboard Widget	Properties			? 🗙
KPI Model:	Audio Counts			•
KPI Model View:	!Default			•
KPI Model Score:	Concurrent Calls			•
Custom Name:				
Period Type:	Quarter Hour			T
Title Sizing:	Default			•
Chart Type:	Data Only (without analytics)			Ŧ
Chart Style:	Line			•
Legend Style:	Hidden			•
24 hours ago				Current
Department		Division		
Consulting		Atlanta		<b>A</b>
Executive		Atlanta		
Research		Atlanta		
Sales		Atlanta		
Service		Atlanta		•
		Update configu	ured clients from k	(PI Model View
			ОК	Cancel

#### **Dashboard Widget - Contact Center**

Contact Center widgets do not use existing objects to build the widget. However, it does use the same data that is available in the Contact Center component. The custom name is required for the widget and is used as the title. All data displayed in the widget will come from a single data source and either CSQs or Teams that have been collected from the UCCX. To add CSQs/Teams or Data Fields, click the "+" button in the top-right corner of the list. To edit an existing selection, click on its name. To delete a selection, click on the "x" button to the right of it.

**Note:** Depending on the chart style selected, the number of allowed CSQs/Teams and Data Fields may be limited. For the Summary/Box style, you are allowed to pick multiple CSQs/Teams and only a single data field. For Pie chart styles, you can either have multiple CSQs/Teams and a single data field or a single CSQ/Team and multiple data fields. For Bar chart styles, you can have multiple CSQs/Teams and multiple data fields. When choosing multiple data fields they must be the same type.

The Summary/Box style has an additional setting for Threshold. If the data field value is greater than or equal to the threshold, the background color of the widget changes to match the selected color. This allows you to set up a visual indicator for when a Contact Center value reaches a certain threshold.

ashboard Wid		?
Custom Name:	Sample Contact Center	
Data Source:	UCCX	
Grouping:	CSQ	
:sq		
CSQ-15		
)ata Field		
		×
gents - Ready	n	×××
agents - Ready agents - Logged		
Agents - Ready Agents - Logged Agents - Reserve		×
Agents - Ready Agents - Logged Agents - Reserve Agents - Talking		××
Data Field Agents - Ready Agents - Logged Agents - Reserve Agents - Talking Title Sizing: Chart Style:	d	××××
Agents - Ready Agents - Logged Agents - Reserve Agents - Talking Title Sizing:	d Default	××××

#### **Moving and Resizing Dashboard Widgets**

Dashboard Widgets can easily be moved and resized. Moving a widget is as simple as clicking and holding the left mouse button on the widget. You can then drag the widget to the desired location. Resizing the widget can be done by clicking and holding the left button near the edge of the widget. You will see the mouse cursor become a directional arrow when you are in the proper area to initiate a resize.

**Note:** When moving and resizing, widgets will float to the top of the page to fill up space as it becomes available. Also, widgets can not be moved or resized if the dashboard has been locked. The dashboard can be unlocked in the dashboard properties.

# **Analytics Features**

#### **The Trending Component**

The trending component gives you an instant high-level summary of your traffic for the past several days, weeks, months, or quarters to help you quickly spot short-term and long-term trends in your UC traffic without having to run a report. Options are limited to keep it quick and easy to use. For more advanced options, configure a KPI model or a report.

The trending component provides four charts with these five options to control them:

Grouping: Media Type Increment: Days Summary: Session Count Data Source: All Data Sources Media Type: All Media Types

- **Grouping:** Specify whether you want to see traffic grouped by media type (or direction if only one type is available), trend period (to compare recent weeks by day of week or recent years by month or quarter), or data source (to compare data source A against B and/or C).
- Increment: Specify whether you want to see recent days, weeks, months, or quarters.
- **Summary:** Specify whether you want to see total session counts, duration, cost, bandwidth, or any other numeric field. Only fields configured as an "accumulator" will be available here.
- **Data Source:** Quick selection to include/exclude traffic by data source. When grouping by data source, you must select data sources here to compare against each other (the charts can only display 5).
- Media Type: Quick selection to include/exclude traffic by media type.

**Note:** In the top-right corner of each chart, you will see "View Details" and "Settings" icons. Refer to the "Common Features" section of this document for the former. The latter allows you to change the chart's view options.

#### The "Recent Totals" Chart

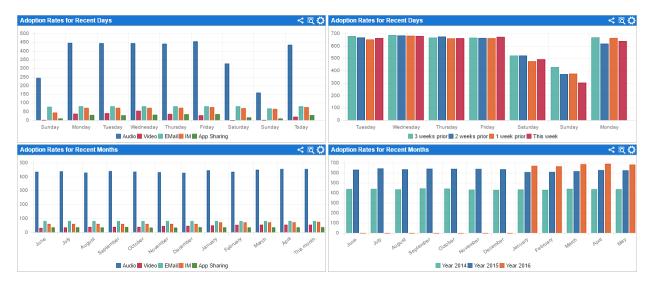
The recent totals chart shows you the total session count, duration, cost, etc. for recent days, weeks, months, or quarters based on the currently selected options. It also uses statistics calculated from those recent time periods to determine how "complete" the current time period is so it can calculate a "PROJECTED" total for the end of the current time period. For example, if you see 1000 completed calls at 2:15PM today, and the same weekday from prior weeks were 73% complete (on average) by 2:15PM, the "PROJECTED" total for "Today" would be 1370 calls (73% of 1370 is 1000).

The grouping selection controls which totals are added to which bars. The example charts below show grouping by Media Type (left) vs. Trend Period (right) while viewing daily (top) vs. monthly (bottom) session count totals for IM and Audio traffic. The top-left chart indicates that traffic fell sharply for both "Today" and "Yesterday". The top-right chart confirms that, but it also shows that traffic also fell off drastically "last week" from Thursday through Sunday and 2 weeks ago on Wednesday. The bottom-left chart shows monthly deviations that make it difficult to see a trend, but the bottom-right chart shows clearly that while most months have seen year-to-year growth, a downward trend started in March and seems to be continuing in April. All of this can be seen very quickly with a few clicks in the trending page.



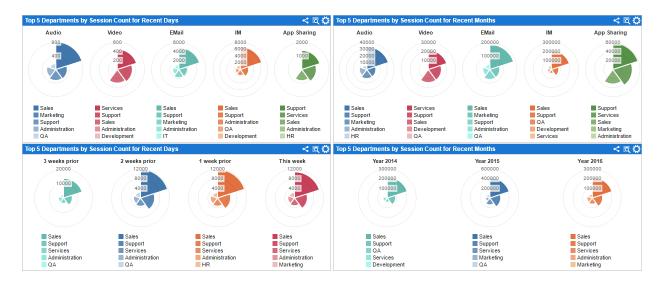
#### The "Adoption Rate" Chart

This chart answers the question: "How many users are actively using this service?" When traffic is trending upward or downward, it is often important to see whether it is due to a change in the number of active users versus a change in how active those users have been. The example charts below use the same grouping as the sample charts above to show how the different grouping options affect it.



#### The "Top 5 Departments" Chart

This chart compares departments against each other to give you totals for the top 5. The totals are over the past few days, weeks, months, or quarters displayed in the "Recent Totals" chart. A separate top 5 pie chart is displayed for each grouping (whether that turns out to be media type, direction, time period, or data source). In the example charts below, you can see that while Sales generates the most overall traffic, Services generates the most Video traffic and Support generates the most App Sharing traffic.



#### The "Statistical Distribution" Chart

This chart requires a bit more explanation because it contains more densely packed information displayed in a box plot with whiskers, and the grouping options selected have a larger impact on what it displays. The top and bottom of each box are always the 25<sup>th</sup> and 75<sup>th</sup> percentile values. The range inside the box is often called the middle 50% or the Inter-Quartile Range (IQR). The horizontal line drawn inside the box is the 50<sup>th</sup> percentile (or median) value. Outliers are not displayed on this chart, so the whiskers are used to show the min and max values.

When the time increment is set to anything longer than "Days", the box plot always shows a distribution of daily totals. In addition to showing the box plot, this type of distribution will also show the average (or mean) daily totals as dots. The dots are connected with lines connecting to make it easier to spot upward/downward trends over time for a single group. Based on the summary value you choose, these can be daily total session counts, total duration, total cost, total bandwidth, etc. This chart can quickly give insight into what your min, max, and typical days look like as well as how "typical" has changed over time for whatever group selections you choose to look at.

When the time increment is set to "Days", distributions of daily totals for individual days would be meaningless, so the box plots change to show more detailed distributions within each day. What they show depends on the summary value you choose. When the summary value is set to "Session Count", the box plot shows the distribution of session counts throughout the day. For example, if 50% of the day's calls are over at exactly 1:33PM, the median line is drawn there. (This is what the "Recent Totals" chart looks at to determine that today is "X% complete" to calculate "PROJECTED" values.) When the summary value is set to anything else, like "Cost", the box plot shows per-session statistics for that value (e.g. the min, max, and middle 50% session costs for the day).

**NOTE:** Hover the mouse pointer over any set of boxes to see specific numeric values in the form of "min -25%/50%/75% - max".



# **The Contact Center Component**

The Contact Center component displays real-time statistics for Cisco Contact Center data sources so you can keep an eye on your agents and CSQs (or Contact Service Queues). This component will only be available if you have purchased a data source license for your Contact Center and the services necessary to configure the Predictive UC Analytics dashboard scripts to collect real-time data from your Contact Center.

The options at the top of the page allows you to filter and hide the different sections:

Data Source Filter	CSQ Filter	View Options

For example, the options allow you to choose a different data source, select a handful of CSQ's to monitor (sometimes you need to monitor a few of them instead of one or all of them), or to hide sections or the web page header to get more out of your screen's real estate.

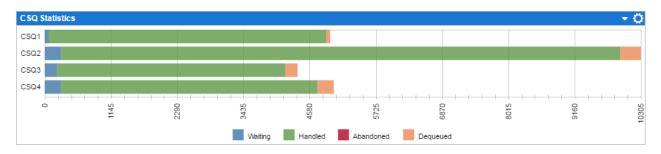
#### **CSQ Statistics**

The information contained in "CSQ Statistics" comes directly from your Contact Center's "Real-Time Snapshot" feature. Depending on how your dashboard collection script is configured, it can either be updated in real-time via the CTI protocol or pulled from the Cisco database periodically (typically every 5 to 30 seconds). It contains some immediate counters, such as how many calls are currently waiting in each CSQ and how many agents are currently available to handle those calls. It also contains some summary information for the current day. You may click on any numeric value in this table to define thresholds for highlighting the value in different colors to make it stand out. For example, if the number of calls waiting jumps to 10 for CSQ 3, you may want to see it highlighted in red so you can take steps to free up agents to handle some of those calls.

**Note:** As different queues have different volumes, thresholds are saved separately for each queue. The saved thresholds also must be configured per manager.

C SQ St	tatistics															- Ö
<b>CFO</b>	Agents					Calls				Queue Time			Talk Time			
CSQ	Logged In	Not Ready	Ready	Reserved	Talking	Work	Waiting	Handled	Abandoned	Dequeued	Average	Max	Oldest	Average	Max	Last Update
CSQ1	5	1	1	1	2	0	0	4	0	0	0:00:29	0:01:07	0:00:00	0:01:06	0:01:49	0:00:02
CSQ2	5	1	1	1	2	0	0	8	0	0	0:01:23	0:03:00	0:00:00	0:02:06	0:03:45	0:00:02
CSQ3	5	1	1	1	2	0	0	1	0	0	0:00:02	0:00:02	0:00:00	0:01:03	0:01:03	0:00:02
CSQ4	4	1	1	1	1	0	1	1	0	0	0:02:52	0:02:52	0:00:00	0:03:46	0:03:46	0:00:02
Totals:	-	-	-	-	-	-	1	14	0	0	0:01:11	0:03:00	0:00:00	0:02:00	0:03:46	-

Clicking the gear icon in the upper-right corner of the "CSQ Statistics" section allows you to hide columns in the text view. An additional option allows you to toggle the display to show the information as a bar chart. As a bar chart the data can be accumulated based on waiting, handled, abandoned and/or dequeued calls.

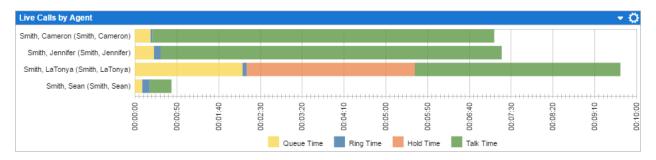


#### Live Calls by Agent

The "Live Calls by Agent" section is only available if you are collecting live call information via the Cisco Contact Center's CTI protocol. If so, it displays agents grouped by team. Each agent's current state is displayed. If the agent is on the phone, it displays all available call information. This information is updated once per second.

-									Act	ive Call			
Ð	Agent	Extension	State	Reason Code	Duration	Start Time	Direction	ANI or DN	CSQ	Queue Time	Ring Time	Hold Time	Talk Time
lain	ns												
8	Smith, Alaina	4134	Talking		5669:27:27								
8	Smith, Amber	4142	Not Ready	6	1:31:52								
0	Smith, Anterrica	4139	Talking		5669:20:59								
Ð	Smith, Ashley	4136	Ready		0:00:07								
0	Smith, Bradley	4135	Talking		5669:10:45								
0	Smith, Cameron	4125	Talking		0:05:02	03:30:55 PM	Incoming	7702675073	CSQ1	0:00:19	0:00:02	0:00:00	0:05:02
0	Smith, Charles	4128	Not Ready	2	0:05:01								
0	Smith, Clara	4141	Ready		0:00:32								
0	Smith, Erin	4130	Not Ready	6	1:32:00								
0	Smith, Haley	4122	Talking		0:11:01	03:24:50 PM	Incoming	4042100902	CSQ3	0:00:03	0:00:03	0:00:00	0:11:01
Ð	Smith, Heather	4140	Not Ready	2	0:01:34								
0	Smith, Jennifer	4114	Talking		0:05:01	03:30:49 PM	Incoming	7066161881	CSQ1	0:00:23	0:00:08	0:00:00	0:05:01
0	Smith, Jessica	4117	Not Ready	1	5669:07:34								
0	Smith, Kristen	4129	Not Ready	2	7:10:15								
0	Smith, LaTonya	4132	Talking		0:05:40	03:35:45 PM	Outgoing	918037990273	CSQ2	0:02:09	0:00:06	0:00:00	0:00:59
0	Smith, Mary	4133	Work		0:00:04								
0	Smith, Morgan	4138	Not Ready	2	5669:16:56								
0	Smith, Sean	4118	Ready		0:01:38								
8	Smith, Sha' Rae	4124	Talking		5669:15:09								
0	Smith, Shonterria	4120	Not Ready	2	0:14:52								
0	Smith, Tametrius	4126	Talking		5669:08:57								
8	Smith, Thwanna	4115	Not Ready	11	0:03:23								

Clicking the gear icon in the upper-right corner of the "Live Calls by Agent" section allows you to hide columns in the text view. An additional option allows you to toggle the display to show the information as a bar chart. As a bar chart the data can be accumulated based on queue time, ring time, hold time and/or talk time.



Note: This section will not show calls waiting in a CSQ. See "Live Calls by CSQ" for that information.

#### Live Calls by CSQ

The "Live Calls by CSQ" section is only available if you are collecting live call information via the Cisco Contact Center's CTI protocol. If so, it displays all live CSQ calls grouped by CSQ. This information is updated once per second.

Live Calls by CS	Q							<b>.</b> .
Start Time	Queue Time	ANI			Agents			
Start Time	Queue Time	ANI	Name	Extension	Call State	Ring Time	Hold Time	Talk Time
C SQ1								
03:30:49 PM	0:00:23	7066161881	Smith, Jennifer	4114	CONNECT	0:00:08	0:00:00	0:08:01
03:30:55 PM	0:00:19	7702675073	Smith, Cameron	4125	CONNECT	0:00:02	0:00:00	0:08:02
03:37:28 PM	0:00:09	7065954320	Smith, Sean	4118	CONNECT	0:00:09	0:00:00	0:01:39
C SQ2								
03:28:22 PM	0:02:09	8037541706	Smith, LaTonya	4132	CONNECT	0:00:05	0:03:21	0:05:19
03:37:33 PM	0:00:06	4044372610	Unknown	4121	CONNECT	0:00:06	0:00:00	0:00:49
03:37:35 PM	0:00:11	7068826141	Smith, Jessica	4143	CONNECT	0:00:11	0:00:00	0:01:21
C SQ3								
C SQ4								

Note: This section will not show direct in/out calls. See "Live Calls by Agent" for that information.

#### **CSQ Summary**

The "CSQ Summary" section is similar to the "CSQ Statistics" section above, but instead of showing the summary counts Cisco tracks, it shows the counts from the "Recently Completed Calls" section, which depends on the time window you specified when configuring the dashboard collection script. It is often more useful to be able to see the number of calls that have been dequeued or abandoned in the past 30-60 minutes than for the entire day.

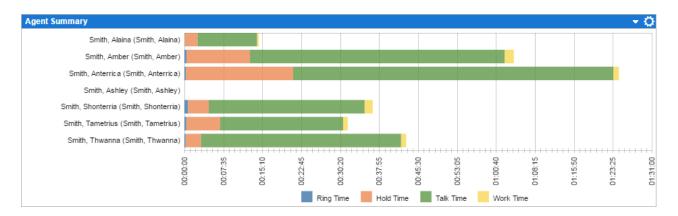
Summary	for last 60 minutes		immary for last 60 minutes 🗸 🚽													
650	Service Level	Handled Abandoned De				Dequeued		Call Back								
CSQ	Service Level	Count	Average	Max	Count	Average	Max	Count	Average	Max	Count	Average	Max			
CSQ1	14.3%	14	0:00:17	0:02:20	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A			
CSQ2	23.7%	38	0:00:32	0:03:37	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A			
CSQ3	15.4%	13	0:00:18	0:01:35	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A			
CSQ4	0.0%	7	0:00:06	0:00:09	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A			
Totals:	18.1%	72	0:00:24	0:03:37	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A			

#### **Agent Summary**

The "Agent Summary" section contains a summary of agents assigned to the selected queues that have valid state information for the past 24 hours. These statistics include each agent's current state and the length of time they have been in that state. You may click on either of those fields to configure thresholds based on an agent's state duration. Click on the "info" icon next to an agent's name to see more information about that agent (e.g. CSQ assignments by team, resource group, and skill set).

Age	nt Summary														<u>- 7</u>
•	Agent	Extension	State	Reason Code	Duration	Cont	acts	Ring	Time	Hold	Time	Talk	ime	Work	Time
•	Agent	LAtension	State	Reason Coue	Duration	Presented	Handled	Average	Max	Average	Max	Average	Max	Average	Max
Clain	ns														
0	Smith, Alaina	4134	Talking		5669:50:17	2	2	0:00:02	0:00:02	0:01:15	0:02:30	0:05:47	0:07:28	0:00:09	0:00:15
0	Smith, Amber	4142	Not Ready	6	1:54:42	8	8	0:00:03	0:00:07	0:01:32	0:06:07	0:06:11	0:13:10	0:00:13	0:00:15
0	Smith, Anterrica	4139	Talking		5669:43:49	8	8	0:00:02	0:00:05	0:02:36	0:06:30	0:07:47	0:19:33	0:00:08	0:00:15
0	Smith, Ashley	4136	Work		0:00:04	0	0	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
0	Smith, Bradley	4135	Talking		5669:33:35	1	1	0:00:08	0:00:08	0:03:12	0:03:12	0:14:00	0:14:00	0:00:15	0:00:15
0	Smith, Cameron	4125	Talking		0:04:00	0	0	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
0	Smith, Charles	4128	Talking		0:05:56	12	10	0:00:07	0:00:10	0:00:56	0:02:48	0:06:55	0:14:32	0:00:11	0:00:15
0	Smith, Clara	4141	Ready		0:14:32	1	1	0:00:06	0:00:06	0:00:50	0:00:50	0:02:09	0:02:09	0:00:15	0:00:15
0	Smith, Erin	4130	Not Ready	6	1:54:50	0	0	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
0	Smith, Haley	4122	Ready		0:05:51	4	4	0:00:03	0:00:06	0:00:00	0:00:00	0:09:19	0:13:40	0:00:04	0:00:15
0	Smith, Heather	4140	Talking		0:05:22	9	9	0:00:07	0:00:08	0:00:37	0:03:05	0:09:02	0:21:21	0:00:13	0:00:15
0	Smith, Jennifer	4114	Not Ready	10	0:03:31	6	6	0:00:02	0:00:05	0:01:35	0:05:56	0:07:53	0:21:33	0:00:10	0:00:15
0	Smith, Jessica	4117	Not Ready	1	5669:30:24	6	6	0:00:06	0:00:09	0:00:49	0:02:21	0:04:32	0:12:54	0:00:14	0:00:15
0	Smith, Kristen	4129	Not Ready	2	7:33:05	4	4	0:00:04	0:00:07	0:01:55	0:04:15	0:04:29	0:07:03	0:00:15	0:00:15
0	Smith, LaTonya	4132	Talking		0:03:05	7	7	0:00:04	0:00:06	0:01:05	0:03:07	0:05:49	0:11:35	0:00:10	0:00:15
0	Smith, Mary	4133	Talking		0:00:05	4	3	0:00:05	0:00:10	0:06:17	0:08:28	0:11:38	0:24:38	0:00:05	0:00:09
0	Smith, Morgan	4138	Not Ready	2	5669:39:46	6	6	0:00:06	0:00:09	0:00:36	0:01:07	0:07:34	0:18:35	0:00:14	0:00:15
0	Smith, Sean	4118	Talking		0:10:20	0	0	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
0	Smith, Sha' Rae	4124	Talking		5669:37:59	7	7	0:00:02	0:00:05	0:02:05	0:06:22	0:06:12	0:12:33	0:00:06	0:00:15
0	Smith, Shonterria	4120	Talking		0:05:06	7	7	0:00:06	0:00:08	0:00:34	0:02:17	0:04:20	0:06:20	0:00:13	0:00:15
0	Smith, Tametrius	4126	Talking		5669:31:47	5	5	0:00:04	0:00:06	0:01:19	0:05:04	0:04:47	0:10:00	0:00:10	0:00:15
0	Smith, Thwanna	4115	Talking		0:01:16	4	4	0:00:03	0:00:06	0:00:44	0:02:40	0:09:44	0:25:21	0:00:15	0:00:15
Total	ls:	-	-	-	-	101	98	0:00:04	0:00:10	0:01:22	0:08:28	0:06:55	0:25:21	0:00:11	0:00:15

Clicking the gear icon in the upper-right corner of the "Agent Summary" section allows you to hide columns in the text view. An additional option allows you to toggle the display to show the information as a bar chart. As a bar chart the data can be accumulated based on calls handled, calls presented or times. The times available include ring time, hold time, talk time and work time. All the times can be selected together so that the bars are stacked.



#### **Recent Calls**

The "Recent Calls" section shows a listing of recently completed calls that have completed during the time window you specified when configuring the dashboard collection script. For abandoned and dequeued calls, it shows which agent phones rang vs. "No agents available". You may click on any of the column headers in this table to sort by that column.

Calls for las	t 60 minutes											Ç
End Time	Call Trees	Duration		0	010	Carried			Agent	8		
End Time	Call Type	Duration	ANI or DN	Queue Time	CSQ	Script	Name	Extension	Ring Time	Hold Time	Talk Time	Work Time
10:29:01 AM	Handled	0:03:38	2292467802	0:00:09	CSQ1	Claims	Smith, Jessica	4117	0:00:09	0:00:18	0:02:19	0:00:15
10:28:08 AM	Handled	0:06:56	2299035221	0:00:03	CSQ2	Claims	Smith, Jennifer	4114	0:00:03	0:02:40	0:03:17	0:00:03
10:27:18 AM	Handled	0:08:29	4789872470	0:00:06	CSQ3	Claims	Smith, Charles	4128	0:00:06	0:01:56	0:05:26	0:00:04
10:27:00 AM	Handled	0:02:20	4044039609	0:00:08	CSQ4	Claims	Smith, Heather	4140	0:00:08	0:00:00	0:01:45	0:00:15
10:25:06 AM	Handled	0:07:18	4786253051	0:00:05	CSQ3	Claims	Smith, Amber	4142	0:00:05	0:00:00	0:06:14	0:00:02
10:23:45 AM	Handled	0:02:42	4044039609	0:00:08	CSQ4	Claims	Smith, Heather	4140	0:00:08	0:00:00	0:02:08	0:00:15
10:22:41 AM	Handled	0:12:20	9124279223	0:00:01	CSQ3	Claims	Smith, Kristen	4129	0:00:01	0:04:15	0:07:03	0:00:15
10:22:14 AM	Handled	0:31:07	4782378850	0:00:07	CSQ1	Claims	Smith, Ashley	4113	0:00:07	0:00:41	0:29:28	0:00:15
10:21:05 AM	Handled	0:07:23	9123671353	0:00:04	CSQ1	Claims	Smith, LaTonya	4132	0:00:04	0:00:00	0:05:47	0:00:15
10:19:47 AM	Handled	0:01:38	4047988200	0:00:02	CSQ2	Claims	Smith, Jennifer	4127	0:00:02	0:00:15	0:00:53	0:00:15
10:19:23 AM	Handled	0:10:41	7064835366	0:00:03	CSQ1	Claims	Smith, Haley	4122	0:00:03	0:00:00	0:09:46	0:00:02
10:19:11 AM	Handled	0:06:49	7703379607	0:00:05	CSQ2	Claims	Smith, Sha' Rae	4124	0:00:05	0:01:17	0:04:31	0:00:01
10:16:53 AM	Handled	0:16:21	2294567905	0:00:05	CSQ2	Claims	Smith, Charles	4128	0:00:05	0:01:17	0:14:32	0:00:10
10:16:51 AM	Handled	0:05:43	6787792776	0:00:05	CSQ2	Claims	Smith, Thwanna	4115	0:00:05	0:00:00	0:04:41	0:00:15

**Note:** This section does not show active calls. See "Live Calls by Agent" or "Live Calls by CSQ" for that information.

#### **The KPI Models Component**

A KPI model is like a combination of multiple real-time monitors, real-time dashboards, long-term trending charts, and summary reports all rolled into one compact feature. Each model requires some effort and experimentation up front to configure, but once a KPI model is configured, it runs in the background 24/7 to get you the information you need quickly and effortlessly.

+ Add KPI Model + Manage KPI Scores 2 Rebuild KPI Mo
--

Configuring a new KPI Model requires you to answer these key questions:

• What data is available in my UC reports that needs to be included in (or excluded from) this particular service?

- What entity represents a "client" or "user" of this service? This could be a queue, a gateway, a user, a department, a site, etc.
- Do I want to see these clients broken out by some parent group (e.g. department/user, cluster/gateway, country/state)?
- What Key Performance Indicator (KPI) "scores" do I want to see calculated for each client of this model?

**NOTE:** Much of the power in the KPI models feature comes from the flexibility of its scores. Each KPI score can have its own nested set of filters and grouping, and each can be configured to give pass/fail counts, percentages, or accumulated (sum/min/max/avg) values.

• What time period should the scores cover (e.g. hourly, daily, monthly)?

#### **KPI Scores**

Before you create a KPI model, first you must choose the KPI Scores. Predictive UC Analytics comes with a number of preconfigured KPI scores. You may use one of those, derive one from an existing score, or create your own.

(PI Scores			?	3
KPI Score	KPI Group			+
Concurrent Calls	Audio Counts	ø G	×	
Distinct Sessions	Audio Counts	Ø D	×	
Distinct Users	Audio Counts	A 10	×	
Total Calls	Audio Counts	P 10	×	
Total Minutes	Audio Counts	A D	×	
Outgoing Calls	Audio Counts	P 13	×	
Outgoing Minutes	Audio Counts	A D	×	
Incoming Calls	Audio Counts	A D	×	
Incoming Minutes	Audio Counts	P 13	×	
Internal Calls	Audio Counts	P 13	×	
Internal Minutes	Audio Counts	Ø 13	×	
Tandem Calls	Audio Counts	Ø 13	×	
Tandem Minutes	Audio Counts	Ø 13	×	
Local Calls	Audio Counts	Ø 13	×	
Local Minutes	Audio Counts	Ø 13	×	
National Calls	Audio Counts	🖉 🗅	×	

#### **KPI Score Properties – General**

When you create a KPI Score, you must first give it a name, group name, and select a score type. Different score types will require additional options to be specified.

- Pass Calculate a simple count of sessions that pass the filter checks for this score. If no filters are specified, this count will represent the total session count.
- Fail Calculate a simple count of sessions that do not pass the filter checks for this score. If no filters are specified, this count will always be 0.
- Accumulator After applying this score's filters, calculate the sum, min, max, or average of any numeric field (e.g. duration, cost, queue time, bandwidth, QoS).
- Grouped Accumulator After applying this score's filters, calculate a distinct group count or • calculate min/max/average of a grouped total of any numeric field.
- Combined Combines two sub-scores to give you A+B.
- Difference Combines two sub-scores to give you A-B.
- Ratio Combines two sub-scores to give you A/B.

KPI Score			?	×
General	Filters			
Name:	Duration Total			
Group Name:	Audio Duration			
Score Type:	Accumulator		,	•
Function:	Sum		,	•
Field:	Duration		,	•
Percentage:	Do not calculate the	score as a percentage	,	•
Target Value:				
		OK Can	cel	

#### **KPI Score Properties – Filters**

The Filters tab looks and works exactly the same way the KPI model filters, monitor filters, and report filters work. However, the fact that these filters are nested within the model's global filters gives you a lot of flexibility. For example, you may create one score to give you a percentage of audio sessions with disconnect codes 3, 5, and 10, a second score to give you a minimum QoS score for all video sessions with disconnect code 2, and a third score to give you the average daily cost of all sessions. You can then see these scores grouped by any "client" you wish over any time period you wish. This offers flexibility not found anywhere in the standard reports or monitors.

#### **KPI Models**

Predictive UC Analytics comes with a number of preconfigured KPI Models. The preconfigured models are assigned to security groups. You can reuse and customize those models or create your own.

#### **KPI Model Properties – General**

When you create a model, first you must specify a name. If you logged in with an admin account, you will also be allowed to assign this model to another login (in which case that login will assume ownership and be allowed to modify it). You will also be allowed to enable the model have KPI Model views shared with security groups. Shared views allow members of a group to see it but not modify it.

KPI Model Prope	erties: New KPI Mo	del	?	×
General	Filters	Advanced		
Name:	New KPI Model			
Assign To:	admin		•	-
Sharing:	Allow KPI Model Vi	ews to be shared		

Next you must select the time period type (required), the client column (required), and the parent column (optional) that clients will be grouped by. You may also optionally specify custom names to be used for the client and parent columns of this model. For example, if some of your UC users are employees and some are clients, you may create two model with "User" as the client column, and you may give one a custom name of "Employee" and the other a custom name of "Client".

Period Type:	Day
Client Column: Custom Name:	
Parent Column: Custom Name:	

Before you can save a new model, you must add at least one KPI score to it. To add a score, select the desired score from the "Add KPI Score" selection box. When you select one, the score will be added to the "Scores" list:

Score Label	KPI Score	KPI Group		
Distinct Sessions	Distinct Sessions	Audio Counts	ø	×
		Add KPI Score: (Please Select)		•

You may add as many scores as you wish. When a model has too many scores to display in a single table in your web browser, you can group scores into different views. If you are an administrator creating a model to share with managers, you can have the same model show one set of scores to manager group A, another set to manager group B, and so on. After adding a score to the model, you may click on the score's name to modify it. To remove a score from the model, click on the "x" button to the right of it.

#### **KPI Model Properties – Filters**

The filters tab allows you to specify what data needs to be included (or excluded) from this model. These filters will impact all scores. Refer to the "Common Features" section of this document for a detailed explanation on how to configure filters. The filters look and work exactly the same way for models, and you can even reuse stored filter sets between reports, monitors, and models.

KPI Model Prope	rties: New KPI Mo	odel			1	? ×
General	Filters	Advanced				
Stored Filter Set (	( <u>using OR logic</u> )					
Filter Set #1					ū	×
<b></b>						
Filters ( <u>using ANI</u> Data Source		Chemorated CLICM				
		Generated CUCM')				×
Company	not (=	'!Unassigned')				×
Save Filters As			Add Filter Type:	Please Select		•
Save Fillers As			Add Filler Type:	FICASE SEIECL		•
				OK	Cancel	

#### KPI Model Properties – Advanced

The advanced options allow you to select the time zone. If your UC traffic spans multiple time zones, all of it will be converted to this time zone for this model. The other options are related to the "Box" view, which displays all scores for a single client in a very large font in boxes filling up the screen for a wallboard-type display.

KPI Model Prop	perties:	New KPI Mo	del					?	×
General		Filters	Advanced						
Time Zone:	(UTC-0	)5:00) Eastern	Time (US & Canada)					,	'
Specify how lon	g KPI sc	ore statistics sl	hould be kept for this	model. (Specify 0	to keep the	statistics forever	r.)		
Days to Keep:	0								
For performance name/score you			N clients are shown i	n the client list by	default. That	t top is based on	the		
Top N:	100								
Display options	for the "E	Box" view of a	client and it's current	scores.					
Title Color:	No	ne						•	'
Title Size:	Small							•	'
Current Time:	Sho	w the current t	ime in the title					٧	1
Last Update:	Sho	w the time last	updated in the title					٧	1
Columns:	2 colun	nns per row						•	'
Display options	for the p	redictive/statist	ical analysis displaye	d when exactly 1	client is sele	cted.			
Prediction Perio	ds:	12							٦
Prediction Over	%:	25							٦
Prediction Unde	er %:	25							
									_
						OK	Cano	el	

#### **KPI Model Scores**

You can modify a score assigned to a KPI model by clicking on its name from the KPI model's General tab. You cannot modify the KPI score itself here, but you can specify a name and thresholds specific to this model.

**Note:** Color and alarm thresholds are tied to the model's selected time period. If you want to see a score of 15 highlighted in red for an hourly view, that threshold may not make sense for a monthly view.

#### Score Properties – General

The General tab allows you to override the score name for this model. It also allows you to define thresholds for this score to highlight in different colors, which can help you identify issues at a glance.

Score Propert	ies: Distinct S	ession	S		? X
General	Alarm	s			
KPI Score:	Audio Counts	- Distinc	t Sess	ons	•
Score Label:	Distinct Session	ons			
Score Thresho	olds				+
Score greater t	han or equal to	0.0		Green	• ×
Score greater t	han or equal to	10.0		Yellow	• ×
Score greater t	han or equal to	15.0		Red	<b>*</b> ×
				ОК	Cancel

#### Score Properties – Alarms

This tab is nearly identical to the monitor alarm properties. Each score can have different alarm thresholds as well as different alarm delivery methods.

	rties: Distinct Sessions	? >
General	Alarms	
🕑 Enable a	larming	
SMTWTFS	Alarm when the:	+
NYYYYYN	Final score goes over 50	×
Delivery		
Delivery:	Email	•
TO:	Email admin@telemate.net	T
		▼
TO:		▼ 
TO: CC:	admin@telemate.net	▼ 
TO: CC: Subject:	admin@telemate.net Predictive UC Analytics Alarm	▼ Test Delivery Method
TO: CC: Subject:	admin@telemate.net Predictive UC Analytics Alarm	

The primary difference between model alarms and monitor alarms is in the timing of when to trigger an alarm. Unlike monitors, which constantly track statistics for all sessions for the past 24 hours and can check an alarm threshold against "the past 20 minutes" at 12:53, and then again at 12:54, the models have fixed time periods and gradually build up the scores over the course of any given hour, day, week, month, etc.

For each alarm threshold, you must choose whether to allow an alarm to be triggered for "partial scores" in the middle of the current period while the score is still changing versus waiting until the period is over to check the threshold against the "final score". Because UC sessions usually are not logged until after they have ended, it is a good idea to specify a delay (in minutes) to wait past the end of a period for active sessions to finish and make their way into the UC Analytics database.

				ties	larm Proper
y	✓ Wednesday	🖌 Tuesday	🖉 Monday	Sunday	Active Days:
		Saturday	🖌 Friday	🖌 Thursday	
		▼ 50.0		Over	Threshold:
•	as completed)	e (after the day h	nly for final scor	Trigger alarm o	Timing:
				1	Delay:
ar the	as completed) ait <u>1</u> minute after t		-		2

#### **KPI Model Views**

While you can easily create 10 KPI models to see 10 different sets of scores, it may be better to create one KPI model with all of those scores and then create a different view for each set of scores. This is not possible when you need one model to show you departments, another to show you users, and another to show you gateways. However, whenever it is possible to add a new view to a model, we recommend that over adding another model with the same "client" and "parent" selections.

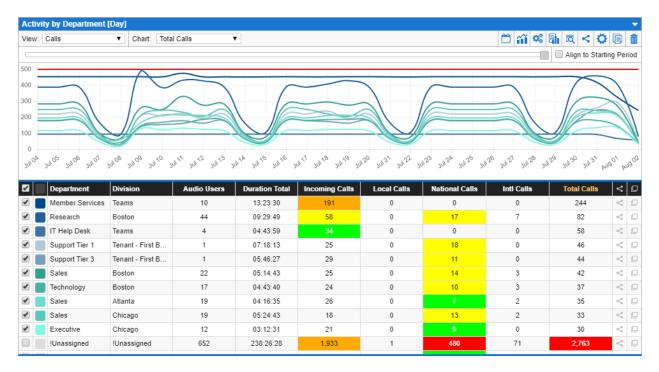
To create a new view, click on the "View" drop-down box on the left side of the option bar at the top and select "Add a New View". You will be prompted to name the view and select the scores you want to be visible in this view. You can drag scores up and down to change the order they appear in this view, and you can choose to group certain scores together. Grouped scores can all appear together on one chart. In the screenshot below, the "Grouped KPI Scores" chart would include bars for Incoming Calls, Local Calls, National Calls and Intl Calls.

If the KPI model itself has the "Allow KPI Model Views to be shared" option checked, you may also select a privilege group to share this view with. All logins with access to that group (including tenant logins) will be able to see this view, and each manager will have their own security privileges applied so that they can only see scores applied to departments to which you have granted them access.

Name:	Ca	lls				
Scor	re Label	KPI Score	KPI Group	Туре	Visible?	Grouped?
Audi	o Users	Distinct Users	Audio Counts	Integer	1	
Dura	tion Total	Duration Total	Audio Duration	Duration	1	
Inco	ming Calls	Incoming Calls	Audio Counts	Integer	1	1
Loca	al Calls	Local Calls	Audio Counts	Integer	1	1
Natio	onal Calls	National Calls	Audio Counts	Integer	<b>«</b>	
Intl C	Calls	Intl Calls	Audio Counts	Integer	1	<b>√</b>
Total	Calls	Total Calls	Audio Counts	Integer	<b>«</b>	
Total	l Unity	Message Count	Unity Counts	Integer		
Unity	/ Users	Distinct Users	Unity Counts	Integer		
% He	eard in 1 ho	our % Heard in 1 hour	Unity Counts	Integer		
Rece	eived by EC	DB Received by EOB	Unity Counts	Integer		
Dura	tion Avg	Duration Avg	Unity Duration	Duration		
Wait	Avg	Wait Avg	Unity Duration	Duration		
	o Users	Distinct Users	Video Counts	Integer		
	l Video	Total Count	Video Counts	Integer		
	ioina Count	Outgoing Count	Video Counts	Integer		
Share W	/ith: Sha	red - Sales Group				

#### **KPI Model Controls**

Every time you save a KPI model, the monitoring engine will quickly scan all UC traffic from the past 24 hours to build/rebuild/update the list of detected clients and the set of scores for the current period. If you want the scores to be populated from past data, select the "Rebuild KPI Models" command and specify how far back you want to rebuild the KPI model scores.



#### Score Table

The default view for each model shows a simple table with all clients and scores for the "current" time period. You may change the sort order in the table by clicking on any of the column headers at the top of the table. Clicking a column header multiple times will change the sort order between ascending and descending. Clicking the left and right arrows at the bottom-left corner of the table allows you to quickly view scores for prior time periods.

#### Score Chart

Selecting the checkbox to the left of a client's name will add/remove the client from the chart, which helps you visualize how any score's value trends over time. You may check multiple clients and compare them on the chart, and you may change the color of a client's line on the chart by clicking the colored box next to that client's checkbox. The "Chart" selection at the top next to the "View" selection allows you to change the chart to display a different score. You can also double-click any time period on the chart to view details for that time period.

#### **Score Commands**

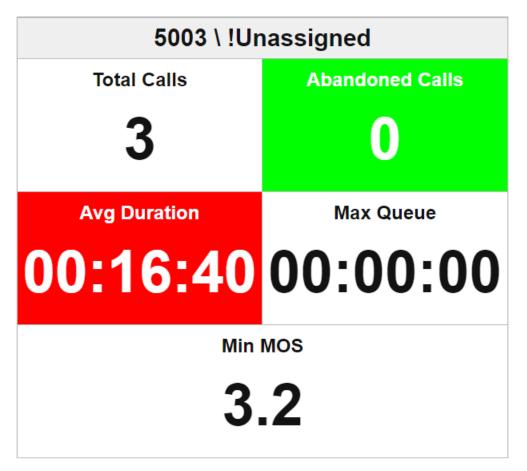
At the top-right corner of each KPI model, you will see these command buttons:

- **Period Options** Allows you to change the period type that KPI Model displays. The default period type set in the model properties will affect what period types are available.
- **Display Options** Allows you to hide the summary table, hide the chart, change the chart style (line, filled line, bar and stacked bar), and display thresholds. The option to display color thresholds is only available for line charts, and only when the current view's "Period Type" matches the KPI model's period type.
- Current View Properties Allows you edit (or delete) the current KPI model view.

- Run Report Allows you to run a report on selected clients for this KPI model.
- View Details Allows you to view recent session detail records for selected clients in this service model. Refer to the "Common Features" section of this document for a more detailed explanation of the detail view.
- Share Allows you to share a link to this KPI model.
- Properties Allows you to change the KPI model definition, filters, and scores.
   Warning: Any changes you make may invalidate color and alarm thresholds configured for existing scores. In addition, if you change the client or parent columns, all data collected for this model will be deleted, and you will need to use "Rebuild KPI Models" to specify how far back to rebuild it.
- Copy Allows you to copy a model to modify in case you need to create a similar model.
- **Delete** Use to delete this KPI model.

#### **Box View**

If you click on any of the "popout" icons in the far right column of the score table, it will open a new browser tab or window to display the "Box View" for that client. The box view was designed to be used as part of a wallboard display, and you can change how it looks in the model's Advanced property tab.



#### **Performance Tips**

While the web interface allows you to add as many KPI models and scores as you wish, each modeled score adds a small performance impact to the Predictive UC Analytics server. Most scores and models have an impact so small they are negligible, but the counts for every "group" or "break" get multiplied together (not added together), and some combinations can cause an explosion in the number of summary records generated.

This is easiest to explain by example. Picture a model with 10 simple scores, 10,000 users as clients, and 365 daily summary records. That could create up to  $10 \times 10,000 \times 365$  (36.5 million) records. If each user communicates with an average of 25 external contacts per day and you add a grouped accumulator on external address, that one score can add another 10,000 \* 365 \* 25 (91.25 million) records.

These tips should help you understand what to look out for:

- KPI models with too many distinct client values If you choose a client or parent column with an unbounded number of distinct values (like an external phone number), you could end up with hundreds of thousands, or even millions of distinct clients. The potential for a problem should be clear if you multiply the user count in the example above by 10 or 100.
   Tip: If you really need groupings like this, consider using a KPI report instead of a model, or add filters to the model to limit the number of distinct client values.
- Grouped Accumulator scores with too many distinct values As illustrated in the example above, grouped accumulators are expensive because they add another "group" level. How expensive it is depends on how many distinct group values there are.
   Tip: Use grouped accumulator scores sparingly, especially ones with a very high number of distinct group values (e.g. external address, city).
- Sharing KPI models When you check the "Allow KPI Model Views to be shared" box, the engine adds a hidden break on the department to allow it to enforce security filters for any manager that can see its shared views. This hidden break has little impact on models already breaking by a directory column like department or user, but it can have a significant impact if the model breaks by something else, like external trunk/gateway, country, or state.
   Tip: Avoid checking the "shared" checkbox for every model "just in case". Plan shared models carefully with target managers/stakeholders in mind.
- Managers creating their own KPI models One larger model shared with 10 managers generally performs better than 10 smaller models created by different managers. It is also easier to manage one model assigned to an admin account, and it requires less training for managers. Tip: Create shared models and have managers ask admins if they want additional scores (or models) added. Centralized control over models makes it easier to control performance.
- **Rebuilding KPI models** It often requires a few iterations to get KPI models configured exactly how you want them, and any time you add or change scores or filters, you will need to rebuild them to update them for any day prior to "today". Rebuilding for a large date range can take a while, and slows down other things running on the server while it's rebuilding.

**Tip:** When testing changes to a model (or multiple), rebuild just a few days back as a litmus test. When you feel confident that changes are complete, start a rebuild for a longer period of time.

#### **The Monitoring Component**

Select the monitoring component to manage and view real-time traffic monitors. The monitors allow you to tell the Predictive UC Analytics engine to keep an eye on something specific for you as it processes real-time data. You can then log in periodically to check the monitor component at any time and instantly see all monitored traffic for the past 24 hours represented in a line chart, a pie chart, a small summary table, and a detail listing. Just about everything displayed in the monitor is configurable. You can even set up alerts to have the engine alert you immediately if the monitored traffic exceeds certain thresholds.

The first time you select the monitoring component, the only option available is to create a new monitor.

+ Add Monitor

#### **Monitor Properties - General**

When you create a monitor, first you must specify a name. If you are logged in with an admin account, you will also be allowed to assign this monitor to another login (in which case that login will assume ownership and be allowed to modify it) or to share it with a security group (in which case other members of that group will be able to see it but not modify it).

Monitor Properties ?					
General	Columns	Filters	Advanced	Alarms	
Name:	Test Monitor				
Assign To:	test1 v				
Share With:	(Not Shared)				•

Next you must choose a UC field to monitor, and then you need to specify line criteria. Line criteria is added exactly the same way you add filter criteria (see the reporting section of this document for more detailed information). Note that each line can include a single, set, or range of values or it can exclude a single, set, or range of values. This means that lines can overlap each other if you wish. For example, line 1 could include a range of 5-7 and line 2 could include a range of 6-8. Monitors also have a special comparison operator called "Other", which includes any traffic that does not belong to any other line.

**Note:** Line criteria allows you to define what you want to see summarized in the line chart, pie chart, and summary table. However, it does not filter the traffic shown in the detail record listing. Unless you specify filters for the entire monitor, all traffic that your account has access to will show up in the detail record listing.

Departm	ent			۲
ls 🔻	Other	<b>v</b>	Add	
ls 🖉	=	Administration	×	*
ls 🖉	=	Claims	×	
ls 🖉	=	Default	×	
ls 🖉	=	Development	×	
ls 🖉	Like	D%	×	
ls 🖉	Other		×	
Not	=	Development	×	
				-
	Is V Is Is Is Is Is Is Is Is Is Is	Is     =       Is     =       Is     =       Is     =       Is     =       Is     Like       Is     Other	Is     ▼     Other     ▼       Is     =     Administration       Is     =     Claims       Is     =     Default       Is     =     Development       Is     Like     D%       Is     Other	Is     ▼     Other     ▼     Add       Is     =     Administration     ×       Is     =     Claims     ×       Is     =     Default     ×       Is     =     Development     ×       Is     Like     D%     ×       Is     Other     ×

Note: Click on the color next to each line criteria to change the color of that line.

At the bottom of the General tab is a small section to allow you to change the values plotted in the line and pie charts. The "Session Count" and "Concurrent Count" plot functions are special, and will plot the total active session count and max concurrent session count, respectively. If you choose the Sum, Min, Max, or Average plot functions, you will see that function applied to the summary field. For example, you could choose to see the maximum call wait time, the minimum call quality, or perhaps the average duration.

	n and Summary Field control the value plotted in the line and pie charts. When plotting "Session Count only used to provide additional information in the summary table.	", the
Plot Function:	Session Count	۲
Summary Field:	Duration	۲

#### **Monitor Properties – Columns**

This property tab allows you to choose which columns to display in the detail record listing. To add a column, simply select it from the list at the bottom. To remove a column, click the "x" button on the right. To change the order columns are presented, click and drag them around by the selection icon on the left.

Monitor Propertie	es				? ×
General	Columns	Filters	Advanced	Alarms	
Columns					
👯 Time					×
					×
🗄 Dest Gateway					×
Dest Address					×
Source Address	\$				×
Source Gatewa	у				×
User Extension					×
			Add Column:	Please Select	•
				ОК	Cancel

#### **Monitor Properties – Filters**

This property tab allows you to specify filters on the monitored data. Refer to the "Common Features" section of this document for a detailed explanation on how to configure filters. The filters look and work exactly the same way for monitors, and you can even reuse stored filter sets between reports and monitors.

Monitor Propertie	es					?	×
General	Columns	Filters	Advanced	Alarms			
Stored Filter Set	(using OR logic)						
Demo Data So	ource				[	D.	×
Extensions 50	0005999				[	ò	×
Filter Set 1					[	Ð	×
Filter Set 2					[	ò	×
Filters (using AN	D logic)						
Data Source	is (='D	emo' or ='Generated	IM' or ='Generated Vi	deo')			×
Company	is (='T	almax Services Corp	.')				×
Save Filters As			Add Filter Type:	Please Select			۲
				ОК	Cano	el	

#### **Monitor Properties - Advanced**

The advanced tab allows you to select a time zone and specify the maximum number of detail rows to show. It also allows you to switch from a persistent monitor that watches traffic 24/7 in real-time (the default) to a snapshot monitor. A snapshot monitor is a monitor that goes back to a specific date and time and rebuild the monitor as it would have appeared then. Because the time period of a snapshot monitor is fixed, it does not update in real-time and it does not support alarms. Persistent monitors stay running in the background even when you log out. Snapshot monitors are temporary.

Time Zone: (UT Row Limit: 100 Snapshot monitors ar		ern Time (US & (	Canada)			•
	)					
Snapshot monitors ar						
	re for a specifie	ed time, but will b	e stored until del	eted. Persiste	ent monitors are real	-time and continue t
un until deleted.						
Snapshot						
Start Time: 2	2016-05-16	13:27				
Persistent						
Alarm notification	n is available.					

#### **Monitor Properties – Alarms**

If the monitor is persistent, you will be able to enable alarms for it. When you enable alarms, you must specify at least one set of alarm criteria and an alarm delivery method. There are a number of alarm delivery methods to choose from. For example, you can send a simple text email to alert a specific person/group, generate an SMTP trap, send an IM message to Cisco Spark, or run a report and have that delivered to someone automatically. As with the report delivery methods, the alarm delivery methods are scriptable so we can create custom delivery methods for you as a professional service.

Monitor Prope	rties						?	×
General	C	olumns	Filters	Advanced	Alarms			
Enable alar	rming							
SMTWTFS S	Start Time	End Time	Alarm					
NYYYYYN	00:00	23:59	When the total activ	e sessions falls unde	er 20 for a 10 minute	period		×
NYYYYYN	00:00	23:59	When the total activ	e sessions goes ove	r 10 for a 5 minute p	eriod		×
Delivery:	En	nail						•
TO:		irms@telema	te net					-
CC:		and growns						
Subject:	Pre	edictive UC A	Analytics Alarm					
Body:	Ala	arm Test!						
					Ī	est Delivery Me	thod	
					ОК	Can	cel	

When adding or editing alarm criteria and thresholds, start by choosing the days of the week and times of day you want each alarm threshold to be active. If you need to set a special threshold for a night shift from 8:00PM to 5:00AM, simply set the active time to go from 20:00 to 04:59. After that, you must

specify the threshold values that trigger the alarm. As you change the threshold values, a sentence will be updated below to confirm what conditions will trigger the alarm.

Active Days:	Sunda	У	🕑 Monda	ay 🕑 Tuesday	Wednesday	
	Thurse	day	🖌 Friday	Saturday		
Active Time:	00:00	to	23:59			
Threshold Value: Over			•	100.0		
Threshold Du	ration:	30		Track separately for e	ach line	
Threshold Leadtime: 0						

There are three basic types of alarm thresholds: under, over, and single session. The "over" and "under" thresholds are very similar. Put simply, they generate an alarm when any line on the monitor chart goes over or under a certain value for the specified duration. If you set a threshold to "Over 10 within 5 minutes" and the lines are configured to show Session Count or Concurrent Count, an alarm will be generated as soon as a new session is added to the monitor that causes 11 active or concurrent sessions to appear within a 5-minute window. If the lines show an accumulated value like total cost, an alarm will be generated if the total cost for any 5-minute window exceeds \$10.00 (costs assigned to sessions with long durations will be pro-rated into 1-minute intervals).

The "under" thresholds work the same way with one exception. UC sessions that can have long durations generally are not logged until the session ends. If the average session duration is 10 minutes and the engine checks the most recent 5-minute window to see if the total is "under" a certain threshold, you will get false alarms. To account for this, you may set a threshold leadtime to tell the engine how many minutes to wait for sessions to finish before generating an "under" alarm. You may also compensate by lowering the threshold value to account for a certain number of active sessions.

The threshold duration also acts like a "snooze button" duration to avoid generating the same alarm repeatedly for overlapping time periods. If you set the threshold to 10 minutes and an alarm is generated for the 12:13 - 12:23 time window, the next allowed alarm would be for the 12:23 - 12:33 time window. When the "Track separately for each line" box is checked, each separate line tracked by the monitor can generate its own alarm every 10 minutes. Otherwise, the entire monitor will wait 10 minutes before sending another alarm.

**Note:** It is possible to configure overlapping thresholds with conflicting settings. This should be avoided in general, but you may actually want to configure both "under" and "over" alarms for the same time period to ensure that traffic stays within an acceptable range.

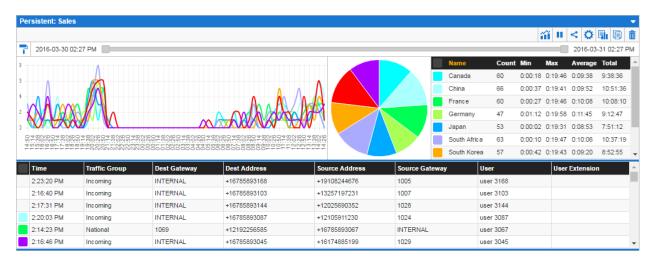
Last but not least, if you want to generate an alarm for every single traffic session (e.g. emergency 911 calls), simply configure an "Over 0.0 within 0 minutes" threshold. The 0 duration tells the engine to look at individual sessions instead of totals over time, and the 0.0 value tells it that every session should

generate an alarm. As a side note, if you change the value to 10.0, the engine will still look at individual sessions, but it will only generate an alarm if the "Summary Field" (set in the General tab) exceeds 10.0.

**Warning:** Be very careful with "single session" alarms, as they can very quickly generate a flood of alarms that can create a mess to clean up. Before you enable one, please double-check the monitor to ensure that it has very few calls appearing on the line chart. Also keep in mind that if a session does not appear on any line in the chart (it may appear in the detail listing but not on any line), it will not trigger an alarm.

### **Monitor Controls**

Once you have created a first monitor and you start seeing data show up in it, the next thing to figure out is what it is showing and what the controls on it are for. Clock-wise from the top-left corner, you should see a line chart, a pie chart, a summary table, and a detail record listing of the most recent traffic sessions.



From left-to-right across the top, the controls are:

- **Paint Roller Icon** Toggles fill mode for the line chart.
- **Time Slider** Narrows the time range displayed in the line chart, pie chart, and summary table. Want to see the last 1 hour instead of the last 24 hours? Click and drag the block on the left all the way to the right.
- **Chart Icon** Use to show/hide any of the 4 sections of the monitor. Also contains a selection to copy the display settings from the current monitor to all the other monitors you have access to.
- **Pause Icon** If you're trying to look at specific detail records but they keep scrolling out of visible range, click this icon to pause display updates for this monitor temporarily.
- **Properties** Click on this icon to reopen the property sheet you used to create the monitor to change its properties.
- **Copy** Click on this icon to create a copy of the current monitor. The property sheet for the new monitor is opened first to allow you to make changes before saving it.

• Delete – Click this icon to delete the current monitor.

In addition to those controls, you may resize the charts and summary table vertically and horizontally as needed. The record listing may only be resized vertically. If you have multiple monitors, you can click on their title bars and drag them up or down to view them in the order you want.

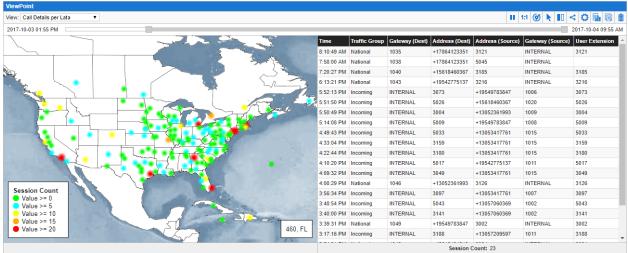
### **Performance Tips**

The Predictive UC Analytics web server maintains all persistent monitors for all web users on the server in real-time 24/7. Whether it has to maintain 1 monitor or 1000, it has the same impact on the database server because it only fetches new data once to feed all of the monitors. However, memory and CPU usage on the web server will increase for each new monitor created. If several managers need to see a similar monitor, we recommend creating one monitor and sharing it with a security group. You also may want to carefully limit which managers are allowed to create their own monitors. The administrator can create and either share or assign them to others. An administrator can also use the "Admin View" feature to check and see how many monitors other managers have configured.

Snapshot monitors are not real-time, and they require a separate query to be run to fetch a specific 24hour period of data. Depending on your call volume, that may run very quickly or it may take a while.

## **The ViewPoint Component**

The ViewPoint component displays a real-time world map of the most recent 24 hours of UC traffic summarized by location. You may configure several views each with different filters, location groupings (e.g. state vs. area code vs. city vs. LATA), size and color criteria, and columns for traffic detail listings. For any view, you may select areas of interest to see a listing of calls going to/from specific locations. **Note:** The term "real-time" depends on how fast your traffic logs are collected and processed, which can vary widely based on the type of data source generating the logs.

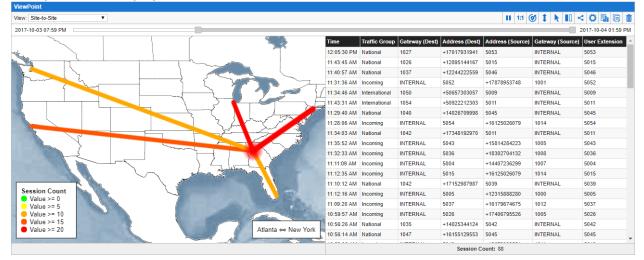


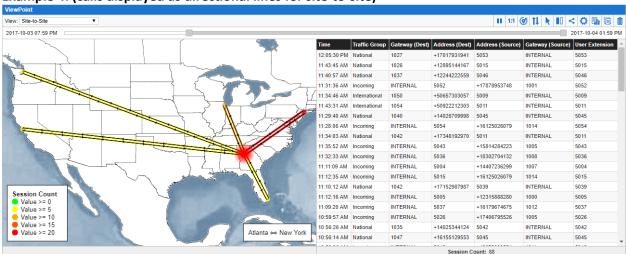
### Example 1: (calls displayed as different size and color dots by LATA/city)

Example 2: (calls displayed as different fills by state/country)

/Point Call Count per State/Country ▼								1:1 🞯 📐 🕕	< 🗘 🖬 🛛
Call Count per State/Country									2017-10-04 09:5
Call Details per Lata	53	Sale -	Time	Traffic Group	Gateway (Dest)	Address (Dest)	Address (Source)	Gateway (Source)	User Extensio
Add a New View		3 *	8:58:29 AM	National	1024	+14042586491	3084	INTERNAL	3084
		he want he	8:06:53 AM	National	1024	+17707259380	3143	INTERNAL	3143
	Contraction of the second seco	3 2 2 2 2	7:29:33 AM	National	1025	+17708778892	3182	INTERNAL	3182
		12 2 6	7:32:27 AM	National	1024	+17708778892	5042	INTERNAL	5042
y - F		2 30	7:08:11 AM	Local	1024	+16784934087	3022	INTERNAL	
and the second sec			6:23:14 AM	National	1025	+14046889569	3190	INTERNAL	3190
×.		Y. The	6:16:54 AM	National	1024	+17708778892	3008	INTERNAL	3008
		The second second	6:14:02 AM	Incoming	INTERNAL	3011	+17065327719	1011	3011
		2 Start Start	6:09:14 AM	National	1024	+17708178656	3212	INTERNAL	3212
			5:26:07 AM	National	1025	+17709397928	3140	INTERNAL	3140
		✓ .	5:27:05 AM	National	1049	+14782736768	5013	INTERNAL	5013
	Il		8:26:12 PM	National	1030	+14782481257	3079	INTERNAL	3079
			8:25:51 PM	National	1024	+14047577473	3130	INTERNAL	3130
			7:19:28 PM	National	1045	+19124501660	5014	INTERNAL	5014
16. June 14	51		6:49:49 PM	Incoming	INTERNAL	3065	+12292263900	1002	3065
	~	and li	6:47:38 PM	National	1025	+14044068643	3127	INTERNAL	3127
		A CAR	6:21:09 PM	Local	1024	+16782213304	3009	INTERNAL	3009
		J The	6:14:25 PM	Local	1025	+16783962721	5025	INTERNAL	5025
	1	The states	6:14:59 PM	Incoming	INTERNAL	3204	+12292263900	1000	3204
	Active sectors and a sector sect					Session (	ount: 42		

#### Example 3: (calls displayed as lines for site-to-site)





#### Example 4: (calls displayed as directional lines for site-to-site)

#### **Creating Views**

Because you may have several different concerns regarding your data, you can create several different world map views that you can switch between quickly. For example, you may wish to create one view to show you all inbound calls by area code and another to view all outbound calls by state. Or you may wish to create one view to monitor division A and another to monitor division B. To create a new view, click on the "View" drop-down box on the left side of the option bar at the top and select "Add a New View". That will open up the ViewPoint properties window.

#### **ViewPoint Properties: General**

ViewPoint Proper	rties: Call	Count p	per State/Country				?	×
General	Siz	Ð	Color	Filters	Columns	Details		
Name:	Call Co	ount per	State/Country					
Assign To:	admin						,	,
Share With:	(Not S	hared)					•	'
Off-Site: The la	ocation of th	e caller (	for incoming calls) or		calls)		,	,
Internation	nal:	Country	y Code				•	'
O Site-To-Site: T	he location	of the ca	ller and callee based	on the site location of	of the gateways			
Show Map	D:	🖉 Disp	lays the world map a	nd boundary lines for	states and coutnries			
					ОК	Can	el:	

When you create a new view, you must first specify a unique name. After that, choose Off-Site (external address locations), On-Site (internal site locations), or Site-To-Site (network segments modeled using site locations of each internal endpoint). External address locations are determined by the external phone number (e.g. country code and city code), GeoIP location for public IP addresses, etc. Internal site locations can be assigned by data source, gateway group, gateway, or private IP range. They can also be overridden for specific departments, users, or internal resources. With Off-Site you must also specify how you want to summarize calls in North America (by State/Province, Area Code, Lata, or Rate Center) and everywhere else in the world (by Country Code or City Code). If you select State/Province for North America and Country Code for International you can choose to fill in state/country shapes rather than drawing points. However, by choosing state/country fills, you lose the ability to use the point size to represent a summarized value.

#### **ViewPoint Properties: Size**

ViewPoint Proper	ties					?	×	
General	Size	Color	Filters	Columns	Details			
Each view can rep size of a point on t	oresent multiple nume he map.	rical values by using	both size and color a	ccumulators. These	values control	the		
Function:	Session Count						'	
Field:	Duration							
appear. Minimum:	10	onn is caiculated. The	e greater tile fallge al	io scale lactor the la	rger the points	will		
Maximum:	100							
Scale:	1							
Maintain point s	ize ratio when zoomir	ıg						
				ОК	Can	cel		

These properties allow you to control the size of the points rendered in this view. For example, you could have the view use total call count, total duration, maximum call cost, or minimum call quality to determine the point size.

The minimum and maximum size define the range of sizes the points use, and the scale is a multiplier that controls how quickly the points go from the minimum to the maximum. The ideal scale value can vary widely based on several factors (call volume, filter selection, summary selection, and accumulator type), so we recommend you try a few different values for each view to see what looks best for each. The "Maintain point size ratio when zooming" checkbox determines whether or not point sizes remain the same size (in pixels) when zooming.

#### **ViewPoint Properties: Color**

ViewPoint Proper	rties						?	×
General	Size	C	olor	Filters	Columns	Details		
	present multiple numer shape on the map.	ical value	s by using	both size and color a	accumulators. These	values control	the	
Function:	Session Count						1	'
Field:	Duration						۰,	1
-	eater than or equal to eater than or equal to	0.0	Gre Cus	en stom			;	
-								
Session Count gre	eater than or equal to	25.0	Yelk	ow			۰,	,
Session Count gre	eater than or equal to	50.0	Ora	inge			۰,	,
Session Count gre	eater than or equal to	300.0	Red	i			۰,	,
Show Legend	(Displays the color cr	iteria in a	legend on t	the map)	ок	Can	cel	

This property tab allows you to control the color of the points or filled regions rendered in this view. Where point sizes grow/shrink smoothly on a logarithmic scale, the colors are fixed based on a set of thresholds you define. For example, you may want to have a region turn red if the total call cost for a region exceeds \$100, or perhaps if the maximum or average jitter value for that region exceeds 35.

A legend will be visible in the lower left hand corner of the map for easy reference. It can be hidden by unchecking the Show Legend option.

/iewPoint Propert	ies					?	>
General	Size	Color	Filters	Columns	Details		
Stored Filter Set (u	using OR logic)						
Technology Set	t					Ū	×
Filters ( <u>using AND</u>	) logic)						
Company		eleMate.Net Software	;')				×
Department	is (='D	evelopment' or ='IT'	or ='Support')				×
Traffic Group	is (='In	ternational' or ='Loca	al' or ='National' or ='O	utgoing')			×
Save Filters As			Add Filter Type:	Please Select			۲
				ОК	Can	cel	
					00.0		

#### **ViewPoint Properties: Filters**

This property tab allows you to specify filters on the traffic included in this view. Refer to the reporting section of this document for a detailed explanation on how to configure filters. The filters look and work exactly the same way for viewpoint, and you can even reuse stored filter sets between reports, monitors, and viewpoint views.

### **ViewPoint Properties: Columns**

ViewPoint Proper	ties					?	×
General	Size	Color	Filters	Columns	Details		
Columns							
Time						;	×
Traffic Group							×
Dest Address							×
Source Address	5						×
Dest City							×
User Extension							×
			Add Column:	Please Select			T
				OK	Canc	el	

This property tab allows you to choose which columns to display in the detail record listing. It is identical to the "Columns" tab for monitors. To add a column, simply select it from the list at the bottom. To

remove a column, click the "x" button on the right. To change the order columns are presented, click and drag them around by the selection icon on the left.

#### **ViewPoint Properties: Details**

ViewPoint Proper	ties					?	×
General	Size	Color	Filters	Columns	Details		
Maximum Rows:	of rows displayed in t 1000 n (Displays the name			· ·	to blank or zer	0	
				ОК	Cano	el	

Additional options for the Detail section are located under the Details tab. The Maximum Rows limits the number of rows displayed in a detail listing. If you set the value to zero or leave it blank it will return all rows for selected location and time period. However, returning to many rows could affect the performance and responsiveness of your browser. Additionally, there is an option to display the selected location's name on the map. The selection's name is displayed in a box in the lower right corner of the map.

#### **Viewpoint Controls**

Once a view is created and selected, you can use the mouse scroll wheel to zoom in and out, you can click-and-drag to pan and see different portions of the map, and you can click on highlighted points/regions to display detailed call info. There is also an option bar at the top with icons you can click for more options:

View: Add a New View	н	1:1	k		Ö		Ô
2016-04-10 02:41 PM			20	16-04	-11 0	02:41	PM

From left to right, the controls are:

- View Selection Allows you to switch quickly to a different view or create new ones.
- **Time Slider** Narrows the time range displayed in the map and in the detail listing. Want to see the last 1 hour instead of the last 24 hours? Click and drag the block on the left all the way to the right.
- **Pause/Play** Click to pause the real-time updates. This is useful when you need to examine specific calls without them moving around. Click again to resume the real-time updates.
- 1:1 Restores the zoom to a scale of one-to-one (100%)
- **Point/Line Location Reset** Restores the default location of the points or lines if they have been manually moved on the map.
- **Cursor** Toggles the mouse cursor selection mode. The current options are single selection mode (which allows you to select individual points/regions or click and drag to pan the map) and box selection mode (which allows you to click and drag to select a box of points/regions).

- Layout Toggles the orientation of the map and detail section. There are two vertical layouts with the call listing below or above the map and two horizontal layouts with the call listing to the left or right of the map.
- **Properties –** Allows you to edit the properties of the current view.
- Copy Copies the current view's properties to make it easier to create a similar view.
- Delete Allows you to delete the current view when you no longer need it.

In addition to those commands, you may resize the detail section. When the layout orientation has the detail section at the top or bottom the details height can be resized. With detail section on the left or right you can adjust the width of the detail section and the map.

# **The Reporting Component**

Select the reporting component when you need more comprehensive traffic information. Reports are needed to see more detailed traffic information, different kinds of summaries, or to apply more advanced filters and options. Reports are also needed to save traffic information to documents like PDF or Excel and distribute it via email, FTP, etc. Reports can be scheduled to run automatically every night/week/month for you to review.

In addition to the navigation menu, the reporting component has an additional menu on the left side of the page. This menu contains links to completed reports, stored reports, and configurable report templates.

## **Configuring Reports**

When you want to run, save, or schedule a new report, select it from the list of available report templates grouped by report categories. Keep in mind that the reports available to you will depend on the features your product is licensed for and the data you are processing. For example, if you have not configured any expenses and run an expense distribution, you will not even see the "Expenses" category. When you select a report template from the list, it will display a set of options and filters for you to choose from before you run, save, or schedule the report. Note that each report template may have a different set of options and filters.

≡	<b>PREDICTIVE</b> UC Analytics • Reports				Admin View:	admin		۲	admin 💄 🚺 🤣
ġ.	E Competed Reports	User Detail by	Organization						
	Stored Reports							6 1	j 💾 Save
_		Properties These are the prop Report Name: Date Selection: Time Selection: Time Zone: Frequency: Distribution Select the output ff Format: Acc Archive: adr Options	erfies for a scheduled report. The stored nam User Detail by Organization Yesterday   2018-08-02  00:00:00 to 23:59:59  Continu (UTC-05:00) Eastern Time (US & Canada) Save (without scheduling) mmat for this report, along with where you wan obat Portable Document Format 1.5 (*.pdf) nin Dr rol the display of data that will be shown in the False None Trunk (using OR logic)	nt it to b	to 18-08-02 be sent.	Layout:	-	to. admin it (8.5 x 11)	• • •
	<ul> <li>Cost Allocation</li> <li>Misuse / Exception Activity</li> <li>Contact Center</li> <li>Directory Listing</li> <li>Expense Management</li> <li>System</li> </ul>	Filters <u>(using AN</u>	<u>D logic)</u>						

## *Commands*

There are three commands available when configuring a report: copy (only available for stored reports), delete (only available for stored reports), and run/save (which changes depending on the selected frequency).

### **Properties**

The most critical properties when configuring a report are the date range you want to run it for and whether you want to run it immediately, save the currently selected options so you can reuse them later, or schedule it to run automatically. If saving or scheduling it, you must specify the name you want it to show up under in the "Stored Reports" list. If scheduling it, additional options will become available to let you define the frequency.

**Note:** If you are logged in with an admin account, you can choose to assign a saved/scheduled report to someone else's account.

### **Distribution**

These options allow you to choose the report's file format (PDF, Excel, RTF, CSV, TXT, or HTML) and where to deliver it. All completed reports will automatically be stored in an archive, which equates to the user's "Completed Reports" list. However, completed reports can also be delivered automatically via

email, FTP, Dropbox, Cisco Spark, etc. The Predictive UC Analytics delivery mechanism allows custom scripts to be written to provide custom delivery methods.

**Note:** If you are logged in with an admin account, you can choose to deliver the report to another account's archive (their completed report list).

#### **Options**

These optional formatting options allow you to customize certain aspects of how the final report looks. One example of this would be to remove all charts from a report, which can make the resulting report file significantly smaller, which may be necessary to get around mail server attachment size limits. Each report can have completely different options. For instance, a report with no charts would not have an "Include Charts" option. Some options may be available in many reports, but others may only show up in one report. If you are not certain what an option does, allow the mouse cursor to hover over its name to see a longer description pop up over it. If you are still not certain, try running the report with different options and look for differences.

### **Filters**

Refer to the "Common Features" section of this document for a detailed explanation of how to configure filters.

### **Stored Reports**

Select "Stored Reports" when you want to view, manage, or copy saved or scheduled reports.

Stored Reports				-
				(2) Î
This is a list of all the reports you have stored or set up to run on a recurring fre				a report
				Duration
name to queue it to run now. Select the "Copy" link next to a report name to cre.	ate and edit a copy of it. Check	the box next to a report name and press "D Schedule	lelete" to delete it. Last Run	Duration
				Duration 00:00:05
	Utils	Schedule	Last Run	

Click the name of a stored report to modify it. Check the box next to it and click the trashcan icon button to delete it. Click the "Run" link to make a copy and queue it to run immediately using all the options you have selected for that stored report. Click the "Copy" link to start modifying a copy of the report, which will be saved under a different name. Note that the "Schedule", "Last Run", "Duration", and "Next Run" columns in the table are for scheduled reports only.

### **Completed Reports**

Select "Completed Reports" when you want to view or manage reports that have recently finished. If you have queued up reports to run that have not completed yet, they will also be shown here in a "Pending Report" list.

Comple	ted Reports				
Archive:	telemate <b>v</b>				
MB. The	ed reports are kept in archives on the TeleMate server until they expire (or until the archive's s reports below take up approximately 1 MB, which leaves approximately 99 MB free. If you hav Reports" below. You may cancel pending reports by deleting them from the queue.				
	Pending Report		Position	Queu	ed on
	One-time (Grouped Activity Detail)		1	2016-06-0	7 09:17 AM
	One-time (Grouped Activity Analysis)		2	2016-06-0	7 09:18 AM
• i	Completed Report	Queued on	Completed on 🗸 🔻	Duration	Size (MB)
0	Grouped Activity Detail	2016-06-07 12:00 AM	2016-06-07 09:17 AM	00:00:03	0.453
0	Statistical Analysis - Outliers and Deviation	2016-06-07 12:00 AM	2016-06-07 09:16 AM	00:00:45	0.445
0	Grouped Activity Analysis	2016-06-07 12:00 AM	2016-06-07 09:16 AM	00:00:03	0.475
E F F	Run Date: 2016-07-09:16 AM Expiration Date: 2016-07-07 09:16 AM Report Date: 2016-06-06 Format: Acrobat Portable Document Format 1.5 (*.pdf) Status: The report completed successfully. Rebuild this instance   Edit this instance				

In the screenshot above, one report is in the queue and currently running, a second is in the queue waiting to run, and three completed reports are shown. You may delete pending or completed reports by checking the box next to it and clicking the trash can icon (in the top-right corner).

The icon next to a completed report is very useful. A blue "i" (for info) indicates that it completed without warnings or errors. A yellow exclamation point indicates that it generated a warning. A red "X" indicates that it failed to complete. In all cases for a completed report, you may click on the icon for more information. Note the "Rebuild this instance" and "Edit this instance" links at the bottom in the screenshot above. The first option will delete and rebuild the completed report with the exact same options, and the second option will take you back to the configuration page to allow you to tweak them and run it again.

Click on the name of the completed report to open the report file. This will attempt to open the report in your web browser (e.g. using the Adobe PDF plugin). If you want to download the report file to open it locally, you can right-click on the link instead and select "Save As" (the exact name of the command will depend on which web browser you are using).

# **Assurance Features**

The assurance features monitor and poll devices on your UC network. This component provides a view for IT admins to monitor current health and wellness, and to configure alarms to alert IT admins when they are not monitoring it.

## **The UC Devices Component**

The UC Devices component provides a view into the UC clusters, services, voice gateways, and phones monitored by the assurance feature. The alarms provided in this component focus on "live" call traffic and "current" device or service status. The views provided in this component show live/current information, summary and detailed information for calls for the past week, and statistical predictions based on historical information in prior weeks. The predictions are useful for configuring thresholds for predictive alarms to notify you of statistically abnormal activity.

The analytics engine generates summary statistics and predictions based on logical groups. It will automatically create groups for every new CUCM cluster, location, device pool, trunk, and gateway detected. You may also create your own custom groups by creating custom filters. Once created, the analytics engine will start generating summary statistics and predictions on custom groups as well.

In addition to summary information, this component also provides a great deal of detail on individual call chains, which may aid in troubleshooting certain problems. For each call, the engine builds a chain of live call legs gathered from CUCM SIP trace logs, voice gateway SNMP polls, Expressway syslog events, and in some cases individual phone HTTP status pages. Assuming every device in the path of a call provides data, the engine can build very complex call chains from endpoint to endpoint (e.g. a call originating from cluster A, going through an SME cluster, and then terminating at cluster B, with multiple gateways in-between).

### **Getting Started**

On the left, you should see a tree with root nodes named "Alarms", "Custom Groups", and "CUCM Clusters". Click on the folder icon next to each of these section names to expand or contract the listing of child entries beneath them. Start by expanding "CUCM Clusters", expanding a specific cluster beneath it, and then selecting "Device Locations" beneath the cluster. This will display a summary table of the current "live" status for every phone device in that cluster grouped by location. It will show a count of phone devices: actively in a call, registered but inactive, and unregistered. If QoS statistics are available for live calls, it will also show counts of live calls impacted by Jitter, Latency, and Packet Loss grouped by location.



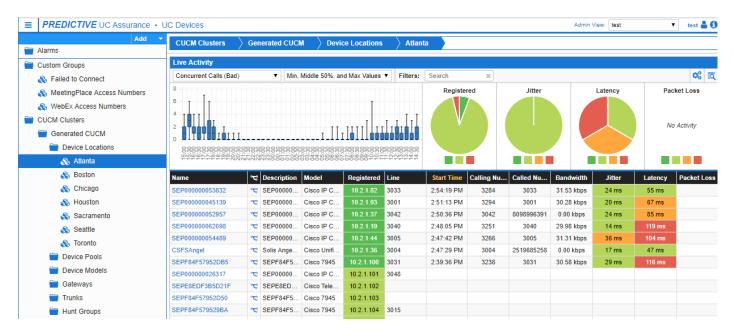
**Note:** Any time you see a graph icon (**\***) in a group summary table, you may click it to see a network graph of all live call chains that belong to that group.

With the exception of "Hunt Groups", you will see the same type of summary if you select any of the other groupings beneath the cluster, or any parent grouping including "Custom Groups" and "CUCM Clusters". When you select a different level, the only difference will be the type of groups displayed in

the table. You may select a group name in the table to navigate down to the next level, or you can simply navigate to it in the tree.

### **Call/Device Listings for a Specific Group**

When you select a specific group, you will see either a listing of phone devices (for a specific Device Location, Pool, or Model) or a listing of call chains (for a specific phone, gateway, trunk, or custom group). The listing of phone devices shows the current state of each phone, such as whether it is registered and whether it is currently in a call. That device-centric view can only show the current device state, so it cannot show recently disconnected calls. However, all other views will show a listing of both live and recently disconnected calls.



**Note:** Any time you see a graph icon (¬) in a device/call detail table, you may click on it to see details about that specific call chain.

The table listings can get quite large, so you can sort (ascending or descending) by any column in the table. You can also use the search filter to look for specific names, numbers, or IP addresses in the table. If you have pie charts showing counts of unregistered/idle/active devices, or call counts in different QoS ranges for Jitter, Latency, and Packet Loss, you can also click on slices of the pie charts to filter on the devices/calls they represent.

The line chart shows activity for the past 24 hours summarized into 30-minute buckets for the selected group. For device listings, you can choose unregistered phone device counts. For both call and device listings, you can choose overall Jitter, Latency, Packet Loss, and bandwidth, or choose concurrent call counts that meet various QoS levels. For each statistic, you can choose to see box plots (min and max plus 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles) or the max, mean, or median values (with predictions). Predictions will not show up until after one full week of data has been collected and aggregated for the group. The predictions will continue to improve as more data is collected. After four weeks, predictive alarms may start to trigger.

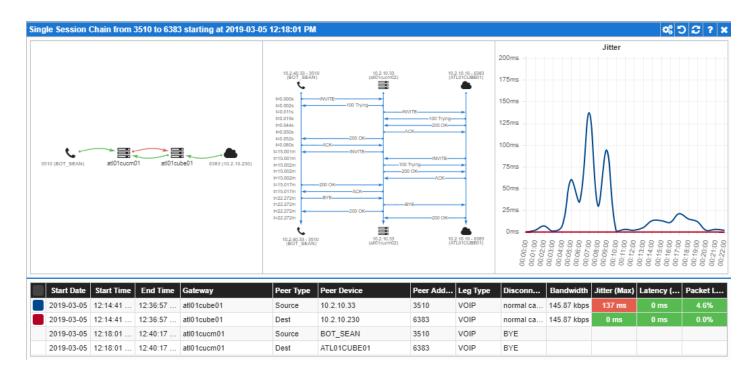


#### Examples of "actual" versus "predicted" max, mean, and median values:

**Important:** The closer a predicted value gets to zero, the more likely it will be that any percent over will be so close to the predicted value that it will generate false alarms (e.g. when the red lines above get close to the blue lines). To account for that, predictive alarms allow a "minimum offset".

### **Individual Call Chain Graphs**

When you select the graph icon (r) for a single call chain, you will see a detailed listing of the call legs included in the chain along with up to three diagrams:



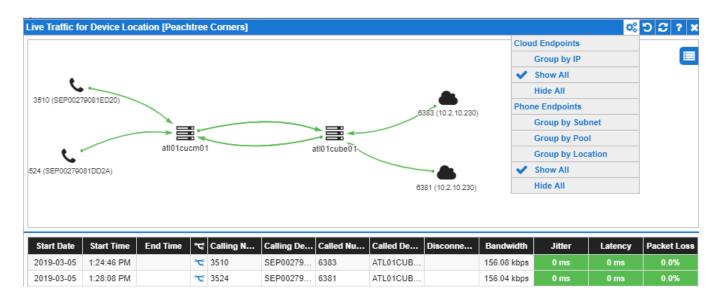
**Note:** A phone icon indicates an internal endpoint, which represents a "phone" device in one of your CUCM clusters. All other endpoints show up as a cloud icon on the network graphs.

The Session Flow Diagram (left) is always available, and shows how the devices involved in the chain connect to each other. Each arrow represents a leg, and each leg can change color based on available QoS statistics. The SIP Ladder Diagram (center) is only available if a SIP trace exists for the chain. The Session Snapshot Diagram (right) is only available if a Voice Gateway or CUBE provided bandwidth and QoS stats for the legs over time. The icons in the top-right corner are:

- Gear (\*) Contains view options to show/hide any of the 3 diagrams, and to change the Session Snapshot diagram to show either bandwidth, jitter, latency, or packet loss.
- Reset (**D**) Reset positions and scale in the graphs.
- Refresh (₴) Refresh the content to reflect the latest live call info.
- Help (?) Open the web help page.
- Close (**x**) Close the session chain dialog.

### **Group Call Graphs**

When you select the graph icon (\*) for an entire group, like a Device Location, it will show all current live call chains for the selected group. Because this can show hundreds, or even thousands, of call chains and endpoints, internal and external endpoints will be put into logical groupings to avoid performance and visibility issues inherent in trying to render so many on such a small diagram. It is possible to change the groupings, or to show all endpoints if you wish.



Selecting specific legs in the diagram will filter out call chains in the table below. Note that each call chain also has its own graph icon (<) to see more details about the specific call chain. The gear icon (<) allows you to change the grouping options for endpoints.

### **Custom Groups**

Custom groups allow you to apply filters to call chains in ways that would be impossible for the built-in cluster and device type groups. Examples of this would include:

- Isolating calls to and from public WebEx telephone numbers.
- Isolating inter-cluster call chains that include clusters A and B.
- Isolating inter-gateway call chains that include gateways A and B.
- Isolating call chains that had zero "connected" legs.
- Isolating call chains with legs that had particular disconnect codes/reasons.

As with built-in groups, as soon as the group is created, the analytics engine will begin aggregating data for it, and after 4 weeks of data has been collected, predictions will be made and predictive alarms can be triggered.

To add a custom group, hover the mouse cursor over the "Add" link at the top of the tree and select "Add Custom Group". Enter a unique name for the group, then click the "+" button on the top-right corner of the Filter Group list to add at least one filter group.

Custom Group				? X
Group Name:				
Filter Group				+
			ОК	Cancel

Each filter group should isolate a specific type of call chain. Add multiple filter groups to have your custom group combine multiple different types of call chains in a single group. When adding a filter group, the dialog and controls are very similar to the filter dialog used everywhere else in the product. However, the way they are applied to chains of call legs instead of individual calls makes them different.

Filter Group		? ×
Filter Group Name: Leg	Connected Not True	
Filters ( <u>using AND logic</u> )		Please Select CUCM Cluster
Call Leg Connected CUCM Device Name (All)	not (='True') is (like 'BOT%')	CUCM Device Description (All) CUCM Device Description (Connected)
CUCM Cluster Network Device	is (='A & B' or ='B & C') is (='atl01expwc01' or ='atl01expwc02' or ='atl01expwe01' or	CUCM Device Location (All) CUCM Device Location (Connected) CUCM Device Model (All) CUCM Device Model (Connected) CUCM Device Name (All)
		CUCM Device Name (Connected) CUCM Device Pool (All) CUCM Device Pool (Connected) Disconnect Cause Disconnect Text
	Add Filter Type:	Network Device Peer Address (All) Peer Address (Connected) Remote IP (All) Remote IP (Connected)

There are a number of important logical distinctions to make with the filter logic concerning "legs" versus "chains":

- A single "Include" (or "is") filter will include an entire call chain if at least 1 leg in the chain matches. This works the same way whether looking for a specific value or one of a set (or range) of values.
- The ampersand (&) character has a special meaning in call chain filters. It allows you to change the filter meaning from "one of a set" to "all of a set", so the "CUCM Cluster" filter in the screenshot above would include inter-cluster calls between clusters A and B or between clusters

B and C. Using "A & B & C" would require a call chain to have 1 leg from each of the 3. **Note:** The spaces between names and ampersands are optional.

- Multiple "Include" (or "is") filter types will include an entire call chain if each include filter applied separately matches the chain. If any fail to match, the call chain will not be included.
- "Exclude" (or "not") filters override include filters, and will exclude an entire call chain if any leg in the chain matches any exclude filter.
- The "Call Leg Connected" filter is unusual. Set it to "is = True" to only include call chains with at least 1 connected leg, and "not = True" to exclude call chains with at least 1 connected leg (e.g. to keep chains with 0 connected legs).
- Combining "Call Leg Connected" "is = True" with a filter on a specific endpoint will not necessarily give you call chains connected to that endpoint. It will include chains linked to that endpoint but answered by a different endpoint.
- To account for that, each endpoint filter has two types:
  - Endpoint (All) Include chains linked to this endpoint regardless of whether they are connected or not.
  - Endpoint (Connected) Include chains that actually connected to this endpoint.
     Note: The definition of "connected" depends on the endpoint. For a ringing phone device, "connected" usually means "answered". However, a phone system may "connect" inbound calls automatically before routing the call to other devices, so "connected" will not mean "answered" for every call leg.

## **Hunt Groups**

The Hunt Groups section displays the status of every extension and phone device linked to a hunt group. It shows whether or not those devices are registered, and whether or not those devices are currently in a direct call or a hunt group call.

## **Managing Alarms**

The alarms section of the UC Devices component allows you to configure alarm thresholds, assignments, and destinations. It also provides visual cues for triggered alarms, and the ability to view the history of alarms triggered by different groups. You may also schedule maintenance windows to silence alarms during planned down times.

Existing alarm thresholds are listed under "Alarms" in the tree, directly beneath "Scheduled Maintenance". Select an alarm threshold to see its defined limits, its active days and times, and its assigned alarm destinations:

■ PREDICTIVE UC Assurance • UC De	vices	Admin View: admin 🔻 admin 🛓 🕄 🔗
Add 👻	Alarms Vinre	egistered Device Count 🙀 Manage Destinations 💾 🍿
Alarms	/	
Scheduled Maintenance	Properties	
Down Gateways	Threshold Name:	Unregistered Device Count
Down Services	7	
Down Trunks (1 active alarm)	Threshold On:	Unregistered Phones
↓ High Jitter (50)	Active Days: 🕑 Su	unday 🖉 Monday 🖉 Tuesday 📝 Wednesday 🖉 Thursday 🖉 Friday 🖉 Saturday
A High Latency (90)	Active Time: 00:00	to 23:59
A High Packet Loss (10)	Threshold Value:	Over T 1.0
Unregistered Device Count (8 antive alarma)	Minimum Offset:	
Custom Groups	Duration (Seconds):	180
CUCM Clusters	Renotify Count:	3
	-	
	Delay (Minutes):	600
	Send an alarm notification	ation when the value goes <u>over 1</u> .

Examples of alarm threshold definitions include:

- Alarm when a specific CUCM service, trunk, or gateway goes down (when listed as "stopped" or "unregistered" in an SXML status request).
- Alarm when the average Jitter of all live calls exceeds 50ms for more than 30 seconds (for selected groups).
- Alarm when there are more than 5 concurrent calls rated "poor or worse" and active for 30 seconds (for selected groups).
- Alarm when the Packet Loss for live calls exceeds the predicted max (based on prior weeks) by 30% for more than 60 seconds (for selected groups).

### **Pre-Defined Thresholds**

Predictive UC Analytics comes installed with some pre-defined alarm thresholds. Because different organizations can have widely different traffic volumes and network performance, most pre-defined thresholds are predictive in nature. Treat these pre-defined thresholds as initial suggestions, and modify or delete them as necessary. These thresholds fall under three basic types:

- Down Services, Gateways, and Trunks
- 30% Over Predicted Max Bandwidth, Jitter, Latency, Packet Loss, Concurrent Calls, Poor Calls, and Unregistered Phones
- 100% Over Median (aka outlier) Bandwidth, Jitter, Latency, Packet Loss, Concurrent Calls, Poor Calls, and Unregistered Phones

**Note:** You must change or edit the default destination for pre-defined thresholds if you wish alarm notifications to be sent to you.

### **Creating New Thresholds**

Use the "Add" menu to add a new alarm threshold. After giving it a unique name, the most important selection is the "Threshold On" value. That value defines the type of alarm threshold you are creating, and different types of alarms may provide different options and assignment levels. After you save a new alarm threshold for the first time, the "Threshold On" value cannot be changed.

Properties	
Threshold Name:	Unregistered Device Count
Threshold On:	Unregistered Phones <b>v</b>
Active Days: Sur Active Time: 00:00	nday 🕜 Monday 🖉 Tuesday 🖉 Wednesday 🖉 Thursday 🕜 Friday 🖉 Saturday to 23:59
Threshold Value:	Over
Minimum Offset:	
Duration (Seconds):	180
Renotify Count:	3
Delay (Minutes):	600
Send an alarm notifica	tion when the value goes <u>over 1</u> .

Next check the days of the week you want this threshold to be active, and specify which hours of the day it should be active. In some cases you may need different thresholds for peak and off-peak times.

For "Service Down", "Gateway Down", and "Trunk Down" threshold types, you will only be allowed to specify a threshold duration. If one of these goes down and stays down for that duration, the alarm will trigger. For all other threshold types, you must specify a threshold value after selecting the type of value:

- **Over** Trigger when the threshold type is over some fixed value (e.g. Concurrent Calls Over 10, Jitter over 50)
- **% Over Predicted Max** Trigger when the current max is some percent over the predicted max. 50% = The red line in the "Max Values" charts for each group.
- **% Over Predicted Median** Trigger when the current median value is some percent over the predicted median. 100% = The red line in the "Median Values" charts for each group.
- **Deviations Over Predicted Mean** Trigger when the current mean value is some number of standard deviations over the predicted mean. 2.0 = The red line in the "Mean Values" charts for each group.

**Note:** We strongly recommend reviewing predicted value charts for various groups you are interested in until you get more comfortable with predictive alarm thresholds.

As mentioned above, the closer a predicted value gets to zero, the more likely it will be that any percent over will be so close to the predicted value that it will trigger false alarms. To account for that, predictive threshold values allow you to specify a "minimum offset". For example, consider a predicted max value of 2 concurrent calls at 10:00PM on Wednesday. In that case, 1 additional concurrent call would be 50% over the predicted max, which may periodically trigger an alarm you don't want to see. However, if you specify a minimum offset of 3, that would prevent the alarm from triggering until 2+3 concurrent calls

were reached, which would make false alarms due to a few employees working later than usual much less likely.

The threshold duration helps avoid triggering alarms for live call and QoS counts that only go over defined thresholds for a very brief time period. It waits until the problem persists for a period of time, and then triggers the alarm.

The renotify count allows you to put a limit on the number of alarm notifications to receive per 24-hour period. If an alarm threshold sends you an email, and you set this value to 3, you will not see more than 3 emails per 24-hour period (per group triggering the alarm).

The renotify delay allows you to specify the amount of time to wait between sending additional alarm notifications for any group triggering an alarm threshold. If an alarm threshold sends you an email, and you set this value to 15, there will be at least a 15-minute delay in between each email to notify you that a group is still triggering this alarm threshold.

### Assigning Thresholds to Groups

After you have configured an alarm threshold, you must decide which groups (at which levels) to assign it to. You can usually enable alarms at any level in the assignment tree, which in most cases will also enable it for levels below that. Optionally, you may also specify different alarm destinations to deliver each group to, or disable alarms at different levels.

Assignments								
Level	Enable	and Deliver To		Disable	4	Active Rollup	Past 24 Hours	Last Alarmed
Custom Groups	1	Development	۲		Д	3		2018-11-12 07:05:04 AM
Failed to Connect		!Alarm with No Notification			Д			
MeetingPlace Access Numbers		!Alarm with No Notification	Ŧ		Д			
WebEx Access Numbers		!Alarm with No Notification	Ŧ		Д			
CUCM Clusters	1	Default Alarm Destination	۲		Д	5	8	2019-05-13 08:10:39 AM
	1	Development	۲		Д	5	8	2019-05-13 08:10:39 AM
Device Locations		!Alarm with No Notification	Ŧ			3	4	2019-05-13 08:10:39 AM
Device Pools		!Alarm with No Notification	Ŧ					
Device Models		!Alarm with No Notification	Ŧ					
Generated CUCM		!Alarm with No Notification	Ŧ		Д			
Device Locations		!Alarm with No Notification						
Device Pools		!Alarm with No Notification	Ŧ					
Device Models		!Alarm with No Notification	Ψ.					

**Note:** You may specify different alarm destinations for different levels, in which case a single alarm can generate multiple notifications. This may be useful if you want alarms for all clusters to go to a global administrator and alarms for individual clusters to go to more local admins for each.

Checking the "Enable" checkbox for the "CUCM Clusters" group, or for a specific cluster, will apply the alarm threshold values to a cluster-wide group (e.g. all phones/calls in the cluster). If you want the threshold values applied to specific locations within a cluster, you must check the "Enable" checkbox for the "Device Locations" level, or for specific locations beneath it. The same holds true for device pool and model groups.

Checking the "Disable" checkbox at any given level disables this alarm threshold for the specified level and everything beneath it. The primary use for the "Disable" checkbox would be to apply an alarm threshold to all but a few groups. For example, instead of checking the "Enable" box for 48 of 50 location checkboxes, you can check one "Enable" box above them in the tree, and check the "Disable" box for the two you want to be exempt.

To the right of the "Disable" checkbox is an alarm state icon. The alarm state icon can show:

- This threshold has not been assigned to this level (or any of its parent levels).
- *K* This threshold has been actively disabled for this level.
- $\Delta$  This threshold is enabled for this level, but the alarm is not triggered.
- 👃 This threshold is currently triggered at this level.

The "Active Rollup" column shows the count of currently active triggered alarms at or below the current level. The "Past 24 Hours" column shows a similar count, but for all alarms triggered within the past 24 hours. The "Last Alarmed" column shows the most recent time any group at or below the current level triggered this alarm threshold. Clicking on any of these columns will display more details regarding when and where the alarm threshold was triggered:

Date	Time	Assignment	Predicted	Threshold	Actual
2019-05-07	09:19:57 AM	CUCM Clusters \ atl01cucm01 \ Device Locations \ VPN Users	N/A	1	5
2019-05-07	09:01:57 AM	CUCM Clusters \ atl01cucm01 \ Device Locations \ Peachtree Corners	N/A	1	6
2019-05-07	08:09:27 AM	CUCM Clusters \ atl01cucm01 \ Device Locations \ Hub_None	N/A	1	2
2019-05-06	11:01:57 PM	CUCM Clusters \ atl01cucm01 \ Device Locations \ Peachtree Corners	N/A	1	8
2019-05-06	05:01:57 PM	CUCM Clusters \ atl01cucm01 \ Device Locations \ VPN Users	N/A	1	5
2019-05-06	01:01:31 PM	CUCM Clusters \ atl01cucm01 \ Device Locations \ Peachtree Corners	N/A	1	8

### Scheduled Maintenance

Use the Scheduled Maintenance section of alarms to define windows of time to silence alarm notifications. You can define maintenance windows globally or for specific clusters, and you can configure them in advance. The engine will still track alarm thresholds during a maintenance window, but it will avoid sending notifications. Alarm notifications will resume as soon as a maintenance window ends, so if alarm thresholds are still triggered at that time, the notifications will be sent.

■ PREDICTIVE UC Assurance • U	IC Devices		Admin View: 🛛 admin 🔍 admin 💄	0 📀
Add 👻	Scheduled Maintenance			
Alarms				
Scheduled Maintenance	Maintenance Window Assignments			
Down Gateways	Level	Active Maintenance Window	Next Maintenance Window	۲
Down Services	CUCM Clusters		Starts: 2019-05-08 00:00; Reason: Software updates	•
Down Trunks (1 active alarm)	ati01cucm01	Ends: 2019-05-07 23:59; Reason: Routine Maintenance		•
	Generated CUCM			٠
🗘 High Jitter (50)				
A High Latency (90)				
A High Packet Loss (10)				
Unregistered Device Count (8 active all				
Custom Groups				
CUCM Clusters				

To edit global maintenance windows click on the gear icon in the right column of the "CUCM Clusters" row under "Maintenance Window Assignments". To edit maintenance windows for a specific cluster, select the gear icon to the right of that cluster. From the Maintenance Windows dialog, click the "+" icon in the top-right corner of the list to add a new window. To edit an existing window, click on the pencil icon for that row. To copy a window, click on the copy icon for that row. To delete a window, click on the "x" button on its row.

lows					1	2
End	Time Zone	Created By	Reason			+
2019-05-08 23:59	(UTC-05:00) Eastern	admin	Software updates	Ð	ū	×
2019-02-07 23:59	(UTC-05:00) Eastern	admin	NC3	ø	Ū	×
	End 2019-05-08 23:59	End         Time Zone           2019-05-08 23:59         (UTC-05:00) Eastern	End         Time Zone         Created By           2019-05-08 23:59         (UTC-05:00) Eastern         admin	EndTime ZoneCreated ByReason2019-05-08 23:59(UTC-05:00) Eastern adminSoftware updates	EndTime ZoneCreated ByReason2019-05-08 23:59(UTC-05:00) Eastern adminSoftware updates2019-02-07 23:59(UTC-05:00) Eastern adminNC3	EndTime ZoneCreated ByReason2019-05-08 23:59(UTC-05:00) Eastern adminSoftware updatesImage: Constant of the second secon

When adding or editing a maintenance window, simply specify the start date and time, end date and time, time zone, and a descriptive reason for the maintenance window. Maintenance windows can overlap, but you cannot create two maintenance windows for the exact same time period.

Maintena	nce Window					?	×
Window:	2019-05-07	00:00	to 2019-	05-07	23:59		
Time Zon	e: (UTC-05:00) Ea	stern Time (US &	Canada)			٠	•
Reason:	Routine Mainter	nance				,	//
				ОК	Canc	el	

# **The Network Devices Component**

Where the UC Devices component focuses primarily on live calls and UC device and service states, the Network Devices component focuses primarily on network interfaces and ports of your primary and secondary UC servers. The Collector Pro can be configured to use SNMP to periodically poll your UC devices to gather basic information such as uptime and the configuration and status of all network interfaces. It can also be configured to periodically test ICMP (ping) and/or TCP ports to make sure they are up.

### **Device Listing**

The main view for Network Devices shows all polled devices grouped by location and by device type. Because location names polled by SNMP are unreliable, the class C subnet of the device's IP address will be used as a default location. The engine attempts to auto-detect a device type using the SNMP "sysObjectID" value.

Add 👻									
Alarms	Net	work Devices							
Network Device Down	Devi	ces							
Network Interface Down		Device	IP Address	Device Type	Location	Data Source	ICMP Ping Status	SNMP Poll Status	Last SNMP E
Network Port Down (6 active alarms)		ati01cuc01.telemate.net	10.2.10.48	10.2.10.0	Cisco UC Virtual Machine	None	1ms (1.2 minutes ago)	Up (1.3 minutes ago)	
· · · · · · · · · · · · · · · · · · ·		ati01cuc02.telemate.net	10.2.10.49	10.2.10.0	Cisco UC Virtual Machine	None	1ms (1.2 minutes ago)	Up (1.3 minutes ago)	
Network Devices		ati01cucm01.telemate.net	10.2.10.32	10.2.10.0	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
10.2.10.0		ati01cucm02.telemate.net	10.2.10.33	10.2.10.0	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
🚞 Cisco UC Virtual Machine		atI01imp01.telemate.net	10.2.10.64	10.2.10.0	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
atl01cuc01.telemate.net		atl01imp02.telemate.net	10.2.10.65	10.2.10.0	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
atl01cuc02.telemate.net		ati01uccx01.telemate.net	10.2.10.80	10.2.10.0	Cisco UC Virtual Machine	None	1ms (1.2 minutes ago)	Up (1.3 minutes ago)	
atl01cucm01.telemate.net		ati01expwc01	10.2.10.96	10.2.10.0	Cisco VCS Expressway	None	Disabled	Up (1.3 minutes ago)	
atl01cucm02.telemate.net		ati01expwc02	10.2.10.97	10.2.10.0	Cisco VCS Expressway	None	Disabled	Up (1.3 minutes ago)	
-		ati01cms01.telemate.net	10.2.10.112	10.2.10.0	Linux	None	Disabled	Up (1.4 minutes ago)	
atl01imp01.telemate.net		ati01expwe02	10.2.250.33	10.2.250.0	<unknown></unknown>	None	Disabled	Up (1.3 minutes ago)	
atl01imp02.telemate.net		ati01expwe01	10.2.250.32	10.2.250.0	ciscoVCSExpressway	None	Disabled	Up (1.3 minutes ago)	
atl01uccx01.telemate.net		ati01mrs01.telemate.net	10.2.6.3	10.2.6.0	Cisco 2951	None	Disabled	Down for 2.3 minutes	i/o timeout
Cisco VCS Expressway		atl01cube01.telemate.net	10.2.6.2	10.2.6.0	Cisco ISR 4321	None	2ms (1.2 minutes ago)	Up (32 seconds ago)	
atl01expwc01									
atl01expwc02									
_									
10.2.250.0									

Click on the folder icon next to a location or device type name in the tree to expand or collapse that node in the tree. Click on the name itself to see only devices specific to that group.

### Location

Select a specific location in the tree to limit the device list to a single location. You should notice a new "move" icon (4) near the top-right corner of the page.

PREDICTIVE UC Assurance •			\ \				Admin View:		🔻 admin 🚢 🤅
Alarms	N	etwo	rk Devices $ ightarrow$ 10.2.10.	0					4
A Network Device Down	De	vice	S						
Network Interface Down		ullet	Device	IP Address	Device Type	Data Source	ICMP Ping Status	SNMP Poll Status	Last SNMP Erro
A Network Port Down (6 active alarms)		٠	ati01cuc01.telemate.net	10.2.10.48	Cisco UC Virtual Machine	None	1ms (1.3 minutes ago)	Up (1.3 minutes ago)	
•		٠	ati01cuc02.telemate.net	10.2.10.49	Cisco UC Virtual Machine	None	1ms (1.3 minutes ago)	Up (1.3 minutes ago)	
Network Devices		٠	atl01cucm01.telemate.net	10.2.10.32	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
10.2.10.0		٠	atl01cucm02.telemate.net	10.2.10.33	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
🚞 Cisco UC Virtual Machine		٠	atI01imp01.telemate.net	10.2.10.64	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
atl01cuc01.telemate.net		٠	atI01imp02.telemate.net	10.2.10.65	Cisco UC Virtual Machine	ati01cucm01	Disabled	Up (1.3 minutes ago)	
atl01cuc02.telemate.net		٠	atl01uccx01.telemate.net	10.2.10.80	Cisco UC Virtual Machine	None	1ms (1.3 minutes ago)	Up (1.3 minutes ago)	
atl01cucm01.telemate.net		٠	atl01expwc01	10.2.10.96	Cisco VCS Expressway	None	Disabled	Up (1.4 minutes ago)	
ati01cucm02.telemate.net		٠	atl01expwc02	10.2.10.97	Cisco VCS Expressway	None	Disabled	Up (1.4 minutes ago)	
-		٠	atI01cms01.telemate.net	10.2.10.112	Linux	None	Disabled	Up (1.4 minutes ago)	
atl01imp01.telemate.net									
atl01imp02.telemate.net									
atl01uccx01.telemate.net									
Cisco VCS Expressway									
atl01expwc01									
atl01expwc02									
Linux									
10.2.250.0									
10.2.6.0									

To move a few devices to a new location, select the checkboxes next to the devices you wish to move, and then click the "move" icon. To rename the location, select the checkbox at the top of the table to select all, and then click the "move" icon. Enter any location name you wish and click OK.

Change Settings			? ×
Location:	10.2.10.0		
		OK	Cancel

#### **Device Type**

Select a specific device type under a location in the tree to limit the device list to a single location and type. Everything will look and behave pretty much the same, but the "move" icon will also allow you to change or rename the device type.

Change Settings		?	×
Location:	10.2.10.0		
Device Type:	Cisco UC Virtual Machine		
Data Source Security:	No Change		•
	OK Cano	el:	

**Note:** You can also assign network devices to specific data sources. The only reason to do this would be to apply data source security. For example, if you have 4 clusters and an IT manager login with access to 1 cluster, assigning network devices to data sources would prevent that IT manager from seeing devices that belong to other clusters.

#### **Device**

Select a specific device in the tree to view that device's current and recent status.

PREDICTIVE UC Assurance •	Network D	evices														Admin \	View:	adm	'n			۲	adı	nin 🌡	10
Add 🔻	Network	Devices	> 10.2	.10.0	angle Cisc	o UC \	Virtual I	<b>Aachi</b> i	ne	$\rangle$ atl	01cuc	:01.tel	emat	e.net											
Alarms					/					<i>.</i>															
A Network Device Down	Status																								
A Network Interface Down	IP Add	ress					ICMF	Ping	Status			SNMP	Poll	Status	3	Las	t SNN	MP Er	гог						
A Network Port Down (6 active alarms)	0.2.10	.48					1ms (4	4 seco	nds ag	0)	l	Jp (48	secon	ds ago	<b>)</b>										
Network Devices	Ports																								
10.2.10.0	Port			Sta	atus	R	TT (Rou	nd Trij	o Time	)									As	of			Er	гог	
Cisco UC Virtual Machine	ICMP (ping)			l l	Jp	1	ms											44	secon	ds ago	)				
atl01cuc01.telemate.net	Interfaces																								
atl01cuc02.telemate.net	Interface	Name	Descrip	tion		Ту	pe		Ad	lmin St	atus		Oper	ationa	ıl Sta	tus		Bar	idwidt	h			As	of	
atl01cucm01.telemate.net	1	lo			so	oftware	Loopbac	k										549	.5kbp	s		2.8	3 minu	tes a	go
atl01cucm02.telemate.net	2	eth0			e	etherne	tCsmacd			up				up				75	8kbps			2.8	3 minu	tes a	go
atl01imp01.telemate.net	Bandwidt	h																							
atl01imp02.telemate.net																					Effe	ctive	Date:	I	oda
atl01uccx01.telemate.net	781.3kbps																								
Cisco VCS Expressway	585.9kbps	~~~~	~~~	$\sim$	~~~	~~	$\sim$	$\sim$	$\sim$	~~~	$\sim$	~~	$\sim$												
atl01expwc01	390.6kbps -																								
	195.3kbps -										_														
atl01expwc02	Obps -																								
Linux	00:00	00:30 01:00 01:30	02:00 02:30 03:00	03:30 04:00 04:30	05:00	06:30	07:00 07:30 08:00	08:30	09:30	10:30	8 8	530	3:30	14:00	00:5	00 20	5:30	30.00	3:30	19:00	20:00	20:30	21:30	30	3:00
10.2.250.0	6	2925	3 3 3	8 8 8 8	ö ö	ŏö	6 6 8	õ ö	0.4	2 2 7			~ ~	4 4	1	÷ ÷	÷ +		÷ ÷	÷ ÷	2(	6 6	0 0	10	2
10.2.6.0																									

The Status section of this view simply shows whether the device itself appears to be up or down. This depends entirely on whether recent port tests or SNMP poll attempts have succeeded or failed. If any of them have succeeded, the device state is "up". If none have succeeded, the device state is "down".

Status			<b>▼</b>
IP Address	ICMP Ping Status	SNMP Poll Status	Last SNMP Error
10.2.10.48	1ms (44 seconds ago)	Up (48 seconds ago)	

The Ports section of this view will only appear if ICMP or TCP port tests have been configured for this device. If so, the most recent status of each port configured will be displayed.

Ports				-
Port	Status	RTT (Round Trip Time)	As of	Error
ICMP (ping)	Up	1 ms	44 seconds ago	

The Interfaces section of this view will only appear if SNMP polling has been configured for this device. If so, the most recent status of each network interface will be displayed.

Interfaces							-
Interface	Name	Description	Туре	Admin Status	Operational Status	Bandwidth	As of
1	lo		softwareLoopback			549.5kbps	2.8 minutes ago
2	eth0		ethernetCsmacd			75.8kbps	2.8 minutes ago

The Bandwidth section of this view will only appear if SNMP polling has been configured for this device. If so, the difference in bandwidth counts will be calculated from one poll to the next to build a chart of bandwidth usage over time for each network interface. Note the "Effective Date" selection in the top-right corner, as you may change it from today's date to look at bandwidth from prior days.



### **Managing Alarms**

The alarms section of the Network Devices component allows you to configure alarm thresholds, assignments, and destinations. It also provides visual cues for triggered alarms, and the ability to view the history of alarms triggered by different groups. It looks and works almost exactly like the alarms section for UC Devices, so please read that description above for a more detailed explanation. The only differences are in the threshold types allowed and the assignment levels available.

Add 🔫	Alarms > Network Device Do	wn		🔅 Mar	nage Destinations 💾
Alarms	1				
A Network Device Down	Properties				
A Network Interface Down	Threshold Name: Network Device	Down			
A Network Port Down	Threshold On: Device Down (S	NIND)			- 1
Network Devices	Threshold On: Device Down (S	NMP)			¥
10.2.10.0	Active Days: 🖉 Sunday 🖉 Monday	🖌 🖉 Tuesday 🖉 Wednesday 🖉 Thursd	day 🕑 Friday	Saturday	
🚞 ciscoUCVirtualMachine	Active Time: 00:00 to 23:5	9			
atl01cuc01.telemate.net	Duration (Seconds): 180				
atl01cuc02.telemate.net					
atl01cucm01.telemate.net	Renotify Count: 3				
atl01cucm02.telemate.net	Delay (Minutes): 15				
atl01imp01.telemate.net	Send an alarm notification when the de	vice is down.			
atl01imp02.telemate.net	Assignments				
atl01uccx01.telemate.net	Level	Enable and Deliver To	Disable	Active Rollup Past 24 Hours	Last Alarmed
🗎 linux	Network Devices		▼ □	A Active Rollup Past 24 Hours	2019-05-04 01:35:29 PM
atl01cms01.telemate.net	□ 10.2.10.0		• •	φ Δ	2019-03-25 07:49:22 PM
10.2.40.0	ciscoUCVirtualMachine	_	• •	φ Δ	2019-03-25 07:49:22 PM
-	ati01cuc01.telemate.net	_	•	<del>т</del> Д	2019-02-24 10:37:11 AN
MS Windows Workstation	ati01cuc02.telemate.net	Default Alarm Destination	v 🗌	φ	2019-02-24 10:37:11 AM
USRSONEIL10.telemate.net	atl01cucm01.telemate.net	Default Alarm Destination	v 📃	φ	2019-03-25 07:26:53 PM
192.168.30.0	-104024-1			0	2040 02 25 07 40 22 01

## **Pre-Defined Thresholds**

Predictive UC Analytics comes installed with some pre-defined alarm thresholds. Treat these pre-defined thresholds as initial suggestions, and modify or delete them as necessary. For network devices, only two pre-defined thresholds are configured:

- Network Device Down This threshold will trigger an alarm if any monitored device goes down for 180 seconds.
- Network Port Down This threshold will trigger an alarm if any monitored network port goes down for 180 seconds.

**Note:** You must change or edit the default destination for pre-defined thresholds if you wish alarm notifications to be sent to you.

### **Creating New Thresholds**

Use the "Add" menu to add a new alarm threshold. After giving it a unique name, the most important selection is the "Threshold On" value. That value defines the type of alarm threshold you are creating, and different types of alarms may provide different options and assignment levels. After you save a new alarm threshold for the first time, the "Threshold On" value cannot be changed.

#### Assigning Thresholds to Groups

Again, this is virtually identical to how it works for the UC Devices section. One difference is that the "Interface Down (SNMP)" threshold type will not allow assignments at parent levels. You must select each specific interface to monitor because many network devices have several virtual network interfaces that may not make sense to monitor.

Assignments							
Level	Enable	and Deliver To		۰	Active Rollup	Past 24 Hours	Last Alarmed
Network Devices							2019-02-24 11:35:17 AM
⊟ 10.2.10.0							
CiscoUCVirtualMachine							
atl01cuc01.telemate.net							
1: lo		Default Alarm Destination	Ŧ				
2: eth0	1	Default Alarm Destination	•	Д			
atl01cuc02.telemate.net							
1: lo		Default Alarm Destination	Ŧ				
2: eth0	<b>√</b>	Default Alarm Destination	•	Д			

# **Assignment Features**

## **The Data Sources Component**

The Data Sources component allows you to view and manage gateways (or trunks on more traditional phone systems) and gateway groups for your data sources. If you are also collecting provisioning tables from a CUCM data source, you will also have the option to view device pools, locations and additional device properties. The left-hand side of this section provides controls for navigating through the tree.

≡	PREDICTIVE UC Assignment • Data Source	S Admin View: admin 🔻 admin 👗 🕄 🛇
њ "А	Add  Contracted Audio C	Generated Audio SEARCH
	<ul> <li>All Gateways (110)</li> <li>Generated CUCM</li> <li>CUCM Device Pools (29)</li> </ul>	Search: Search Go Reset
	<ul> <li>CUCM Locations (7)</li> <li>All CUCM Devices (1253)</li> <li>Gateway Groups (3)</li> </ul>	Results
\$ U	<ul> <li>All Gateways (2685)</li> <li>Generated Email</li> </ul>	Audio - 103 Audio - 104
<b>0</b>	<ul> <li>Generated IM</li> <li>Generated Unity</li> <li>Generated Video</li> </ul>	Audio - 105     Audio - 106     Audio - 107
<ul><li>?</li><li></li></ul>	Generated WebEx	Audio - Internal     Default Trunk Group
*		

**Note:** In the data sources tree, the option to add a new gateway group will only appear if the currently selected item a valid "parent" to assign the gateway group to.

Once you select an entity at any level, a searchable list of its children will appear on the right-hand side of this section. Entities at the lowest level of the tree will display settings instead of searchable listing. Gateway groups have the option to display the listing and settings.

#### **Controls**

While some levels of the tree have special options, some general options are the same on every level. No matter where you are in the tree, you will see a "You are here" section at the top.

Generated Audi	o)	Sateway Groups	Audio - 100-02	े 1000		
SETTINGS					₫	ţ,

The line of text shows the hierarchy of levels and their names. The names show where the currently selected entity is in the tree. The first name is the highest level and the last name is the lowest and the currently selected entity. Each name is a link and can be used to quickly jump to that level. The image above shows the "1000" gateway in the "Audio - 100-02" gateway group of the "Generated Audio" data source. On the right of the image, you will see buttons for making changes to the current entity:

- View Details Select to view recent session detail records for the selected directory entity. Refer to the "Common Features" section of this document for a more detailed explanation of the detail view.
- Transfer (Gateways only) Select to transfer gateways from its current group to a new gateway group.

3) **Delete (Gateway Groups only)** – Select to delete the currently selected gateway group. You must transfer any gateways currently assigned to the group to another group before you can delete the gateway group.

### **Gateway Group Settings**

When you select a gateway group, it will have a "Settings" section for general properties. The properties in this section are name, comment, costing method, and site location. Site locations can be used to determine the physical location of activity. Setting a site location at this level will override the one set for the data source.

Properties		-
		9
Gateway Group:	Default Trunk Group	]
Comments:	Default Trunk Group	
Cost Method:	Default Outgoing	
Site Location:	🔅 Atlanta 🔻	

### **CUCM Device Settings**

When you select a CUCM device, it will have a "Settings" section for general properties. The properties in this section are view only.

Properties -						
Device Name:	SEP112345654321					
Device Description:	SEP112345654321					
Device Class:	Phone					
Device Model:	Cisco TelePresence EX60					
Device Location:	Atlanta					
Device Pool:	ARL_GATEWAY					
Device Flag Allow CTI Con	ol: True					
Device Flag Active:	True					
Device Flag PSTN Access	: False					
Device Flag Route List Ena	abled: False					
Device Flag Video Capabil	ity:					
Device Flag Web Access:						
Device Flag SSH Access:						
Device XML CSF:						
Device CSS:						
Device Owner:						
Gateway Group:	Default Trunk Group					
Gateway:	SEP112345654321					

# **The Directory Component**

The Directory component allows you to view and manage companies, divisions, departments, users, and resources/addresses in your organization. The left-hand side of this section provides controls for navigating through your directory tree. Select the "Organization" tab when it is easier to navigate by clicking through a tree of companies, divisions, and departments. When it is easier to type in a few characters of what you are looking for, select the "Find" tab. We recommend that you get familiar with both navigation methods, as the "easier" method changes based on what you need to accomplish.

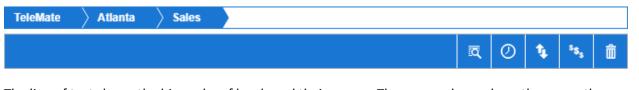
Organization	Find		Organi	Organization		nd			
Effective Date: T	oday	Add 🔫	Effective	Date: ]	Today				
📇 !Unassigned	Add Depa	artment	Show:	Depart	ment 🔻	е			
📇 TeleMate.Net	Software Add User		Within:	Within: Company					
🐣 North Am	erica Add Reso	ource				Reset	Execute		
🔏 Corpo	orate		Results 🔁 🔁 🐧 🏛						
😕 Devel	lopment		🔳 Depa	irtment					
📇 ІТ			🗌 !Una	ssigned		!Unassig	ned   !Unass		
😕 Opera	ations		Corporate			North America   TeleM			
🐣 Profes	ssional Services		Development			North America   TeleM			
A QA			Oper	Operations			North America   TeleM		
📇 Sales	1		Profe	ssional	Services	North An	nerica   TeleM		
Smith, John		Sale	S		North An	nerica   TeleM			
	678-589-7100								
🔏 Supp									

**Note:** In the Organization tree, the option to add a new entity at a specific level will only appear if the currently selected item provides a valid "parent" to assign it to. For example, if you select a company, you cannot add a department because it is not clear which division it should be assigned to.

Regardless of how you choose to navigate, once you select a directory entity at any level, its properties and children will appear on the right-hand side of this section. Note that entities at different levels of the organization will have different options and properties. For example, the user level allows you to specify a job title and the resource (extension) level allows you to specify call plans.

### **Common to All Levels**

While some levels of the tree have special options, some general options are the same on every level. No matter where you are in the tree, you will see a "You are here" section at the top.



The line of text shows the hierarchy of levels and their names. The names show where the currently selected directory entity is in the directory tree. The first name is the highest level and the last name is the lowest and the currently selected directory entity. Each name is a link you can use to jump to that directory level. The image above shows the "Sales" department in the "Atlanta" division of the "TeleMate" company. On the right of the image, you will see a number of buttons for making changes to the current entity:

- 6) View Details Select to view recent session detail records for the selected directory entity. Refer to the "Common Features" section of this document for a more detailed explanation of the detail view.
- 7) History Select to view/modify the list of historical changes (e.g. transfers) for this entity. For example, if "John Smith" was transferred from the "West Coast Sales" department to the "East Coast Sales" department on June 1<sup>st</sup>, the history listing for "John Smith" will show that transfer. If the transfer was a mistake and you need to change or delete it, you should do that here. Note: If historical tracking is disabled, each entity will only have one history record to represent where it belongs (for all dates). If you change it, you change it for all dates.
- 8) Transfer Select to transfer any directory entity from its current parent to a new parent. When historical tracking is disabled, this simply replaces its only history record. When tracking is enabled, it creates a new history record, which requires you to specify an effective date.
- 9) **Create Invoice Batch** Refer to the "Invoice Batches" section below for an explanation.
- 10) **Delete** Select to delete the currently selected entity. This is a recursive deletion that can have unintended consequences when historical tracking is enabled, so be very careful when deleting anything in the directory. The only time deletion is completely safe is when you recently created a directory entity by mistake and no calls or expenses are assigned to it. Otherwise, we recommend you transfer entities to "!Unassigned" instead of completely deleting them.

### **Reminder: Background Tasks**

Operations like transfer and delete may take a while because they may affect many records in the database, and they may require integrity checks or locks to clear before they complete, so they are run as background tasks to keep the web browser from getting stuck for long periods of time and/or timing out. Check the status of background tasks by clicking on the "info" icon in the top-right hand corner of the page. These are examples of in progress, successful and failed deletion tasks:

	admin 🎍 🚺
Status	
Status: Starting	
Last Update: 2018-08-02 11:35:54	
	Clear

Status		
fask: Deleting 1 Dep	artment Object for 2018-08-02	
Status: Operation co	mpleted (Warnings: 0, Errors: 0, Duration: 0	seconds)
Completed: 2018-08	02 11:40:56	

Status	
Task: Deleting 1 Department Objec	t for 2018-08-02
Status: Operation completed (Warr	iings: 0, Errors: 1, Duration: 0 seconds)
Completed: 2018-08-02 11:48:54	
Errors:	
Task aborted: Failed to delete the [	Department Object for 2018-08-02

## **Properties**

When you select a directory entity at any level, it will have a "Properties" section for general properties. The most common properties in this section are name, description, and email address (for email breakout report distribution), but some levels will have different properties:

Properties							
		B					
The properties for the company include the name, a description and an email address. The email address is used to distribute email breakout reports at the company level.							
Company Name:	TeleMate.Net Software						
Company Description:							
Email:							

## **Children**

When you select a directory entity at any level, except the very bottom of the tree, it will have a "Children" section. This section allows you to manage all children, grand-children, etc. beneath the selected entity:

Ch	ildren					
Dis	play:	Department •		⊕ <b>€</b>	1	Γ
	Depa	Division				
_	-	Department				
	Corpo	User				
	Deve	Address Extension				
	IT	Phone Number				
	Oper	EMail Address Login				
	Profe	Auth Code				
	QA	Invoice Number				
	Sales					
	Supp	ort				

The "Display" option defaults to show the children directly beneath the current entity, but you can change it to show any level of the tree below the current one. The text box next to the display selection allows you to search the selected level. So if you select "Phone Number" and type "351", it will show you all internal phone number resources beneath the current entity that contain "351".

Ch	Children 👻							
Dis	play: Phone Number 🔻 351	Ð	Ð	<b>3</b> 1	â			
	Phone Number							
	678-589-3510							
	678-589-3514							
	678-589-3515							
	678-589-3516							

The buttons available on the right allow you to:

1) Add – Create a new child entity (direct children only, not grand-children).

- Import Use to re-import a file you have modified after exporting it. The file format must be the same as the format generated by the Export button (see below).
   Note: The import is actually global and not specific to any directory entity. The button only appears here because it goes with the Export button, which is specific to this entity.
- 3) **Export** Quickly export the properties of all children beneath the currently selected entity to a csv file. You can modify those properties in Excel or some other csv editor.
- 4) Transfer Executes a batch transfer for every child selected in the list.
- 5) **Delete** Execute a batch deletion for every child selected in the list.

**Note:** There are a few special cases when some of these buttons are not applicable, in which case they may be hidden, grayed out, or give an error message. For example, you may not transfer invoices, and you may not transfer any level of the built-in "!Unassigned" bin.

#### **Company Level**

The company level has no additional properties. Since it is the highest level in the organizational tree, companies have no parent, which means they cannot be transferred and do not have history.

#### **Division Level**

The division level has no additional properties.

#### **Department Level**

Properties	👻
The properties for the depar reports at the department le	tment include the name, a description and an email address. The email address is used to distribute email breakout vel.
Department Name:	Corporate
Department Description:	
Email:	
Site Location:	Atlanta     Verride

In addition to its common properties, a department can have a site location. Site locations can be used to determine the physical location of an Extension. When you assign a department to a site location, all users and extensions in that department will be assigned to that site location unless you explicitly override it for individual users or extensions. The gear icon is a link that allows you add, edit or delete

site locations. The Override button clears any site locations set at the user or extension level, so that they will use the location set at the department level.

#### **User Level**

The user level has more properties than any other level:

Properties -								
					<b>e</b>			
The properties for the user include a user type, name, description, email address, and street address. This email address is used to distribute email breakout reports at the user level.								
Туре:	Pe	rson Overhead Miscellaneous						
Last, First Name:	Smit	h	John					
User Description:								
Title:	٥	Territory Manager			•			
Workgroup:	٥	Team - West			•			
Site Location:	٥	Atlanta			<ul> <li>Override</li> </ul>			
EMail Breakout:	john.smith@telemate.net							
Street Address:	244	I Southside Lane						
			1					
City, State, Zip:	Atlar	nta		GA	30303			

A user can be categorized as one of three types: person, overhead, or miscellaneous. The type selection is purely informational, and most of our customers only use it as a reminder when they create an overhead user under a department with the same name to assign shared resources (e.g. fax machines) and expenses (e.g. the cost of the phone line for that fax machine). The street address properties are also informational, but they show up on all of our bill reports.

You can also select a title and/or a workgroup for each user. While these selections are primarily informational, they are also available as filters on almost every report that includes directory information, so you can use these selections as an alternate way to group users together outside of the department they belong to. If you need to create or edit titles or workgroups, click on the gear icon link located next to the title or workgroup.

You can also select a site location. Similar to site locations in departments, they can be used to determine the physical location of an Extension. When a site location is set at the user level all extensions assigned to that user will have that site location unless it was explicitly set at the extension level to something else. If you need to create or edit a site location, click on the gear icon link located next to the site location. The Override button clears any site locations set at the extension level, so that they will use the location set at the user level.

## **User-Defined Data**

Our customers often wish to import or enter additional information for each user in the directory, but different customers have different needs. As a result, we reserve 10 fields that you can define to use for anything you wish. To use one of these fields, you must first enable it from the server-side client in the UC Columns section.

User Defined Data								
			8					
Ten user-defined field	Ten user-defined fields that you can use to track any information that's not represented by the standard user properties.							
Employee ID:	0003451001	(reserved):						
Hire Date:	1998-05-18	(reserved):						
(reserved):		(reserved):						
(reserved):		(reserved):						
(reserved):		(reserved):						

#### **Devices**

You may also add custom "devices" (or phone numbers) for a user, such as their home phone, cell phone, etc. This is purely informational, and is not used by any of our standard reports (though custom reports can be written to use this information). The devices feature is disabled in the web interface by default. To enable it, click on the "Settings" link in the navigation menu and look for the "Features" option in the "General Settings" section. In "Features", enable "Additional User Devices" and click the OK button.

Devices					
				Ð	ŵ
	Device	Number	Description		
	Home	404-555-9223	Home Phone		
	Mobile	404-555-6728	Cell Phone		

#### **Expenses**

If you have an Enterprise license for Predictive UC Analytics, you can also manage expense code assignments for the selected user here. Refer to the documentation on the Expenses section for more information.

Expenses							-
						$\oplus$	ŵ
	Code	Quantity	Start Date	End Date	Category		
	Computer Lease	1	2015-01-01	2017-12-31	Monthly Expenses		
	Phone Lease	1	2015-01-01	2017-12-31	Monthly Expenses		

## **Address Level**

The term "address" is an aggregate that includes any unique identifier that can be used to assign traffic sessions to a user in the Predictive UC Analytics directory. These can be extensions, internal phone numbers, authorization codes (sometimes called DISA, pin, authentication, or access codes), calling card numbers, email addresses, VoIP or network logins/addresses, etc. If we use it when processing UC logs to identify "ownership" of a session from an accounting viewpoint, we call it an "address". You may also see addresses referred to as "resources" in some places.

#### **Options**

Aside from authorization codes (which are special because they override call ownership for other resource types and are not tied to a physical location), all resource types can be assigned a Site Location and a Publish Type. These work exactly the same way that the Title and Workgroup selections work at the user level, and they can be used for just about anything you need to use them for. For example, you may wish to create special publish types for hunt pilots, customer service lines, fax machines, floor extensions that any employee can pick up, or dedicated extensions.

Options		-
		<b>"</b>
Site Location:	Atlanta	•
Publish Type:	V-VCE1	۲

#### **Call Plans**

In addition, addresses can be assigned to call plans to help you track when a particular address is going over (or under) certain daily, weekly, or monthly targets. Call plans can be configured by clicking on the gear icon in the top-right corner Call Plan Assignments section. By running the reports in the "Call Planning" category, you can watch for over-use (e.g. cell phones costing you extra by exceeding the number of minutes included in their plan) or under-use (e.g. call center agents not answering enough calls).

Call Plans			<b>•</b>
			🕀 🧰
Plan Name	Description	Start Date	End Date
Direct Sales	75 calls per day	2015-01-01	2015-12-31
Inside Sales	100 calls per day	2016-01-01	2016-12-31

# **The Expenses Component**

The Expenses component can only be accessed if you have an Enterprise license for Predictive UC Analytics and it has been enabled in the "Features" section of "Settings". It allows you to allocate and distribute specific costs to the users responsible for them. For example, you may wish to allocate a onetime charge of \$50.00 to a specific user to cover the installation of a phone line on a specific date, and then a recurring charge of \$20/month while that phone is in use. You can also create a very large expense and distribute the cost across several users/departments (and across several months/years). You can then run monthly distributions and reports to calculate budget expenses for departments or divisions, bills for clients, etc.

The Expenses feature also ties into our invoicing features by allowing you to create expense codes that assign different percentages of call costs for different call types. This allows you to account for call costs as well as to calculate fees based on a percentage of call costs (e.g. local/federal USF charges). You may also specify which taxes to apply to each expense code.

Information is presented as a tree of expense categories, expense codes, assigned users, distribution periods and applied expense distributions.

Expenses	Dist	ribution		Expenses	Distribution	
			Add 🔫			Add 🔫
🚞 Monthly Expe	nses	Add Cate	gory	🚞 (Default)	Add Dist	ribution Period
📑 Compute	r Lease	Add Cod	e	2016-01	-01 to 20 Add Dist	ribution Dates
Smith, John Assign User		2016-02	-01 to 2016-03-01			
📑 Phone Lease		2016-04	-01 to 2016-05-01			
One-Time Expenses			🚞 Invoice Batch	1		
Per Call Expenses						
Per Minute Expenses						

#### **Categories**

The category level of the tree allows you to manage a specific expense category. You can modify the selected category's properties as well as add/edit/delete expense codes assigned to this category.

Click the trashcan icon in the title bar of the expense category to delete the selected category along with all codes, assigned users and distributions associated with the category.

Monthly Expenses	s de la constante de	
		ŵ
Properties		-
The properties for the Administration section	expense category include the name, a description and a vendor. Vendors can be managed in the n.	
Category:	Monthly Expenses	
Description:	Monthly Expenses from Tech Center	
Vendor:	Tech Center	¥

Unless you execute a search, the Children section will show all of the codes for the selected category. To assign new codes, select the "Add" button in the upper left corner.

Children		•
Display: Code 🔻	• <b>i</b>	Ì
Expense Code		
Computer Lease		
Phone Lease		

#### Codes

The code level of the tree allows you to manage a specific expense code. You can modify the selected code's properties as well as manage users assigned to this expense code.

Click the trashcan icon in the title bar of the expense code to delete the code and all assigned users and distributions associated with the code.

Monthly Expenses	Computer Lease	
		ŵ

The Expense Code properties are straightforward. You can also assign a general ledger number. If you need to create or edit a general ledger number, click on the gear icon link located next to the general ledger number.

Properties		-
		8
The properties for the	xpense category include the name, a description and a vendor. Vendors can be managed in the Administrati	on section.
Code:	Computer Lease	
Description:	Computer Model PC65A	
General Ledger:	🔅 GL1234	•

There are several distribution types that affect how the expensed cost is distributed to assigned users:

- **Period, Once** Distributes a one-time cost to any user you choose on any date you choose. A good example of this would be a fixed charge for installing a phone line. If John Smith has 3 phone lines installed on June 5, you can assign the "Phone Line Installation Fee" expense code to John for June 5 and set the assigned quantity to 3. When you distribute costs for June and run bill/expense reports, the appropriate cost will be applied.
- **Period, Recurring** Distributes a recurring expense to all assigned users from the specified start date to the specified end date (pro-rating as necessary). Any monthly service fee would be a good example of this. In the John Smith example above, you could assign 3 recurring service line fees of \$20 each starting June 5. June would be pro-rated for 26 out of 30 days for a total of \$52. Subsequent months would be \$60 until you choose to terminate the assignment of those lines (which will be pro-rated if you terminate mid-month).
- Assigned Users, Call Records, and Call Duration All of these distribution types take a single amount across multiple users/departments, and often across multiple months. For example, let's say you spend \$200,000 to upgrade your phone system and you want to expense the cost across all departments over the course of 5 years. Create the expense code and specify the expense amount and date range. Select "Assigned Users" to spread the amount evenly across all assigned users, "Call Records" to weight the distribution based on how many calls each user makes, or select "Call Duration" to weight the distribution based on how long each user spends on the phone.

Invoice Calls – This distribution type allows you to add up the costs of individual calls for each user and distribute a percentage of that call cost. Further, it allows you to include/exclude calls by call type. This can be used to apply markups, but it is also useful for calculating things like local/federal USF fees, which may not apply to all call types. It is also useful if you need to apply different taxes to different call types (e.g. some states charge sales tax on intrastate calls while other states do not).

The date range selection is really only used for the distribution types that spread a single cost across multiple users and periods. While it can be used to terminate a recurring expense code, it is better to terminate individual user assignments to that expense code.

Distribution & Cha	rge Information	-
		H
-	gs affect how costs are distributed to the assigned users. If available, the expense cost is the amount distributed to an on the chosen distribution type.	
Types:	Period	۲
Reporting Label:	Computer Lease	
Expense Cost:	20.00	
Actual Cost:	0.00	
Options:	Recurring every   I.00 Month(s)	۲

Taxes allow you to apply the selected taxes to the distributed cost of the expense in certain reports.

**Note:** The tax assignments are currently only used in our invoice reports and custom reports. The standard Expense reports do not currently use these tax assignments.

Taxes		
		P
The tax settings	allow you to apply the selected taxes to the distributed costs.	
Taxes:	FL Tax (9.0)	*
	GA Tax (7.0)	
	SC Tax (8.0)	
		-
		*

Unless you execute a search, the listing below will show all of the users assigned to the selected code. To assign new users, select the "Assign" or "Add" button in the upper left corner. To manage an assigned user, select the user name. To unassign a user, select its checkbox and click the "Delete" button.

Children			-
Display: User 🔻			÷ 💼
User	Quantity	Start Date	End Date
Baker, Colin	1	2016-01-01	2020-12-31
Baker, Tom	1	2016-01-01	2020-12-31
Davision, Peter	1	2016-01-01	2020-12-31
Eccleston, Christopher	1	2016-01-01	2020-12-31
Hartnell, William	1	2016-01-01	2020-12-31
McCoy, Sylvester	1	2016-01-01	2020-12-31
McGann, Paul	1	2016-01-01	2020-12-31
Pertwee, Jon	1	2016-01-01	2020-12-31
Smith, Matt	1	2016-01-01	2020-12-31
Troughton, Patrick	1	2016-01-01	2020-12-31
	More (10   50   All)		

#### **Assigned User**

The user assignment level allows you to manage the assignment of a user to an expense code. You can modify the selected assignment's properties as well as manage distribution or billing runs applied to this assignment.

Click the trashcan icon in the title bar of the assigned user to delete the assignment and all distributions associated with the assignment.

Monthly Expenses	Computer Lease	📏 Brian, Fisher		
				ŵ
Properties				-
				8
The properties for the user.	assigned user include the effec	tive start and end date	of the period you want the code associated with the	
Quantity:	1			
Start Date:	2016-01-01			
End Date:	2020-12-31			

Unless you execute a search, the listing below shows the distribution for the assigned user.

Children			•
Display: Distribution <b>v</b>			
Start Date	End Date	Period	Amount
2016-04-01	2016-05-01	(Default)	\$20.00
2016-02-01	2016-03-01	(Default)	\$20.00
2016-01-01	2016-02-01	(Default)	\$20.00

#### **Distribution Period**

This page allows you to manage all of your expense periods and distributions. Most of our customers only have one expense period (e.g. "(Default)"), which gets created automatically when they run either expense distribution reports or invoice batch reports. The primary reason to have more than one period would be if you had different users that needed to be on different billing cycles (or perhaps just have bills generated on different dates). For example, your US division may need to generate bills on the 1<sup>st</sup> of every month but your UK division may need to wait until the 8<sup>th</sup>.

**Note:** We recommend you use distribution/invoice reports to manage your periods and distributions. Most of our customers only check this information to trouble-shoot something that looks wrong in a report or to delete older distributions that they wish to clean out of the system.

**Important:** Unlike date ranges specified when running a report, distribution date ranges appear to overlap. They do not actually overlap, as the end date is not included in the distribution. We are just following a common convention used by accounting software when displaying distribution ranges.

Click the trashcan icon in the title bar of the distribution period to delete the period and all distributions associated with the period.

(Default)		
		ŵ
Properties		-
		8
A distribution period is	a grouping of distribution dates. The only property of a distribution period is the name.	
Name:	(Default)	

Unless you execute a search, the listing below shows the distribution dates for the selected billing period. Here you may add/edit/delete the distributions.

Childre	Children								
Display:	Distribution Dates 🔻		÷ 🕨 💼						
	Start Date	End Date	Distributed						
	2016-04-01	2016-05-01	Yes						
	2016-02-01	2016-03-01	Yes						
	2016-01-01	2016-02-01	Yes						

## **Distributions**

This page allows you to manage the selected expense distribution. Any changes to a distribution's date range may cause inconsistencies in the data for that distribution. If you must change a distribution's date range, you should re-run the distribution to fix the distributed amounts by clicking the button with the green arrow.

**Note:** We recommend that you use distribution/invoice reports to manage your periods and distributions. Most of our customers only check this information to trouble-shoot something that looks wrong in a report or to delete older distributions that they wish to clean out of the system.

To run generate a distribution click the green arrow in the title bar. If you want to delete the distribution click the trashcan icon.

(Default) $ angle$	2016-01-01 to 2016-02-01
	► <b>û</b>
Properties	▼
distribution be run	distribution's date range may cause inconsistencies in the data for that distribution. It is recommended that the again. However, be aware that any changes to the expense codes for that distribution date range may generate a seen on past reports.
Start Date:	2016-04-01
End Date:	2016-05-01

Unless you execute a search, the listing below shows the distribution costs for the selected distribution range.

Children	Children 👻										
Display: Distrit	oution Detail 🔻										
Amount	Quantity	User	Expense Code	Expense Category							
\$20.00	1.00000	Baker, Colin	Computer Lease	Monthly Expenses							
\$20.00	1.00000	Baker, Tom	Computer Lease	Monthly Expenses							
\$20.00	1.00000	Davision, Peter	Computer Lease	Monthly Expenses							
\$20.00	1.00000	Eccleston, Christopher	Computer Lease	Monthly Expenses							
\$20.00	1.00000	Hartnell, William	Computer Lease	Monthly Expenses							
\$20.00	1.00000	McCoy, Sylvester	Computer Lease	Monthly Expenses							
\$20.00	1.00000	McGann, Paul	Computer Lease	Monthly Expenses							
\$20.00	1.00000	Pertwee, Jon	Computer Lease	Monthly Expenses							
\$20.00	1.00000	Smith, John	Phone Lease	Monthly Expenses							
\$20.00	1.00000	Smith, Matt	Computer Lease	Monthly Expenses							
	More (10   50   All)										

## **The Imports Component**

If your company directory is maintained in an external application or database, it is usually better to import it into the Predictive UC Analytics directory than to manually enter the information twice. Directory imports can even be scheduled to handle moves/adds/changes automatically after the initial import. Predictive UC Analytics supports two types of imports. You can import from a delimited file or

from a server with Lightweight Directory Access Protocol (LDAP) support, like Microsoft's Active Directory or Novell's eDirectory.

#### **Template Listing**

This listing allows you to manage, delete, run or schedule directory imports.

Im	Import Templates										
	$\odot$										
Bef	Before you can import users into your TeleMate Directory, you must define an import template. This lets you specify where to get all the imported fields once and Add Delimited File Import										
ma	y choose to import from a delimi	ited file (comma, semi, tab, etc	.) or from an LDAP server. Onc	e a template has been saved, you can s	schedule it to run automa	nat Add LDAP Import					
	Import Name	Туре	Data Source	Utils	Schedule	Last Run	Status				
	File - AMC	Delimited File	Audio	Run   Copy	Add	N/A	N/A				
File-PDO         Delimited File         Audio         Run   Copy         Add         N/A         N/A											
	TMNT	LDAP	Audio	Test   Run   Copy	Add	N/A	N/A				

Hover the mouse over the "Add" button in the upper right corner of the listing and select a template type to create a new one. Click on an existing template's name to modify it. Use the checkbox next to a template name and click the trashcan icon button to delete an import template. To run an import manually, select the "Run" link in the Utils column. Select the "Test" link before running an LDAP import to verify that it will pick up the LDAP attributes correctly. To schedule an import, or to modify its schedule frequency, select the "Add", "Edit", or "Clear" links in the Schedule column.

When you schedule an import, you will be asked to specify a frequency and run time for the import. You may also choose to be notified by email when the import has completed.

Schedule	Import		? ×
Occurs:	Run every day (daily)		•
Run at:	04:00		
Notify:	Send an email on event completion		
	john.smith@telemate.net		
		ОК	Cancel

## **Delimited File Import**

Predictive UC Analytics can import from a delimited file by specifying which fields in the file map to which organization properties.

## Step 1: File Properties

The first step requires you to specify a delimited text file to import. This file **must** be visible to the server, either on one of the server's local drives or on a network share (the Predictive UC Analytics services must have read access to that share). If the file is not on the server but you can access it from your web browser, select the "Upload File" button to upload the file to the server. Before selecting the "Upload File" button, you **must** specify the path on the server to upload it to. If you're not sure where to put it, you can use an environment variable to specify a temporary folder (e.g. %TEMP%\myimport.txt). If you want to schedule this import, you need to specify a path on the server that some external process will push updated directory files to periodically.

**Warning:** If you have multiple data sources configured, the Data Source selection here is very important! You may **not** import a single file for multiple data sources. You must split them up into separate files and configure a separate import for each.

Configure Delimite	Configure Delimited File Import										
Step 1: File Properties Step 2: Default Values		Step 3: Field Mappings									
This step allows you to set up a delimited file for import. Because the scheduler service runs the import, you must specify a file path on the server. It can be a local path on the server or a UNC network path, but the server must be able to read the specified file. You may also upload a file from your local machine, but you still need to specify the path on the server where you want the file saved. (Environment variables may be used, like %TEMP%\import.csv.)											
Import Name:	File - AMC										
Data Source:	Audio		T								
Delimiter:	Comma	•									
First Data Row: 1											
[Server] File Path:	C:\RawData\Directory\directory.csv		Upload File								

# Step 2: Default Values

The second step allows you to choose a default value for the Company, Division and Department fields. You can either type in the name or use the "Choose…" button to pick a value from a list of Companies/Divisions/Departments that have already been created. If the delimited file does not contain one of them or the field is blank, the import will use the default value.

Configure Delimited File Import										
Step 1: File Properties Step 2: Default Values		Step 3: Field Mappings			<b>*</b>					
This step allows you to	choose	e a default value for a field. If the	e file does not contain that field (	or the field is blank, the import will use the default value.						
Company:	TeleMa	ate.Net Software			Choos	se				
Division:	!Overh	nead			Choos	se				
Department: IOverhead										

# Step 3: Field Mappings

The third step shows a few sample records parsed from the delimited file specified in Step 1. If the sample records do not look right for any reason, double-check the file and the settings you specified for it in Step 1. Once everything looks okay, use the selection boxes to specify where each field from the file should be pulled into Predictive UC Analytics, and click the Save button (in the top-right corner).

Configure Delimited File In	nport									-
Step 1: File Properties	Step 3	2: Default Values	Step 3: Field Ma	ppings					8	X
This step shows a few sample records parsed from the file selected earlier. If anything is wrong with the sample records, you may need to change some of the options selected in "Step 1: File Properties". Once everything looks ok, you need to specify which fields from the file to import into which fields in TeleMate's directory.										
Resource	•	Resource Type	•	[Column	Not Used]	Last Name	•	First Name		
+16785893005		P				Baker		Colin		
+16785893000		P				Baker		Tom		
+16785893001		P				Davision		Peter		
+16785893007		P				Eccleston		Christopher		
+16785893002		P				Hartnell		William		
4										Þ

## **LDAP Import**

Predictive UC Analytics can connect directly to your LDAP server to import directory information. Unfortunately, the mapping between your LDAP directory and the Predictive UC Analytics directory is rarely a perfect fit, which tends to make the configuration complex in all but the simplest cases. Fortunately, Predictive UC Analytics provides some very flexible and powerful options to "clean up" the mapping. It can even be used to clean up some of the data it finds in LDAP, which almost always contains data entry errors that are hard to find until the data is forced into a structure that makes errors stand out clearly. TeleMate also provides professional services to help you through the complexity to get the most out of your LDAP integration.

The process of configuring an LDAP import generally includes:

- If you have multiple data sources to import from a single LDAP server, you must first find a way to identify the data source for each extension you want to import. Extension 3001 on phone system A is **not** the same as extension 3001 on phone system B. You may or may not have overlapping extensions, but the import cannot make assumptions, so you must tell it which data source extension 3001 belongs to.
- 2) Next you must decide how you want to map LDAP Organizational Units, Groups, and/or attributes to the Predictive UC Analytics Company/Division/Department hierarchy. This depends on how you have organized your LDAP directory and how you want users to appear in the Predictive UC Analytics directory. It ends up being at least a little different for every customer. Some customers want to use the location attribute for division and the department attribute for department. Others want to use groups or organizational units to decide where to put everyone. Others want to use extension ranges or phone number prefixes to decide.
- 3) Most customers want to be able to use LDAP to "terminate" users in Predictive UC Analytics. The import cannot delete users because they historical data linked to them, so this is generally done by creating a copy of the main LDAP import. The copy will check for some sign in LDAP that a user has been deactivated (e.g. a special OU for terminated users or the "enabled" flag for ActiveDirectory accounts). This alternate import will transfer users out of their current department to a "disabled" area in the Predictive UC Analytics directory.
- 4) Once the basic structure of the LDAP import is laid out, it is time to worry about the details. You need to specify how to pick up each LDAP attribute, run a "Test" to spot-check examples of users being imported, and tweak the details of how those attributes are picked up.
- 5) Finally, run the import to see what shows up in the Predictive UC Analytics directory. The first run usually highlights a number of data entry problems that you may not be aware of in your LDAP directory. At this point, it is very common for customers to run through a few passes where they delete the entire organization in Predictive UC Analytics, fix some things in LDAP, perhaps make a few changes in the import definition, and run it again.

## Step 1: Connection Settings

The first step requires you to supply all the information Predictive UC Analytics needs to connect to the LDAP server. You must also choose a "default" data source for any extensions imported. (This data source selection can be overridden using custom scripting checks on LDAP attributes in step 4.)

Configure LDAP Im	port				•		
Step 1: Connection Se	ettings Step 2: Organizational Units	Step 3: Groups	Step 4: Attributes	Step 5: Exceptions	💾 🗙		
	LDAP imports have a lot of options, so the configuration is broken into five steps. The first step requires you to supply all information needed to connect to the LDAP server. All fields are require except for the User Search Filter, which allows you to set up a custom filter to eliminate certain LDAP users from the import.						
Example Root DN: "do	=telemate,dc=net"						
Example Search Filter	: "(&(objectClass=user)(!(userAccount	Control=514))"					
Import Name:	TMNT						
Data Source:	Audio				▼		
Connection Type:	Clear LDAP (default for ActiveDirecto	гу)			•		
LDAP Server:	atl01ldap						
LDAP Port:	389						
LDAP Login:	telemate\ldap						
LDAP Password:	••••••						
Root DN:	dc=telemate,dc=net						
User Search Filter:							

- Import Name A unique name to identify the Import in Predictive UC Analytics.
- Data Source The data source that any imported extensions or DISAs will be associated with.
- **Connection Type –** The type of LDAP connection used, Clear or Secure.
- LDAP Server The IP or hostname of the LDAP server. The value can be multiple values separated by a comma. It allows you to provide a backup server in case the other LDAP server goes down. It is suggested that you use the full host name like "dc01.telemate.net".
- LDAP Port The port number specifies which TCP port is used to connect to the server. If the LDAP server is not using its default port you should set it here. The default for the Clear LDAP connection type is 389 and Secure LDAP is 636.
- LDAP Login This login should have read access to the RootDN. Some examples are:
  - Active Directory: telemate\joe.smith
  - Active Directory: cn=Joe Smith,ou=Development,ou=Telemate.Net Software,dc=telemate,dc=net
  - eDirectory: cn=admin,o=test;
  - Open Directory: uid=netspective,cn=users,dc=qa,dc=xserve,dc=com
- LDAP Password The password to authenticate the login.
- Root DN Specify the Distinguished Name (DN) of the "root" object to use for this import. Most customers just use the root node of your LDAP tree (e.g. your entire domain or organization), but in some cases it is better to create a few distinct imports that each check a different branch of the tree.
  - Active Directory: dc=telemate,dc=net
  - eDirectory: o=test
  - Open Directory: dc=xserve,dc=com
- User Search Filter The search filter is an advanced option to help you weed out LDAP objects you want to avoid importing. Its syntax, and how you use it, depends on the type of LDAP server you have.

**Note:** All fields are required except for the User Search Filter. Also, if you are experiencing slow connection times check your server names to ensure that they are valid. Failed DNS resolution can slow down the connection times.

## Step 2: Organizational Units

The second step allows you to map LDAP Organizational Units to Predictive UC Analytics Departments.

**Important:** The LDAP import will **only** import users it finds in Organizational Units and Groups you tell it to import. If you do not select anything in steps 2 or 3, the import will run, but it will not do anything.

Configure LDAP Import						-
Step 1: Connection Settings	Step 2: Organizational Units	Step 3: Groups	Step 4:	Attributes	Step 5: Exceptions	💾 🗙
LDAP imports have a lot of op by User Group, then this step	-	ken into five steps. The secon	d step allows yo	ou to map LDAP	Organizational Units to TeleMa	te Departments. If you prefer to import
Organizational Unit			Clear			Assignment
Root DN			Clear		TeleMate	Net Software \ !Overhead \ !Overhead
Business Partners						!Unassigned
Saas Customers						!Unassigned
Vendors						!Unassigned
Contacts				!Unass		
Disabled Accounts						!Unassigned
Domain Admins						!Unassigned
Domain Controllers						!Unassigned
Microsoft Exchange Security	/ Groups					!Unassigned
Resources						!Unassigned
ATL01 DMZ						!Unassigned
ATL01 Headquarters						!Unassigned
Computers						!Unassigned
Corporate						!Unassigned

Find the Organizational Unit (OU) that you would like to import and click on the "!Unassigned" link to the right of it to select a Predictive UC Analytics Company/Division/Department to map it to. If you have not created the appropriate Company/Division/Department in Predictive UC Analytics yet, you must switch to the Organization page to create it. (We recommend that you open the Organization page in a new browser tab or window so you can switch back and forth easily.) When you click the "!Unassigned" link, the LDAP Assignment dialog will open with a list of the top 100 departments. The list can be narrowed down by typing part of the name of a department into the "Contains" field. When you find the department you want, select the department and click "OK". After you have assigned an OU to a department, you will see a "Clear" link you can use to remove the association.

It is important to keep in mind that OU's are organized in a tree. When you map an OU to a department, all users beneath that OU (and its children) will be mapped to that department. However, the department you link an OU to is just the "default" department for that OU. The default department for any OU can be overridden by: departments mapped to child OU's, LDAP Group mappings, LDAP attribute assignments, etc.

## Step 3: Groups

The instructions for step 3 are exactly the same as the instructions for step 2, so read the explanation above first.

Configure LDAP Import						-
Step 1: Connection Settings	Step 2: Organizational Units	Step 3: Groups	Step 4: A	Attributes	Step 5: Exceptions	💾 🗙
LDAP imports have a lot of opt Organizational Unit, then this s		en into five steps. The third st	tep allows you to	o map LDAP Us	er Groups to TeleMate departments	. If you prefer to import by
Group			Clear			Assignment
#Accounts Payable						!Unassigned
# Accounts Recievable						!Unassigned
# After Hours Support						!Unassigned
# All						!Unassigned
# Careers						!Unassigned
# Development						!Unassigned
# Federal Sales						!Unassigned
# General Information						!Unassigned
# IT Audit						!Unassigned
# Info						!Unassigned
# Investor Relations						!Unassigned
# Managed Access						!Unassigned
# Marketing						!Unassigned
# QA						!Unassigned

The only difference that needs to be pointed out here is that LDAP Group associations take precedence over LDAP OU associations. For example, imagine you have a "John Smith" in a "Sales" OU that belongs to a "Sales Engineer" Group. You can map both to different departments in Predictive UC Analytics, but "John Smith" can only belong to one department. In this case the import will choose the "Sales Engineer" department.

#### Step 4: Attributes

The fourth step allows you to map LDAP User attributes to Predictive UC Analytics directory fields. In the simplest cases, this is a simple mapping where you click on the name of each field you care about, and then select an LDAP attribute to assign to it. Because the Data Source, Company, Division, and Department fields all have default values you specified in steps 1-3, the Last Name field is the only field that is "required" to import an LDAP User. However, you can use LDAP attributes to pick up several additional fields, and you can use them to override all of those default values.

Configure LDAP Import					•
Step 1: Connection Settings	Step 2: Organizational Units	Step 3: Groups	Step 4: Attributes	Step 5: Exceptions	💾 🗙
LDAP imports have a lot of op which is usually the "sn" LDA	-	ken into five steps. This step a	allows you to map LDAP User at	tributes to TeleMate User fields	. The only required field is Last Name,
Import Column		Clear			Attribut
Data Source					
Company		Clear			compan
Division		Clear			company
Department		Clear			departmen
Unique User ID		Clear			ui
Last Name		Clear			si
First Name		Clear			givenname
Resource					
Resource Type					
Extension					
Phone Number		Clear			telephonenumbe
Login		Clear			ui
EMail Address		Clear			ma
Auth Code					
Title		Clear			title
User Description					
Workgroup		Clear			managa

For most of our customers, that simple mapping is not enough. The data in the LDAP directory often is too "messy" for a clean mapping. For example, you may have a number like "1(678)589-7100" for users in one location and need to grab the last 5 digits (stripping the dash) to get the extension logged by your phone system. For users in another location, the numbers may look like "+1.678.589.7100 ext 7105" and need to grab all digits after "ext". Your LDAP directory may contain department or division names with typographical errors, or perhaps department numbers that you need converted to names.

To help you overcome these issues, Predictive UC Analytics allows custom scripting code to be specified for each and every import column. This custom scripting allows you to do virtually anything, but as it requires programming skills, the majority of our customers require assistance from our professional services group to configure it.

## Step 5: Exceptions

The fifth step is optional, and we recommend that you avoid using it if you can because the users in this list must be maintained manually. This step is a crutch designed specifically for users that end up in the wrong department no matter what you do in steps 1-4. It may be due to users that currently work in one location/department but technically belong to another, or that belong to multiple LDAP Groups you've mapped to different departments, or something else entirely.

Configure LDAP Import						-	
Step 1: Connection Settings	Step 2: Organizational Units	Step 3: Groups	Step 4: Attributes	Step 5: Exceptions	<b>8</b>	×	
LDAP imports have a lot of options, so the configuration is broken into five steps. The fifth step is optional, and it allows you to specify exceptions for users that end up in the wrong department.) (LDAP users may belong to many groups, and this is the only way to accurately resolve all disputes.)							
User	User Department Division Company						
Davision, Peter Sales North America TeleMate.Net Software					×		
Add a new exception to the in	<u>nport</u>						

# Advanced: Custom Scripting Examples

**Warning:** Unless you have some knowledge of basic programming/scripting, do not attempt to change these without assistance from technical support/services. This section is primarily for support/services to refer to when assisting you with cleaning up some of the data found in your LDAP attributes. The scripting language is called Ruby. Documentation for the Ruby scripting language can be found at: http://www.ruby-lang.org/. The most useful variables you can access from the script are:

- **value** An array of values for the selected LDAP attribute.
- **user** A hash table of attributes for the LDAP user object.

LDAP Attribute	? 🗙
	ribute Name from the list below. If you can't find the attribute you need in the list, you to the "Custom Attribute" field.
Import Column:	Data Source
Attribute Name:	physicaldeliveryofficename 🔻
Advanced:	Custom Script 🔹
	case value[0]
	when 'Atlanta' then 'DS1'
	else 'DS2' //
	Test Script
Sample Value:	DS2
	OK Cancel

It is easiest to learn to use scripts by example, especially when you can get it to work by copying/pasting existing scripts and changing the names. For instance, let's say you need to select the data source for an extension based on the first digit in the extension. You could select your LDAP attribute containing the extension for the "Data Source" column, and then enter a script like this:

case value[0][0,1] when '4','5' then 'Data Source 1' when '6' then 'Data Source 2' else nil # Do not override the default data source end

In this example, "value[0]" gets the first value of the selected attribute (LDAP allows multiple values per attribute), and the "[0,1]" gets a substring starting at position 0 for length 1 (i.e. get the first character of the first value). The "case" statement makes it easy to map one set of values to another. In the case above, any extension starting with a '4' or '5' gets mapped to 'Data Source 1'. Any extension starting with a '6' gets mapped to 'Data Source 2'. All other extensions return nil (which means no value). If no Data Source is selected, the import will use the default Data Source you selected in step 1. Here are some other examples:

```
# You can use complex regular expressions to check your values
# This script singles out extension ranges 4100-4399 and 4400-4799
case value[0]
when /^4[1-3]\d\d$/ then 'Data Source 1'
when /^4[4-7]\d\d$/ then 'Data Source 2'
else nil # Do not specify a data source
end
```

# You can also use if-then-else logic, variables, loops, data conversion, and math calculations.
# This script singles out extensions 4100-4399, 4400-4799, and the Atlanta location.
ext = user['extension'][0].to\_i

```
loc = user['I'][0]
if ext >= 4100 and ext <= 4399
'Data Source 1'
elsif ext >= 4400 and ext <= 4799
'Data Source 2'
elsif loc == 'Atlanta'
'Data Source 3'
else
nil # Do not specify a data source
end
```

```
# If you have multiple values in one LDAP attribute, you can scan them all
ret = nil # This will be the value we return to the import
value.each do |v| # Loop through all values in the "value" array
if v[0,1] == '4' or v[0,1] == '5'
ret = 'Data Source 1'
elsif v[0,1] == '6'
ret = 'Data Source 2'
end
end
ret # Do not forget to return the selected value to the import
```

# **The Invoices Component**

The Predictive UC Analytics invoicing features are an extension of the Expenses feature, which means they can only be accessed if you purchased an Enterprise license. The invoicing features are disabled in the web interface by default. To enable them, click on the "Settings" link in the navigation menu and look for the "Features" option in the "General Settings" section. In "Features", enable "Invoices" and click the OK button.

Once enabled, you will see new invoicing options in several places in the Directory component. The first thing you should notice is a new "Invoices" link in the navigation menu. From the "Invoices" component you can create, review, or delete invoices by batch.

Invoice Batches					-
Search:			(	• I	Î
January 31 don't make it into the January batc	h, they will automatically l esses from modifying or o	be included in the February ba deleting them. If problems are	r will never slip through the cracks due to date range filters. If some calls placed on ttch. To ensure that a permanent record is kept of all invoices you mail out, calls ass spotted before a batch is mailed out, delete the batch, fix the data, and create it agai	signed	I
Invoice Batch	Date	Amount	Invoices		
Demo Invoices	2016-03-31	\$2,020.00	4181 (from 1000001 to 1004181)		

# **Generating Batches**

Keep in mind that we recommend against manually creating or deleting invoices (or batches). The recommended steps to get started with invoice batches are:

- 1) Go to the Reporting component and select the "Invoice Batch" report (or your customized version of it, as most customers want their invoice report tailored to fit their company).
- 2) Specify a "Batch Level", which determines whether invoice batches should be generated for a set of companies, divisions, or departments. To keep the list of batches easy to manage, always choose the highest level (e.g. choose company unless you have different divisions or departments that have different billing cycles).
- 3) Specify a "Batch Type". For the first few billing cycles, we recommend you use the "Test Batch" first to spot-check invoices for potential problems (e.g. calls processed incorrectly, expense code assignments incorrect). When all visible problems have been fixed, switch to "Final Batch". In the future, if you need to reprint bills from prior batches, select "Review Existing Batches".
- 4) After running a final batch, double check it. If problems are detected before invoices are sent out, we recommend that you delete the batch, fix the problem, and re-run the batch. As your list of invoice batches grows over the years, this will help keep it clean and easy to manage.
- 5) In most cases when problems are detected by individual clients/customers after bills are sent out, we recommend applying adjustments (credits/debits) to those users in the directory so that corrections will show up in their next invoice. This allows you to preserve a record of the original invoices in your database.
- 6) If you have a special case where an individual client needs a bill to be fixed and reprinted, it may be best to manually delete a specific invoice (preserving the rest of the batch that you sent out to your other clients) and then manually run a special batch just for that one client. To print the new invoice, you would then run the "Invoice Batch" report in "Review Existing Batches" mode and filter on the custom batch.
- 7) If/when you feel comfortable automating invoice batch generation (e.g. everything runs smoothly for a few billing cycles), you can schedule the Invoice Batch report to generate invoices automatically. We still recommend spot-checking them.

## **Managing Invoices**

In addition to being able to review invoices by the batch that generated them, the Organization tree in the Directory component also allows you to search for them. You can either search by invoice number in the "Find" tab, or you can select any entity in your organization and change the "Children" section to display Invoices assigned under the current entity. When you look at the invoices assigned to a specific user, you will also see a special link named "!Unassigned Calls" that represents the next invoice (which has not been generated yet). Click that link if you wish to view/modify recent adjustments and calls waiting to be assigned to that user's next invoice.

There is also a "Create Invoice Batch" button at the top of the page (next to the delete button) that allows you to manually create a batch of invoices for the currently selected entity. We generally recommend that our customers use the "Invoice Batch" report instead, but it is not required.

Regardless of how you find an invoice, when select one you will see all adjustments, expense amounts, and call records assigned to that invoice. You may not modify anything assigned to an invoice because those records are "locked" to ensure that you always have a record of the bills you sent out to clients or customers. You may delete an individual invoice to unlock those records, but we recommend you try to avoid doing that. Instead, we recommend that you add adjustments (credits and debits) and select specific calls to credit back to that user, which you can do directly from the invoice page.

**Reminder:** The adjustments you create (and calls you credit) from an invoice will not be visible on the current page after you save them. This is because they can not be applied to an invoice because all of its records are "locked". New adjustments must wait to be applied to the next invoice. To view/modify recent adjustments or calls, you must select the special "!Unassigned Calls" link for the current user.

## **Applying Adjustments**

There are two methods to apply an adjustment to a user. The first method is to simply click the "Add" button in the Adjustment section of an invoice (or the "!Unassigned Calls" page):

Ad	justments			▼
				÷ 💼
	Date Time	Туре	Comment	Amount
	2016-04-01 12:00 AM	Credit		(\$5.00)
	2016-04-11 12:00 AM	Discount		(\$3.00)
	2016-04-15 12:00 AM	Adjustment	Adjustment from last invoice	\$4.25

Clicking the Add button will bring up the "Invoice Adjustment" dialog. This dialog requires you to specify a date, an adjustment amount (positive for debits, negative for credits), an expense code (which is necessary to track which general ledger to apply the amount to and which taxes to apply to it), and a comment (a description which typically shows up on the user's invoice).

Invoice Adjust	tment			?	×
Date:	2016-04-11				
Adjustment:	-10.00	Computer Lease			۲
Comment:		Monthly Expenses			
Comment.		Computer Lease			
		Phone Lease			
			UK	Cancer	

The second method is to credit specific calls. This will create a copy of the call record with a negative amount, which will show up on (and be applied correctly to) the next invoice. To credit specific calls, simply select them in the invoice call listing and select the "Credit" button in the top-right corner of the call detail section.

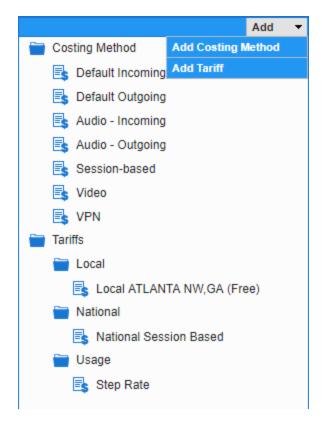
**Note:** When looking at "!Unassigned Calls", which represents the "next" invoice, the "Credit" button is replaced with a "Delete" button, which essentially credits the call before your customer even sees it.

Detail						•
Search: Dialed Number	¥					Es
Date Time	Resource	Dialed Number	Location	Traffic Type	Duration	Cost
2016-01-01 07:09 AM	+16785893001	ANI +19139472838	WCLEVELAND, KS	Incoming	00:18:33	\$0.00
2016-01-01 03:29 PM	+16785893001	+12148612025	DALLAS, TX	Interstate	00:01:28	\$0.01
2016-01-01 07:26 PM	+16785893001	+232232794569	Mobile Service, SI	International	00:02:51	\$0.02
2016-01-01 07:33 PM	+16785893001	ANI +13372411354	JEANERETTE, LA	Incoming	00:18:20	\$0.00
2016-01-01 07:55 PM	+16785893001	ANI +12156079497	PHILA, PA	Incoming	00:02:38	\$0.00
2016-01-01 08:05 PM	+16785893001	ANI +19098250629	COLTON, CA	Incoming	00:06:48	\$0.00
2016-01-02 05:36 AM	+16785893001	ANI +17203509607	DENVER, CO	Incoming	00:03:48	\$0.00
2016-01-02 07:14 AM	+16785893001	+17707956601	ATLANTA NW, GA	Interstate	00:19:01	\$0.01
2016-01-02 01:04 PM	+16785893001	ANI +13093439660	GALESBURG, IL	Incoming	00:04:44	\$0.00
2016-01-04 06:57 AM	+16785893001	ANI +16238482966	PHOENIX, AZ	Incoming	00:09:05	\$0.00
		More (10	50   100 )			

# **The Costing Component**

The costing component allows you to view and manage costing methods and tariffs. These are used to assign costs to session activity when it is processed by Predictive UC Analytics processing engine. The left-hand side of this section provides controls for navigating through a listing of configured costing methods and tariffs.

**Important:** The entire costing component can be enabled or disabled. It also contains many individual advanced features that can be enabled or disabled. If a costing feature you need is hidden, refer to "Features" in the "General Settings" section above.



Once you select a costing method or tariff, the properties for it will appear on the right-hand side of this section.

Any changes made to cost settings, including both cost methods and tariffs, will not take effect until the next day. A notification of this will be show in the upper right hand corner as a reminder. The notification will also allow you to "Rebuild Processed Data" for a specified date arrange if you want to have the costing changes to be applied to historical data.

	Notification	admin 붵 🚺 📀
Notification		
Changes made to cost settings will not be applied until tomorrow morning unless you rebuild processed data. We recommend that y rebuild after you finish making changes, then review calls from yesterday or today to make sure the changes had the desired effect		
Rebuild Processed Data		

## **Common to All Levels**

Whether you select a cost method or a tariff, at the top you will see a "You are here" section.

Tariff	> National	angle National Session Based				
			8	Ð	۵	ŵ

The line of text in the image above shows the current selection is the "National Session Based" tariff in the "National" tariff type of the "Tariff" costing section. On the right of the image, you will see a number of buttons for making changes to the current entity:

- 1) Lock/Unlock Lock the selected cost method or tariff to prevent it from being modified or deleted. You can unlock it again later if you need to modify it.
- Import Destination and Rates This option is only available for a tariffs that are not usagebased. See the "Importing Destinations and Rates" section of this document for more detailed information.
- 3) **Copy** Click on this icon to create a copy of the current cost method or tariff. It will start creating a new one with the same properties, allowing you to modify and save it or cancel.
- 4) Delete Select to delete the current cost method or tariff. You will not be allowed to delete it if it is currently in use. For a tariff, you will need to find the cost methods using it and either delete them or assign a different tariff. For a cost method, you will need to find the data sources, gateway groups, departments, or tenants using it and assign a different cost method.

#### **Costing Methods**

There are two types of costing methods supported in the web interface, standard and VPN costing methods. The general properties are the same for both, but they each have different additional properties. If enabled, a currency and applicable taxes may be selected here. Taxes selected here do not affect processing, but they can be applied in "Call Activity" reports that have an "Apply Taxes" option.

Properties			-
Standard cost metho	ds allow you to specify tariffs and ma	rkups to cost (	calls. VPN cost methods allow you to specify RNX number ranges
for on-net calls and s	etup up tariffs and markups on-net a	nd off-net calls	S
Name:	Audio - Outgoing	T	laxes
Description:	Outgoing audio sessions		FL Tax (9.00%)
Method Type:	Standard	<b>v</b>	GA Tax (7.00%)
			SC Tax (8.00%)
Currency:	US Dollar (USD)	•	

## Settings for a Standard Cost Method

The tariffs section of a standard costing method is where you can assign tariffs to incoming, local, national and international traffic. If enabled, special cost adjustments like percent markups, minimum costs, and surcharges can also be set for each of the traffic types at this level.

The advanced options can be used to override dialing prefixes and our provided NANP local dialing areas to determine whether a call is local, national, or international. One example would be to count Alaska and Hawaii as international to avoid giving them the same national rate used for the other 48 states.

			Minimum Cost per	Surcharge per Session
	Tariff	Percent Markup (%)	Session (\$)	(\$
Incoming Traffic:	Incoming Sessions <ul> <li>Incoming Sessions</li> </ul>	0	0.00	0.00
Local Traffic:	No Cost Local	0	0.00	0.00
National Traffic:	National Session Base 🔻	0	0.00	0.00
International Traffic:	International Session E V	0	0.00	0.00

**Note:** The advanced options will be disabled if the appropriate tariff selected has a "default" destination. This is because a default destination would override all traffic, forcing all traffic to be either local or international.

## Settings for a VPN Cost Method

When you select a VPN cost method, you will have access to additional properties to configure RNX ranges (phone numbers considered "on-net"), On-Net, and Off-Net settings for the cost selected costing method.

In the RNX settings section you have buttons available on the right that allow you to either add a new RNX entity or delete entities that have been selected. Clicking on the RNX range of an existing range will allow you to edit the properties of the range.

RNX			•
			<b>( )</b>
RNX	Listed Number	Location	Tariff Type
67855570006785558000	6785557000	Atlanta	Local

The options for the On-Net and Off-Net sections of a VPN costing method are the same. You can assign tariffs to incoming, national and international traffic. Percent markups, minimum costs, and surcharges can also be added to each of the traffic types at this level.

On-Net				
				E
	Tariff	Percent Markup (%)	Minimum Cost per Session (\$)	Surcharge per Sessior (\$
Local Traffic:	No Cost Local	0	0.00	0.00
National Traffic:	No Cost National	0	0.00	0.00
International Traffic:	No Cost International	0	0.00	0.00

#### **Tariffs**

Tariffs are divided into 5 main tariff types: incoming, local, national, international, and usage-based. Usage-based tariffs are special, and apply rates based on monthly usage tiers. All other tariffs are destination-based, and apply rates based on destinations (or rate centers) configured using dialing patterns.

## **Destination-Based Tariffs**

When you add a new destination-based tariff (incoming, local, national, or international), the only required option is its name, which must be unique. If you have currency, holidays, and evening/weekend rate features enabled, you will see the additional properties displayed in the screenshot below.

lame:	National Session Based	Holidays		
Description:		2018-05-2	8 Memorial Day	
fariff Type:	National	▼ 2018-07-0	4 Independence Day	
		2018-09-0	3 Labor Day	
Currency:	US Dollar (USD)	2018-11-2	2 Thanksgiving	
Customize Ever Sunday:	ning, Weekend, and/or Holiday Rates			
Monday:	Weekday-1			
Tuesday:	Weekday-1			
Wednesday:	Weekday-1			
Thursday:	Weekday-1			
Friday:	Weekday-2			

Rates themselves must be assigned to destinations.

Destinations		-
	$\oplus$	Ô
Name	Add Destination	
IDefault IDefault	Add Destinations for US States	

If you want to apply the same rate for all traffic matching the current tariff type (incoming, local, national, or international), simply select the "!Default" destination and enter the rate. If you enabled evening/weekend rates, you may need to enter different rates for different day types and start times.

If most destinations use the same rate but there are a few exceptions, select the "!Default" destination and enter the default rate first. Then add the exception destinations, specify the dialing patterns that identify them, and set their rates separately. A good example of this would be having the same long distance rates for all US states except for Alaska and Hawaii.

Destination			?	×
General	Dialing Patterns			
Name:	AK - Alaska		Ŀ	]
Traffic Type:	Interstate			۲
Rates				+
Weekday-1 (Me	on-Tue-Wed-Thu) at 00:00	0.01 for the first 60 seconds, 0.10 for each additional 60 seconds	ø	×
Weekday-2 (Fr	i) at 00:00	$0.01 \mbox{ for the first 60 seconds}, 0.12 \mbox{ for each additional 60 seconds}$	ø	×
Weekend-1 (Sa	at) at 00:00	$0.01 \mbox{ for the first 60 seconds}, 0.15 \mbox{ for each additional 60 seconds}$	ø	×
Weekend-2 (Su	un) at 00:00	$0.01 \mbox{ for the first 60 seconds}, 0.20 \mbox{ for each additional 60 seconds}$	ø	×
Holidays at 00:	00	$0.01 \mbox{ for the first 60 seconds}, 0.30 \mbox{ for each additional 60 seconds}$	ø	×
Copy these r	rates to all the destinations belor	iging to the current tariff		
		OK	Cancel	

If this tariff has evening/weekend rates, you will see a table of rates for different day types that you can add, edit, or delete. If not, the table will be replaced by a section asking you to enter initial and additional rates and time periods. Set the additional rate to zero if you want a fixed cost per call.

If this is the "!Default" destination, you should not add any dialing patterns to it. If not, click the "Dialing Patterns" tab to switch to it, and click the "+" button in the top-right corner of the dialing patterns list. To edit an existing dialing pattern, click on its name. To delete a dialing pattern, click on the "x" button to the right of it.

Destination					?	×
General	Dialing Patterns					
Dialing Patterns					-	+
907%				ø	2	×
						=
			OK	Cance	4	

If you have many different destinations with many different dialing patterns, it can be very timeconsuming to add them all one at a time. To make that easier, we allow you to copy and paste lists of dialing prefixes into the dialing pattern dialog from other documents open in Notepad, Excel, etc. The dialing prefixes can be separated by spaces, commas, on their own lines, etc.

Dialing Pattern	?	×
Add multiple dialing patterns by separating the values by any delimiter except number.	t for	a
Dialing Pattern:		
770, 404, 678, or 770		
404 678		//
OK Canc	el	

Predictive UC Analytics can also use its own built-in location tables to auto-populate destinations and prefixes for you. For local NANP tariffs, you can select an area code and exchange, and it will populate all prefixes for its Local Dialing Area. For national NANP tariffs, you can have it populate all prefixes for the 50 US states. For international tariffs, you can have it populate all known countries by country code (with an option to split mobile prefixes so they can be assigned different rates).

#### Importing Destinations and Rates

If you can get a list of destination names, rates, and dialing prefixes in a file from your service provider, we strongly recommend that you use our tariff import feature rather than copying it all by hand (which is more error-prone). This import can be very simple or very complex depending on your needs. Contact support if you have any problems. Depending on how your provider gave you the rates, you may need to manipulate the file a bit before importing it. The import requires a CSV file. Most providers can provide rates in an Excel spreadsheet, which is easy to save to a CSV file.

Tarifi	National	angle National Session Based $ angle$	angle Import Destinations and Rates		
				Run Import	Cancel

The image above shows that we are importing destination and rates into the "National Session Based" tariff. On the right of the image you will see two buttons, "Run Import" and "Cancel". "Run Import" will import the chosen CSV file based on the options chosen. "Cancel" will return you to the tariff's property page.

To start configuring an import, click the "Select File..." button. Once you have chosen your CSV file, click "Load File". Loading the file will upload the file to the server so it can analyze the file and assist you with configuring the import.

Import File					
Select a CSV file conta	aining the rate bands and/or destinations to import.				
Import File:		Select File	Load File		

Next, you will need to select a Traffic Type to assign to any new destinations created during the import. If you enabled evening/weekend rates for the current tariff, you will also need to specify the day type

and start time to use for this pass. For evening/weekend rates, you will need to run multiple import passes (once for each day type and time the rate changes).

Import Options				
Specify the period, start time, and traffic type for the rate bands and/or destinations.				
Day Type:	Weekday-1 (Mon-Tue-Wed-Thu)			
Start Time:	00:00			
Traffic Type:	International <b>v</b>			

Once the file is loaded, you will be presented with two side-by-side tables. The table on the left shows you the columns the import needs, and initially they will be empty or set to some default value. The table on the right shows the content from the original columns of the CSV file.

To configure each import column, simply select the column header above it. After you configure an import column, look at the updated values below it to make sure it looks correct. If not, select the column header again and fix it.

**Note:** Some problems may require you to make changes to the spreadsheet, save it to a CSV file again, and then load it again.

Import Columns and Values					
Importing			From Selected File		
Destination Name	Dialing Pattern	Initial Rate	A	В	С
Afghanistan	01193%	1.55 for the first 60 seconds	Afghanistan	93	1.54696
Albania	011355%	1.48 for the first 60 seconds	Albania	355	1.47688
Algeria	011213%	0.85 for the first 60 seconds	Algeria	213	0.85072
Andorra	011376%	0.72 for the first 60 seconds	American Samoa	1684	0.88096
Angola	011244%	1.98 for the first 60 seconds	Andorra	376	0.72368
Antarctica (Casey)	011672%	1.83 for the first 60 seconds	Angola	244	1.97608
Antarctica (Scott)	011672%	1.83 for the first 60 seconds	Anguilla	1264	0.9364
Argentina	01154%	0.78 for the first 60 seconds	Antarctica (Casey)	672	1.83064

Configuring the "Destination Name" column only involves choosing a column from the CSV file you uploaded. This import field is required.

Import - Set Destination ?			
Destination Name:	Column A		•
		ОК	Cancel

The "Dialing Pattern" column is optional, but we strongly recommend that you configure it if your CSV file does contain phone number prefixes. In addition to choosing a column from the CSV file, you have additional options to add an optional dial prefix or to filter the import by country code. The dial prefix is generally used to add a prefix like 011 or 00 to country codes listed in the CSV. The filter is generally

used to split a rate file containing both NANP and non-NANP rates into two separate tariffs (e.g. one national and one international).

nport - Set Dialing	Pattern ?	
Dialing Pattern:	Column B	Ŧ
Dial Prefix:	011	
Country Code Filter:	Remove prefixes that start with 1 [non-NANP]	v
	(No Filter) Keep prefixes that start with 1 (strips 1 on import) [NANP] Remove prefixes that start with 1 [non-NANP]	

The "Initial Rate" and "Additional Rate" columns have the exact same options. For both period and cost, you can either choose a column from the CSV file or enter a fixed value. The only difference between initial rate and additional rate is that the initial rate has a checkbox that allows you to copy the settings you select over to the additional rate (because initial and additional rates are often the same).

Import - Set li	nitial Rate	? ×
Initial Period:	(Select Column or Use Fixed Value)	60
Initial Cost:	Column C 🗸	0.00
	Multiply Cost By: 1.0	
Copy the I	nitial Rate to the Additional Rate	
	ок	Cancel

#### Settings for Usage-Based Tariffs

Usage-based tariffs have the same basic properties as standard tariffs. In addition to the basic properties, usage-based tariffs require you to define a base unit period. Some common base unit periods would be:

- Per session (e.g. per call, email, text message, etc.)
- Per minute (set to 60 seconds)
- Per KB (set to 1024 bytes)
- Per MB (set to 1048576 bytes)

**Note:** Each session will be rounded up to the next base unit. If a video call has a base unit of 1MB, a video call that used 10.5MB would be rounded up to 11MB.

Properties				-			
				P			
Name:	Step Rate		<u>í</u>				
Description:	New tariff 99	New tariff 99					
Tariff Type:	Usage			۳			
Usage-Based tariffs based on monthly u	-	ange rates based	on total monthly usage. The applied rate (per session, N seconds, or N bytes) change	s			
Base Unit Period:	60	seconds		۲			
Currency:	Currency: US Dollar (USD)						
First Day of Billing F	eriod: 1						

In the Usage Rates section you have buttons available on the right that allow you to either add a new monthly usage rate or delete ones that have been selected. Clicking on the monthly usage rate will allow you to edit the properties of the rate.

Us	age Rates	▼
		÷ 💼
	Monthly Usage	Rate
	0 - 1000 units	0.00 per unit
	1001 - 2000 units	0.05 per unit
	2001 - 3000 units	0.07 per unit

When adding a new usage rate tier, enter the upper bound for the number of units and the amount to charge per unit. In the example above, the first 1000 units in each month would be free (e.g. included in the provided service), the next 1000 units in each month would be rated at \$0.05 per unit, and the next 1000 units would be rated at \$0.07 units per month.

# **The Security Manager Component**

The Security Manager component is only visible to accounts with admin privileges. Select it to configure privilege groups, manager accounts, and (if tenant features are enabled) tenants.

Gro	oups		<b>▼</b>
			(÷) 🏛
	Group	Description	Туре
	Default Web Privileges		Local Group
	Privileges - Advanced	Grants view and create access to core features, plus the ability to view details	Local Group
	!Privileges - Basic	Grants access to trending and completed reports only	Local Group
	Privileges - Intermediate	Grants view-only access to core features	Local Group
	Privileges - Local Admin	Grants full access to core features, reports, and fields recommended for sandbox/local admins	Local Group
	Role - Contact Center	Grants access to reports and fields recommended for contact center managers	Local Group (act as a manager)
	!Role - IT Manager	Grants access to reports and fields recommended for IT managers	Local Group (act as a manager)
	Role - Productivity	Grants access to reports and fields recommended for managing employee productivity	Local Group (act as a manager)

M	lanager	Description	Туре	Group Membership	Logged In
a	dmin		Local User		Y
fr	ank.jones	frank.jones	Local User	Administrator	Y
m	ark.johnson	mark.johnson	Local User	IDefault Web Privileges	N
l rie	chard.wilson	richard.wilson	Local User	!Default Web Privileges	N
Т	ELEMATE\john.smith	John Smith	LDAP User		N

Tenant	Description	Utils
Tenant A		Сору
Tenant B		Сору
Tenant E		Сору

**Note:** To enable tenant features, select the "Settings" link from the navigation menu. Then select "Features" in the General Settings section, and enable "Tenants".

To create a privilege group, manager account, or tenant click the "+" icon located in the top-right corner of that section. To delete one, check the box next to it and click the trash icon for that section. To modify one, click its name. We have provided a few built-in privilege groups to help you get started. The groups that start with "!Privileges" grant different levels of access to basic web interface features. The groups that start with "!Roles" grant access to sets of report templates and filters that make sense for managers in those roles.

If you have configured LDAP Sources (refer to the System Settings section above), you may also specify an LDAP User when creating a new Manager account or an LDAP Group or Organizational Unit (OU) when creating a new privilege group. If you create a privilege group tied to LDAP, you can avoid having to create individual manager accounts. Any user that logs in with valid LDAP credentials belonging to one of those LDAP Groups or OU's will have a manager account created automatically the first time they log in. Every time that user logs in, his LDAP OU and group membership will be checked to ensure that he or she still has access.

# **Configuring a Privilege Group**

Configuring a basic privilege group is simple. When you configure a Local (non-LDAP) Group, the only required value you need to specify is a group name. When you configure an LDAP Group or Organizational Unit, you must select an LDAP Source (which is essentially selecting a Windows domain if you are using ActiveDirectory), and then you must pick from the list of Groups and OU's discovered from that LDAP server. If the list appears to be out of date, click the Refresh button to the right of the list.

Description:	Group: OU=Su	pport,OU=Telem	ate.Net Softwar	e,DC=telemate,I	DC=net			? ×
LDAP Source: TeleMate.Net (Active Directory) LDAP Object: Telemate.Net Software\Support Description:	General	Data Sources	Privileges	Reports	Departments	Archives	Filters	
LDAP Object: Telemate.Net Software\Support	Group Type: LDAP Organizational Unit						•	
Description:	LDAP Source:	TeleMate.N	et (Active Directory	/)				T
	LDAP Object:	Telemate.N	et Software\Suppo	rt				· C
OK	Description:							
OK								
OK								
OK Cance								
OK Cance								
OK Cance								
OK Cape								
OK Cance								
							ОК	Cancel

Group: New Pri	Group: New Privelege Group ? 🗙								
General Data Sources Privileges Reports Departments Archives Filters									
Group Type: Local Group								•	
Group Name:	Group Name: New Privelege Group								
Group Descriptio	n:								
Important: Thes	ecial group will be	ave access to all d	ata but grant acce	anager. ss to none (though ors, views, etc. assi					
Share with Te	nants								
	Sharing global privilege groups with tenants can greatly reduce the amount of time it takes to provision tenant logins and privileges. Tenant admin logins cannot edit these groups, only assign them to new manager logins.								
						ОК	Cancel		

All of the other tabs provide lists of checkboxes. If you want this privilege group to grant access to specific data sources, privileges, reports, departments, archives, or filters, then select the appropriate tab and check the appropriate box.

Local privilege groups can also "Act as a manager". They cannot actually log in, but admins can create and assign shared KPI models, monitors, viewpoint views, etc. to them. The built-in "!Role" privilege groups all have pre-configured KPI models, monitors, and viewpoint views to help provide new admins with a better out-of-the-box experience. Rather than having to create them from scratch, admins can simply modify the defaults.

# **Configuring a Manager Account**

Configuring a manager account is very similar to configuring a privilege group, but it has a few additional options to set up. Those additional options will depend on whether you set the "Manager Type" to "Local User", "LDAP User", or "Alternative Authentication User". When a new manager account is created, a report archive is created with the same name for this manager to send completed reports to. Archives have a default size limit (in MB) and expiration time (in days), and you may override these when creating a new manager account.

Manager: TELE	Manager: TELEMATE\john.smith ? X									
General	Grou	ps/Tenants	Data Sources	Privileges	Reports	Departments	Archives	Filters		
Manager Type:		LDAP User	LDAP User							
LDAP Source:	TeleMate.Net (Active Directory)									
LDAP User:		john.smith							<u></u>	
LDAP User (Full	):	TELEMATE	\john.smith							
Description:		John Smith								
Archive Size Lin	nit:	100								
Archive Expiration	on:	30								

**Note:** Accounts created in the admin client have special privileges, and their privileges may only be changed in the admin client. However, if you want to change a local user to an LDAP user (or vice versa), you must do it here.

Until you are comfortable with provisioning new manager accounts, we recommend you follow these steps:

- 1) Click on the Groups/Tenants tab and select one "!Privileges" group and one "!Role" group.
- 2) At first, save the new manager and then edit it again (to make it easier to see access privileges granted by the selected groups).
- 3) Click on the Data Sources tab and check any data sources that have traffic you want this manager to see.
- 4) Click on the Privileges tab and verify the privileges granted by the assigned "!Privileges" group. If you want to make changes, consider whether it would be better to modify the group's privileges, to create a new group, or to assign additional privileges to this manager directly. Note: Privileges granted by a group cannot be removed here. To remove them, you must either modify the group or remove the group from this manager.

- 5) Click on the Reports tab and verify the report templates granted by the assigned "!Roles" group.
- 6) Click on the Departments tab and check any companies, divisions, or departments that have traffic you want this manager to see.
- 7) Most managers only have access to their own personal report archive. However, you may click on the Archives tab if you want users to have access to each other's archives (or to a shared archive you create).
- 8) Click on the Filters tab and verify the filters/columns granted by the assigned "!Roles" group.
- 9) Use the "Admin View" feature to temporarily switch to the new manager login and test its privileges. Make sure that it has access to everything it needs (and no more than that). If you need to make changes, switch back to your admin login, make the changes, and test it again.

**Important:** If a manager doesn't have access to at least one data source and one department, that manager won't be able to see any data. While you can create privilege groups that grant access to sets of these, it makes little sense if each manager is the head of a different department (and should only be allowed to see his or her own).

# **Configuring a Tenant**

A tenant is similar to a privilege group, but instead of granting privileges to accounts that belong to it, it limits privileges. Each tenant effectively defines a "sandbox" for a new set of logins to play in. After creating a tenant, you can use "Tenant View" to switch to that tenant and create administrator accounts within it. No tenant login can see anything outside their sandbox, and tenants cannot overlap each other. To do this, you must:

- Assign each tenant to a branch in your directory. Depending on the size of the tenant, you may wish to assign it to a specific company, division, or department. If you specify a branch that already exists in your directory, the tenant will assume ownership of it. Otherwise, the company, division, or department you specify will be created when you create the tenant.
- Assign each tenant a costing method for each media type. The costing methods will be assigned to the Tenant Level. For more information on costing methods see the section on "The Costing Component".
- Assign any internal addresses (e.g. extensions, phone numbers, logins, email addresses) that belong to a new tenant to its branch in the directory. If you specify an existing branch in the directory, these resources may already be assigned. Otherwise, you may use the "Address Ranges" tab to assign addresses to a new tenant. You may also use a directory import.
   Note: A special \$Unassigned directory user will be created beneath each tenant. Address ranges defined for a tenant will automatically transfer matching addresses to this user (unless they are already assigned to a user under that tenant).

• Assign any privileges you want to be available under this tenant. For example, you may only want to allow logins created under this tenant to be able to manage their directory, choose from three report templates to run, and choose from three filters to apply to those reports.

roups	Data Sources	Privileges	Reports	Address Ranges	Angleingen		
				Address Kanges	Archives	Filters	
lest Tenant							
Tenant Description:							
Division							•
Tenants							•
Local Users	\$						•
TeleMate.N	et (Active Directory	)					1
(None	e)						•
(None	e)						
(None	e)						
d: (None	e)						
	Division Tenants Local Users TeleMate.N (Non (Non	Division Tenants Local Users TeleMate.Net (Active Directory) (None) (None) (None)	Division Tenants Local Users TeleMate.Net (Active Directory) (None) (None) (None)	Division Tenants Local Users TeleMate.Net (Active Directory) (None) (None) (None)			

After you create a tenant, you should use the "Tenant View" selection to switch to that tenant. The first thing you should notice is that the new tenant has no privilege groups or logins. When you create the first manager login under that tenant, you should notice that the available privileges are restricted to those you chose to allow the tenant to have. At this point, you may choose to create a tenant "administrator" login to delegate the management of additional logins under this tenant.

Next, we recommend that you check the directory and run some test reports to verify that the tenant can access the data it needs to access (and nothing else). You may allow tenant administrators to manage the directory within their sandbox, but they may never be allowed to move anything in or out of the sandbox, so their addresses must be provisioned correctly.

In addition to having their own branch in the directory and their own set of logins, tenants also have their own distinct set of global settings. If you use "Tenant View" and click on the "Settings" link, you will see that each tenant has their own set of: Titles, Workgroups, Site Locations, Publish Types, Call Plans, Vendors and General Ledger Numbers. If the tenant has access to Expenses, they will also only be able to see Expense Categories and Codes created under that tenant. This helps ensure that no tenant is able to see potentially sensitive information configured by another tenant.

# **Admin View**

While the "Admin View" feature is not technically a part of the Security Manager component, it is similar in that it is only available to accounts with special admin privileges. The admin view allows you to see what any other manager account would see when they log in. This is a great tool for testing changes to security privileges. It is also very useful for being able to see (and modify) any saved reports, monitors, viewpoint views, etc. a manager has set up. The example screenshot below shows the "admin" manager account (see the login name in the top-right corner) viewing the "telemate" manager account. The component bar shows that this manager only has access to Reports, Viewpoint, and Monitors. Selecting the "Monitors" component makes it clear what monitor privileges he has. The lack of a "Create Monitor" link shows that he lacks the "Create new monitors" privilege. In that case, the only reason he can see the "Monitors" component at all is that an admin account has created a monitor called "Sample Monitor" and shared it with a security group that he belongs to. The lack of "Properties" and "Delete" icons shows that the admin account did not actually assign this monitor to "test1".

≡	PREDICTIVE UC.	Analytics · Monitors	i				Adm	in View: tel	emate	▼ ad	min 占 🕄 🔇
ġ.	+ Add Monitor										
-Jul	Persistent: Call Activ	ity Monitor									-
<i>6</i> 2									ĩĩ	u < 🜣	🖣 🗊 💼
~	2018-08-02 10:51	AM								2018-08	03 10:51 AM
	400					Name	Count	Min	Max	Average	Total
	300					Incoming	4,264	1	1,200	339	1,447,247
0	1 Λ	$\wedge$				National	894	7	13	10	8,942
1	200	$^{\prime}$				Local	221	7	13	10	2,238
	100	$\sim$		$\sim$		Internati	223	7	13	10	2,172
		nh		~~~		(Other)	2	38	676	357	714
V		00004 00004 0000 4 0	0002-w0002-w0002-w0005 0004-w0002-w0005 0004-w0002-w0002-w0005	2400/0040000400000		Toll Free	0	N/A	N/A	N/A	N/A
08		0000-1000000000000000000000000000000000	NN NN N 000 000 0000 000	000000000000000000000000000000000000000		Emerge	0	N/A	N/A	N/A	N/A
?	Time	Duration	Traffic Group	Address (External)	City (External)	User Extension	Use	r	C	epartment	
•	9:49:38 AM	0:06:08	Incoming	+13172348460	INDIANAPLS IN	3190	!Ove	rhead	C	Contact Center	-
	9:48:44 AM	0:07:07	Incoming	+17327249798	RAHWAY NJ	3369	!Ove	rhead	c	Contact Center	
*	9:38:22 AM	0:17:32	Incoming	+12175762488	ROCHESTER IL	3645	Kayl	ee, Jimenez	: N	lanufacturing	
	9:55:28 AM	0:00:14	Incoming	+13147585755	ST LOUIS MO	4121	!Una	ssigned	i	Jnassigned	
	9:55:21 AM	0:00:07	National	+15413405712	THE DALLES OR	3712	!Una	ssigned	į	Unassigned	
	0.54.55 444	0.00.22	In continue	10102020402	KANGA COLTV MO	4404	11 Jac			In a sector set	

**Note:** When using admin view, you will be restricted to that manager's privileges for almost everything. However, you will always be able to reassign (or share) reports, monitors, and views created by other accounts. This is very useful when deleting manager accounts that have automated reports or alarms.

# **Tenant View**

Like the "Admin View" feature, the "Tenant View" feature allows the manager to see what any other manager account within a Tenant sandbox would see when they log in.



# **System Settings**

Select the "Settings" link from the navigation menu to access system settings. The system settings allow you to configure system-wide options, like mail server settings and custom text strings, as well as, component-specific settings.

	E UC Analy	tics • Settings	Admin View: 🕇 🛨 🕇 🚺 🕻					
Dashboard		General Settings						
Analytics	<b></b>	Mail Server	Configure mail server settings for sending emails containing links, reports or alert notifications.					
Assurance		Features	Enable or disable different features within the Web Interface.					
Assignment	• #	LDAP Sources	Configure LDAP authentication sources, which allow you to configure manager accounts that send authentication credentials to a LDAP server. This allows your managers to log into the web interface					
Security	U		using their domain login and password instead of having to manage a separate login and password.					
Settings	Q <sub>0</sub>	Sites	Sites help you determine where members of your internal organization (e.g. employees or customers) are physically located. They can be set at the department, user, extension, and gateway group. NOTE When set at multiple levels, the most specific level takes precedence.					
Search	Q		when set at multiple levels, the most specific level takes precedence.					
Help	?	Dashboard Settings						
Logout	<b>(</b> )	Agent State Literals	Customize agent states to reflect how you define them in your organization.					
		Custom Literals	Custom literals are special names that can be customized to reflect how you define items in your organization.					
		Custom Variables	Custom variables are special fields provided in Contact Center. Providing a custom name for the variable will allow it to be displayed in the 'Calls' section of the dashboard.					
		KPI Model Settings						
		Cancel Rebuild of KPI Models () Rebuilding: 2018-01-01 - 2018-03-21						
		Report Settings						
		Archives	Configure report archive settings including base archive folder, and whether to delete archived reports based on differenct criteria.					
		Most Recently Run Reports	Configure the maximum number of most recently run reports displayed for each manager.					
		Access Token Refresh	Configure a scheduled token refresh for report delivery methods, like Cisco Spark, to keep access tokens from expiring.					
		Assurance Settings						
		QoS Settings	Configure the call quality levels (Good, Fair, Poor, and Bad) for Jitter, Latency, and Packet Loss.					
		Support Tools						
		Search	Search all filters, delivery options, and alert options for Reports, Monitors, Models and Viewpoints.					

# **General Settings**

The Mail Server Settings dialog allows you to configure and test the SMTP server you wish to use to email reports and alerts.

Mail Server Settings ? >						
	send emails containing links, reports or alert notifications, you must specify e mail server must allow unauthenticated SMTP requests to be sent from ervice.					
Email Address:	noreply@telemate.net					
SMTP Server:	smtp.telemate.net					
SMTP Port:	25					
Secure Connection:	False <b>v</b>					
SMTP Authentication:	False <b>v</b>					
Test Settings	OK Cancel					

The Features dialog allows you to disable advanced features you do not plan to use in the web interface. This can streamline and simplify navigation.

	Feature	Description
	Additional User Devices	Allows you to configure additional devices assigned to the user in the directory.
/	Cost Adjustments	Allows you to adjust costs by adding a percent markup, minimum cost and/or surcharge.
/	Costing	Allows you to create, delete and assign cost methods and tariffs from the web.
/	Currency	Allows you to create, manage, delete and select currency for use in multiple areas of the web UI where cost is displayed.
/	Evening/Weekend Rates	Allows you to configure evening and weekend rates for use in tariffs.
/	Expenses	Expense management allows you to allocate and distribute specific recurring and non- recurring costs associated to the users responsible for them.
	Holidays	Allows you to create, manage, delete and assign holidays for use in costing.
/	Invoices	Allows you to create and delete Invoices and Invoice Batches.
/	Taxes	Allows you to create, manage, delete and assign taxes.
/	Tenants	Allows you to create and delete Tenants.

The LDAP Sources dialog allows you to configure LDAP (or Active Directory) authentication sources. You must configure these before you can configure manager accounts that use their domain login and password, or for granting access by LDAP security group or organizational unit.

LDAP Sources						?	×
	-			ccounts and password, you m Directory server to validate the		-	
Name	Domain	Server	Туре	Last Refresh			+
LDAP - Corporate	telemate	10.2.2.48	Active Directory	2018-02-01 07:00:07 PM	0	ø	×
					Clos	se	

**The "Domain" Name:** You must enter a unique domain name for each LDAP source. For Active Directory, you should specify the short Windows domain name (e.g. the "telemate" in "telemate\login1"). For eDirectory, specify "o=myorg" to have a "login1" attempt validate "cn=login1,o=myorg".

**The "Server" Name:** This value accepts hostnames or IP addresses separated by commas. We strongly recommend that you provide at least two, one primary and one secondary. When using host names, we recommend that you use the fully qualified domain name (e.g. dc1.telemate.net instead of dc1).

**Performance Issues:** If you experience slow authentication, check your LDAP Source configuration to make sure the host names or IP addresses are valid, and when using host names, make sure the DNS

servers resolve them quickly. Failed DNS resolution and failed connection attempts can greatly slow down authentication.

Sample	Active	Directory	LDAP	Source:
--------	--------	-----------	------	---------

LDAP Source			?	×
You must enter a des	scriptive name for this LDAP Source along with the information needed to	connect to your LDAP s	erver.	
Name:	TeleMate.Net			
Туре:	Active Directory			•
Domain:	TELEMATE			
Server:	atI01dc01, atI01dc02			
Port:	389			
Secure:	False			•
Enter an account an	d password with read access to the "Root DN" you specify. (Click the "?"	above for more informati	ion.)	
Login DN:	telemate\devbuild			
Password:				
Root DN:	dc=telemate,dc=net			
		ок с	Cancel	

#### Sample eDirectory LDAP Source:

LDAP Source		?	×
You must enter a desc	riptive name for this LDAP Source along with the information needed to connect to your LDAP serv	er.	
Name:	Novell		
Туре:	eDirectory	•	,
Organization:	o=test2		
Server:	192.168.10.206		
Port:	636		
Secure:	True	•	·
Enter an account and	password with read access to the "Root DN" you specify. (Click the "?" above for more information.)	)	
Login DN:	cn=admin,o=test2		
Password:			
Root DN:	o=test2		
			_
	OK Can	cel	

The Site Locations dialog allows you to add/edit/delete internal site locations. These site locations define time zones and physical locations for internal endpoints. Each data source has a default site location for its internal endpoints, but that may be overridden for specific CUCM locations, IP address ranges, gateway groups, gateways, departments, users, or extensions.

#### Site Locations

Site Locations help you determine where members of your internal organization (e.g. employees or customers) are physically located. They can be set at the department, user, extension, and gateway group. NOTE: When set at multiple levels, the most specific level takes precedence.

Name	Country Code	AreaCode & Exchange	Time Zone			+
Arlington	(North America) (1)	682555	Central Standard Time	ø	×	1
Asia	Japan (81)	81230		ø	×	
Atlanta	(North America) (1)	678555	Eastern Standard Time	ø	×	
ATLANTA NE, GA	(North America) (1)	770936	Eastern Standard Time	ø	×	
Australia	Australia (61)		AUS Eastern Standard Time	ø	×	
Boston	(North America) (1)	617555	Eastern Standard Time	ø	×	
Chicago	(North America) (1)	773555	Central Standard Time	ø	×	
EDGENA				ø	×	
Europe	United Kingdom (44)	44583		ø	×	
FortMyers	(North America) (1)	239555	Eastern Standard Time	ø	×	
Houston	(North America) (1)	281555	Central Standard Time	ø	×	
Hub_None				ø	×	,

Site Location			?	×
Name:	Atlanta			٦
Description:	CUCM	Location		
Country Code:		(North America) (1)	,	7
AreaCode & Exc	change:	678555		
Time Zone:		(UTC-05:00) Eastern Time (US & Canada)		'
		OK Can	el	

## **Contact Center Settings**

The contact center settings allow you to configure the global options for the Contact Center.

The "Agent State Literals" allows you to configure custom values for Agent States which are the statuses reported by the Contact Center. The "Custom Literals" section allows you to configure special names to reflect how you define items in your organization. You may also specify custom names for the 10 custom variables supplied by Contact Center scripts. You must specify a custom name for the variable before it can be displayed in the 'Calls' section of the contact center dashboard.

## **KPI Model Settings**

The "Rebuild All KPI Models" command rebuilds scores for all KPI models for all managers in a single pass. This allows you to rebuild all of them all at once, which saves time and minimizes the performance impact on the server. If you want to rebuild the models, select the "Rebuild All KPI Models" specify how far back you want to rebuild the KPI model scores.

? 🗙

Rebuild All KPI	Models		? X
-	elete ALL data for ALL KPI t date until today and will b		
Start Date:	2018-08-01		
		ОК	Cancel

# **Report Settings**

The report archive settings allow you to configure the global report archive options. Each web login gets its own archive – which corresponds to a directory beneath the specified root folder on the Predictive UC Analytics server – where completed reports are saved for a number of days (which you specify when you provision a user in the Security Manager). There are also options to purge archived reports. When "Delete Expired" is enabled, archived reports will be deleted before new reports are run. When "Free Space" is enabled, the oldest archived reports will be deleted to free up space for new archived reports if the archive size limit has been reached.

Report - Archiv	es ? X
per archive), and	m the web interface are saved on the server for a number of days (defaults to 30 and is set each manager gets their own archive. Each archive gets its own directory under the root ports are purged from archives when new reports are run.
Root Folder:	C:\Program Files (x86)\Predictive UC Analytics\ReportOutput
Delete Expired:	Delete expired archived reports before running new reports
Free Space:	Delete the oldest archived report to free up space for new archived reports
	OK Cancel

The web interface also keeps track of each user's most recently run reports, including the filter and destination options selected for those reports. You can change the number of most recently run reports tracked by Predictive UC Analytics here.

Reports - Most Recently Run Repo	rts		? ×
TeleMate's web interface keeps track of saving the filters and destination for the			run reports,
"Most Recently Run Reports" Size (N):	10		
		ОК	Cancel

The Access Token Refresh settings allow you to schedule a nightly refresh of OAuth tokens that expire over time if you do not refresh them. This is only needed if you deliver reports or alarms to a web service that has a refresh token, like Cisco Spark/Teams.

Reports - Acc	cess Token Refresh	?	×
and need to be	elivery methods, like Cisco Spark, provide access tokens that refreshed periodically. To keep these tokens from expiring an luled reports, a script can be run nightly to refresh them before	d .	
Enable Acc	ess Token Refresh		
Run at:	02:00		
Notify:	Never send email notification		۲
Email:			
	0× 0		
	OK Cano	ei	

# **Cost Settings**

The Cost Settings section contains options for configuring currencies, taxes, and holidays. They will only show up if you have enabled them in the "Features" section.

Predictive UC Analytics comes with some currencies pre-configured. To create a currency, click the "+" button in the top-right corner of the Currency list. To edit an existing currency, click on its name. To delete a currency, click on the "x" button to the right of it.

[Positive]			_
	[Negative]		+
\$123,456,789.12	(\$123,456,789.12)	ø	
/123,456,789.12	-v123,456,789.12	ø	×
123,456,789.12	-123,456,789.12	ø	×
123456789,12 F	-123456789,12 F	ø	×
123.456.789,12 DM	-123.456.789,12 DM	ø	×
L. 123.456.789	-L. 123.456.789	ø	×
123,456,789.12	(123,456,789.12)	ø	×
123.456.789 Pts.	-123.456.789 Pts.	ø	×
SFr. 123'456'789.12	SFr123'456'789.12	ø	×
123,456,789.12	-123,456,789.12	ø	×
1	123,456,789.12 23,456,789.12 23456789,12 F 23.456.789,12 DM 123.456.789 23,456,789.12 23,456,789.12 23.456,789 Pts. SFr. 123'456'789.12	123,456,789.12       -v123,456,789.12         23,456,789.12       -123,456,789.12         23,456,789,12 F       -123456789,12 F         23.456,789,12 DM       -123.456,789,12 DM         123.456,789       -L. 123.456,789         23,456,789.12       (123,456,789.12)         23,456,789 Pts.       -123.456,789 Pts.         SFr. 123'456'789.12       SFr123'456'789.12	123,456,789.12       -v123,456,789.12         23,456,789.12       -123,456,789.12         23,456,789.12 F       -123,456,789,12 F         23,456,789,12 F       -123,456,789,12 F         23,456,789,12 DM       -123,456,789,12 DM         123,456,789       -L. 123,456,789         23,456,789.12       (123,456,789.12)         123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12          123,456,789.12

**Note:** You may specify a conversion rate for every currency except the default. When you run a report in a different currency, its conversion rate will be applied to convert all costs from the default currency to the selected currency.

# **Assurance Settings**

The Assurance Settings section will only show up if you licensed the assurance feature set. It allows you to change the good/fair/poor/bad thresholds for Jitter, Latency, and Packet Loss for the assurance displays and alerts.

# **Support Tools**

This section provides a search to help administrators more quickly find things configured by other user accounts. A good example would be that various user accounts have configured reports or alarms to go to jim.smith@mycompany.com, Jim is leaving the company, and you need to track down everything sending emails to him.

Search: Filters 🔻 su	ipport%	E	Execute		Reset	
Search Results						
Service	Assigned	Name	Value		Ľ	
Sales - All Communications	john.oreilly	Department	Support	goto		
Completed Report	Assigned	Name	Value			
Activity Overview by User	john.oreilly	Department	Support	goto	1	
Contact Experience - Inhouse Operati	ons john.oreilly	Department	Support	goto		
Contact Experience - Inhouse Operati	ons john.oreilly	Department	Support	goto		
Contact Experience - Inhouse Operati with Email	ons john.oreilly	Department	Support	goto	ļ	
Grouped Activity Overview	UCM - QoS Analysis	Department	Support Tier 1	goto		
Grouped Activity Overview	UCM - QoS Analysis	Department	Support Tier 2	goto		
			Comment			

# Help

Click to open a web-based version of this First Steps Guide.

# Search

The navigation menu contains a link for "quick search". Clicking the link will give you the option for a date selection (i.e. today, yesterday, last week, etc.) and an address value. This will launch a detail records search with filters set from your choices. Refer to the "View Details" in the "Common Features" section of this document for a more detailed explanation of the detail view.

Quick Search		?	×			
A quick search of detail records for the source or destination address containing the specified value.						
Date Selection:	Today	,	,			
Address (Contains):	678					
			_			
	OK Cano	el				

# Logout

Click to log out and/or change to a different login.