Vocera Analytics Administration Guide

Version 1.1.0

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Last modified: 2020-04-23 00:57

VA-1XDev-Docs build 452

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Introduction

This section provides the product overview, supported browsers, products, hardware, and port requirements.

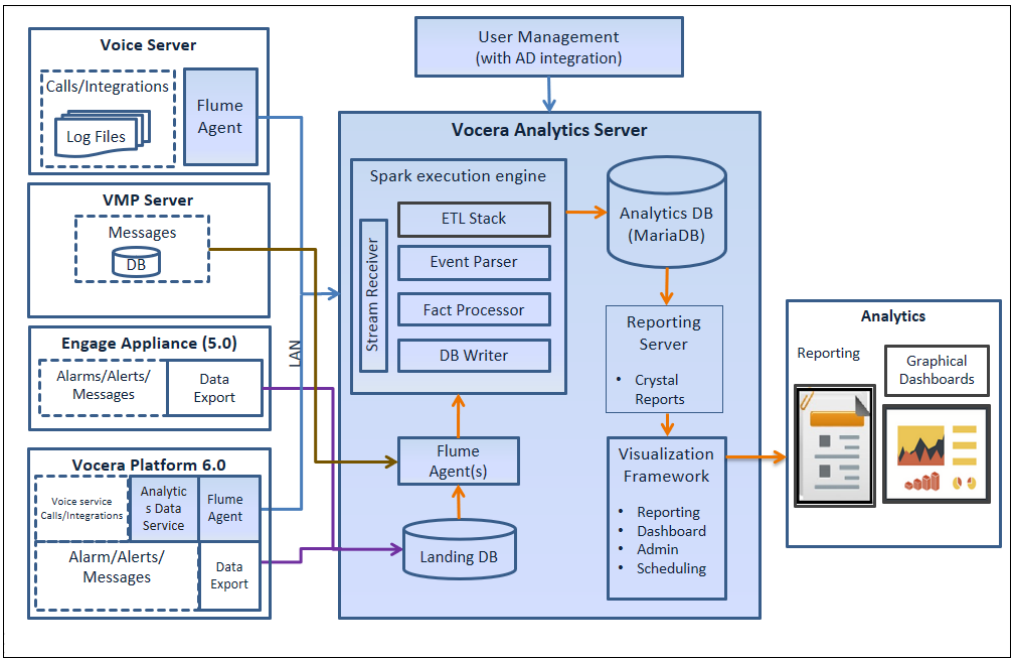
Vocera Analytics Overview

Vocera Analytics provides near real-time data analysis, trends, dashboards, and reports to customers along with the capability to customize reports, trigger outbound communications based on a rule set, and schedule timed distribution of offline reports. Vocera Analytics collects data from various components of our system and communication events between them.

The Vocera Analytics architecture comprises the following layers:

- Data Generation
- Ingestion
- Processing Framework
- Facts Persistence
- Visualization

The following figure shows the architecture of Vocera Analytics.



The Vocera Analytics User Interface is broadly classified into two categories as:

- Dashboards
- Reports

Supported Browsers

To access Vocera Analytics application, your computer must have one of the Vocera-supported browsers.

The following table lists the supported browsers:

Browser	Supported Version
Chrome	Version 63 and later
Firefox	Version 57 and later
Internet Explorer	Version 11.0.50 and later
Safari	Version 10.1 and later

Note:

- The minimum screen resolution required is 1366 X 768 pixels.
- The recommended screen resolution is 1920 x 1080 pixels.

Note: Vocera Analytics supports TLS versions 1.1 and 1.2. By default, Vocera Analytics uses the most secure version available in the JVM, that is TLSv1.2.

Unsupported Features on Vocera Platform 6.0

This topic describes the unsupported features on Vocera Platform 6.0.

The following table lists the features that are not supported on Vocera Platform 6.0.

Feature	Description	Affected Dashboards and Reports
Status of devices	Changes done to the devices in Vocera Platform 6.0 console.	**Dashboard**:Asset Tracking > Status Tracking
Messages	Messaging done through Vocera Vina application will not be shown. Wherever message count or details are shown, the data does not include messages from Vocera Vina application. When a user sends or receives a message through Vina, the user activity for this message will not be shown.	**Dashboards**: • Administration > Conversation Activity • Directory > Group Usage • Directory > Address Book Usage • Interruption > Group Interruptions • Interruption > Interruption Summary • Interruption > Message Details • Interruption > Unit Interruption Summary • Interruption > User Interruptions • Performance Metrics > Platform Health Index • System Usage > User Activity Details **Reports**: • System Usage > User Activity • Directory > Address Book Activity • Directory > Group Activity
VMI	Data from VMI will not be shown.	**Dashboards**: • Administration > Integration Details • Administration > Integration Events • Administration > Integration User Events • Interruption > Group Interruptions • Interruption > Interruption Summary • Interruption > Unit Interruption Summary • Interruption > User Interruptions • Performance Metrics > Platform Health Index **Reports**: • Administration > Integration Message Group Activity • Administration > Integration Message Unit Activity • Administration > Integration Message User Activity

Supported Vocera Products

Vocera Analytics supports the following products:

Product	Version
Engage Platform	5.5 and later with EMDAN version 1.10.
Vocera Messaging Platform	• 5.2.2 • 5.2.3 • 5.3 **Note:** VMP 5.3 Archive Tables is not supported. **Note:** Vocera Analytics supports SQL Server 2012 and 2014 versions only. Vocera Analytics does not support SQL Server 2008, 2016, and 2017 versions for VMP agent.
Vocera Platform	6.0 with EMDAN version 2.0
Vocera Voice Server	• 4.4.4 • 5.1 • 5.2.1 • 5.2.2 • 5.2.3 • 5.3 • 5.3.1

Supported Versions for Third Party Software

This topic lists the supported versions for the third party software used in Vocera Analytics 1.1.

The following table describes the versions for the third party software used in Vocera Analytics.

Component Name	Vocera Analytics 1.1	Additional Information
7 Zip	18.01	The 7-Zip command-line utility provides compression and encryption for archives on the target Windows server platform. It is an open licensing software and contains a utility that performs both compression and encryption. This utility works outside of the VACLI codebase to interact with other third-party items.
Mariabackup	10.2.9	The backup, incremental backup, and backup creation are done using the Mariabackup tool included with MariaDB, and installed as a part of Vocera Analytics. This tool allows for the creation of physical database backups, as well as their preparation and restoration.
MariaDB	10.2.9	
MariaDB Connector	2.0.12	Both 32-bit and x64-bit versions are supported.
mbstream	10.2.9	Used to archive or unpack files as a part of a database backup. The Mariabackup tool has a stream output option that takes a backup and produces an archive (`.xb`) file. The mbstream utility reads and unpacks the `.xb` archive to files that can be used in the data (`data-dir`) directory.
Flume	1.8.0	
Spark	2.3.1	
JAVA	Open Java 1.8	
Tomcat	8.5.15	
NSSM	2.24.101	Compilation is done from source to avoid false negatives from malware checkers.

Component Name	Vocera Analytics 1.1	Additional Information
SAP Crystal Report	2016 Support Pack 2	
TLS	1.2	

Supported Locale

This topic describes the supported locales on Vocera Analytics.

Note: The native OS supported are en_US and en_GB.

The following table lists the locales supported:

Locale	Description	VA Server	Voice Server
ar_SA	Arabic-Saudi Arabia	en_GB	ar_SA
en_AU	English-Australia	en_AU	en_AU
en_CA	English-Canada	en_CA	en_CA
en_GB	English-Great Britain	en_GB	en_GB
en_LS	English-Germany	en_LS	en_LS
en_NZ	English-New Zealand	en_NZ	en_NZ
en-QA	English-Qatar	en_GB	en-QA
en-SG	English-Singapore	en_SG	en_SG
en_US	English-United States	en-US	en-US
en_ZA	English-South Africa	en_ZA	en_ZA
fr_CA	French-Canada	fr_CA	fr_CA

Hardware Requirements

This section describes the hardware requirements and the performance expectations for Vocera Analytics.

Hardware Details

The size of your server normally depends on the number of users and the number of beds at your site. The requirements vary for small, medium, and large servers.

The following table captures the hardware requirement for small, medium, and large Vocera Analytics servers. For more information, refer to Customer Deployment Sizing on page 11.

Requirement	Small	Medium	Large
Memory	32 GB	64 GB	128 GB
CPU	Octa Core	Octa Core	12 Core
Disk Space	500 GB HDD (per year) with SSD Cache	1 TB HDD (per year) with SSD Cache	2 TB HDD (per year) with SSD Cache
Operating System	Windows Server 2016	Windows Server 2016	Windows Server 2016
Browser Support	Internet Explorer 11, Firefox v57 or later, Safari 10+ or later, Google Chrome v62 or later (JavaScript must be enabled)		
Database Provided	MariaDB (MySQL)	MariaDB (MySQL)	MariaDB (MySQL)

The following table lists the Voice Server hardware (RAM) requirements for small, medium, and large Vocera Analytics servers.

Requirement	Small	Medium	Large
RAM Additions for Voice Server	2 GB	2 GB	4 GB

Note: For Voice Servers in cluster mode, ensure RAM additions are done on all the nodes.

Note: Vocera Analytics does not support memory oversubscription.

Note: To run properly, the Vocera Analytics Agent running on a Vocera Voice Server (VS) will require 2 GB of RAM when interacting with a small or medium Vocera Analytics Server database and 4 GB of RAM when interacting with a large Vocera Analytics Server database. If the VS does not have sufficient memory to meet the mandated minimum memory for the VS plus the needs of the Vocera Analytics Agent, memory will need to be added to the VS. For example, a VS running version 5.2.3 requires a minimum of 8 GB of RAM. If the Vocera Analytics Agent will be interacting with a large Vocera Analytics Server database requiring 4 GB of RAM, the server running the VS and the Vocera Analytics Agent must have a minimum of 8 + 4 or 12 GB of RAM installed. If it does not, sufficient RAM to meet or exceed the 12 GB requirement should be added. If the VS is running in a virtual environment, Memory Over Subscription is not supported and the Host Server should have sufficient physical RAM to support the memory allocated to the Guest Servers plus the Hypervisor.

Customer Deployment Sizing

The customer deployment sizing table helps you calculate the recommended deployment size and categorize the data parameters as a small, medium, and large deployment.

The following table displays the data parameters and the recommended deployment sizing:

Note:

- One month of data is displayed in 10-15 seconds for Reports and Dashboards.
- Data can be exported in 30-45 seconds.

Data Parameters	Small	Medium	Large
Vocera Voice Server Users	450	2000	5000-20000
VMP Users	200	3000	10000
Beds	293	500	1000
Engage Users	450 (225 per shift)	1000 (500 per shift)	2000 (1000 per shift)
Clinical Alarms	2200	5000	9500
Nurse Call Alerts	3200	11000	22000
Orders	400	1200	2400
Lab Alerts	24	75	150
VMI Messages	2000 messages/day	10000 messages/day	60000 messages/day
Calls Per Day	2000 calls/day	10000 calls/day	60000 calls/day
VCS Messages	9000 messages/day	40000 messages/day	400,000 messages/day

Port Requirements

To allow communication within Vocera Analytics Server components, configure communication protocols and port numbers within the organization network environment.

The following table captures the connection, protocols, and port number required for the communication.

Source	Destination	Protocol	Port Number
Web browser on the computer of the user	VA Service Monitor	TCP	9445
Web browser on the computer of the user	VA Visualization Server	TCP	9443
VA Service Monitor	VS Server	TCP	9445
VA Spark	VS Server	TCP	7777
VA Server	SMTP	SMTP	25, 465 secure

Source	Destination	Protocol	Port Number
VA Server	Active Directory	TCP	389, 636 secure
VA Server	Engage Database	TCP	3306
VA Server	VMP Database	TCP	1433

The following table lists the ports that are in use within the Vocera Analytics environment:

Description	Protocol	Port Number
Spark on VA Server	TCP	4040
VMP Flume agent on VA Server	TCP	7778
Engage Flume agent on VA Server	TCP	7779
Reporting service on VA Server	TCP	8443
MariaDB	TCP	3306

Note: Access to Spark through the user interface is not authenticated thereby providing access to low-level system information. To disable access, add the following line at the end of the `spark-defaults.conf` file:`spark.ui.enabled false`

Setting Up Vocera Analytics

This section helps you to install, deduplicate, backup, and migrate data from VRS and Engage to Vocera Analytics. It also helps you uninstall Vocera Analytics if required.

Installing Vocera Analytics

The following sections describe how to install Vocera Analytics 1.1.0.

Prerequisites

This section lists the prerequisites for Vocera Analytics Server, Voice Server, Engage Appliance, and Vocera Messaging Platform.

Before you install Vocera Analytics, ensure that you have the following prerequisites:

Host	Prerequisites
Vocera Analytics Server	Whitelist the `<Vocera Analytics Install Drive>\VASuite.exe` folder.
	Internet Explorer 11 Web Browser (latest update) on Windows Server 2016 using Document Mode 10 or higher must be installed. For instructions to view Document Mode, see **https://docs.microsoft.com/en-us/internet-explorer/ie11-deploy-guide/fix-compat-issues-with-doc-modes-and-enterprise-mode-site-list#test-your-sites-for-document-mode-compatibility** **Note:** It may be necessary to add specific URLs for Vocera Analytics to the Compatibility View, depending on the specific security policies implemented at your site.
	Ensure that Java is enabled on your Web browser. For instructions to enable Java, see **https://java.com/en/download/help/enable_browser.xml**
	Ports 9443 and 9445 should be open and should not be blocked.
Voice Server	Whitelist the `<Vocera Analytics Install Drive>\VASuite.exe` folder.
	Port 9445 should be open and should not be blocked.
	To install Vocera Analytics agent, you would need administrator privileges.
	To configure Vocera Analytics with Voice Server as source, you would need Voice Admin Console administrator credentials.
Engage Appliance	SSH access to Engage Appliance must be granted. From Vocera Analytics Server you would need an SSH connection to Engage appliance.

Host	Prerequisites
Vocera Messaging Platform	For VMP remote agent, if you are using VMP versions 5.2.2 or 5.2.3, perform the following: • Connect to the VMP database using any of the DB client tools such as Heidi or SQL Server Management Studio, • Execute the following two commands on WICMASTER database: Alter table UsersInDistList add RowUpdated rowversion; Alter table textmessageresponses add RowUpdated rowversion; **Note:** While executing these commands, you may encounter the error message: `Column name 'RowUpdated' in table 'UsersInDistList' is specified more than once.` You can ignore this error message and proceed with the configuration.

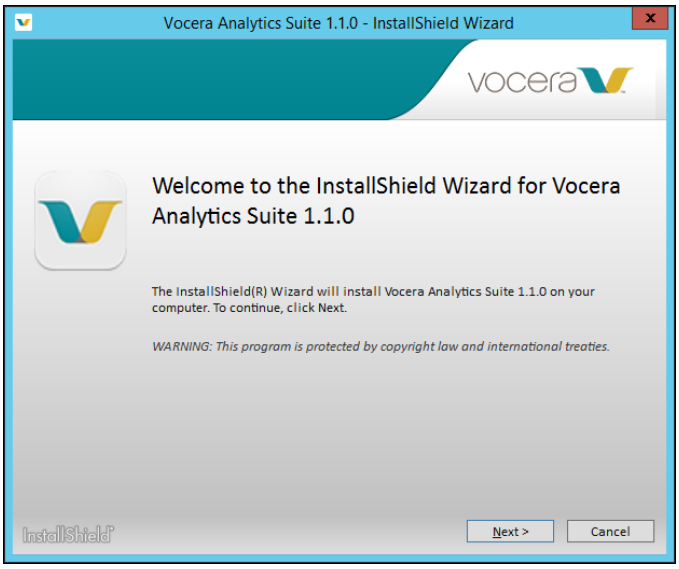
Important: Do not install Crystal Reports Server on the same machine as Vocera Analytics Server. Vocera Analytics Server is not certified to work on computers that has Crystal Reports Server installed. To create custom reports, you must install Crystal Reports on any other machine other than the Vocera Analytics server.

Installing Vocera Analytics Suite on the Analytics Server

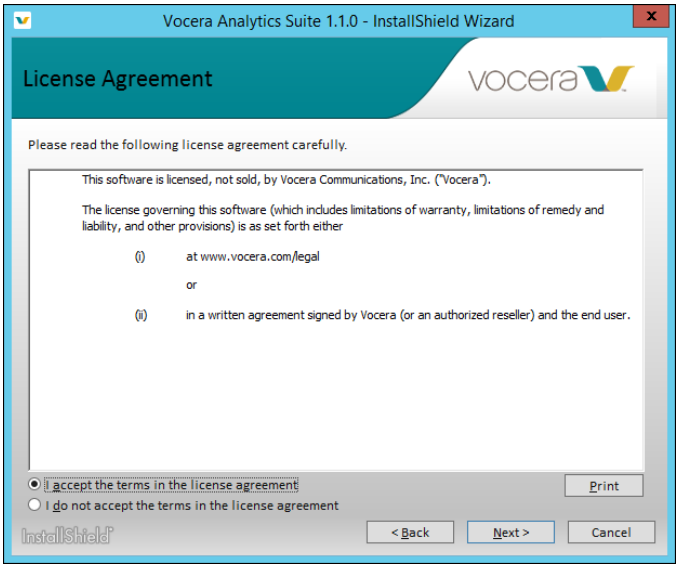
Install the Vocera Analytics Suite to use the dashboards and reports functionality in the Analytics Server.

To install the Vocera Analytics Suite on the Vocera Analytics Server, perform the following tasks:

1. Right-click `VASuite.exe`> Run as administrator.
   The installer is launched, and the installer Welcome to the InstallShield Wizard for Vocera Analytics Suite 1.1.0 screen appears.



2. Click Next.
   The License Agreement screen appears.
3. Select I accept the terms in the license agreement after you have read the license agreement.

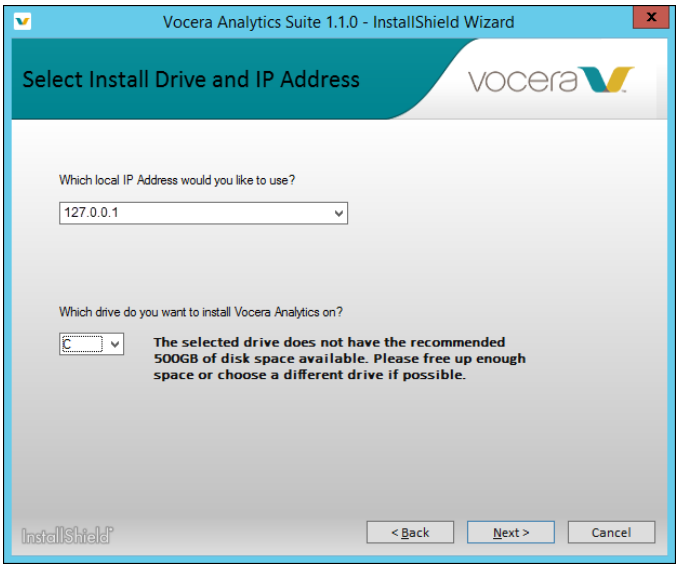


Note: Click Print if you want to print the license agreement.

4. Click Next.

   The Select Install Drive and IP address screen appears.

   The default IP address of the system is displayed.



5. Browse to the IP address that you want to use, to change the IP address.
6. Browse to the drive that you want to use, to change the installation drive. By default, the `C` drive is selected. However, do not install the Vocera Analytics Suite on the `C` drive.

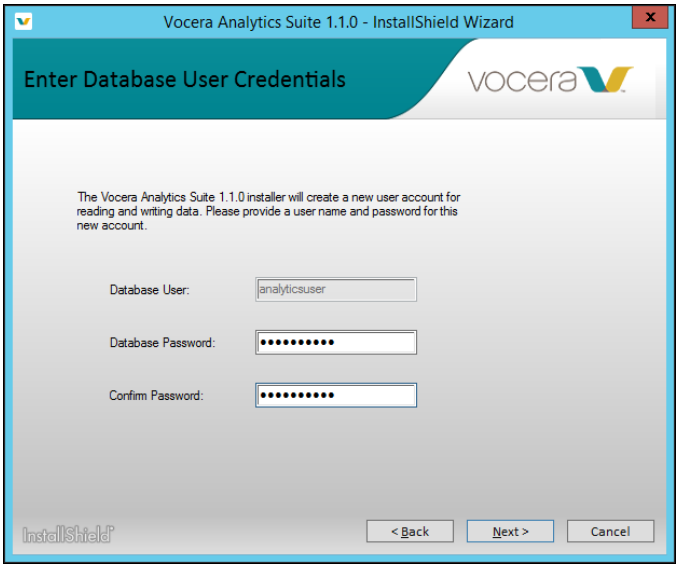
   Note: The installer logs are always created in the `C` drive irrespective of the installed drive.

   For example, if Vocera Analytics is installed on D drive, the installer logs are located at: `C:\InstallLogs-VoceraAnalytics\1.1`.

   Note: If you select a drive less than 500 GB of disk space a warning message is displayed. However, you can continue the installation if the required disk space is available.

7. Click Next.

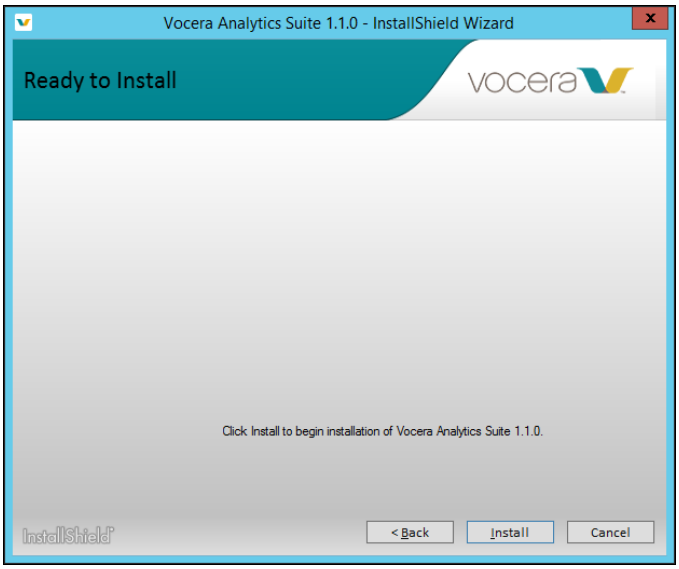
   The Enter Database User Credentials screen appears.



Note: It is not necessary to install the agent on the Vocera Messaging Platform Server as the agent installed on Vocera Analytics Server establishes a remote SQL connection to the VMP database.

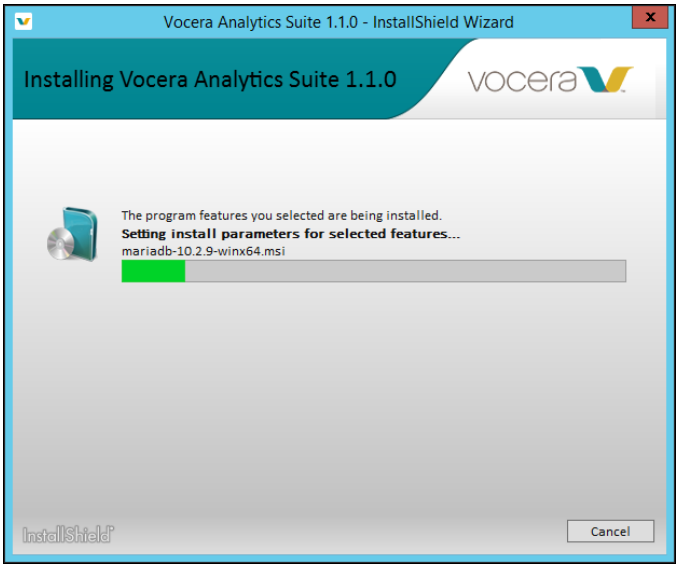
8. Enter the database password and confirm the password in the respective fields.
9. Click Next.

   The Ready to Install screen appears.



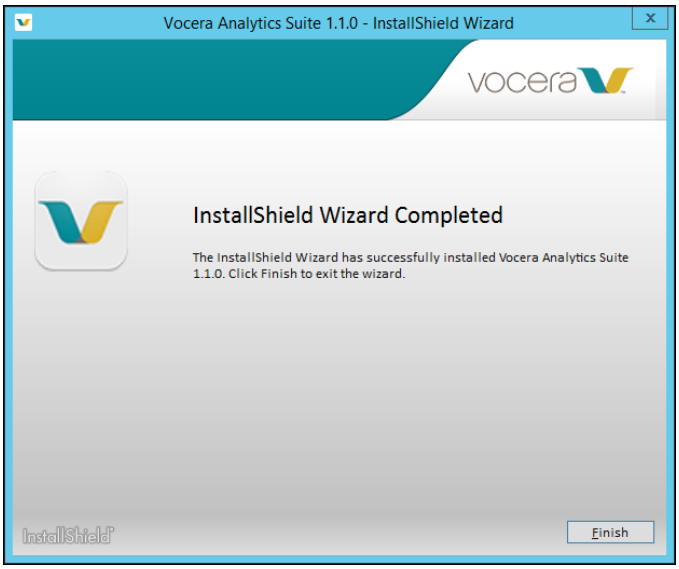
10. Click Install.

    The Installing Vocera Analytics Suite 1.1.0 window appears. Do not close any installer windows that appear during installation.



11. Click Finish.

    The InstallShield Wizard Completed screen appears.



After the installation, the Monitoring Services comes up on your default web browser and displays a message "invalid license". This message is displayed because there is no valid license installed.

Note: After Vocera Analytics Suite installation is complete, a Vocera Analytics desktop icon is automatically created on your desktop. Use the desktop icon to access Monitoring Services.

Using `services.msc`, validate that Vocera Analytics is installed successfully and check if the service monitor and MySQL services are installed and running.

Note: The service monitor installed on this Vocera Analytics server is the master service monitor.

The following screenshots display the service monitor and MySQL services running on the Visualization Server.

Name	Description	Status	Startup Type	Log On As
servicemonitor	Vocera Analytics Service Monitor	Running	Automatic	Local System
Vocera Agent	Vocera Agent	Running	Automatic	Local System
VMware Snapshot Provider	VMware Snapshot Provider	Running	Manual	Local System
Spot Verifier	Verifies potential file system corruptions.		Manual (Trigger Start)	Local System
Background Intelligent Tran...	Transfers files in the background using idle netw...	Running	Manual	Local System
Print Spooler	This service spools print jobs and handles interac...	Running	Automatic	Local System
Problem Reports and Soluti...	This service provides support for viewing, sendin...		Manual	Local System
Printer Extensions and Notif...	This service opens custom printer dialog boxes a...		Manual	Local System
Windows Event Collector	This service manages persistent subscriptions to ...		Manual	Network Service

Name	Description	Status	Startup Type	Log On As
Microsoft (R) Diagnostics H...	Diagnostics Hub Standard Collector Service. When running, this service c...		Manual	Local Syste...
Microsoft Account Sign-in ...	Enables user sign-in through Microsoft account identity services. If this se...		Manual (Trig...	Local Syste...
Microsoft App-V Client	Manages App-V users and virtual applications		Disabled	Local Syste...
Microsoft iSCSI Initiator Ser...	Manages Internet SCSI (iSCSI) sessions from this computer to remote iSCS...		Manual	Local Syste...
Microsoft Passport	Provides process isolation for cryptographic keys used to authenticate to ...		Manual (Trig...	Local Syste...
Microsoft Passport Container	Manages local user identity keys used to authenticate user to identity pro...		Manual (Trig...	Local Service
Microsoft Software Shadow...	Manages software-based volume shadow copies taken by the Volume Sh...		Manual	Local Syste...
Microsoft Storage Spaces S...	Host service for the Microsoft Storage Spaces management provider. If th...		Manual	Network S...
Mozilla Maintenance Service	The Mozilla Maintenance Service ensures that you have the latest and mo...		Manual	Local Syste...
MySQL	MariaDB database server	Running	Automatic	Network S...
Net.Tcp Port Sharing Service	Provides ability to share TCP ports over the net.tcp protocol.		Disabled	Local Service
Netlogon	Maintains a secure channel between this computer and the domain contr...	Running	Automatic	Local Syste...

Note: Without the license, you would not be able to login to the service monitor browser.

12. Copy the Vocera Analytics license to the `<InstallDrive>/VoceraAnalytics/License` folder.
13. Browse to `<Vocera Analytics Install Drive>:\VoceraAnalytics\AnalyticsServer\conf`.
    The `spark-defaults.conf` file appears.
14. Open the `spark-defaults.conf` file, uncomment the `spark.local.dir` line, save and close the file.
    The following screenshot displays the contents of the `spark-defaults.conf` file.

spark-defaults.conf

```
#
# Licensed to the Apache Software Foundation (ASF) under one or more
# contributor license agreements.  See the NOTICE file distributed with
# this work for additional information regarding copyright ownership.
# The ASF licenses this file to You under the Apache License, Version 2.0
# (the "License"); you may not use this file except in compliance with
# the License.  You may obtain a copy of the License at
#
#    http://www.apache.org/licenses/LICENSE-2.0
#
# Unless required by applicable law or agreed to in writing, software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.
#

# Default system properties included when running spark-submit.
# This is useful for setting default environmental settings.

# Example:
# spark.master                     spark://master:7077
# spark.eventLog.enabled           true
# spark.eventLog.dir               hdfs://namenode:8021/directory
# spark.serializer                 org.apache.spark.serializer.KryoSerializer
# spark.driver.memory              5g
# spark.executor.extraJavaOptions  -XX:+PrintGCDetails -Dkey=value -Dnumbers="one two three"
spark.driver.memory                8g
spark.ui.killEnabled               false
spark.local.dir                    D:/temp/spark
#spark.streaming.backpressure.enabled true
#spark.streaming.receiver.maxRate  10000
```

Note: The Spark configuration does not allow backward slash (\).

15. Update the maximum heap memory size (**Xmx512m**) of flume to the required value based on the customer deployment size. The flume heap memory size is available in the `flume-env.ps1` file located at `<Install_Drive>\VoceraAnalytics\Agent\Flume\conf`.

For more information on customer deployment sizes, refer to **Customer Deployment Sizing** on page 11. Based on the applicable customer deployment size, replace

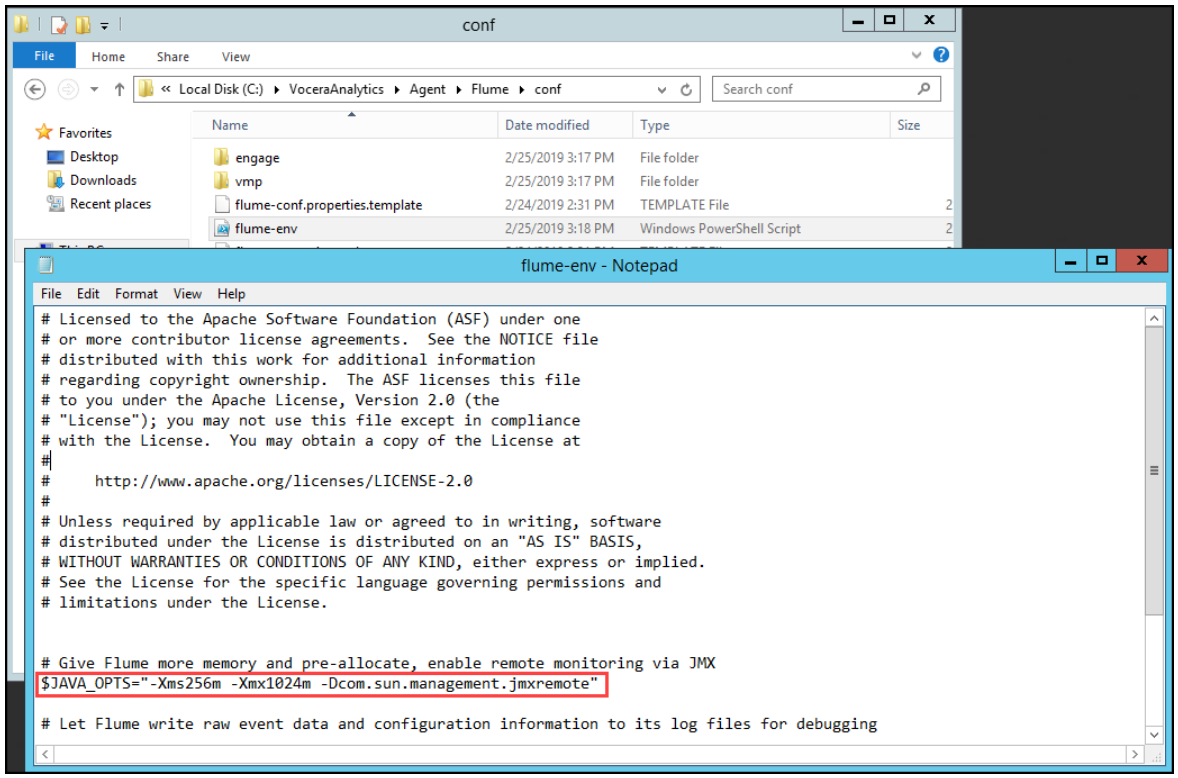
```
$JAVA_OPTS="-Xms256m -Xmx512m -Dcom.sun.management.jmxremote"
```

with

Customer Deployment Size	Flume Heap Memory Size
Small	`$JAVA_OPTS="-Xms256m -Xmx1024m -Dcom.sun.management.jmxremote"`
Medium	`$JAVA_OPTS="-Xms256m -Xmx2048m -Dcom.sun.management.jmxremote"`
Large	`$JAVA_OPTS="-Xms256m -Xmx3072m -Dcom.sun.management.jmxremote"`

Note: Ensure that you stop the flume service, update the heap memory size, and restart the flume service if flume is already running.

The following example shows the updated maximum flume heap memory size for small customer deployment size.



The Vocera Analytics Suite installs the Vocera Auto Send Logs (ASL) tool on the Vocera Analytics server, but it does not configure ASL to run as a scheduled task. Vocera recommends scheduling a task for ASL on all Vocera Analytics deployments. For information on scheduling a task to run ASL, refer to **Vocera Auto Send Logs** .

Note: While installing Vocera Analytics, the installer creates an environment variable (VA_LOCALE) based on the current locale of the system. The dates and numerical values in dashboards and reports will be according to the current locale set in the environment variable. The report server and visualization server must be restarted if the environment variable is changed. The default short date format of the locale is used by the VA server. For example, the short date format is *m/d/yyyy* for en_US locale.

Proceed to install the Vocera Analytics Agent on the Voice Server. For more information, see **Installing Vocera Analytics Agent on the Voice Server** on page 20.

Installing Remote Agent On Windows

This section describes how to install Vocera Analytics 1.1.0. Remote Agent on a Windows machine.

Installing Vocera Analytics Agent on the Voice Server

This section describes how to install Vocera Analytics 1.1.0. Remote Agent on the Vocera Voice Server.

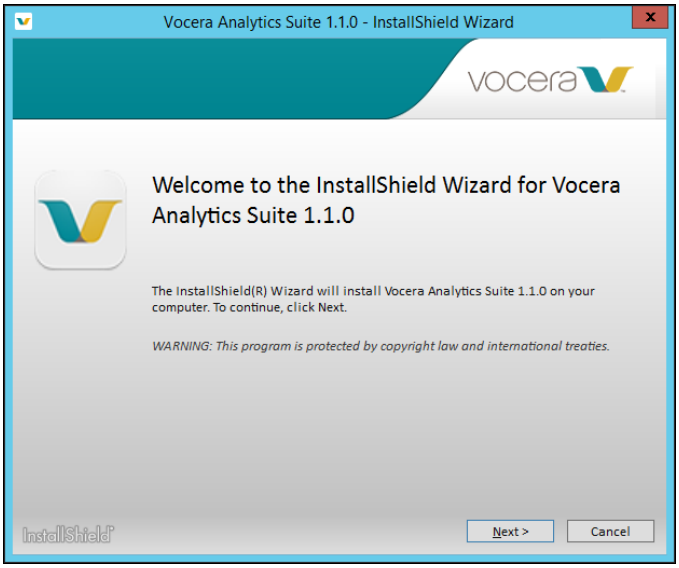
Ensure that you have installed the Vocera Voice Server before you begin to install the remote agent.

Note: Ensure that the Vocera Voice Server has enough RAM to handle the additional needs of the Vocera Analytics Remote Agent. For more information, refer to **Hardware Details** on page 10.

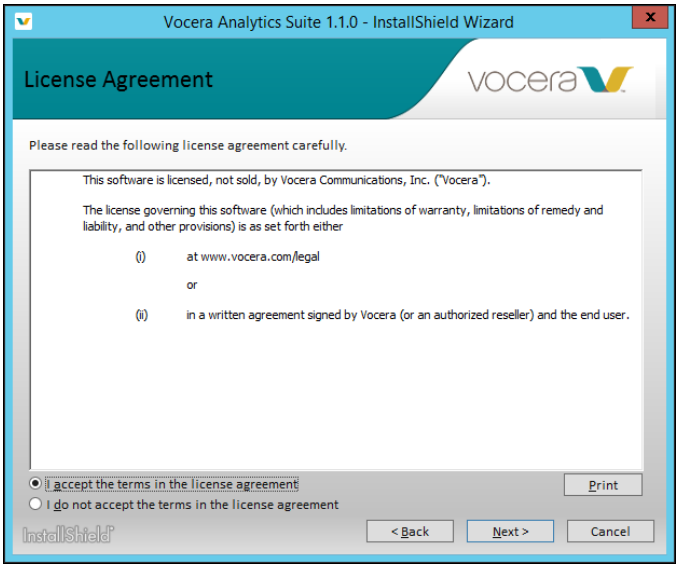
To install the remote agent on the Vocera Voice Server, perform the following tasks:

Note: The Vocera Analytics Suite installs both the remote agent for Voice Server and Vocera Analytics.

1. Right-click `VASuite.exe`> Run as administrator to launch the installer.
   The installer Welcome to the InstallShield Wizard for Vocera Analytics Suite 1.1.0 screen appears.



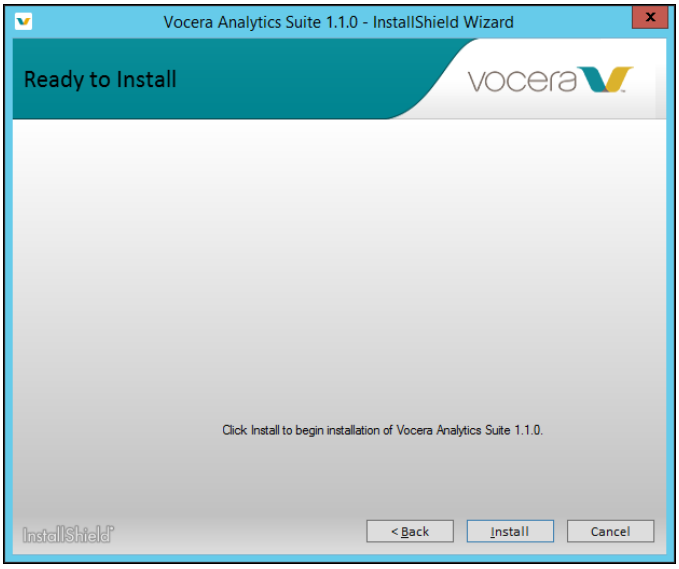
2. Click Next.
   The License Agreement screen appears.
3. Select I accept the terms in the license agreement after you have read the license agreement.



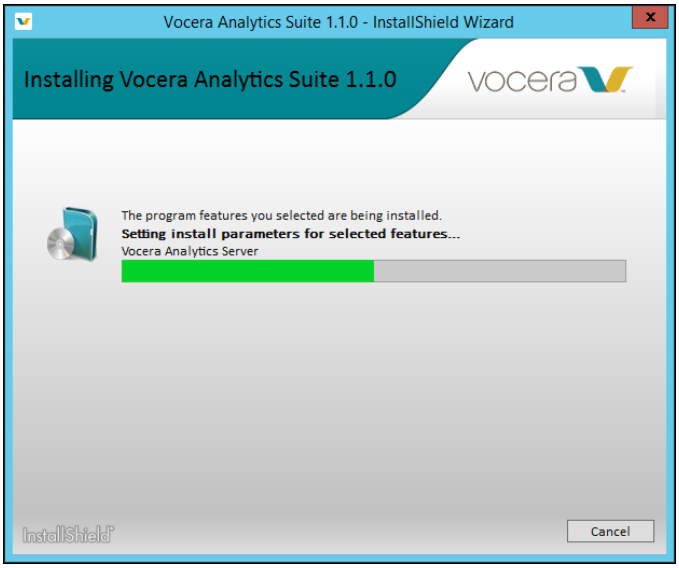
Note: Click Print if you want to print the license agreement.

4. Click Next.
   The Ready to Install screen appears.

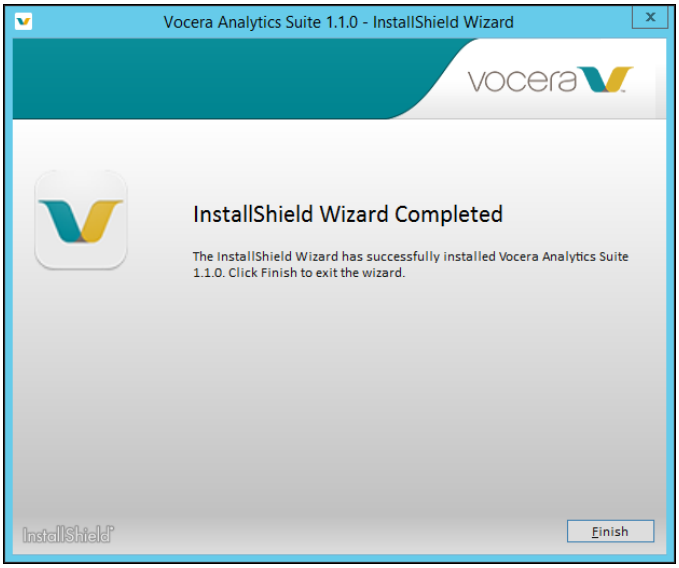
Note: The remote agent is installed on the same drive where the Voice Server is installed. However, the installer logs are stored in the following location: `C:\InstallLogs-VoceraAnalytics\1.1`.



5. Click Install.
   The Installing Vocera Analytics Suite 1.1.0 window appears. Do not close any installer windows that appear during installation.

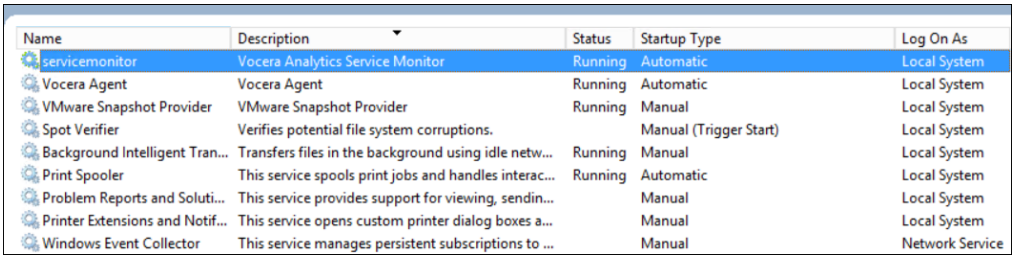


6. Click Finish.
   The InstallShield Wizard Completed screen appears.



To validate that the remote agent is installed successfully and to check if the service monitor is installed and running, use the `services.msc`. The slave service monitor installed here is used to interact with the master service monitor of the Vocera Analytics server.

The following screenshot displays the slave service monitor running on the Voice Server.



Name	Description	Status	Startup Type	Log On As
servicemonitor	Vocera Analytics Service Monitor	Running	Automatic	Local System
Vocera Agent	Vocera Agent	Running	Automatic	Local System
VMware Snapshot Provider	VMware Snapshot Provider	Running	Manual	Local System
Spot Verifier	Verifies potential file system corruptions.		Manual (Trigger Start)	Local System
Background Intelligent Tran...	Transfers files in the background using idle netw...	Running	Manual	Local System
Print Spooler	This service spools print jobs and handles interac...	Running	Automatic	Local System
Problem Reports and Soluti...	This service provides support for viewing, sendin...		Manual	Local System
Printer Extensions and Notif...	This service opens custom printer dialog boxes a...		Manual	Local System
Windows Event Collector	This service manages persistent subscriptions to ...		Manual	Network Service

7. Update the maximum heap memory size (**Xmx512m**) of flume to the required value based on the customer deployment size. The flume heap memory size is available in the `flume-env.ps1` file located at `<Install_Drive>\VoceraAnalytics\Agent\Flume\conf`. For more information on customer deployment sizes, refer to Customer Deployment Sizing on page 11. Based on the applicable customer deployment size, replace

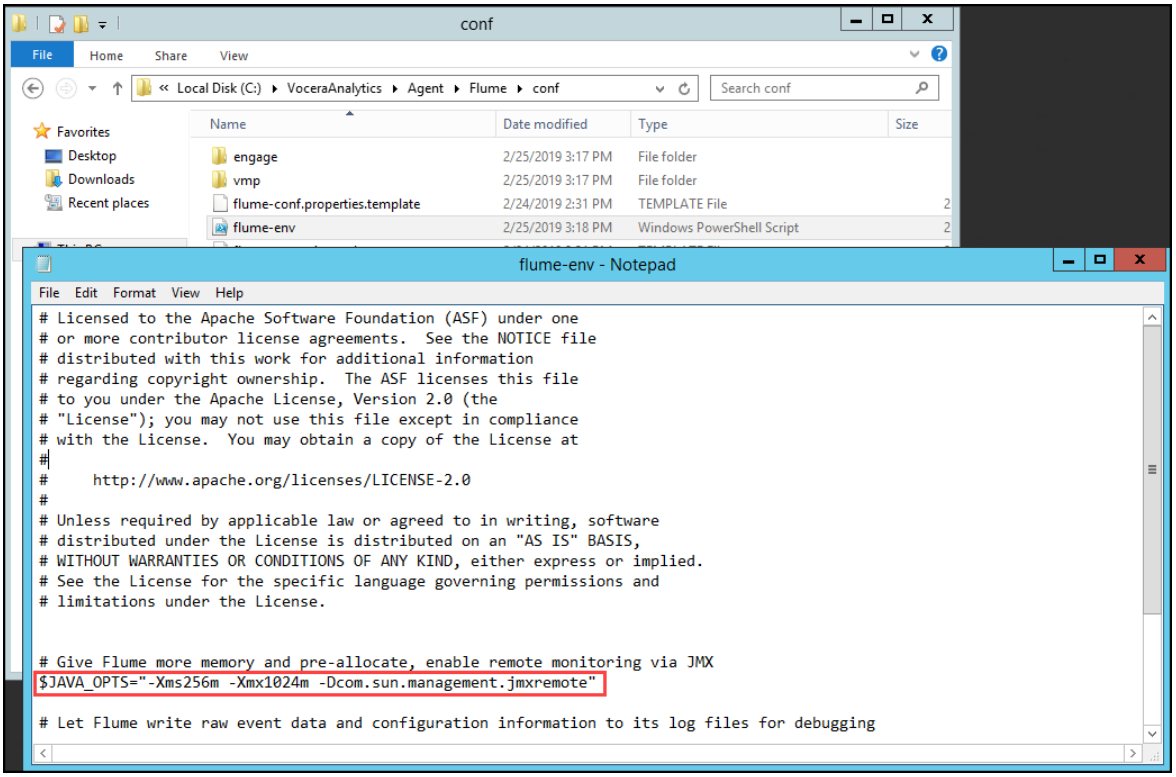
```
$JAVA_OPTS="-Xms256m -Xmx512m -Dcom.sun.management.jmxremote"
```

with

Customer Deployment Size	Flume Heap Memory Size
Small	`$JAVA_OPTS="-Xms256m -Xmx1024m -Dcom.sun.management.jmxremote"`
Medium	`$JAVA_OPTS="-Xms256m -Xmx2048m -Dcom.sun.management.jmxremote"`
Large	`$JAVA_OPTS="-Xms256m -Xmx3072m -Dcom.sun.management.jmxremote"`

Note: Ensure that you stop the flume service, update the heap memory size, and restart the flume service if flume is already running.

The following example shows the updated maximum flume heap memory size for small deployments.



Note: In case of Voice Server cluster, you must install the flume agent on both nodes (active and standby) in the Voice Server cluster. Perform the above steps to install the flume agent on each node of the cluster.

Note: If data migration is not part of the implementation, then perform loading dimension from the active Voice Server. For more information, see **Loading Dimension** on page 36.

Installing Remote Agent On Linux

This section describes how to install Vocera Analytics 1.1.0. Remote Agent on a Linux system.

Installing the Remote Agent on Vocera Platform 6.0

To install the Remote Agent on Vocera Platform 6.0, perform the following tasks:

- Install Analytics Data Sync Adapter
- Install Flume and Service Monitor from the RPM
- Configure Vocera Platform 6.0 Remote Agent and Source

Installing Analytics Data Sync Adapter

You must install Analytics Data Sync Adapter to get full dimension data as well as incremental dimension data.

Prerequisites:

To install Analytics Data Sync Adapter you must:

- Have access to RPM in Artifactory requires a repository (repo) configuration in `/etc/yum.repos.d/vocera.repo`.

Configuration:

To install Vocera Analytics Data Sync Adapter, perform the following steps:

1. Configure the repo with the artifactory path.

   The following is an example Artifactory configuration in `/etc/yum.repos.d/vocera.repo`:

   ```
   [Artifactory]
   ```

```
name=Artifactory
baseurl=http://<artifactory path>/Platform-6.0
enabled=1
gpgcheck=0
```

Note: The specific Artifactory repo is listed at the end of the URL.

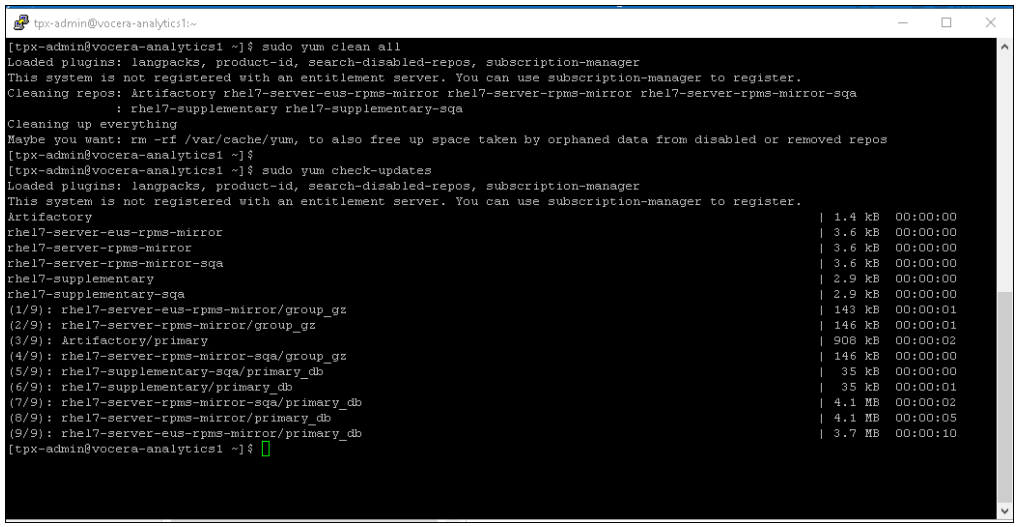
In this example, the `baseurl` is the path of the Artifactory repo.

2. Execute the following command to clean all cached information

```
sudo yum clean all
```

3. Execute the following command to check for the latest RPM

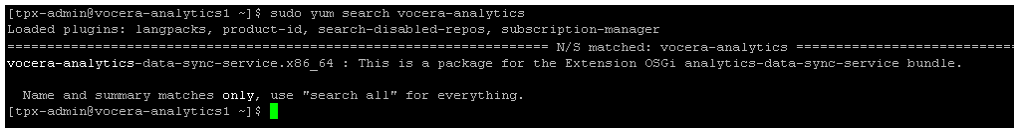
```
sudo yum check-updates
```



4. Search for the required RPM name by executing the command

```
sudo yum search vocera-analytics
```

where `vocera-analytics-data-sync-service` is the RPM name.

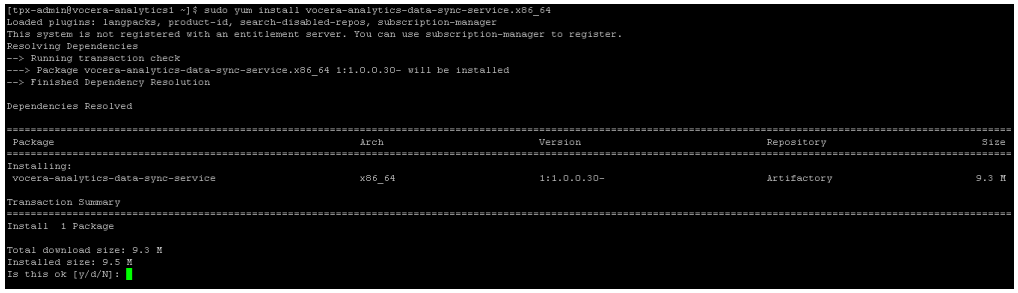


5. To install, execute the command

```
sudo yum install vocera-analytics-data-sync-service.x86_64
```

where `vocera-analytics-data-sync-service.x86_64` is the RPM name.

After you execute the command, the system displays the package details and prompts for a confirmation to install.



6. Press **y** to install.

```
Is this ok [y/d/N]: y
Downloading packages:
vocera-analytics-data-sync-service-1.0.0.30.x86_64.rpm                                                    | 9.3 MB  00:00:27
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : 1:vocera-analytics-data-sync-service-1.0.0.30-.x86_64                                                    1/1
/etc/cron.hourly/logrotate already exists
  Verifying  : 1:vocera-analytics-data-sync-service-1.0.0.30-.x86_64                                                    1/1

Installed:
  vocera-analytics-data-sync-service.x86_64 1:1.0.0.30-

Complete!
[tpx-admin@vocera-analytics1 ~]$
```

The system installs the Analytics Data Sync Adapter and displays Complete! upon installation.

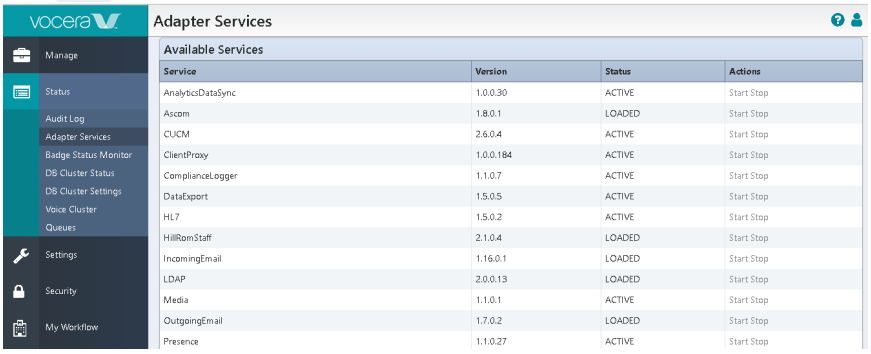
Note: In this example, the `AnalyticsDataSync` folder is created upon successful installation at: `/opt/EXTENSION/log`. By default the `AnalyticsDataSync` folder is created inside the log directory. However, the log directory can be configured to any other location.

Verification:

To verify if the Analytics Data Sync Adapter is installed successfully:

1. Login to Vocera Platform 6.0 Web console.
2. Go to Status > Adapter Services and check the list of adapter services displayed.

   The `AnalyticsDataSync` service should be listed in the list of available services and display its status as ACTIVE.



Service	Version	Status	Actions
AnalyticsDataSync	1.0.0.30	ACTIVE	Start Stop
Ascom	1.8.0.1	LOADED	Start Stop
CUCM	2.6.0.4	ACTIVE	Start Stop
ClientProxy	1.0.0.184	ACTIVE	Start Stop
ComplianceLogger	1.1.0.7	ACTIVE	Start Stop
DataExport	1.5.0.5	ACTIVE	Start Stop
HL7	1.5.0.2	ACTIVE	Start Stop
HillRomStaff	2.1.0.4	LOADED	Start Stop
IncomingEmail	1.16.0.1	LOADED	Start Stop
LDAP	2.0.0.13	LOADED	Start Stop
Media	1.1.0.1	ACTIVE	Start Stop
OutgoingEmail	1.7.0.2	LOADED	Start Stop
Presence	1.1.0.27	ACTIVE	Start Stop

3. Verify that the version displayed in the Adapter Services screen is the same that you have installed.

Installing Flume Agent and Service Monitor from the RPM

Prerequisites:

To install Flume Agent and Service Monitor from the RPM you must:

- Have access to RPM in Artifactory requires a repository (repo) configuration in `/etc/yum.repos.d/vocera.repo`.

Configuration:

To install the Flume Agent and Service Monitor on the Vocera Platform 6.0 system, perform the following steps:

1. Configure the repo with the artifactory path.

   The following is an example Artifactory configuration in `/etc/yum.repos.d/vocera.repo`:

```
[Artifactory]
name=Artifactory
baseurl=http://<artifactory path>/Platform-6.0
enabled=1
gpgcheck=0
```

Note: The specific Artifactory repo is listed at the end of the URL.
In this example, the `baseurl` is the path of the Artifactory repo.

Note: Access to RPM in Artifactory requires a repository (repo) configuration in `/etc/yum.repos.d/vocera.repo`.

2. Execute the following command to clean all cached information

```
sudo yum clean all
```

3. Execute the following command to check for the latest RPM

```
sudo yum check-updates
```

```
tpx-admin@vocera-analytics1:~
[tpx-admin@vocera-analytics1 ~]$ sudo yum clean all
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Cleaning repos: Artifactory rhel7-server-eus-rpms-mirror rhel7-server-rpms-mirror rhel7-server-rpms-mirror-sqa
               : rhel7-supplementary rhel7-supplementary-sqa
Cleaning up everything
Maybe you want: rm -rf /var/cache/yum, to also free up space taken by orphaned data from disabled or removed repos
[tpx-admin@vocera-analytics1 ~]$
[tpx-admin@vocera-analytics1 ~]$ sudo yum check-updates
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Artifactory                                                                                  | 1.4 kB  00:00:00
rhel7-server-eus-rpms-mirror                                                                 | 3.6 kB  00:00:00
rhel7-server-rpms-mirror                                                                     | 3.6 kB  00:00:00
rhel7-server-rpms-mirror-sqa                                                                 | 3.6 kB  00:00:00
rhel7-supplementary                                                                          | 2.9 kB  00:00:00
rhel7-supplementary-sqa                                                                      | 2.9 kB  00:00:00
(1/9): rhel7-server-eus-rpms-mirror/group_gz                                                 | 143 kB  00:00:01
(2/9): rhel7-server-rpms-mirror/group_gz                                                     | 146 kB  00:00:01
(3/9): Artifactory/primary                                                                   | 908 kB  00:00:02
(4/9): rhel7-server-rpms-mirror-sqa/group_gz                                                 | 146 kB  00:00:00
(5/9): rhel7-supplementary-sqa/primary_db                                                    |  35 kB  00:00:00
(6/9): rhel7-supplementary/primary_db                                                        |  35 kB  00:00:01
(7/9): rhel7-server-rpms-mirror-sqa/primary_db                                               | 4.1 MB  00:00:02
(8/9): rhel7-server-rpms-mirror/primary_db                                                   | 4.1 MB  00:00:05
(9/9): rhel7-server-eus-rpms-mirror/primary_db                                               | 3.7 MB  00:00:10
[tpx-admin@vocera-analytics1 ~]$
```

4. Search for the required RPM name by executing the command

```
sudo yum search va-flume.x86_64
```

where `va-flume` is the RPM name.

```
[tpx-admin@vocera-analytics1 ~]$ sudo yum search va-flume
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
=================================================================== N/S matched: va-flume ===================================
va-flume.x86_64 : This is a package for the Flume adapter bundle.

  Name and summary matches only, use "search all" for everything.
[tpx-admin@vocera-analytics1 ~]$
```

5. To install, execute the command

```
sudo yum install va-flume.x86_64
```

where `va-flume.x86_64` is the RPM name.

Installing flume agent also installs the monitoring service.

```
[tpx-admin@vocera-analytics1 ~]$ sudo yum install va-flume.x86_64
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Resolving Dependencies
--> Running transaction check
---> Package va-flume.x86_64 0:1.1.0-26_362 will be installed
--> Processing Dependency: va-monitoring for package: va-flume-1.1.0-26_362.x86_64
--> Running transaction check
---> Package va-monitoring.x86_64 0:1.1.0-99_362 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=================================================================================================================================
 Package                                Arch                             Version                     Repository              Size
=================================================================================================================================
Installing:
 va-flume                               x86_64                           1.1.0-26_362                Artifactory             67 M
Installing for dependencies:
 va-monitoring                          x86_64                           1.1.0-99_362                Artifactory             55 M

Transaction Summary
=================================================================================================================================
Install  1 Package (+1 Dependent package)

Total download size: 121 M
Installed size: 134 M
Is this ok [y/d/N]: y
```

After you execute the command, the system displays the package details and prompts for a confirmation to install.

6. Press **y** to install.

```
Downloading packages:
(1/2): va-flume-1.1.0-26_362.x86_64.rpm                                    |  67 MB  00:02:29
(2/2): va-monitoring-1.1.0-99_362.x86_64.rpm                               |  55 MB  00:02:38
--------------------------------------------------------------------------------------------------
Total                                                                785 kB/s | 121 MB  00:02:38
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Found VA_HOME set in /etc/bashrc.
VA_HOME is set to '/opt/VoceraAnalytics'
  Installing : va-monitoring-1.1.0-99_362.x86_64                    1/2
status=:=success
Starting service va-monitoring.
  Installing : va-flume-1.1.0-26_362.x86_64                         2/2

VA_HOME = /opt/VoceraAnalytics
FLUME_CLASSPATH = /opt/VoceraAnalytics/Agent/Flume/lib
status=:=success
Found the /opt/vocera/server/lib directory
  Found  : server-6.0.0-SNAPSHOT.jar
  Found  : commons-configuration-1.10.jar
  Found  : commons-lang-2.6.jar
  Found  : crypto-1.1.2.jar
  Found  : slf4j-vs-logger-1.0.0-SNAPSHOT.jar
  Found  : license-parser-1.0-SNAPSHOT.jar
  Found  : jcl-over-slf4j-1.7.7.jar
  Found  : slf4j-vs-logger-1.0.0-SNAPSHOT.jar
  Found  : signaling-adapter-api-6.0.0-SNAPSHOT.jar
  Verifying  : va-monitoring-1.1.0-99_362.x86_64                    1/2
  Verifying  : va-flume-1.1.0-26_362.x86_64                         2/2

Installed:
  va-flume.x86_64 0:1.1.0-26_362

Dependency Installed:
  va-monitoring.x86_64 0:1.1.0-99_362

Complete!
```

The system installs the flume package and displays Complete! upon installation.

Note: The flume package installs both flume and service monitor.

After the installation is complete, the service monitor starts automatically.

Verification:

To verify if the service monitor is installed successfully, perform the following step:

1. To verify the status of the service monitor, execute the command

   ```
   sudo systemctl status va-monitoring.service
   ```

   The output should display the `va-monitoring-service` as active (running).

```
[tpx-admin@vocera-analytics1 ~]$ sudo systemctl status va-monitoring.service
● va-monitoring.service - Monitoring Service for Vocera Analytics
   Loaded: loaded (/usr/lib/systemd/system/va-monitoring.service; enabled; vendor preset: disabled)
   Active: active (running) since Thu 2019-01-03 02:24:27 EST; 9min ago
 Main PID: 19972 (bash)
   CGroup: /system.slice/va-monitoring.service
           ├─19972 bash /opt/VoceraAnalytics/servicemonitor/run.sh
           └─19973 java -Duser.dir=/opt/VoceraAnalytics/servicemonitor -Dhttps.port=9445 -Dhttp.port=disabled -Dhttps.keyStore=conf/vocera-analytics.jks -Dhttps.keyS...

Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at sun.nio.fs.UnixException.translateToIOException(UnixException.java:86)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at sun.nio.fs.UnixException.rethrowAsIOException(UnixException.java:102)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at sun.nio.fs.UnixException.rethrowAsIOException(UnixException.java:107)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at sun.nio.fs.UnixFileSystemProvider.newByteChannel(UnixFileSystemProvider.java:214)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at java.nio.file.Files.newByteChannel(Files.java:361)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at java.nio.file.Files.newByteChannel(Files.java:407)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at java.nio.file.Files.readAllBytes(Files.java:3152)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at controllers.ServiceController$$anonfun$listAllServices$1.apply(ServiceController.scala:58)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at controllers.ServiceController$$anonfun$listAllServices$1.apply(ServiceController.scala:54)
Jan 03 02:33:47 vocera-analytics1 run.sh[19972]: at play.api.mvc.ActionBuilder$$anonfun$apply$14.apply(Action.scala:403)
```

Configuring Vocera Platform 6.0 Remote Agent and Source

Configuration

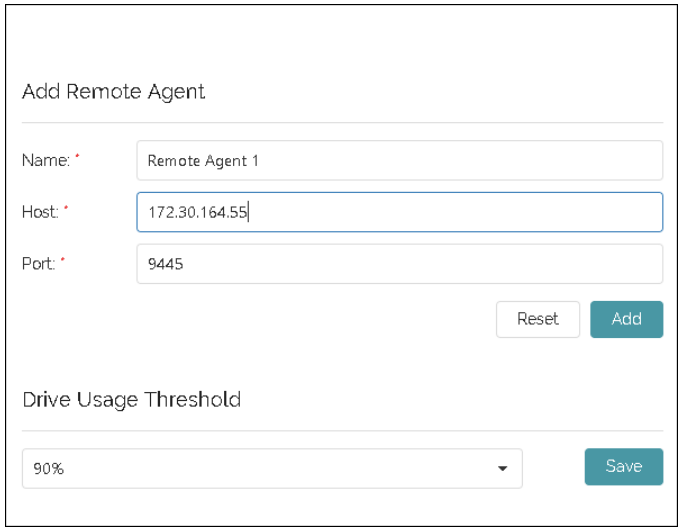
To configure Vocera Platform 6.0 Remote Agent and Source, perform the following steps on the Vocera Analytics system:

1. Double-click the **ServiceMonitor Dashboard** icon on your desktop or enter the following in the address bar of the browser window: `https://<host_name>:9445` where *host_name* is either the numeric IP address or the DNS name of the Service Monitor.
2. Login to the Service Monitor application of Vocera Analytics.
3. Go to Configuration > Remote Agents and add a remote agent for Vocera Platform 6.0.

   Note: Only the fields required for this configuration are explained. For more information, refer to **Configuring Remote Agents** on page 70.

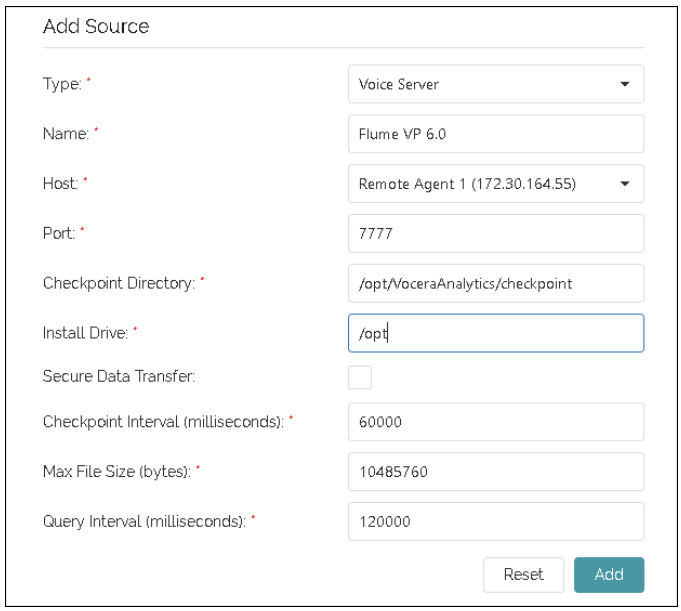
   Configure the Remote Agent name and its hostname.

   In the following figure, `Remote Agent 1` is the name of the remote agent, `172.30.164.55` is the hostname. The hostname is the IP address or machine name of Vocera Platform 6.0.



4. Click Add to add a remote agent of Vocera Platform 6.0.
   A pop-up message appears that the remote agent is added successfully.
5. Go to Configuration > Sources page and add a source for Vocera Platform 6.0.

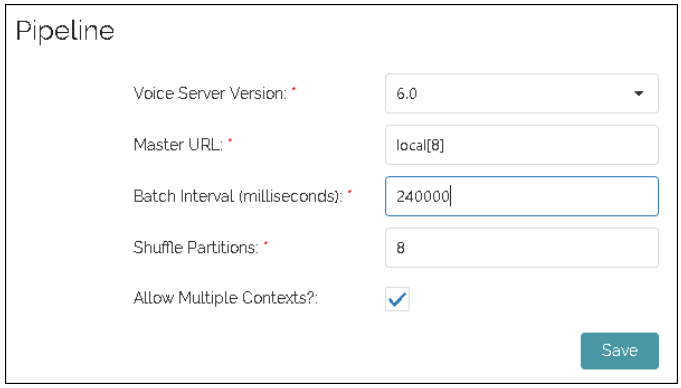
   Note: Only the fields required for this configuration are explained. For more information, refer to **Configuring Sources** on page 71.



6. In the host field, select the remote agent that you configured in the previous task.
7. Specify the checkpoint directory location where you have access to create a directory.
   The checkpoint directory is created while configuring sources. In this example, the checkpoint directory is `/opt/VoceraAnalytics/checkpoint`.
8. Specify the directory location where Vocera Platform 6.0 is installed.
   In this example, `/opt` is the directory where Vocera Platform 6.0 is installed. `/opt` is the default directory location.
9. Click Add to add the source of Vocera Platform 6.0.
   A pop-up message appears that the source is added successfully.
10. Go to Configuration > Pipeline page and add a pipeline for Vocera Platform 6.0.

    Note: Only the fields required for this configuration are explained. For more information, refer to **Configuring Pipeline** on page 74.

11. In Voice Server Version field, select **6.0** from the dropdown list.



12. Click **Save** to save the pipeline configuration for Vocera Platform 6.0.
    The pipeline is successfully saved.
13. Update the maximum heap memory size (**Xmx512m**) of flume to the required value based on the customer deployment size. The flume heap memory size is available in the `flume-env.sh` file located at `<Install_Drive>\VoceraAnalytics\Agent\Flume\conf`. For more information on customer deployment sizes, refer to **Customer Deployment Sizing** on page 11. Based on the applicable customer deployment size, replace

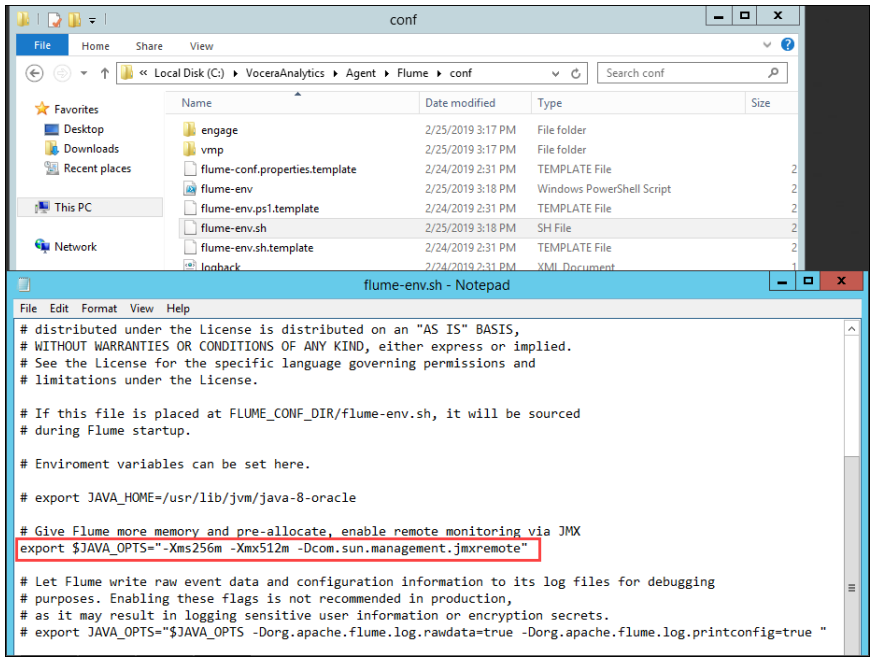
```
export $JAVA_OPTS="-Xms256m -Xmx512m -Dcom.sun.management.jmxremote"
```

with

Customer Deployment Size	Flume Heap Memory Size
Small	`export $JAVA_OPTS="-Xms256m -Xmx1024m -Dcom.sun.management.jmxremote"`
Medium	`export $JAVA_OPTS="-Xms256m -Xmx2048m -Dcom.sun.management.jmxremote"`
Large	`export $JAVA_OPTS="-Xms256m -Xmx4096m -Dcom.sun.management.jmxremote"`

Note: Ensure that you stop the flume service, update the heap memory size, and restart the flume service if flume is already running.

The following example shows the updated maximum flume heap memory size for small deployments.



Proceed with configuring the remaining services. For more information, refer to **Monitoring Services** on page 63.

Verification:

To verify if the checkpoint directory is created in the configured location:

1. Login to the Vocera Platform 6.0 server.
2. Go to `/opt/VoceraAnalytics`.
   The checkpoint directory created is displayed.

```
tpx-admin@fw-analytics-alameda-01:/opt/VoceraAnalytics
[tpx-admin@fw-analytics-alameda-01 VoceraAnalytics]$ ls
Agent  Checkpoint  logs  servicemonitor
[tpx-admin@fw-analytics-alameda-01 VoceraAnalytics]$
```

Note: In case of Voice Server cluster, you must install the flume agent on both nodes (active and standby) in the Voice Server cluster. Perform the above steps to install the flume agent on each node of the cluster.

Upgrading Vocera Analytics

The following sections describe the steps to upgrade to Vocera Analytics 1.1.0 version.

Upgrading Vocera Analytics Server

This section describes the steps to upgrade the Vocera Analytics server.

Prerequisites

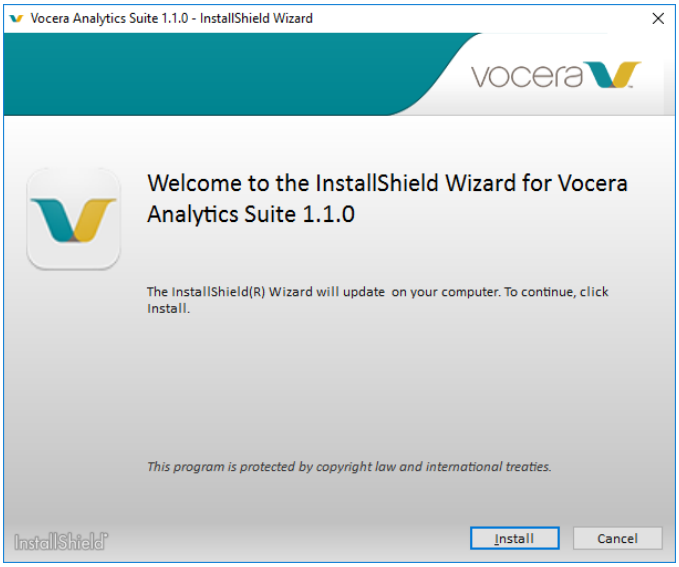
- Stop All Services in the Service Monitor interface.
- For VMP remote agent, if you are using VMP versions 5.2.2 or 5.2.3, perform the following:
  - Connect to the VMP database using any of the DB client tools such as Heidi or SQL Server Management Studio,
  - Execute the following two commands on WICMASTER database:
    Alter table UsersInDistList add RowUpdated rowversion;
    Alter table textmessageresponses add RowUpdated rowversion;

Note: While executing these commands, you may encounter the error message: `Column name 'RowUpdated' in table 'UsersInDistList' is specified more than once.` You can ignore this error message and proceed with the configuration.

Upgrade Procedure

To upgrade the Vocera Analytics Suite on the Vocera Analytics Server, perform the following steps:

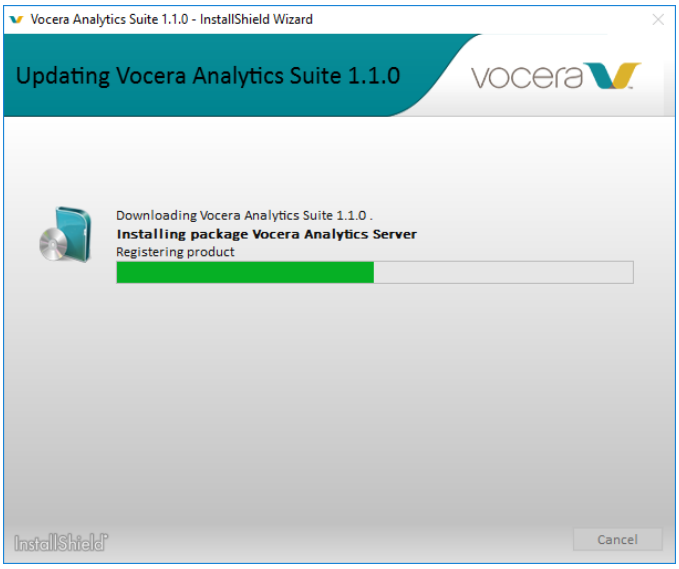
1. Right-click **VASuite.exe** and select **Run as administrator**.
   The installer is launched, and the installer **Welcome to the InstallShield Wizard for Vocera Analytics Suite 1.1.0** screen appears.



2. Click Install.

   The Installing Vocera Analytics Suite 1.1.0 window appears.

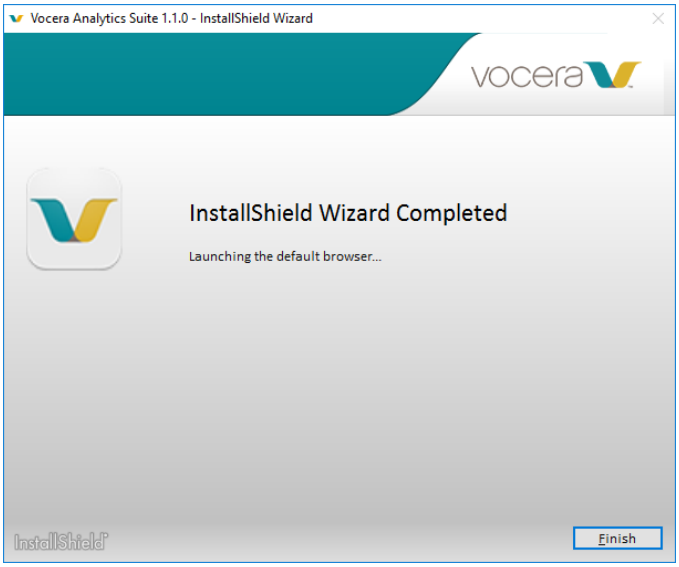
Note: Do not close any installer windows that appear during installation.



3. Click Finish.

   The InstallShield Wizard Completed screen appears. However, the upgrade is not complete.

   The upgrade script of the Vocera Analytics database runs internally in the background after you click Finish.



4. Go to `C:\InstallLogs-VoceraAnalytics\1.1\VA_1.1_Update.log` to check the status of the upgrade installer. The upgrade process may take a longer time based on the customer data size. During this upgrade process, do not configure any sources, do not restart or stop any services, or restart the VA server.

   Monitoring services launches after the upgrade process is complete.
5. Proceed to upgrade the Voice Server after the monitoring services is launched. For more information, refer to **Upgrading Remote Agent on the Voice Server** on page 32.

Upgrading Remote Agent on the Voice Server

This section describes the steps to upgrade the Remote Agent on the Voice server.

To upgrade the Vocera Analytics Suite on the Voice Server, perform the following steps:

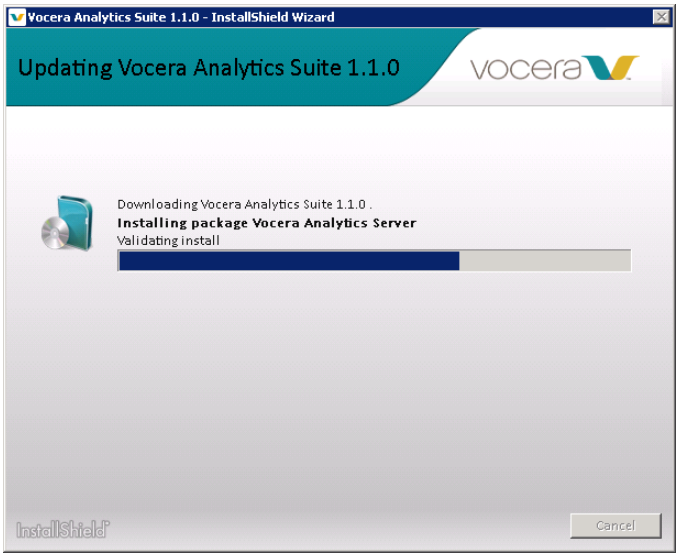
1. Right-click **VASuite.exe** and select the option, **Run as administrator**.

   The installer is launched, and the installer **Welcome to the InstallShield Wizard for Vocera Analytics Suite 1.1.0** screen appears.

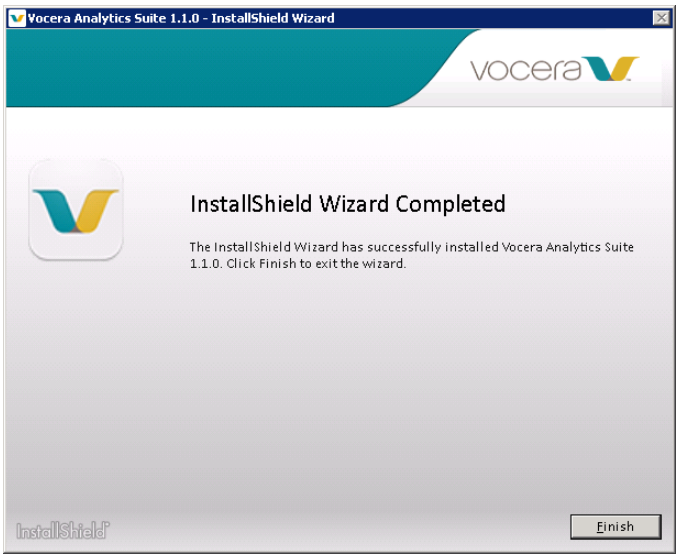
2. Click Install.

   The Installing Vocera Analytics Suite 1.1.0 window appears.

Note: Do not close any installer windows that appear during installation.



3. Click Finish.
   The InstallShield Wizard Completed screen appears.



Now, proceed to perform the post update steps. For more information, refer to **Post Upgrade Steps** on page 33.

Post Upgrade Steps

This section describes the post upgrade steps that need to be done to complete the upgrade.

To accomplish a successful upgrade, perform the following steps:

Note: The following steps are mandatory to sync upgrade configuration.

1. Login to Service Monitor user interface of the Vocera Analytics server.
2. Click Configure > Sources.
   The Sources page appears.
3. Edit Engage, VMP, and Voice Server flume sources, and click Update.

Note:

- For VMP source, select the required VMP version.
- For Voice server, you must update the configuration for both active and standby nodes.

4. Click Configure > Pipeline and Save.
   The pipeline saves the new configuration.
5. Click Configure > Analytics Database and Save.
   The Analytics database saves the new configuration.
6. Click Monitoring Services configuration main page and click Start All Services.
   All the services are started.

Jar Files for Voice Server Upgrade

Vocera Analytics has dependencies on Voice Server `jar` files. This topic lists the jar file dependencies for the different versions of the Voice Server.

Whenever the Voice Server (VS) is upgraded, ensure to copy the required jar files from the `Voice Server lib folder` (source) to the `Analytics Flume folder` (target) on same server.

Source Path: `<InstallDir>/Vocera/server/lib`

Target Path: `<InstallDir>/VoceraAnalytics/Agent/Flume/lib`

Note: Ensure that you perform this activity on all nodes of the Voice Server.

Voice Server Version	Required jar files
VS 4.4.4	• server.jar • logi.crypto1.1.2.jar • license-parser.jar
VS 5.1	• server.jar • commons-configuration-1.10.jar • commons-lang-2.6.jar • crypto-1.1.2.jar • slf4j-api-1.7.7.jar • license-parser.jar • jcl-over-slf4j-1.7.7.jar • slf4j-vs-logger-1.0.0-SNAPSHOT.jar • logi.crypto1.1.2.jar
VS 5.2.1 and VS 5.2.0	• server.jar • commons-configuration-1.10.jar • commons-lang-2.6.jar • crypto-1.1.2.jar • slf4j-api-1.7.7.jar • license-parser.jar • jcl-over-slf4j-1.7.7.jar • slf4j-vs-logger-1.0.0-SNAPSHOT.jar
VS 5.3	• server.jar • commons-configuration-1.10.jar • commons-lang-2.6.jar • crypto-1.1.2.jar • slf4j-api-1.7.7.jar • license-parser.jar • jcl-over-slf4j-1.7.7.jar • slf4j-vs-logger-1.0.0-SNAPSHOT.jar • signaling-adapter-api-5.3.0-SNAPSHOT.jar

Voice Server Version	Required jar files
VS 5.3.1	• server.jar • commons-configuration-1.10.jar • commons-lang-2.6.jar • crypto-1.1.2.jar • slf4j-api-1.7.7.jar • license-parser.jar • jcl-over-slf4j-1.7.7.jar • slf4j-vs-logger-1.0.0-SNAPSHOT.jar • signaling-adapter-api-5.3.1-SNAPSHOT.jar
Vocera Platform 6.0	• server-6.0.0-SNAPSHOT.jar • commons-configuration-1.10.jar • commons-lang-2.6.jar • crypto-1.1.2.jar • slf4j-vs-logger-1.0.0-SNAPSHOT.jar • license-parser.jar • jcl-over-slf4j-1.7.7.jar • slf4j-vs-logger-1.0.0-SNAPSHOT.jar • signaling-adapter-api-6.0.0-SNAPSHOT.jar

Configuring VMI Data

The following sections describe configuring VMI responses and deduplicating VMI data.

Deduplicating VMI Data

Deduplicating is a process of removing the VMI data when the data is processed twice in Voice Server and Engage. The data deduplication is done on the basis of client ID.

If any alert is sent from an Engage appliance through VMI to Voice Server, the data is processed twice. For example:

- Engage LDG tables—Engage adapter inserts data.
- VMI tables—Voice Server pipeline inserts data.

Data deduplication is managed at the database level on the basis of client ID, that is provided during VMI configuration. In Vocera Analytics, `dimvmiclients` table contains the client ID for which data has to be deduplication. By default, the `dimvmiclients` table contains two client IDs **VMP** and **ENGAGE**. There is no restriction on the number of client ID configurations.

1. **Adding a Client ID**

   To add a client ID, perform the following tasks:

1. Connect to Vocera Analytics database as an authorized database user such as **analyticsuser** using tools such as HeidiSQL, workbench.
2. Check the data present in the `dimvmiclients` table using the following query:

   ```
   SELECT * FROM vocera_analytics.dimvmiclients;
   ```

3. Add a new client ID using the following query:

   ```
   INSERT INTO vocera_analytics.dimvmiclients(Id, ClientId) values (<Id>,'<ClientId>');
   ```

   where `<Id>` is the next incremental value and `<ClientId>` is the name of the client ID that requires data deduplication.

   Note: Ensure that you provide the exact name of the client ID to filter data.

2. **Deduplicating Data**

   If data is already loaded into Engage LDG database and VMI tables, then you must manually clear the data from the `vmiAlerts table` to perform data deduplication.

4. Clear data from the `vmiAlerts` table using the following query:

   ```
   TRUNCATE TABLE vocera_analytics.vmialerts;
   ```

   Database events ensures that data deduplication is complete by using `dimvmiclients` table.

Note: It is recommended to add the client ID before starting VRS or Engage data migration.

Configuring VMI Responses

This section describes configuring VMI responses to be categorized as Accepted.

To configure VMI responses to be categorized as Accepted, perform the following:

1. Connect to the Vocera Analytics (vocera_analytics) database.
2. Add the response to `dimvmiresponse` table.
   For example, if you want to add **accepted-yes** as the accepted response, use the command:
   `INSERT INTO `dimvmiresponse`(`AcceptResponses`,`RejectResponse`)VALUES('accepted-yes',NULL);`
   Similarly, you can update or delete entries from this table.
   After you execute this command, the new data arriving into the Vocera Analytics system will show as `accepted` for the response `accepted-yes`.

To modify old data in Vocera Analytics database, perform the following:

1. Connect to the Vocera Analytics (vocera_analytics) database.
2. Run the query: `truncate vmialerts;`
   This query removes the old data from the database.
3. Run the query: `call CreateVMIAlertsNormalization()`
   This query aggregates the VMI data.

Loading Dimension

An enterprise represents a collection of facilities, units, and other groups. Vocera analytics gets information about these dimensions from multiple sources. To have a meaningful analysis of data, we need to load dimension data from different sources.

Before migrating data, you must fetch the dimension from the Vocera Voice Server. In case of Voice Server cluster, run the dimension loading utility from the active Voice Server.

Note: Loading Dimension data is a mandatory procedure. Ensure that the Vocera Voice Server is configured and running before your run Dimension Loading utility. However, Loading Dimension is not required for Vocera Platform 6.0.

Note: For loading dimension and flume agent to work as expected for Voice Server version 5.3.1, perform the steps provided in **Copying Jar Files for Voice Server 5.3.1** on page 259.

To perform dimension loading, perform the following tasks:

1. Navigate to the Vocera Analytics Installation Drive folder `\VoceraAnalytics\DimensionLoading` on the system where Vocera Voice Server is installed.
   The `AppConifg.config` file is displayed.
2. Open `AppConifg.config` file in a notepad editor.
   The following fields are displayed:
   - **Voice_Server_IP**—Specifies the IP address of the Vocera Voice Server.
   - **Voice_Server_Admin_User_Name**—Specifies the username of the administrator.

     Note: Ensure that you only use the username as `administrator` in the configuration file.
   - **Voice_Server_Admin_User_Password**—Specifies the password for the administrator.
   - **VA_DB_Host**—Specifies the host IP address of the Vocera Analytics database.
   - **VA_DB_Port**—Specifies the port number for the host IP address.
   - **VA_DB_Name**—Specifies the name of the Vocera Analytics database.

- **VA_DB_UserName**—Specifies the username to access the Vocera Analytics database.
- **VA_DB_Password**—Specifies the password for the username.
- **Dimension_To_Load**—Specifies the dimension loaded by the dimension loading utility. The dimensions loaded are site, group, user, address book, device, location, and access point.

The following screenshot displays an example of the required entries.

```
AppConfig.config
1  Voice_Server_IP=172.30.22.90
2  Voice_Server_Admin_User_Name=Administrator
3  Voice_Server_Admin_User_Password=admin
4  VA_DB_Host=172.30.21.66
5  VA_Db_Port=3306
6  VA_DB_Name=vocera_analytics
7  VA_DB_UserName=analyticsuser
8  VA_DB_Password=analytics123
9  Dimension_To_Load=SITE,GROUP,USER,ADDRESS_BOOK,DEVICE,LOCATION,ACCESS_POINT
```

3. Run `runDimensionLoading.bat` using the command prompt as shown in the screenshot.

```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\VoceraAnalytics\DimensionLoading>runDimensionLoading.bat_
```

The following screenshot displays the completion status and the dimensions that are loaded.

```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\VoceraAnalytics\DimensionLoading>runDimensionLoading.bat

C:\VoceraAnalytics\DimensionLoading>java -cp .\VAIService.jar;.\* com.vocera.VAI
Application Started at  : 2018-02-02 15:32:22.370
Error while creating log file.
 Config File path := C:\VoceraAnalytics\DimensionLoading\AppConfig.config
 Log File path := C:\VoceraAnalytics\DimensionLoading\Log.txt
#### Vocera SLF4J Controller Adaptor log file has not been set.
Connection Opened at  : 2018-02-02 15:32:22.818
Get Users started at : 2018-02-02 15:32:22.818
Total Users are : 463   Time: 2018-02-02 15:32:22.822
Get Users completed at : 2018-02-02 15:32:23.439
DB Connection Opened At: 2018-02-02 15:32:23.475
Query execution done At: 2018-02-02 15:32:23.491
User query execution status  : true
Get Address Book Users started at : 2018-02-02 15:32:23.493
Total Address are : 5   Time: 2018-02-02 15:32:23.494
Get Address Book completed at : 2018-02-02 15:32:23.498
DB Connection Opened At: 2018-02-02 15:32:23.502
Query execution done At: 2018-02-02 15:32:23.505
Address Book query execution status  : true
Get Sites started at : 2018-02-02 15:32:23.505
Total Sites are : 4   Time: 2018-02-02 15:32:23.506
Get Sites completed at : 2018-02-02 15:32:23.522
DB Connection Opened At: 2018-02-02 15:32:23.524
Query execution done At: 2018-02-02 15:32:23.526
Site query execution status  : true
Get Devices started at : 2018-02-02 15:32:23.527
Total Devices are : 453   Time: 2018-02-02 15:32:23.528
Get Devices completed at  Time : 2018-02-02 15:32:25.870
DB Connection Opened At: 2018-02-02 15:32:25.874
Query execution done At: 2018-02-02 15:32:25.889
Device query execution status  : true
Get Locations started at : 2018-02-02 15:32:25.890
Total Locations are : 3   Time: 2018-02-02 15:32:25.891
Get Locations completed at : 2018-02-02 15:32:25.894
DB Connection Opened At: 2018-02-02 15:32:25.896
Query execution done At: 2018-02-02 15:32:25.898
Location query execution status  : true
Get getAccessPointsQuery started at : 2018-02-02 15:32:25.899
Total Locations are : 3   Time: 2018-02-02 15:32:25.899
Get Access Points completed at : 2018-02-02 15:32:25.903
DB Connection Opened At: 2018-02-02 15:32:25.905
Query execution done At: 2018-02-02 15:32:25.907
Access Points query execution status  : true
Get Groups started at : 2018-02-02 15:32:25.907
Total Groups are : 12   Time: 2018-02-02 15:32:25.909
Get Groups completed at : 2018-02-02 15:32:26.40
DB Connection Opened At: 2018-02-02 15:32:26.43
Query execution done At: 2018-02-02 15:32:26.45
Groups query execution status  : true
DB Connection Opened At: 2018-02-02 15:32:26.48
Query execution done At: 2018-02-02 15:32:26.76
Groups query execution status  : true
DB Connection Opened At: 2018-02-02 15:32:26.80
Query execution done At: 2018-02-02 15:32:26.82
Groups query execution status  : true
DB Connection Opened At: 2018-02-02 15:32:26.85
Query execution done At: 2018-02-02 15:32:26.87
Groups query execution status  : true
Connection closed At: 2018-02-02 15:32:26.87
Crosswalk table updation started at :2018-02-02 15:32:26.87
DB Connection Opened At: 2018-02-02 15:32:26.90
Query execution done At: 2018-02-02 15:32:26.331
Crosswalk table updation end at :2018-02-02 15:32:26.332

C:\VoceraAnalytics\DimensionLoading>_
```

If you encounter errors while loading dimensions, those errors are displayed on the console. The output is captured in the log file `log.txt` located at `VoceraAnalytics\DimensionLoading`.

Note: You can verify the loading dimension data by connecting to the Vocera Analytics database.

4. Run the `PostMigrationCleanup.bat` located at `<InstallDir>/VoceraAnalytics/DimensionLoading/` to clear plain-text passwords from the configuration file.

Data Migration

You can migrate your existing reporting and messaging data from Vocera products to Vocera Analytics. The following sections describe the procedure to migrate data from Vocera Report Server to Vocera Analytics, Vocera Messaging Platform to Vocera Analytics, and Vocera Engage to Vocera Analytics.

Migrating Data from Vocera Report Server to Vocera Analytics

The following sections describe the procedure to migrate data from Vocera Report Server to Vocera Analytics.

Migrating Vocera Report Server

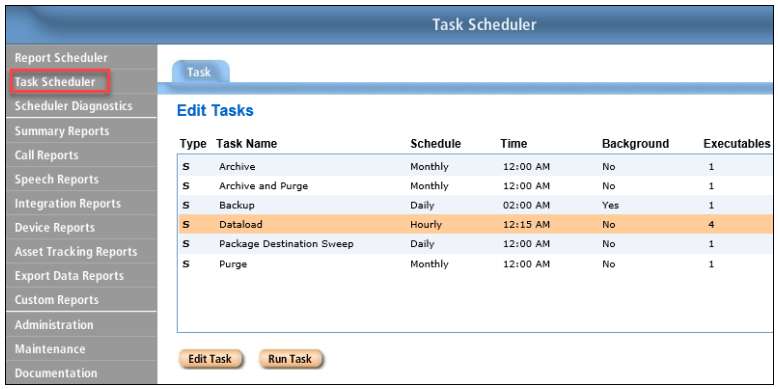
Follow the instructions given in this section to migrate Vocera Report Server (VRS) data to Vocera Analytics.

1. **Pre Data Migration**

   Before migrating Vocera Report Server, perform the following pre migration tasks:

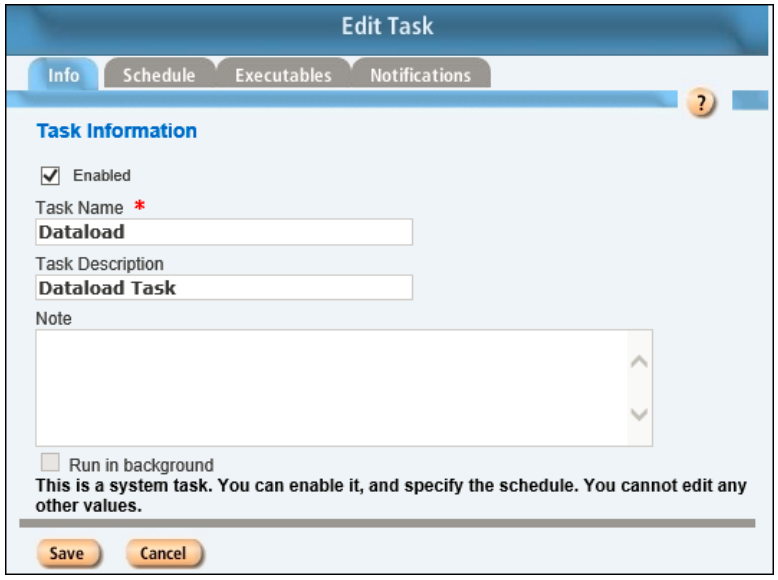
1. Login to VRS admin console using administrator credentials.
2. Click Task Scheduler.

   The Task Scheduler screen appears.



3. Select Dataload and click Edit Task.

   The Edit Task screen appears.



4. Uncheck the Enabled field in Task Information screen.
5. Click Save.

2. **Migrating VRS Configuration**

   To migrate VRS configuration, perform the following steps:

6. Navigate to the VoceraAnalytics>AnalyticsServer>conf folder.
7. Open the `vrs-migration-config.json` file.
8. Provide the VRS database details such as VRS IP address, database username, and database password in the source fields.

   Note: The default username is `vocera` and password is `vocera` for the VRS database.

9. Provide the Vocera Analytics database details such as VA IP address, database username, and database password in the target fields.

   The following screenshot displays the information to be added to the JSON file.

```
vrs-migration-config.json
1  {
2    "source": {
3      "url": "jdbc:mysql://<VRS_Ip_Address>:3306/vocera_reports",
4      "driver": "com.mysql.jdbc.Driver",
5      "user": "<VRS_Db_UserName>",
6      "password": "<VRS_Db_Password>"
7    },
8    "target":{
9      "url": "jdbc:mysql://<VA_Ip_Address>:3306/vocera_analytics",
10     "driver": "org.mariadb.jdbc.Driver",
11     "user": "<VA_Db_UserName>",
12     "password": "<VA_Db_Password>"
13   },
14   "shuffle.partitions": 5,
15   "enable.repartition": true
16 }
```

10. Save the file.

3. **Updating the Spark Configuration File**

   To update the Spark configuration file, perform the following tasks:

11. Navigate to the VoceraAnalytics>AnalyticsServer>conf folder.
12. Open the `spark-defaults.conf` file, and update the value for spark.driver.memory field from 8g to `32g` for medium and large size servers or `16g` for small size servers.

    For more information on hardware requirements, refer to **Hardware Details** on page 10.

4. **Executing the VRS Migration bat file**

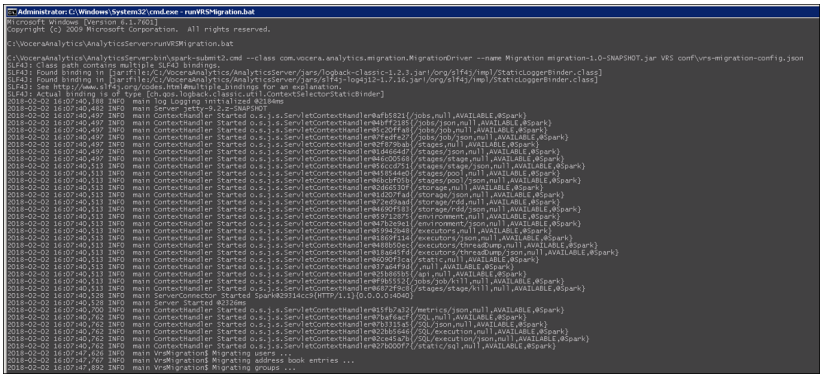
   To execute the VRS migration file, perform the following tasks:

13. Navigate to VoceraAnalytics>AnalyticsServer.

    The runVRSmigration.bat is displayed.

14. Select `runVRSMigration.bat` file and run it.

    The following command prompt window displays the status of the database table that are currently being migrated.



Note: Depending on the amount of data on VRS, it may take a longer time to complete the execution of the `runVRSMigration.bat` command.

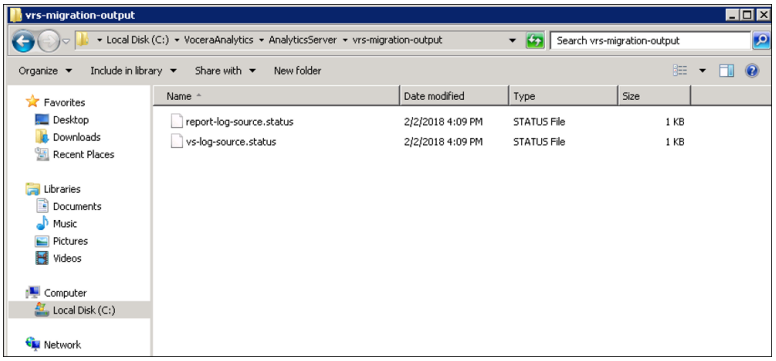
5. **Locating the Log files**

   To locate the log files, perform the following tasks:

15. Navigate to VoceraAnalytics>AnalyticsServer>vrs-migration-output folder.

    The following files are displayed:

    - `report-log-source.status`
    - `vs-log-source.status`



6. **Creating a Flume Status File**

   To create a flume status file, perform the following tasks:

16. Navigate to VoceraAnalytics>Agent>Flume folder on the Voice Server.

17. Create a flume-status folder and copy `report-log-source.status` and `vs-log-source.status` files to this folder. Ensure that the folder name flume-status is used.

    The VRS migration is complete. You would notice data differences due to the difference in calculations between VRS and Vocera Analytics. For more information, refer to **Differences between Vocera Report Server and Vocera Analytics** on page 95.

Note: If there are multiple Voice Servers, ensure that you copy both the files to all Vocera Voice Server machines.

Note: The `report-log-source.status` and `vs-log-source.status` files contain the checkpoints to indicate the completion of data migration from VRS to Vocera Analytics. When pipeline is initiated, it processes data after this checkpoint.

7. **Reverting the Spark Configuration File**

   To revert the spark configuration file, perform the following tasks:

18. Navigate to the VoceraAnalytics>AnalyticsServer>conf folder.

19. Open the `spark-defaults.conf` file and update the value for spark.driver.memory field to `12g`.

8. **Post Data Migration**

   After migrating Vocera Report Server, perform the following post migration tasks:

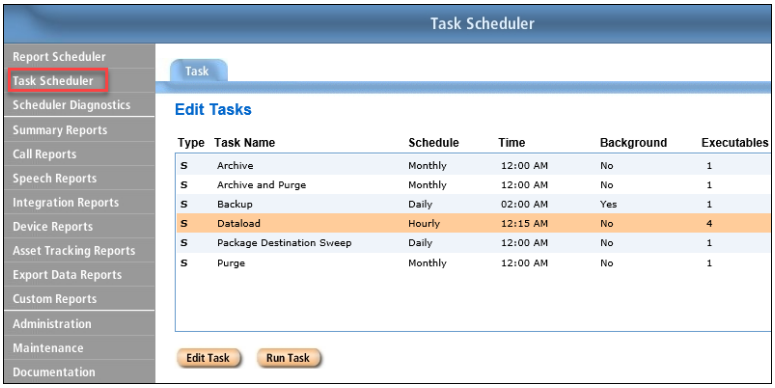
20. Run the `PostMigrationCleanup.bat` located at `<InstallDir>/VoceraAnalytics/AnalyticsServer/` to clear plain-text passwords from the configuration file.

    This step ensures that the credentials of VRS database and Vocera Analytics database are protected.

21. Login to VRS admin console using administrator credentials.

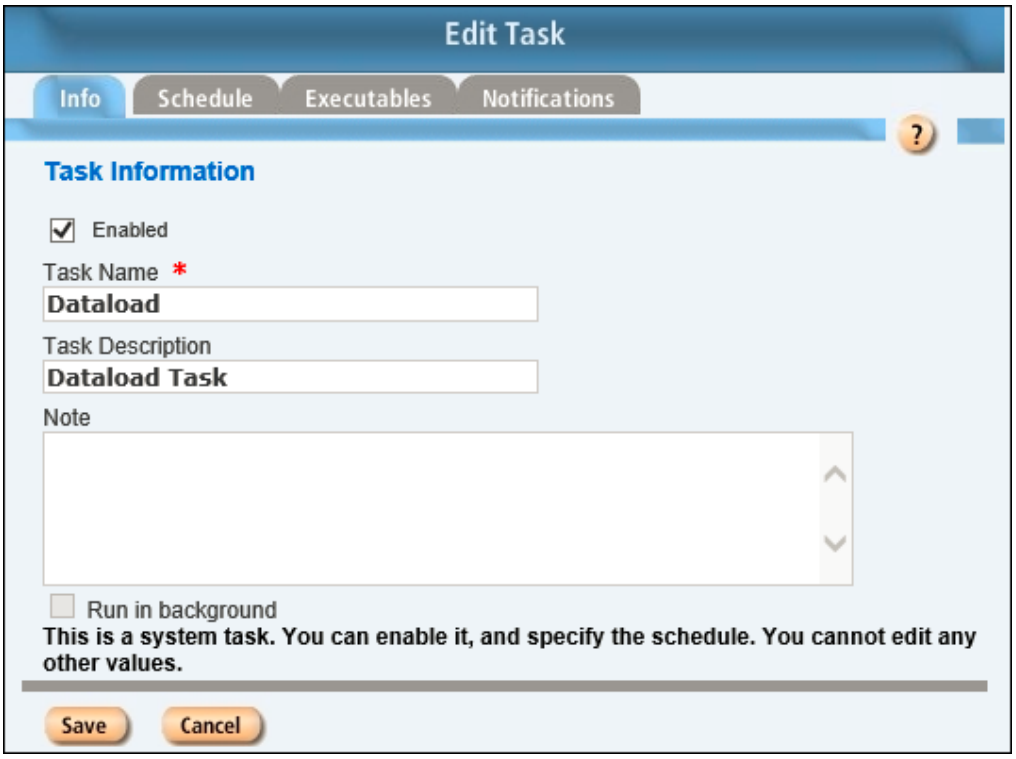
22. Click Task Scheduler.

    The Task Scheduler screen appears.



23. Select Dataload and click Edit Task.

    The Edit Task screen appears.



24. Check the Enabled field in Task Information screen.

25. Click Save.

Migrating Vocera Messaging Platform

Follow the instructions given in this section to migrate Vocera Messaging Platform (VMP) data to Vocera Analytics.

1. **Migrating VMP Configuration**

To migrate VMP, perform the following tasks:

1. Navigate to VoceraAnalytics>AnalyticsServer>conf folder.
2. Open the vmp-migration-config.json file.
3. Provide the VMP SQL database details in the source fields.
4. Provide the Vocera Analytics database details in the target fields.

   The following screenshot displays the information to be added to the JSON file.

```
vmp-migration-config.json
1  {
2    "source": {
3      "url": "jdbc:sqlserver://172.30.29.20:1433;databasename = WICMASTER",
4      "driver": "com.microsoft.sqlserver.jdbc.SQLServerDriver",
5      "user": "VMP_DB_admin",
6      "password": "VMP_DB_admin_password"
7    },
8    "target":{
9      "url": "jdbc:mysql://127.0.0.1:3306/vocera_analytics",
10     "driver": "org.mariadb.jdbc.Driver",
11     "user": "VA_DB_admin",
12     "password": "VA_DB_admin_password"
13   }
14 }
```

2. **Updating the Spark Configuration File**

   To update the Spark configuration file, perform the following tasks:

5. Navigate to the VoceraAnalytics>AnalyticsServer>conf folder.
6. Open the `spark-defaults.conf` file, and update the value for spark.driver.memory field from 8g to `32g` for medium and large size servers or `16g` for small size servers.

   For more information on hardware requirements, refer to **Hardware Details** on page 10.

3. **Executing the VMP Migration bat file**

   To excute the VMP migration file, perform the following tasks:

7. Navigate to VoceraAnalytics>AnalyticsServer.

   The runVMPmigration.bat is displayed.

8. Select `runVMPMigration.bat` file and run it.

   The following screenshot displays the file execution status.

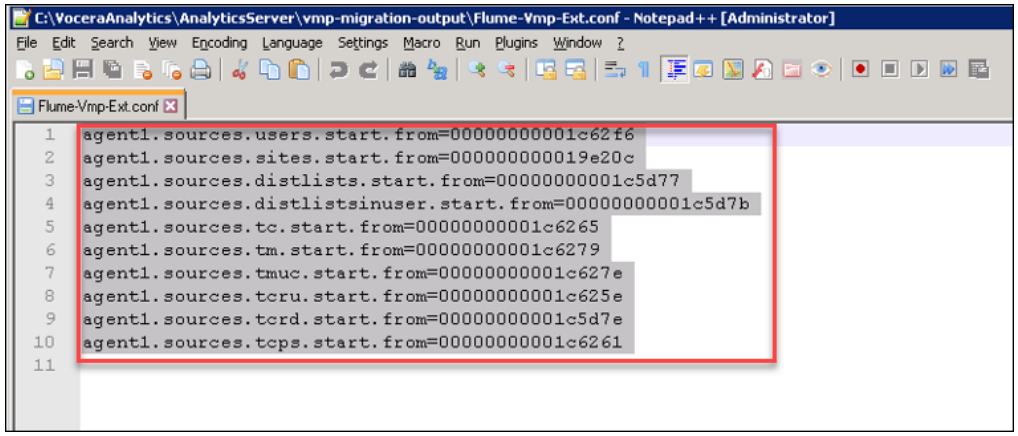
```
Administrator: C:\Windows\System32\cmd.exe - runVMPMigration.bat
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\VoceraAnalytics\AnalyticsServer>runVMPMigration.bat

C:\VoceraAnalytics\AnalyticsServer>bin\spark-submit2.cmd --class com.vocera.analytics.migration.MigrationDriver --name Migration migration-1.0-SNAPSHOT.jar VMP conf\vmp-migration-config.json
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/C:/VoceraAnalytics/AnalyticsServer/jars/logback-classic-1.2.3.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/C:/VoceraAnalytics/AnalyticsServer/jars/slf4j-log4j12-1.7.16.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [ch.qos.logback.classic.util.ContextSelectorStaticBinder]
2018-02-02 16:18:11,722 INFO  main log Logging initialized @2264ms
2018-02-02 16:18:11,815 INFO  main Server jetty-9.2.z-SNAPSHOT
2018-02-02 16:18:11,831 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@3b0ca5e1{/jobs,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@5bb3131b{/jobs/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@54dcbb9f{/jobs/job,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@74fef3f7{/jobs/job/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@2a037324{/stages,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@669eb86b4{/stages/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@595ac855{/stages/stage,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@5bb8f9e2{/stages/stage/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@6a933be2{/stages/pool,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@5f78de22{/stages/pool/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@516ebdf8{/storage,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@4d8539de{/storage/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@3eba57a7{/storage/rdd,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@272a179c{/storage/rdd/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@30fefffc{/environment,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@67207d8a{/environment/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@bcb09a6{/executors,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@72a69b4{/executors/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@a619c2{/executors/threadDump,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,846 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@648ee871{/executors/threadDump/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,862 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@3759b7f{/static,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,862 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@11813f3e9{/,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,862 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@020cb912D{/api,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,862 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@3b152928{/jobs/job/kill,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,862 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@56781d96{/stages/stage/kill,null,AVAILABLE,@Spark}
2018-02-02 16:18:11,862 INFO  main ServerConnector Started Spark@38d99e48{HTTP/1.1}{0.0.0.0:4040}
2018-02-02 16:18:11,862 INFO  main Server Started @2431ms
2018-02-02 16:18:12,034 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@37fdfb05{/metrics/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:12,096 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@795fd838{/SQL,null,AVAILABLE,@Spark}
2018-02-02 16:18:12,096 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@141e879d{/SQL/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:12,096 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@15fb7a3{/SQL/execution,null,AVAILABLE,@Spark}
2018-02-02 16:18:12,096 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@42e22a53{/SQL/execution/json,null,AVAILABLE,@Spark}
2018-02-02 16:18:12,096 INFO  main ContextHandler Started o.s.j.s.ServletContextHandler@61c7685O{/static/sql,null,AVAILABLE,@Spark}
2018-02-02 16:18:13,843 INFO  main VmpMigration$ Migrating Users
Latest RowUpdated for table : Users     00000000001c62f6
2018-02-02 16:18:20,645 INFO  main VmpMigration$ Migrating Sites
Latest RowUpdated for table : Sites     00000000019e20c
2018-02-02 16:18:20,848 INFO  main VmpMigration$ Migrating DistributionLists
```

9. Save the file.

4. **Updating the Flume Configuration File**

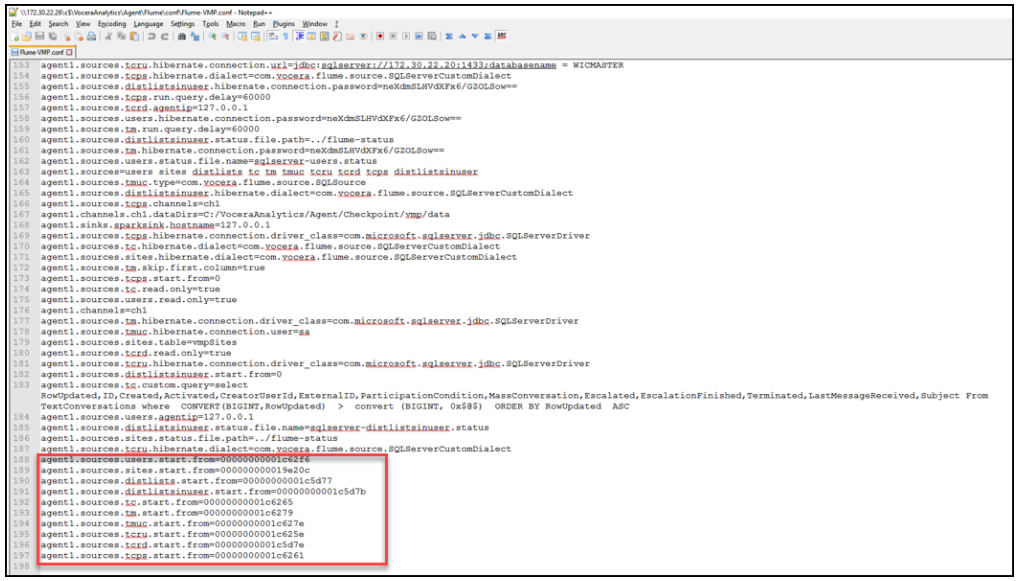
10. Navigate to VoceraAnalytics>AnalyticsServer>vmp-migration-output folder.
11. Open the `Flume-Vmp-Ext.conf` file and copy the content of file.

    The following screenshot displays the checkpoint details where the data is migrated to Vocera Analytics.



12. Open the `Flume-VMP.conf` file located at VoceraAnalytics>Agent>Flume>conf folder.
13. Paste the content of the `Flume-vmp-ext.conf` file at the end of the `Flume-VMP.conf` file.

    The following screenshot displays the pasted content.



    The VMP migration is complete.

    Note: The pasted content is the checkpoint. When pipeline is initiated, it starts reading the data after the checkpoint.

5. **Reverting the Spark Configuration File**

    To rever the spark configuration file, perform the following tasks:

14. Navigate to the VoceraAnalytics>AnalyticsServer>conf folder.
15. Open the `spark-defaults.conf` file and update the value for spark.driver.memory field to `12g`.
6. **Post Data Migration**

    After migrating Vocera Report Server, perform the following pre migration tasks:

16. Run the `PostMigrationCleanup.bat` located at `<InstallDir>/VoceraAnalytics/AnalyticsServer/` to clear plain-text passwords from the configuration file.

    This step ensures that the credentials of VMP database and Vocera Analytics database are protected.

Migrating Data from Engage Analytics

The following section describes the process of migrating data from a legacy deployment of Engage Reporting 1.0.25.

Migrating Existing Engage Reporting SQL Server Instance Overview

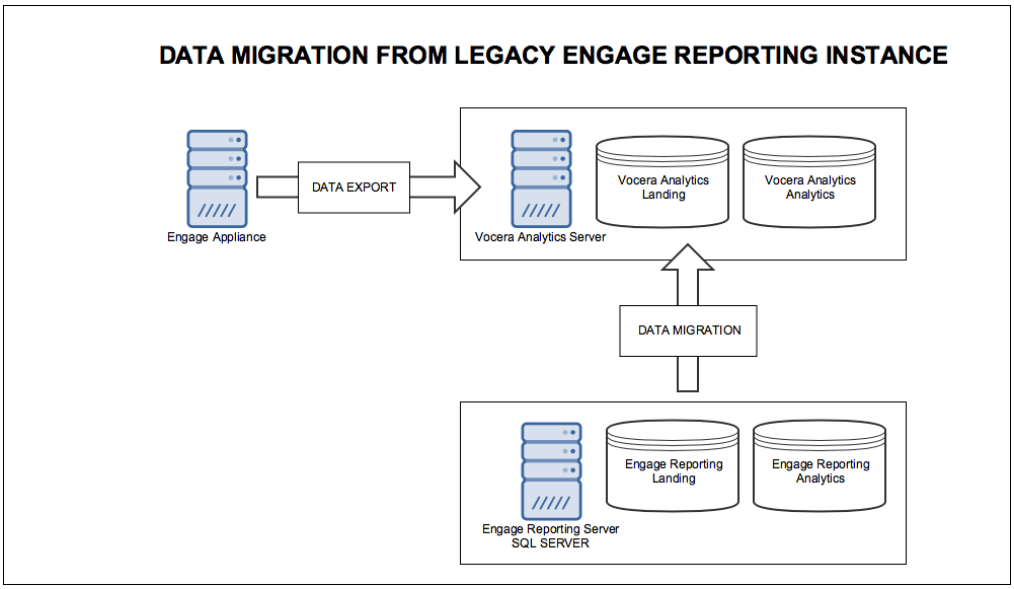
The following section describes the details of migrating existing Engage Reporting SQL Server Instance.

Prerequisites:

The prerequisites to migrate data are as follows:

- An existing SQL Server Engage Reporting 1.0 installation.
- A clean Vocera Analytics installation.
- A fully configured Vocera Analytics installation that is not running.
- Data export adapter on the Engage appliance that exports to Engage Reporting 1.0.25 turned off during migration.
- Flume, Spark, and the Data Export Adapter that exports to Vocera Analytics turned off during migration.

Note: Migration is considered a planned outage operation. The order of operation—install, configure, migrate, and start services must be strictly followed.



Migrating Data for Legacy Deployments

The Vocera Analytics installation application provides you the capability to run Data Migration for the Engage Analytics process.

Migration Process Overview

The migration process involves the following distinct steps:

- Setting up configuration files
- Copying existing data from legacy database tables
- Reprocessing legacy data into Engage Analytics tables
- Updating reporting tables in Engage Analytics

Note: The first step must be performed manually, and is described in the following section. The remaining steps are performed by the `migrate.cmd` script that uses the configuration files created in the first step.

Setting Up Configuration Files

Vocera Analytics installation contains the following three sample configuration files located at `<InstallDir>/VoceraAnalytics/DataMigration` directory.

- anl_migration-sample.json
- ldg_migration-sample.json

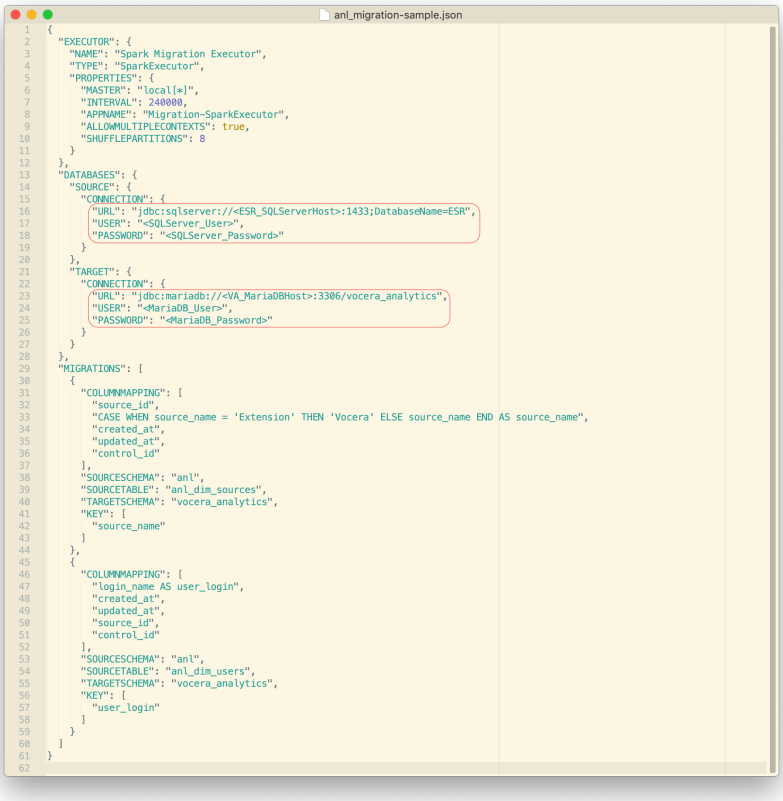
- pipeline-sample.json

The `anl_migration-sample.json` and `ldg_migration-sample.json` files are templates of files that are used in the process of copying legacy database tables. The `pipiline-sample.json` file is a template used in the reprocessing step.

1. **Configuring `anl_migration.json`**
1. Navigate to the installation directory of VoceraAnalytics>DataMigration.
2. Create a copy of the file `anl_migration-sample.json` and rename the file as `anl_migration.json`.
3. Open the configuration file `anl_migration.json` using an editor.
4. Provide the URL, username, and password for the source and target, replacing the placeholders in the file that are enclosed in angle brackets.

   Note: Do not include angle brackets around the values, but ensure the values are enclosed in double quotes.

   The following screenshot displays the sample `anl_migration.json` file.



   Note: All string values must be enclosed in double quotes. If a backslash or double quote occurs in a string value, it must be escaped with a backslash. For example, the string "\\\"" in a configuration file would produce a single backslash and a double quote. Failure to follow these instructions will result in an error and failed migration if the string contains a special character (as often required by password policy), a backslash, or a double quote.

5. Save the modified `anl_migration.json` file.
2. **Configuring `ldg_migration.json`**
6. Navigate to the installation directory of VoceraAnalytics>DataMigration.
7. Create a copy of the file `ldg_migration-sample.json` and rename the file as `ldg_migration.json`.
8. Open the configuration file `ldg_migration.json` using an editor.
9. Provide the URL, username, and password for the source and target, replacing the placeholders in the file that are enclosed in angle brackets.

Note: Do not include angle brackets around the values, but ensure the values are enclosed in double quotes.

The following screenshot displays the sample `ldg_migration.json` file.

ldg_migration-sample.json

```
1  {
2    "EXECUTOR": {
3      "NAME": "Spark Migration Executor",
4      "TYPE": "SparkExecutor",
5      "PROPERTIES": {
6        "MASTER": "local[*]",
7        "INTERVAL": 240000,
8        "APPNAME": "Migration-SparkExecutor",
9        "ALLOWMULTIPLECONTEXTS": true,
10       "SHUFFLEPARTITIONS": 8
11     }
12   },
13   "DATABASES": {
14     "SOURCE": {
15       "CONNECTION": {
16         "URL": "jdbc:sqlserver://<ESR_SQLServerHost>:1433;DatabaseName=ESR",
17         "USER": "<SQLServer_User>",
18         "PASSWORD": "<SQLServer_Password>"
19       }
20     },
21     "TARGET": {
22       "CONNECTION": {
23         "URL": "jdbc:mariadb://<VA_MariaDBHost>:3306/ldg",
24         "USER": "<MariaDB_User>",
25         "PASSWORD": "<MariaDB_Password>"
26       }
27     }
28   },
29   "MIGRATIONS": [
30     {
31       "COLUMNMAPPING": [
32         "event_id",
33         "CASE WHEN source_name = 'Extension' THEN 'Vocera' ELSE source_name END AS source_name",
34         "conversation_id",
35         "jid1",
36         "jid2",
37         "topic",
38         "insert_created_at"
39       ],
40       "SOURCESCHEMA": "ldg",
41       "SOURCETABLE": "ldg_conversations",
42       "KEY": [
43         "source_name",
44         "conversation_id"
45       ]
46     },
47     {
48       "COLUMNMAPPING": [
```

Note: All string values must be enclosed in double quotes. If a backslash or double quote occurs in a string value, it must be escaped with a backslash. For example, the string "\\\"" in a configuration file would produce a single backslash and a double quote. Failure to follow these instructions will result in an error and failed migration if the string contains a special character (as often required by password policy), a backslash, or a double quote.

10. Save the modified `ldg_migration.json` file.

3. **Configuring `pipeline.json`**

11. Navigate to the installation directory of VoceraAnalytics>DataMigration.
12. Create a copy of the file `pipeline-sample.json` and rename the file as `pipeline.json`.
13. Open the configuration file `pipeline.json` using an editor.
14. Provide the URL, username, and password for the Engage Analytics database, replacing the placeholders in the file that are enclosed in angle brackets.

Note: Do not include angle brackets around the values, but ensure the values are enclosed in double quotes.

The following screenshot displays the sample `pipeline.json` file.

pipeline-sample.json

```
{
  "EXECUTOR": {
    "NAME": "Spark Executor",
    "TYPE": "SparkExecutor",
    "PROPERTIES": {
      "MASTER": "local[*]",
      "INTERVAL": 240000,
      "APPNAME": "AnalyticsServer~SparkExecutor",
      "ALLOWMULTIPLECONTEXTS": true,
      "SHUFFLEPARTITIONS" : 8
    }
  },
  "ENGAGE":{
    "DATABASES": {
      "LANDING": {
        "CONNECTION": {
          "URL": "jdbc:mariadb://<VA_MariaDBHost>:3306/ldg",
          "USER": "<MariaDB_User>",
          "PASSWORD": "<MariaDB_Password>"
        }
      },
      "ANALYTICS": {
        "CONNECTION": {
          "URL": "jdbc:mariadb://<VA_MariaDBHost>:3306/vocera_analytics",
          "USER": "<MariaDB_User>",
          "PASSWORD": "<MariaDB_Password>"
        }
      },
      "METADATA": {
        "CONNECTION": {
          "URL": "jdbc:mariadb://<VA_MariaDBHost>:3306/vocera_meta",
          "USER": "<MariaDB_User>",
          "PASSWORD": "<MariaDB_Password>"
        }
      }
    }
  }
}
```

Note: All string values must be enclosed in double quotes. If a backslash or double quote occurs in a string value, it must be escaped with a backslash. For example, the string "\\\"" in a configuration file would produce a single backslash and a double quote. Failure to follow these instructions will result in an error and failed migration if the string contains a special character (as often required by password policy), a backslash, or a double quote.

15. Save the modified `pipeline.json` file.

4. **Executing the `migrate.cmd` Windows Batch File**

16. Open a command prompt window `(cmd.exe)` and change the current directory to the `DataMigration` directory in the Vocera Analytics installation directory.

    The following screenshot shows the `DataMigration` directory in command prompt:

Administrator: Command Prompt

```
C:\Users\Administrator>cd c:\VoceraAnalytics\DataMigration\

c:\VoceraAnalytics\DataMigration>
```

17. Type `migrate` and press **Enter**.

    This migrates the source database to the target database, performs reprocessing, and updates the report tables.

Updating the Flume Index Files

The data migration process is distinct from the operational data ingestion process for Vocera Analytics. When the migration process is complete, the index files that Flume uses to keep track of what data has already been processed must be updated to prevent reprocessing of the newly migrated data. This must be performed before the Flume service is started. The index files are generated from information provided in the `flume-Engage.conf` configuration file, and from information in the landing database.

Executing the `vacli updateindexfiles` Command

Update the Flume index files after the migration process is complete. Ensure that you use the correct path to the `flume-Engage.conf` file for your installation.

1. To execute the command, perform the following tasks:
1. Open a command prompt window `(cmd.exe)` and change the current directory to the `DataMigration` directory in the Vocera Analytics installation directory.
2. Type %VA_HOME%\vacli\vacli updateindexfiles %VA_HOME%\AnalyticsServer\conf\pipeline.json %VA_HOME%\Agent\flume\conf \engage\flume-Engage.conf and press **Enter**. This updates the Flume index files and prevents unnecessary reprocessing.

Understanding Engage Analytics Migration Phases

This section provides information on migration phases for Engage Analytics.

You can understand how to:

- Read the output of the migration process.
- Use the Spark UI.
- Explore the target database of the migration process.
- Explore the target database of the Engage Analytics processor run.

Understanding the Engage Analytics Migration Output

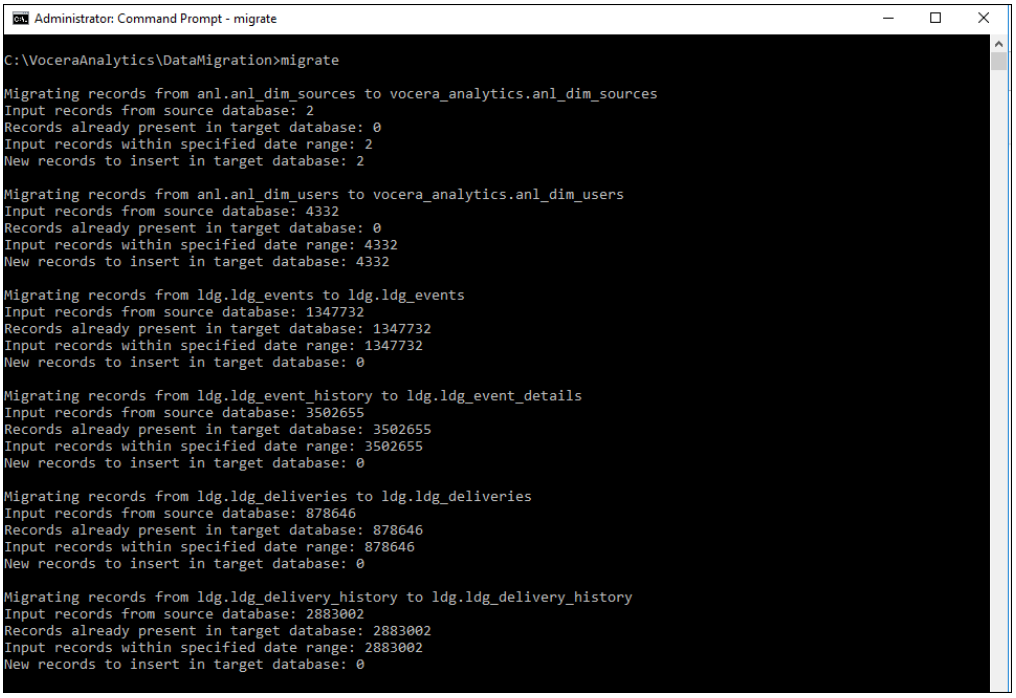
The `ESRPipeline.jar` file performs the following functions as orchestrated by the `migrate.cmd` script:

- Migrates data from the source landing (`ldg`) database to the target `ldg` database. This operation also includes populating the `anl_dim_users` table and the `anl_dim_sources` table, which are not part of the landing data in Engage Reporting 1.0.25.
- Runs the Engage Analytics processors to load the migrated data from the `ldg` tables into the `vocera_analytics` tables.

The command prompt window displays the following counts while the migration process runs:

- Input records found in the source database for a given table.
- Records from the source database that are already available in the migration target.
- Input records within the specified date range, or within the default date range if none is specified.
- New records to be inserted into the migration target database

  The following screenshot displays an example migration run:



The command prompt window displays the following information when the Engage Analytics processors run:

- The name of the landing table being processed.
- The count of records in the source database.
- The count of records within the specified date range, or within the default date range if none is specified.
- The code fingerprint (MD5 hash) for the running Engage Analytics processor.
- The database configuration for the running Engage Analytics processor.

The following screenshot shows an example run of the Engage Analytics processors:

```
Administrator: Command Prompt
Input records within specified date range: 1731163
New records to insert in target database: 3

Processing landing table: ldg.ldg_events
Input records from source database: 1347732
Input records within specified date range: 1347732
Fingerprint for EventProcessor: 826825ff033980ea57558ca3f5ae0908
Processor configuration:
  analyticsConnection: jdbc:mariadb://localhost:3306/vocera_analytics
  metaConnection: jdbc:mariadb://localhost:3306/vocera_analytics
  landingConnection: jdbc:mariadb://localhost:3306/ldg


Processing landing table: ldg.ldg_event_details
Input records from source database: 3502655
Input records within specified date range: 3502655
Fingerprint for EventDetailProcessor: b8c8404ec4b4e0358ab28f7f18ddbc84
Processor configuration:
  analyticsConnection: jdbc:mariadb://localhost:3306/vocera_analytics
  metaConnection: jdbc:mariadb://localhost:3306/vocera_analytics
host:3306/ldg


Processing landing table: ldg.ldg_deliveries
Input records from source database: 878646
Input records within specified date range: 878646
Fingerprint for EventDeliveryProcessor: 7a075ff7994c759032d2be9a5bba3ef0
Processor configuration:
  analyticsConnection: jdbc:mariadb://localhost:3306/vocera_analytics
  metaConnection: jdbc:mariadb://localhost:3306/vocera_analytics
  landingConnection: jdbc:mariadb://localhost:3306/ldg
```

The loaded data is available in `vocera_analytics` database.

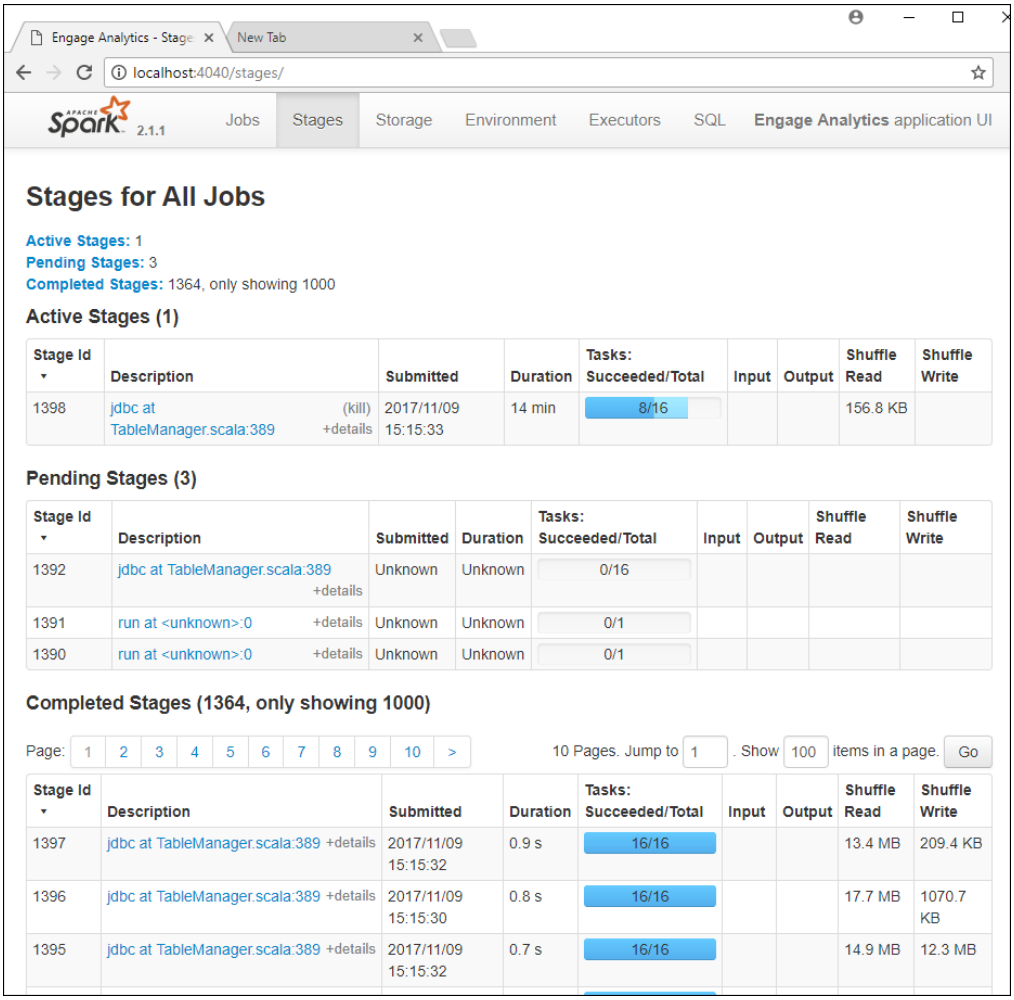
Using the Spark UI to track progress

The Spark user interface (UI) can be used to track the progress of the migration and processors. If the `migrate.cmd` script is running, you can browse to **http://localhost:4040** to view the status information related to the Spark engine that performs the migration.

The following screenshot corresponds to the progress crawler that displays at the bottom of the output for each migration activity.

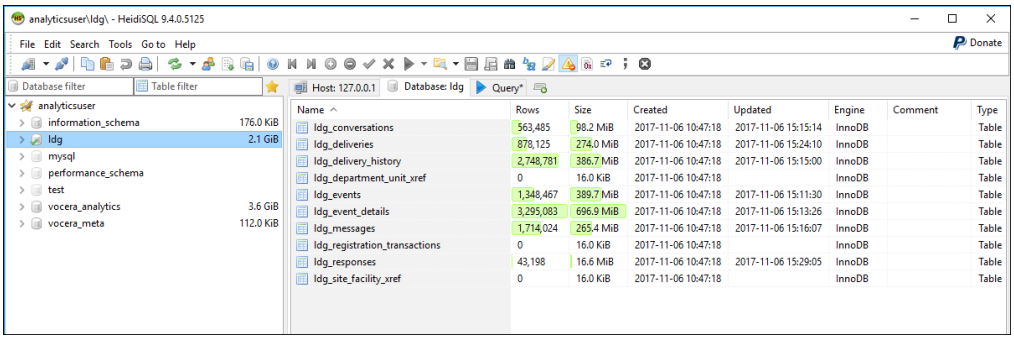
```
Fingerprint for ClinicalReportProcessor: c9c3a894d9a54008064af7c502e97652
[Stage 1447:>                                                       (0 + 4) / 16]
```

The following screenshot displays the Spark UI.



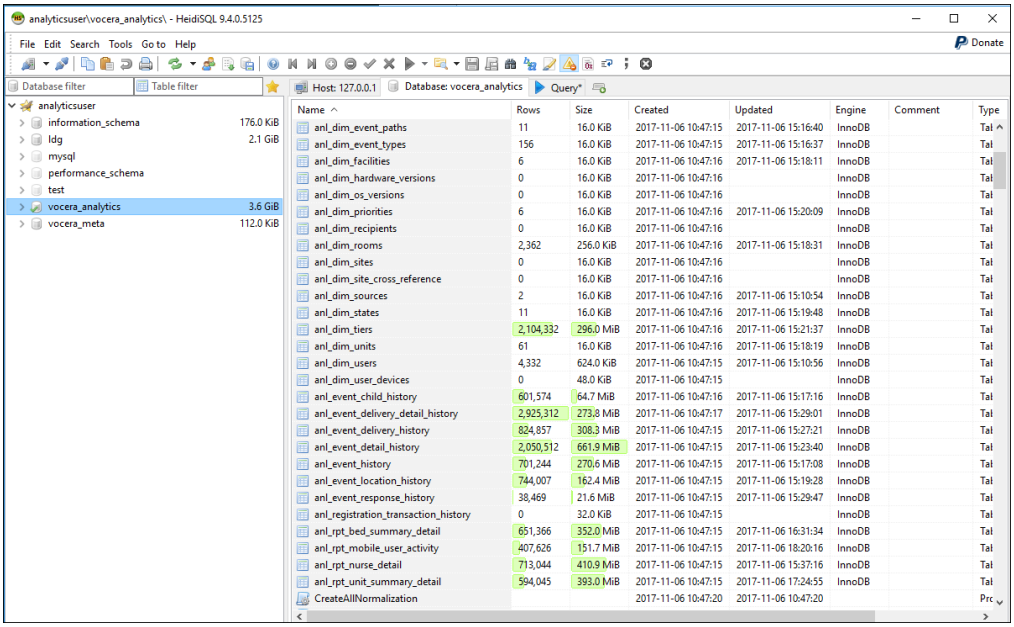
Exploring the Target Database of the Migration Process

The migration target is the `MariaDB` database on the server where Vocera Analytics is installed. The landing `ldg` database is where the records are copied when the migration is complete. To explore the migrated data, use the HeidiSQL tool that is installed with the `MariaDB` database. You can create a connection with the authentication credentials you specified during the installation procedure to perform this task, as shown in the following screenshot.



Exploring the Target Database of the Engage Analytics Processor Run

The target of the processor is the `MariaDB` database on the server where Vocera Analytics is installed. The `vocera_analytics` database and the tables named with an `anl_` prefix are populated when the Vocera Analytics processors complete the task To explore the data populated by the processors, use the HeidiSQL tool that is installed with `MariaDB` database, as shown in the following screenshot.



Cross Walk Table Maintenance

The Cross Walk tables provide a mechanism to cross walk between Voice Server and Engage Appliance schemas to apply filtering on Dashboards and Reports.

Note: For Vocera Platform 6.0, the sites and departments should already exist for crosswalks. You may not be required to create sites and departments manually.

Reports and Dashboard filters are dependent on the information contained in the `cwfacility` and `cwunit` Cross Walk tables. The Cross Walk tables provide a mechanism to cross walk between Vocera Voice Server (VS) and Engage Appliance schemas and maintain the relationship between Site-Facility and Department-Unit for applying filter criteria on Dashboards and Reports.

Note: If Crosswalk table is not populated correctly, dashboards and reports may show inaccurate data.

Note: Ensure that `cwfacility` and `cwunit` tables do not have duplicate entries.

Automatic Updates: For the following configurations, the records for VS only or Vocera Engage Appliance only are updated automatically every day at 12:05 am. Configurations that contain both VS and Engage Appliance require that Site-Facility and Department-Unit be configured utilizing the site management workflow in the Vocera Engage appliance.

Manual Updates: To manually update the cross walk table, you can use any SQL client tool such as HeidiSQL or MySQL Workbench using the following `Call` statement:

```
CALL vocera_analytics.UpdateCrosswalkTable();
```

The configuration setup that contains both VS and Engage Appliance has the following limitations:

- Supports only Site-Facility relationship (One-to-One)
- Requires maintenance on every Vocera Engage Appliance
- Requires internal Voice Server ID of the department
- Supports only case sensitive mapping for Site-Facility and Department-Unit names

Note: Mapping of One-to-Many and Many-to-Many are not supported in this release.

Engage Appliance workflow pages allow you to select from a list of existing sites, or create new sites that can then be associated with Engage Facilities. This will improve the quality of the relationships since it contains known facilities and units.

Currently, the Dashboard and Report UI filters use the common unit name, that is mapped by default to the Engage facility. Mapping `vs_department_name` requires the internal name of the Voice Server Department. No placeholder names can exist without this format. Otherwise, dashboard data may display multiple records for each unit.

Note: If your configuration contains both VS and Engage Appliance integration, the Implementation Engineer must explicitly set up the relationship between Site-Facility and Department-Unit on the Vocera Engage Appliance utilizing the available workflow pages.

Configuring Crosswalk

Prerequisites:

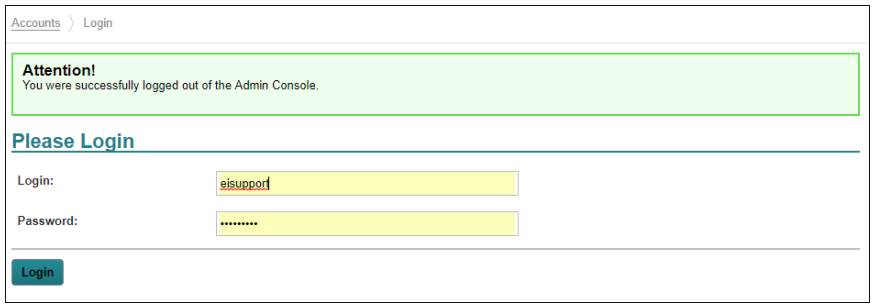
- Configured Engage appliance with Facilities and Units
- Configured Voice Server with Sites and Departments

Note:

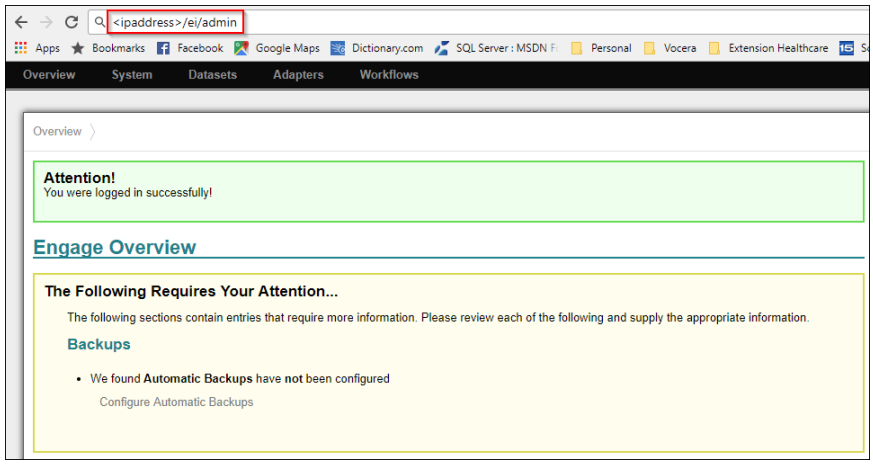
- Crosswalk mappings are intended to be 1 to 1:
  - one facility = one site
  - one unit = one department

To configure crosswalk for ManageSites, perform the following steps:

1. Log in to the Engage appliance.

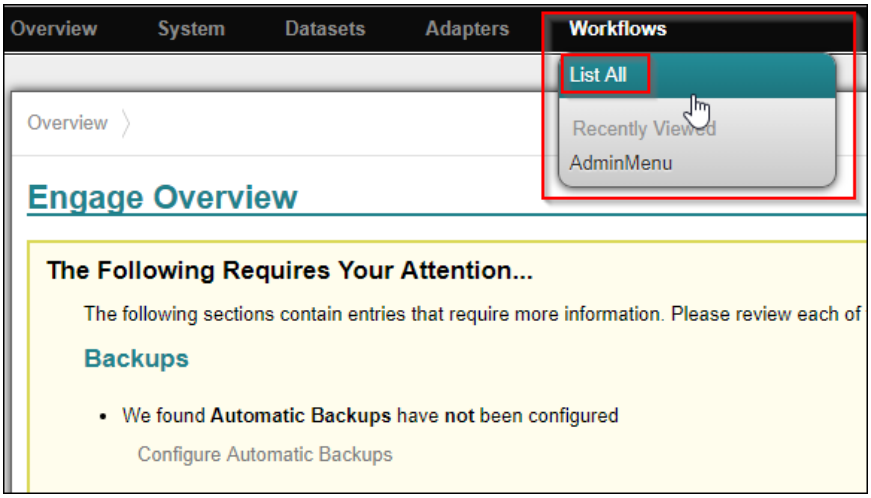


2. Navigate to Admin Console.



3. Click *Workflows>List All*.

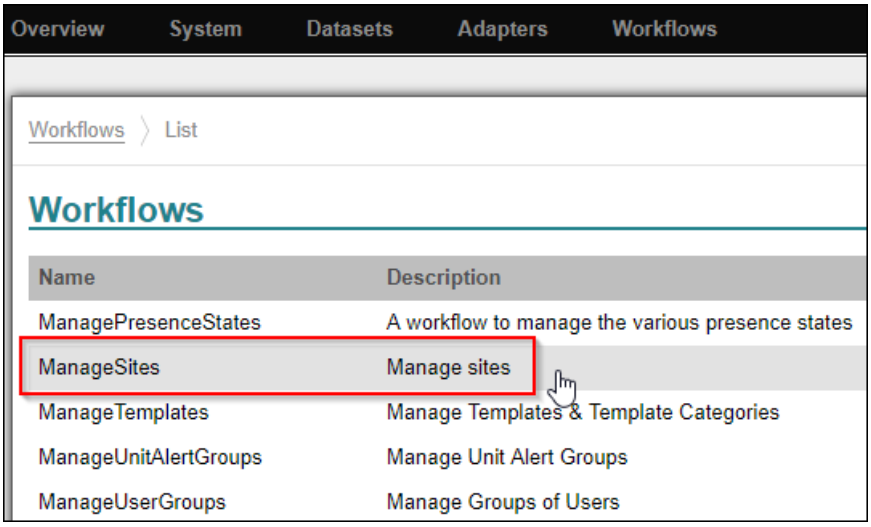
   A list of all *Workflows* are displayed.



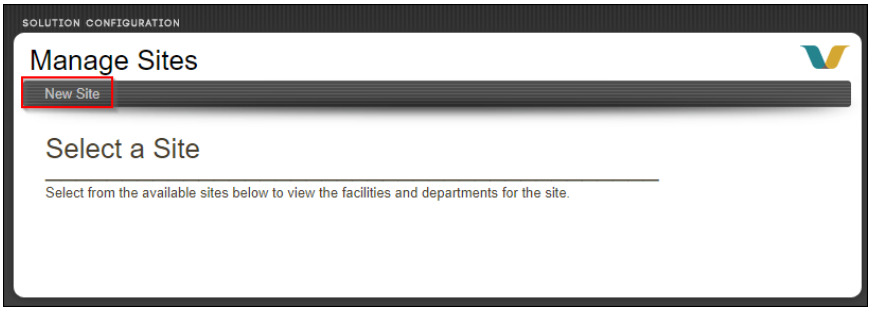
Creating New Site

To create new site, perform the following steps:

1. Select ManageSites.



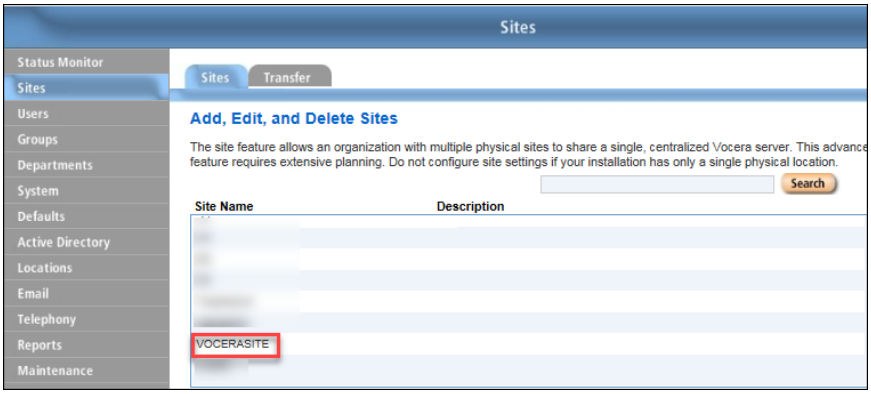
2. Select New Site.



3. Enter the site name of the Voice Server. For example, `VOCERASITE`.

Note: Ensure that the site you entered is exactly the same as given in the Voice Server.

The following figure shows the site name, `VOCERASITE`, configured in the Voice Server.



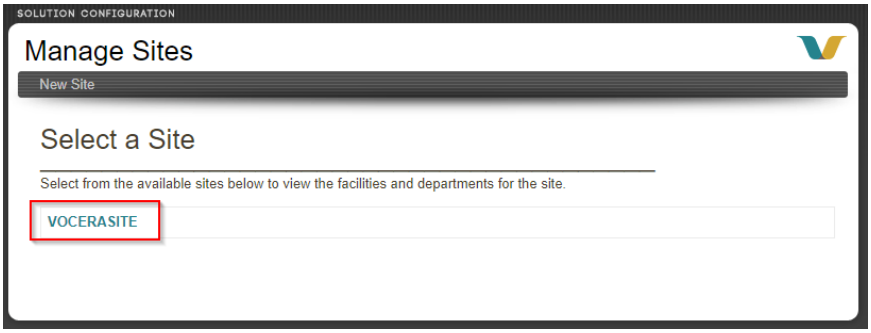
4. Click *Create*.

   The newly created site, `VOCERASITE`, is displayed.

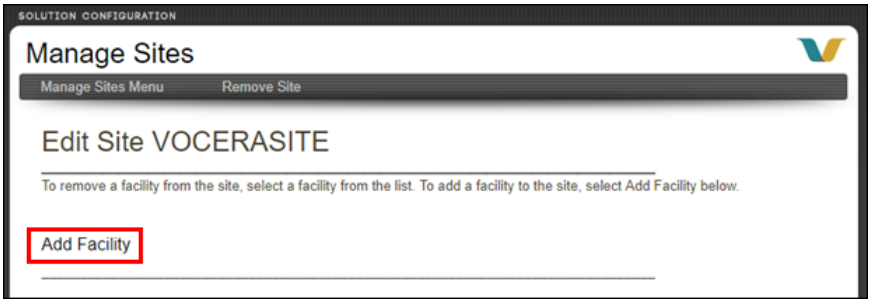
Assigning a New Facility to a Site

To assign a new facility to a site, perform the following steps:

1. Click `VOCERASITE` on Manage Sites page.



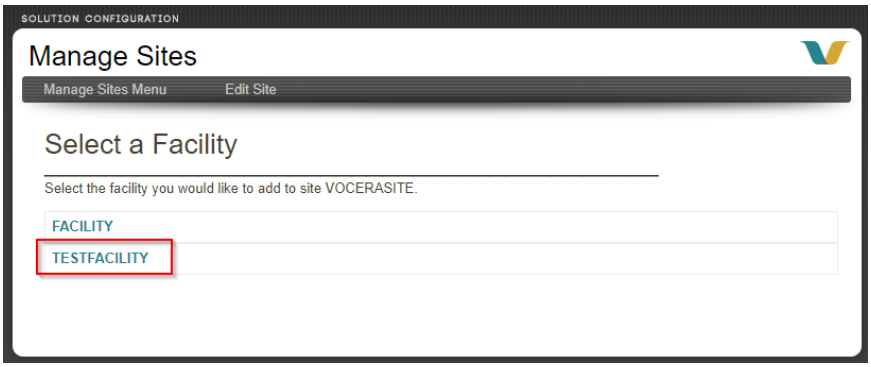
2. Click Add Facility.



Links the Voice Server site to the Engage facility.

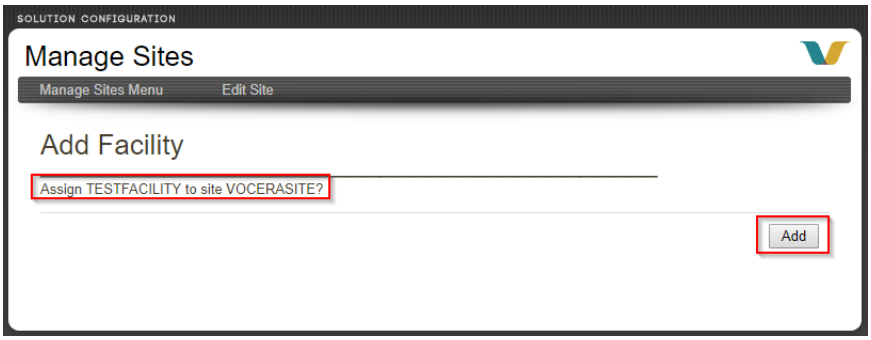
3. Select the Engage facility. For example, `TESTFACILITY`.

Maps the Engage facility to the Voice Server site.



4. Verify that the facility and site are correct and then click *Add*.

The Engage facility and Voice Server site are now mapped.

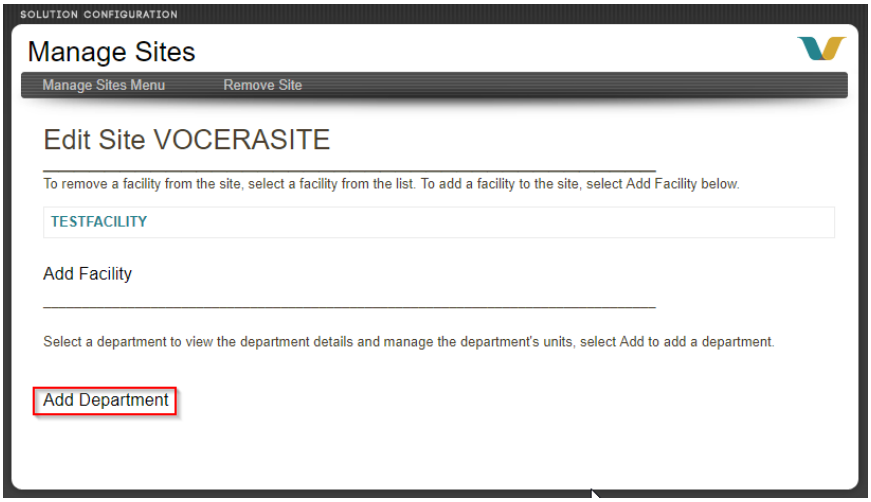


Perform these steps to map all Engage facilities to Voice Server sites.

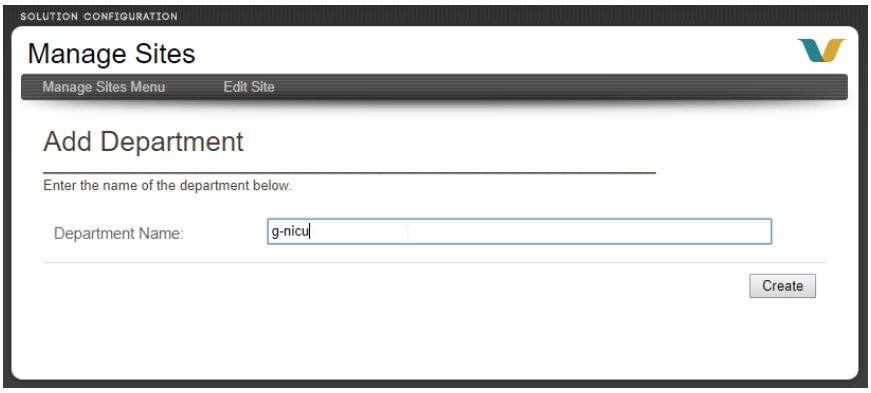
Adding a New Department

To add a new department, perform the following steps:

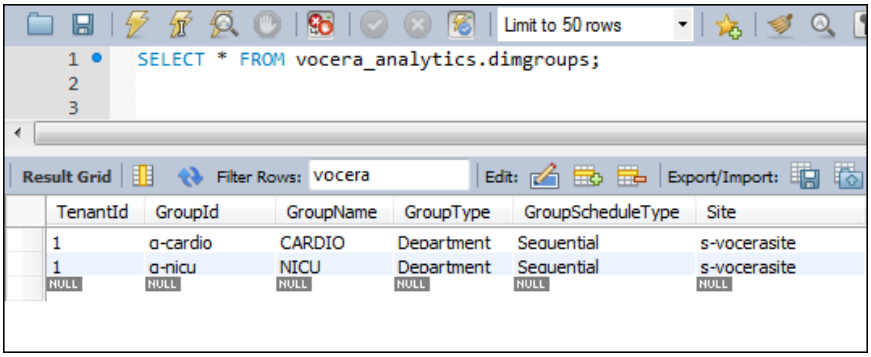
1. Click `VOCERASITE` on Manage Sites page.



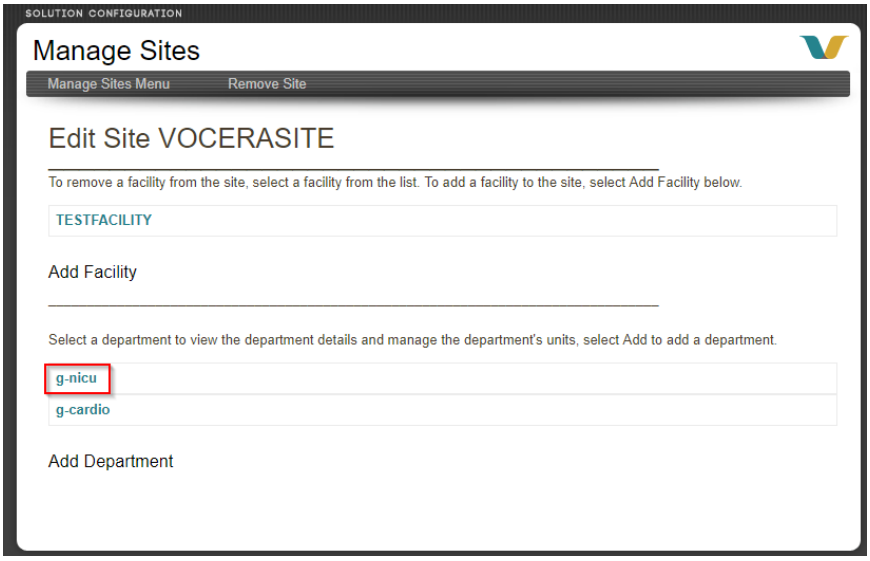
2. Click *Add Department* and enter the department name. For example, `g-nicu`.
   Currently all department names must be prefixed with `g-` in order to display the unique facilities/units correctly.
   Ensure that the department name is the same as the Group ID of the Voice Server department.



3. Click *Create*.
4. Verify that the department you entered is the same as provided in `GroupId` column of the `dimgroups` table in the `vocera_analytics` schema.



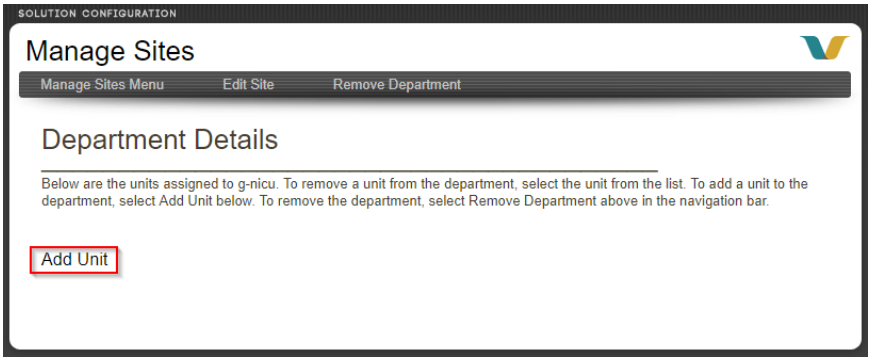
5. Select the first Voice Server department to map to an Engage unit. For example, `g-nicu`.



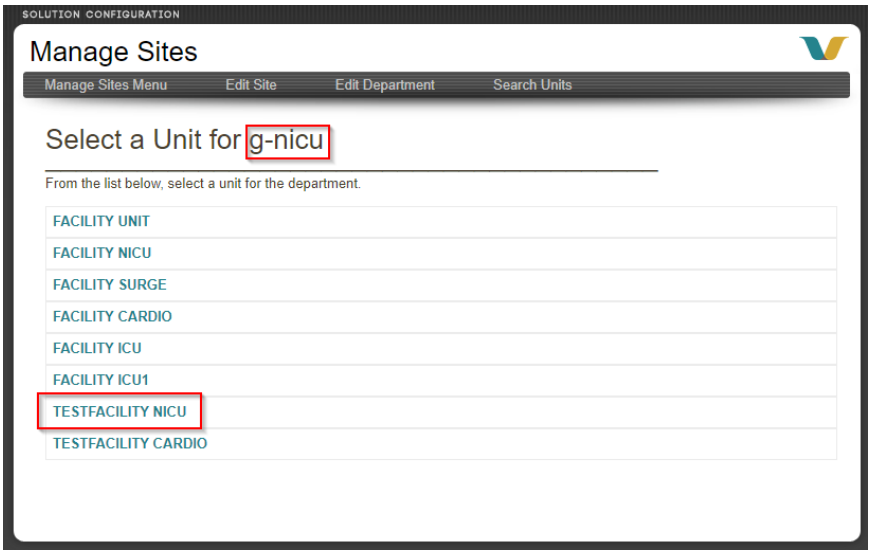
Adding a New Unit

To add a new unit within a department, perform the following steps:

1. Click *Add Unit* on the Department Details page.

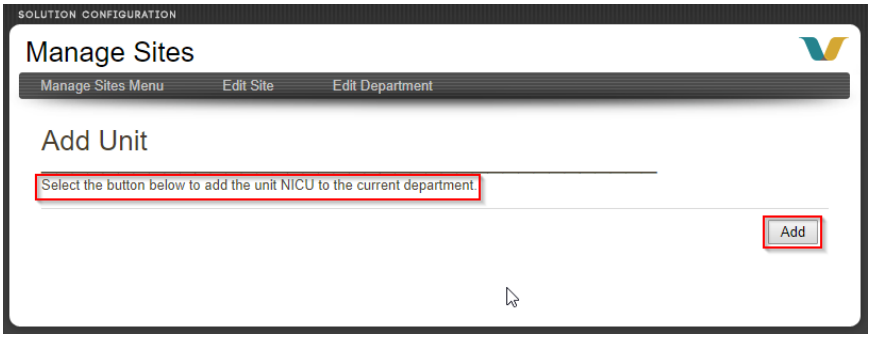


2. Click the Engage unit to map to the Voice Server. For example, `TESTFACILITY NICU`.



3. Click Add.

   The Engage units and Voice Server departments are now mapped.



Perform these steps to map all Engage units to Voice Server departments.

Verifying the Mapping Details

To verifying the mapping details , perform the following steps:

1. **Verify if site and facility are exported successfully from Landing schema**—Query the Landing database table `ldg_site_facility_xref` from Landing schema to check if it is exported successfully.

```
USE ldg; SELECT * FROM ldg_site_facility_xref ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

vs_site	engage_facilities	xref_created_at	source_name	insert_created_at
VOCERASITE	TESTFACILITY	2018-03-05 16:06:29.639000	Vocera	2018-03-05 16:06:29.746587

2. **Verify if site and facility are exported successfully to Landing database**—Query the Landing database table `ldg_department_unit_xref` to verify that the site and facility crosswalk mapping was successfully exported to the Landing database.

```
USE ldg; SELECT * FROM ldg_department_unit_xref ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

vs_site	vs_department	engage_facility	engage_units	xref_created_at	source_name	insert_created_at
VOCERASITE	a-nicu	TESTFACILITY	NICU	2018-03-05 16:03:34.484000	Vocera	2018-03-05 16:03:34.577196
VOCERASITE	a-cardio	TESTFACILITY	CARDIO	2018-03-05 16:03:47.647000	Vocera	2018-03-05 16:03:47.701078

3. **Verify if data is processed successfully from Landing database**—Run the following query to check if the events flow successfully from Landing database to Vocera Analytics database.

```
SELECT '' || tname || '' AS description,
       CASE
         WHEN ((source_count - target_count)/source_count) <= .1
THEN 'PASS'
         WHEN source_count=target_count THEN 'PASS'
         ELSE 'FAIL'
       END AS RESULT,
       source_count,
       target_count
FROM
  (SELECT 'EVENT' AS tname,
          count(DISTINCT a.event_id) AS source_count,
          count(DISTINCT b.event_id) AS target_count
   FROM ldg.ldg_events a
   JOIN vocera_analytics.anl_dim_sources c ON a.source_name =
c.source_name
   JOIN vocera_analytics.anl_event_history b ON
a.event_id=b.event_id
   AND b.source_id = c.source_id
   WHERE a.parent_event_id = -1
   UNION ALL SELECT 'EVENT CHILDREN' AS tname,
                    count(DISTINCT a.event_id) AS source_count,
                    count(DISTINCT b.event_id) AS target_count
   FROM ldg.ldg_events a
   JOIN vocera_analytics.anl_dim_sources c ON a.source_name =
c.source_name
   JOIN vocera_analytics.anl_event_child_history b ON
a.event_id=b.event_id
   AND b.source_id = c.source_id
   WHERE a.parent_event_id <> -1
   UNION ALL SELECT 'EVENT DELIVERY' AS tname,
                    count(DISTINCT a.event_delivery_id) AS
source_count,
                    count(DISTINCT b.event_delivery_id) AS
target_count
   FROM ldg.ldg_deliveries a
   JOIN vocera_analytics.anl_dim_sources c ON a.source_name =
c.source_name
   JOIN vocera_analytics.anl_event_delivery_history b ON
a.event_delivery_id=b.event_delivery_id
   AND b.source_id = c.source_id
   UNION ALL SELECT 'EVENT RESPONSES' AS tname,
                    count(DISTINCT a.event_response_id) AS
source_count,
                    count(DISTINCT b.event_response_id) AS
target_count
   FROM ldg.ldg_responses a
   JOIN vocera_analytics.anl_dim_sources c ON a.source_name =
c.source_name
   JOIN vocera_analytics.anl_event_response_history b ON
a.event_response_id=b.event_response_id
   AND b.source_id = c.source_id
   UNION ALL SELECT 'CONVERSATIONS' AS tname,
                    count(DISTINCT a.conversation_id) AS
source_count,
                    count(DISTINCT b.conversation_id) AS
target_count
   FROM ldg.ldg_conversations a
   JOIN vocera_analytics.anl_dim_sources c ON a.source_name =
c.source_name
   JOIN vocera_analytics.anl_conversation_history b ON
a.conversation_id=b.conversation_id
   AND b.source_id = c.source_id
   UNION ALL SELECT 'CONVERSATION MESSAGES' AS tname,
                    count(DISTINCT a.message_id) AS
source_count,
                    count(DISTINCT b.message_id) AS target_count
   FROM ldg.ldg_messages a
   JOIN vocera_analytics.anl_dim_sources c ON a.source_name =
c.source_name
   JOIN vocera_analytics.anl_conversation_message_history b ON
a.message_id=b.message_id
   AND b.source_id = c.source_id
   AND a.conversation_id = b.conversation_id) a
```

The following is the example of the query that you executed. Note that the Result column specifies PASS to indicate that data is processed successfully from Landing database to Vocera Analytics database.

Result #1 (4×6)

DESCRIPTION	RESULT	SOURCE_COUNT	TARGET_COUNT
EVENT	PASS	4,300	4,300
EVENT CHILDREN	PASS	0	0
EVENT DELIVERY	PASS	689	689
EVENT RESPONSES	PASS	0	0
CONVERSATIONS	PASS	0	0
CONVERSATION MESSAGES	PASS	0	0

4. **Verify if site and facility data are processed successfully through Analytics**—Query the analytics table `cwfacility` from the analytics schema to verify that the site and facility crosswalk mapping was successfully processed through Analytics.

```
10 •  USE vocera_analytics; SELECT * FROM cwfacility ;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

common_facility_id	source_id	common_facility_name	vs_site_name	engage_facility_name	created_at
7	1	TESTFACILITY	VOCERASITE	TESTFACILITY	2018-03-13 09:58:04.858000
NULL	NULL	NULL	NULL	NULL	NULL

5. **Verify if department and unit data are processed successfully through Analytics**—Query the analytics table `cwunit` from the analytics schema to verify that the department/unit crosswalk mappings were successfully processed through analytics.

```
11 •  USE vocera_analytics; SELECT * FROM cwunit ;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

common_unit_id	source_id	common_unit_name	vs_department_name	engage_unit_name	vs_site_name	engage_facility_name	created_at
7	1	NICU	G-NICU	NICU	VOCERASITE	TESTFACILITY	2018-03-13 10:10:11.062000
8	1	CARDIO	G-CARDIO	CARDIO	VOCERASITE	TESTFACILITY	2018-03-13 10:10:11.062000
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Troubleshooting Cross Walk

The information provided in this section helps you understand the scenarios that you must consider to troubleshoot cross walk mapping.

The considerations are as follows:

- Many to many or many to one mappings can lead to Cartesian products which may replicate the data and render the results unusable.

  Note: It is important to configure cross walk mapping correctly in the first instance.

- When ManageSites is configured to a workflow, the cross walk mapping is exported to the Vocera Analytics landing database through the Data Export Adapter. The ManageSites workflow facilitates changes to facility/site and unit/department mappings within the Engage appliance, but these changes are not replicated in the database cross walk tables.

  For example:

  - Unit `NICU` is mistakenly mapped to department `g-cardio` using the ManageSites workflow.
  - This mapping is exported to the landing database tables.
  - Unit `NICU` is then removed from `g-cardio` using the ManageSites workflow.

    Note: Changes are not made in the database cross walk tables.

  - Unit `NICU` is then remapped to department g-nicu using the ManageSites workflow.
  - This new mapping is exported to the landing database tables.
  - The system is now erroneously configured with a one-to-many relationship. The unit `NICU` is mapped in Vocera Analytics to both `g-cardio` and `g-nicu`, even though it may appear that the correction was made in the Engage appliance.
- Corrections to the cross walk tables must be made at the database level and cannot be made through the Engage appliance.

- Corrections should be performed by Vocera Technical Support only.

Verifying Cross Walk Configuration

Cross walk configurations should be verified to avoid configuration errors.

Run the following query in the Vocera Analytics database to detect incorrect configuration:

```
SELECT
  '' || attr_name AS test_description,
  CASE WHEN actual_count = expected_count
       THEN 'PASS'
       ELSE 'FAIL'
  END AS result,
  actual_count AS actual,
  expected_count AS expected
FROM (
  SELECT
    'CWFACILITY' AS attr_name,
    COUNT(*) AS actual_count,
    COUNT(DISTINCT common_facility_name) as expected_count
  FROM vocera_analytics.cwfacility
  UNION ALL
    SELECT
      'CWUNIT' AS attr_name,
      COUNT(*) AS actual_count,
      COUNT(DISTINCT common_unit_name) as expected_count
    FROM vocera_analytics.cwunit
) crosswalk_summary
```

The following is the result of the above query:

Result #1 (4×2)

test_description	result	actual	expected
CWFACILITY	PASS	4	4
CWUNIT	PASS	34	34

Note that the Result column specifies PASS to indicate that the cross walk table configuration is correct.

Monitoring Services

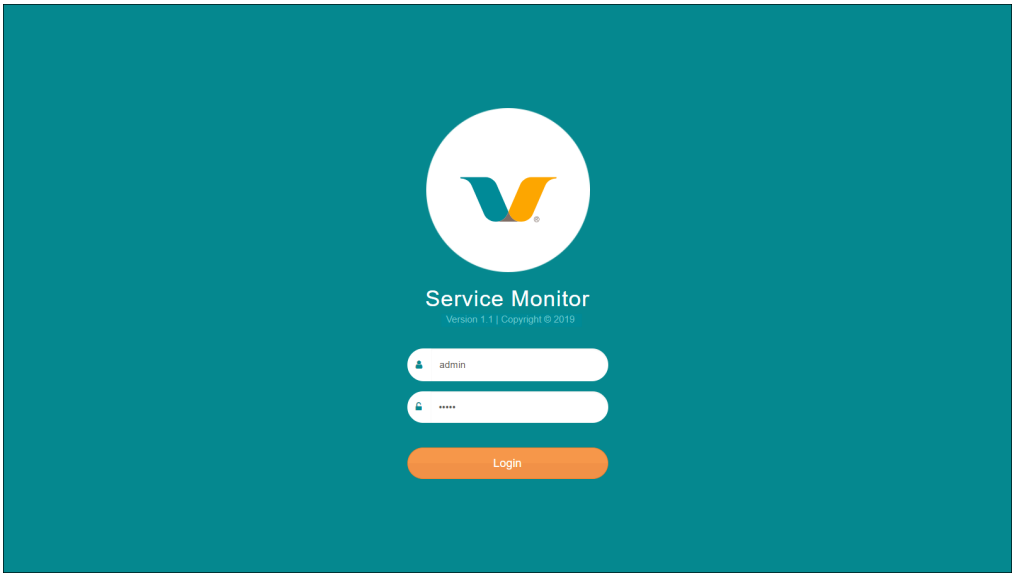
The Vocera Analytics Monitoring Services provides configuration and monitoring information for the Vocera administrator to set up and configure the services. It also provides information about how to start or stop a service, view and monitor the performance of the services, and displays the CPU and memory utilization of the services.

Logging in to the Service Monitor

The Service Monitor is a browser-based application that you can use to monitor and configure the Vocera Analytics components. You can log in to the Service Monitor using a Web browser.

To log in to the Service Monitor:

1. Double-click the ServiceMonitor Dashboard on your desktop or enter the following in the Address field of the browser window: `https://host_name:9445` where *host_name* is either the numeric IP address or the DNS name of the Service Monitor.
   The Service Monitor login page appears.



The Vocera Service Monitor supports one account only. The user ID for this account is **admin**, and it cannot be changed.

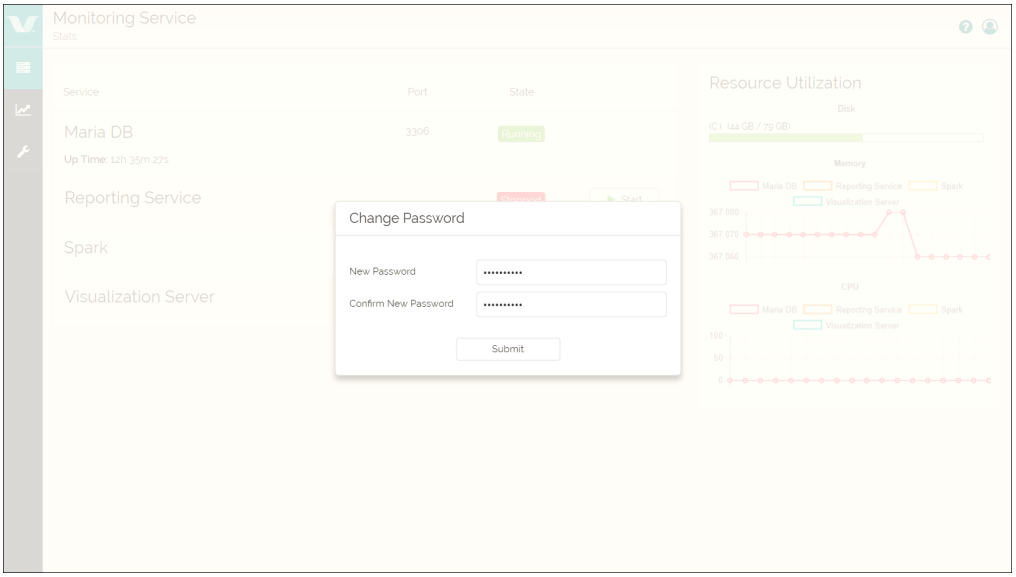
You might want to create a Favorites link (also called a bookmark) in your browser for the Service Monitor URL.

2. Enter **admin** in the username field.
3. Enter the password for the built-in administrator account in the password field. The default password is **admin**.

   The password is case-sensitive. If you see an error message when you attempt to log in, ensure the Caps Lock key on your keyboard is not turned on.
4. Click Login.

   The Service Monitor landing page appears. Simultaneously, a pop-up window appears prompting you to change the password.

   Note: The pop-up window appears only upon first time login to the Service Monitor.



5. Change the password to something more secure.

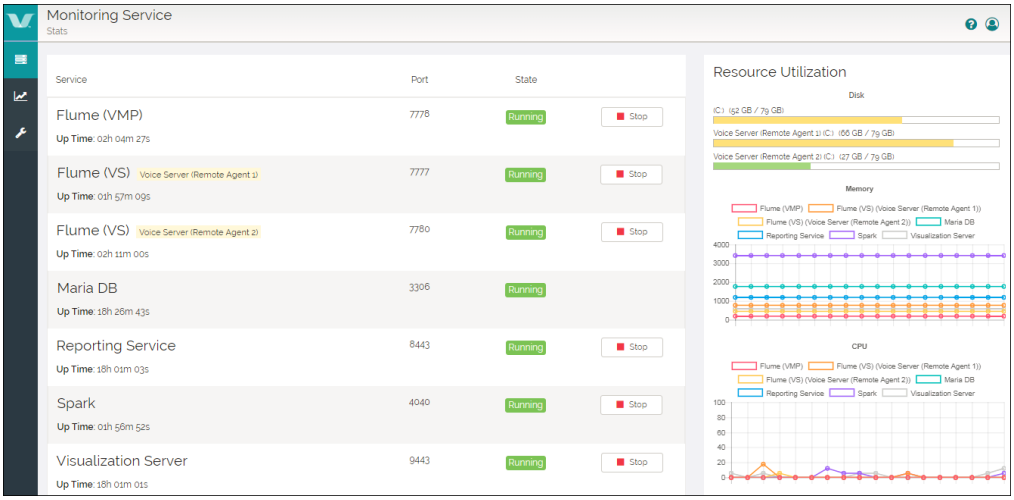
   Note: If you forget the password that you set, contact Vocera technical support.

Statistics

Statistics dashboard lists all configured services that run in the Vocera Analytics Server or remote Voice Servers. It also displays the utilization of the resources such as disk, memory, and CPU.

It consists of two parts:

- Services
- Resource Utilization

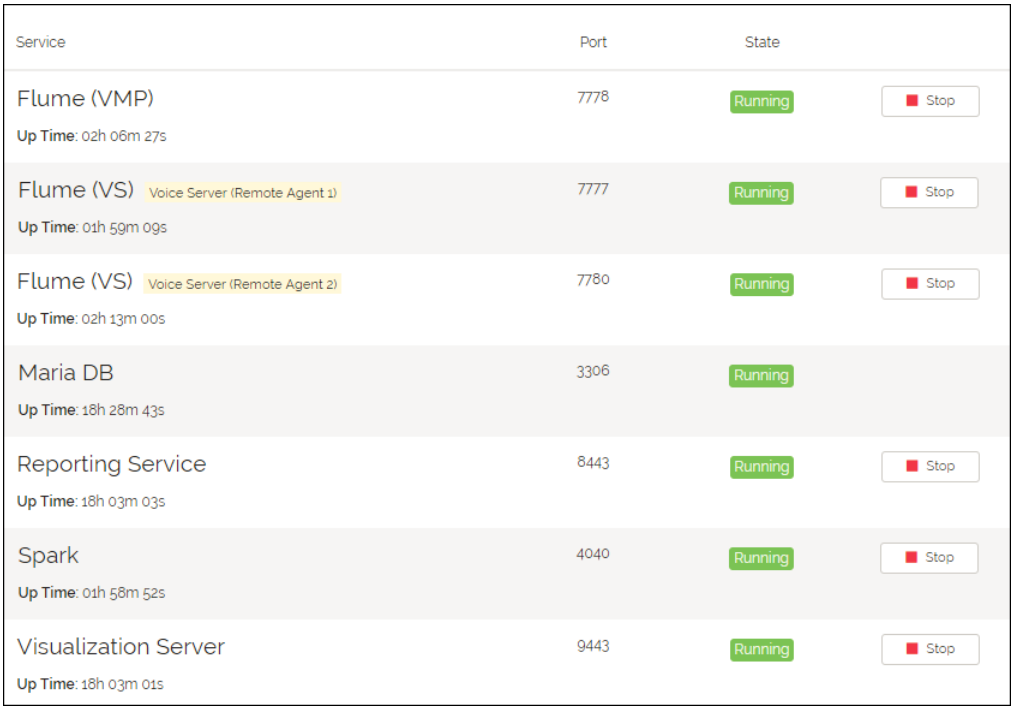


Services

The services used in Vocera Analytics are:

- Flume (VMP)—Flume agent that ingests data from the VMP database server into the Spark processing engine.
- Flume (VS)—Flume agent that runs on the Voice Server node to ingest data from the Voice Server logs.
- Flume (Engage)—Flume agent that ingests data from the Engage Landing (LDG) database.
- MariaDB—Database to store database records and control metadata.
- Reporting Service—Tomcat server to serve Crystal reports on web.
- Spark—Processing Engine to read data from sources (VMP, Voice Server, and Engage) through Flume agents, transform into database records, and load them into the database.
- Visualization Server—Web server that serves dashboards and provides a REST API for fetching visualization data.

Note: Vocera recommends that you start all Flume services before starting Spark. To start Spark, at least one source must be configured.



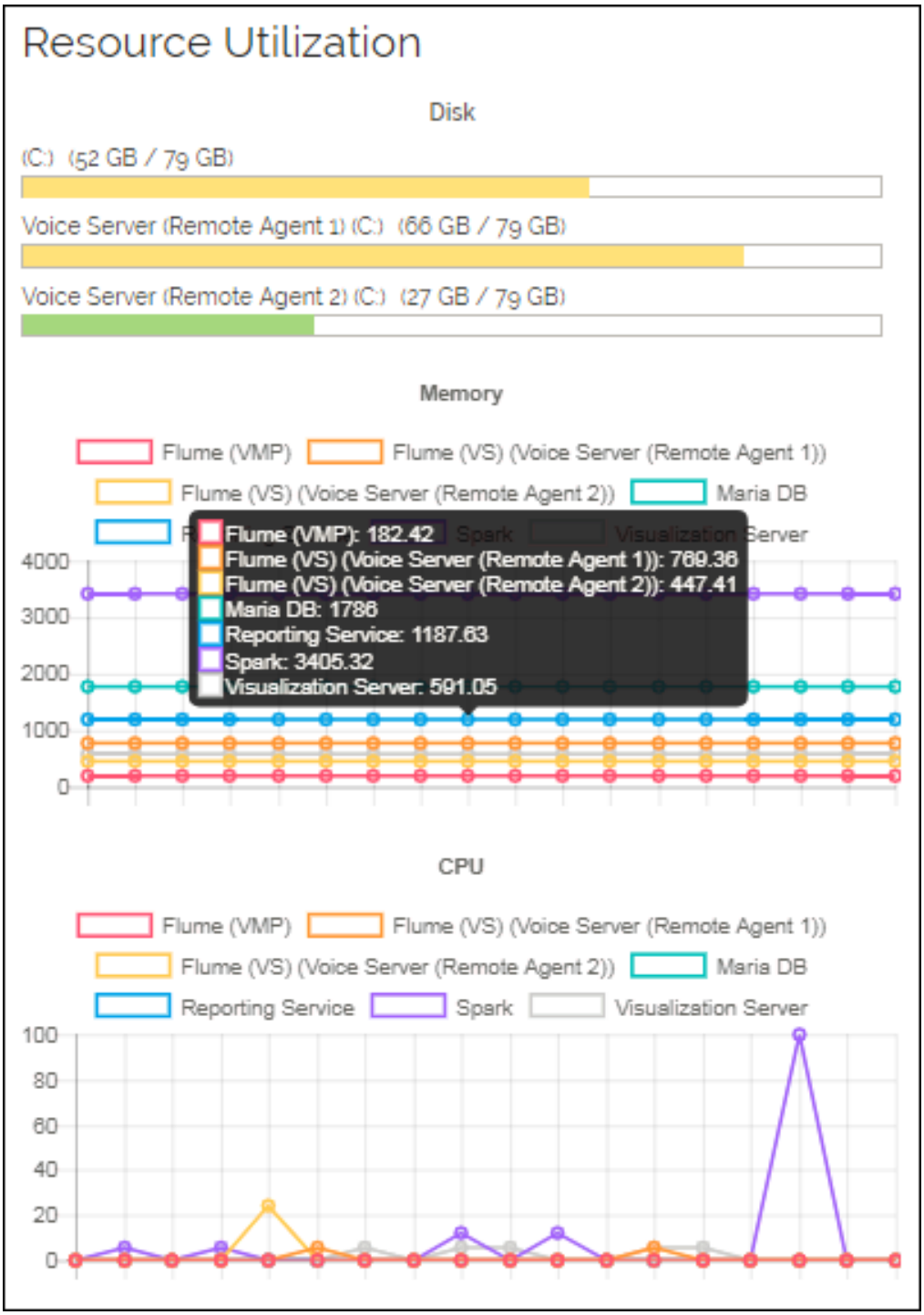
Note: If the Vocera Analytics Server is restarted, all services such as Flume, Spark, Reporting Service, and Visualization Server will be in Stop state. Ensure that you start all services.

The table below lists the fields that each service displays.

Field	Description
Up Time	Indicates the duration of the service from the time it was last started. The duration is provided in hours and uses the days, hours, minutes, seconds format.
Port	Indicates the port number used by the service. Every service has a default port number. However, the user can change the default port number manually during configuration only for Flumes, Reporting services, and Visualization services.
State	Indicates the status of the service that is, if a service is running or stopped.
Start/Stop	Indicates a toggle switch to start/stop a service.

Note: MariaDB service cannot be started/stopped from Monitoring Service. It can only be done from Windows Service.

Resource Utilization



Resource Utilization section is categorized into three segments:

- Disk—Displays the disk name and the amount of space utilized versus the total space available on the disk. The disk space is color coded and displays green if utilization is less than 60%, orange if utilization is between 61-80%, and red if utilization is more than 80%.

  Note: The server name of the disk is displayed only if a service is configured on a different system from the Analytics server.

- Memory—Displays the memory usage for the last three minutes. The values are provided in MB.
- CPU—Displays the CPU usage for the last three minutes. The values are provided as percentages.

To display the utilization details of each service for the selected time frame, hover the mouse over Memory utilization graph or CPU utilization graph.

Note: If there is an error connecting to a remote agent, the services associated with this remote agent will not appear. To notify the user, the system displays the following error: `Could not connect to machine <remote agent name>`

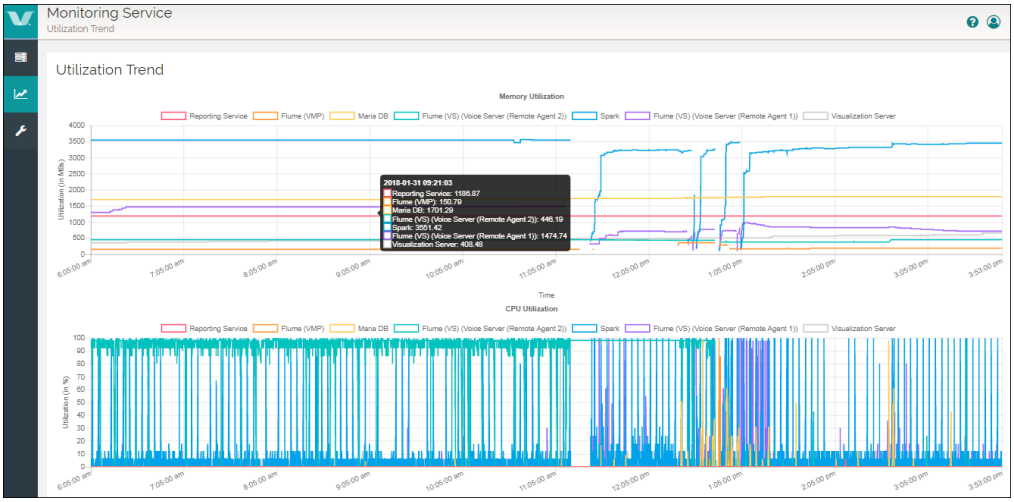
Utilization Trend

Displays the utilization trend for memory and CPU for all services within Vocera Analytics.

The Utilization Trend is categorized into two parts:

- Memory Utilization—Displays the memory usage for the last six hours. The values are provided in MB.
- CPU Utilization—Displays the CPU utilization for the last six hours. The values are provided in percentage.

Note: To display the utilization details of each service for the selected time frame, hover the mouse over Memory utilization graph or CPU utilization graph.

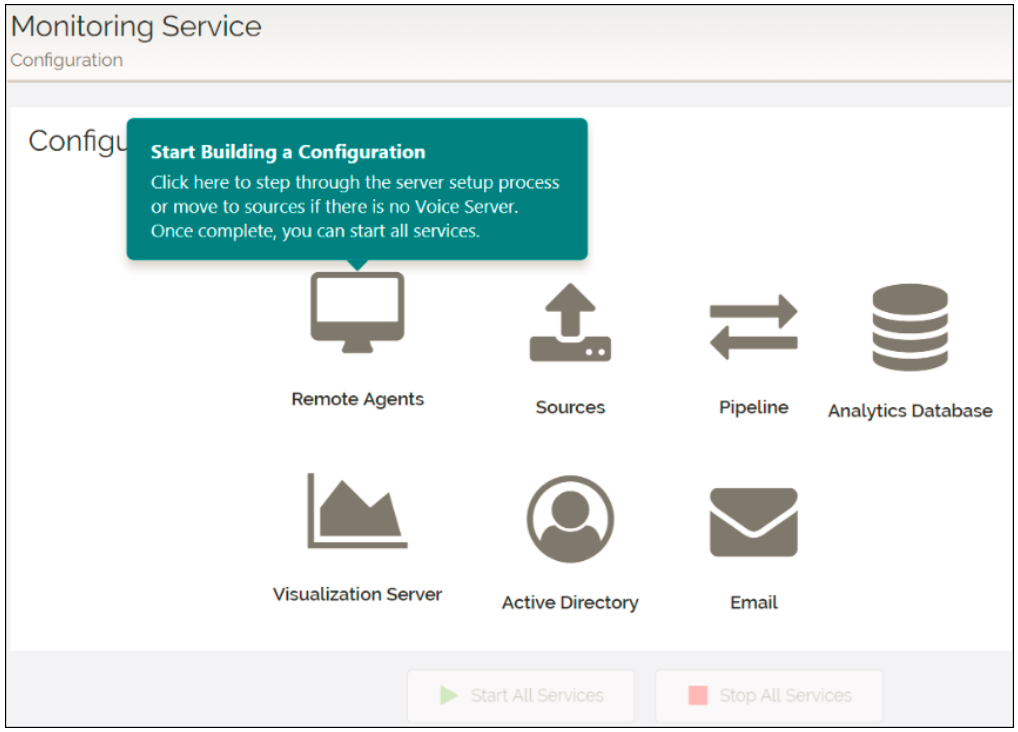


Configuring Services

The Vocera Analytics Monitoring Services provides configuration and monitoring information for the Vocera administrator to set up and configure the services.

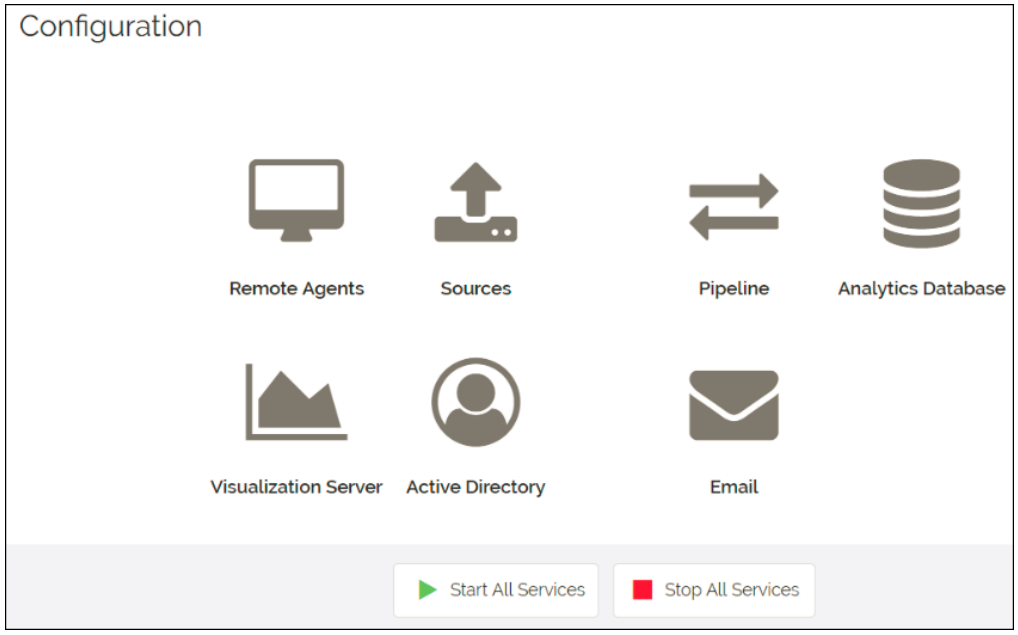
To configure services, perform the following steps:

1. Log in to the Monitoring Services console.
   The Monitoring Configuration Services configuration page is displayed.



2. Configure the following services:
   - Remote Agents
   - Sources
   - Pipeline
   - Analytics Database
   - Visualization Server
   - Active Directory
   - Email

   All services are displayed.



   The Start All Services and Stop All Services options are enabled.

3. Click Start All Services.

Starting Or Stopping All Services

The following is the sequence in which the services are started for Start All Services:

- Reporting Service
- Visualization Server
- Flume
- Spark

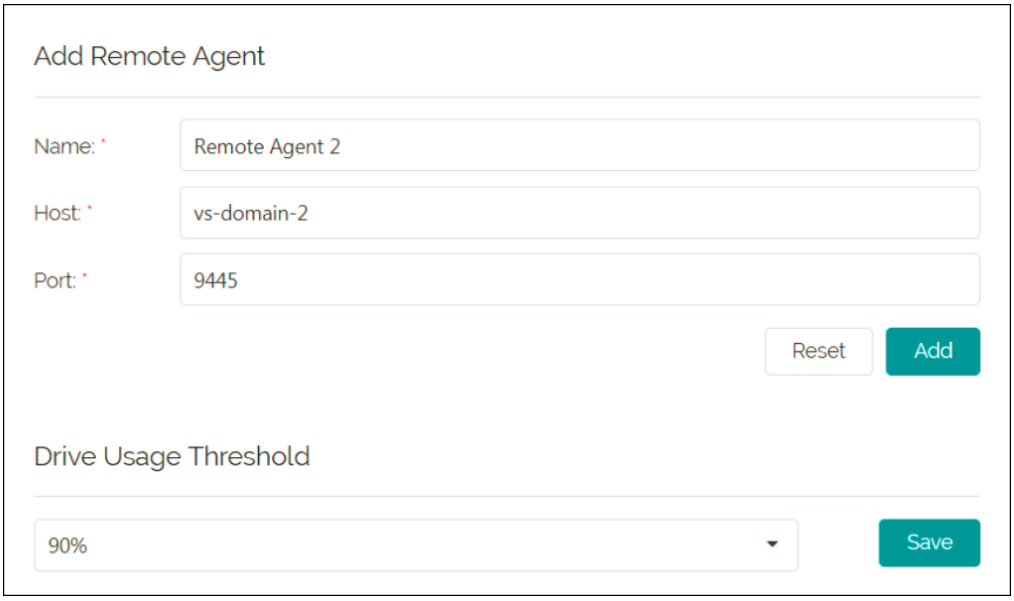
The following is the sequence in which the services are stopped for Stop All Services:

- Reporting Service
- Visualization Server
- Spark
- Flume

Configuring Remote Agents

Remote Agents are instances of a service monitor that run on the Voice Server system.

The following figure shows the configuration of a Vocera Voice Server remote agent.



Note: If you do not have a Voice Server, you need not configure a remote agent. If your source is either Engage or VMP or both, you can skip this configuration.

After you add a remote agent, you cannot change the host value. You can only update the name and port. However, you can delete the remote agent you added. You can also add a new remote agent with updated values.

When a remote agent is added to a master, it cannot be added by any other master. You can only add a second master after the first remote agent is deleted from its configuration.

Note: In case a remote agent is down and you try to remove it from the configuration, the remote agent would be cleared from the master. To add the service again, you must manually delete the `secret.txt` file located at: `<INSTALL_LOCATION>\servicemonitor\conf\` folder. If you do not perform this action, the following error message is displayed: `Remote agent is already in use by another monitoring service`.

To configure a remote agent:

1. Provide the required information as outlined in the following table.

Field	Description	Action
Name *	Specifies the name of the remote agent. The name appears on the label of the remote agent when it is configured.	Enter the name of the remote agent.
Host *	Specifies the IP address of the remote agent that you want to connect.	Provide the IP address of the remote agent.
Port *	Displays the port number assigned to the remote agent. The value displayed by default is 9445. **Note:** Do not change the port number without contacting technical support.	Provide the port number of the remote agent.
Drive Usage Threshold	Specifies the percentage of drive usage for the remote agent. The value configured by default is 90%. The user is sent a notification email upon reaching the threshold limit.	Select the drive usage threshold.

Note: Fields marked with an asterisk (*) are mandatory.

2. Perform one of the following:
   a. **Add**—Adds a remote agent.
   b. **Reset**—Deletes and resets your configured values.

The Vocera Analytics Server polls remote agents for data at regular intervals. By default, the polling interval is set to 30 seconds. However, you can update the polling interval value.

To update the polling interval, perform the following:

1. On Vocera Analytics Server, open the `application.conf` file located at `<INSTALL_LOCATION>\servicemonitor\conf\`
2. Update the polling interval field to a new value. The value is specified in seconds.

   Note: It is recommended that you do not set the value less than 10 seconds.

3. Save the `application.conf` file.
4. Restart the `servicemonitor` service from Windows Services.

To configure Drive Usage Threshold:

1. Provide the required information as outlined in the following table.

Field	Description	Action
Drive Usage Threshold	Specifies the percentage of drive usage for the remote agent. The value configured by default is 90%. The user is sent a notification email upon reaching the threshold limit.	Select the drive usage threshold.

2. Click **Save** to save your entry.
3. Click **Sources**.

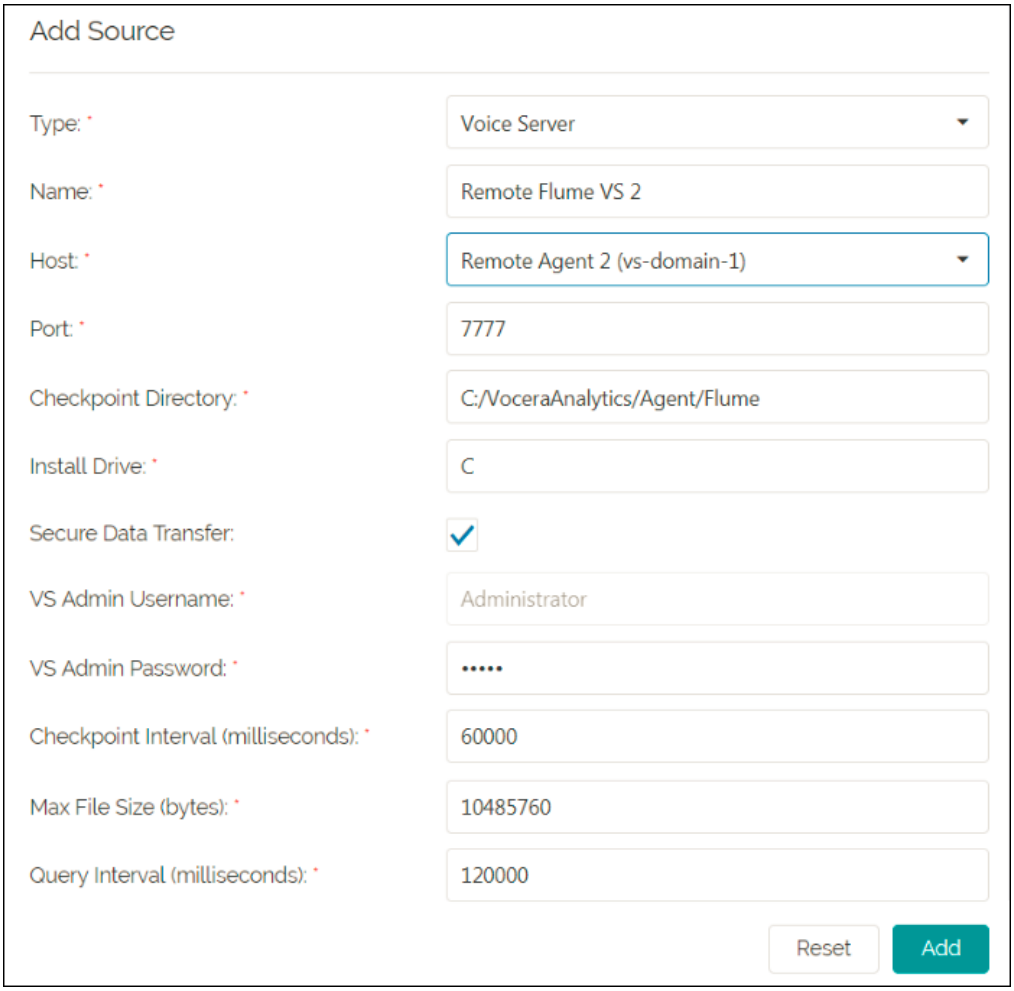
   The Sources configuration page appears.

Note: In case of Voice Server cluster, you must configure remote agents for both the cluster nodes (active and standby).

Configuring Sources

You can configure sources by adding it.

The following figure shows the configuration of a Vocera Voice Server source.



Note: If Spark is running and if you add, delete, or update a source, ensure that you restart Spark to reflect the configured changes.

To configure a source:

1. Provide the required information as outlined in the following table.

Field	Description	Action
Type *	Specifies the type of source you want to configure. The sources are Voice Server, VMP, and Engage.	Select the source type.
Version *	Specifies the version of Vocera Messaging Platform (VMP) you want to configure. The versions available are: • 5.2.2 • 5.2.3 • 5.3 **Note:** This field appears for VMP only.	Select the VMP version.
Name *	Specifies the name for the source you configure. This name appears after you configure the source.	Enter the source name.
Host *	Specifies the host IP address of the source you want to connect. **Note:** This field appears for Voice Server only.	Select the host IP address.

Field	Description	Action
Port *	Specifies the port number for the source. The default values displayed are: • Voice Server—7777 • VMP—7778 • Engage—7779 **Note:** Do not change the port number without contacting technical support.	Enter the port number for the source.
Checkpoint Directory *	Specifies the checkpoint directory location. It is the directory where Flume checkpoint file is stored. For Voice Server, the checkpoint file is stored on the remote machine. Ensure that the checkpoint directory is available in the Voice Server machine. For VMP and Engage, the checkpoint file is stored on the Vocera Analytics machine.	Provide the checkpoint directory location. For example: • Voice Server: C:/VoceraAnalytics/Agent/Flume/CheckPoint • VMP : D:/VoceraAnalytics/Agent/VMP/CheckPoint • Engage: D:/VoceraAnalytics/Agent/Engage/CheckPoint **Note:** Ensure that you create the respective folders for the Checkpoint directory.
Install Drive *	Specifies the drive on the remote Voice Server system where the Voice Server is installed. For example, C or D drive. **Note:** This field appears for Voice Server only.	Provide the install drive location. For example, **C**.
Secure Data Transfer	Indicates that the data transferred between Flume and Spark should be encrypted. **Note:** This field appears for Voice Server only.	Check the box to enable secure data transfer.
VS Admin Username *	Displays the username created by the Voice Server. The Voice Server creates an administrator account by default. To access the Voice Server, the username is required. This field is not editable. **Note:** This field appears only for Voice Server running on Windows.	None.
VS Admin Password *	Specifies a string of characters used for user authentication. **Note:** This field appears only for Voice Server running on Windows.	Provide the Voice Server administrator password. For example, **admin**.
Database Host *	Specifies the VMP or Engage database (SQL Server) host name or IP address. **Note:** This field appears for VMP and Engage only.	Provide the database host name. For example, 172.30.22.1.
Database Port *	Displays the port number of the VMP or Engage database. The values displayed by default are: • VMP—1433 • Engage—3306 **Note:** This field appears for VMP and Engage only.	Provide the database port number.

Field	Description	Action
Database Username *	Specifies the username for the VMP or Engage database. For Engage, the username **analyticsuser** is displayed by default. **Note:** This field appears for VMP and Engage only.	Provide the database username.
Database Password *	Specifies a string of characters used for user authentication. **Note:** This field appears for VMP and Engage only.	Provide the password configured for the database.
Checkpoint Interval (milliseconds) *	Specifies the checkpoint interval in milliseconds. The value displayed by default is 60000. Checkpoint aids in reducing the recovery time for a database in case of an unexpected system shutdown.	Enter the checkpoint interval time.
Max File Size (bytes) *	Specifies the maximum file size of a single log file. The value displayed by default is 10485760.	Enter the maximum file size value.
Query Interval (milliseconds) *	Specifies the interval time that Flume should use to read the query. The values displayed by default are: • Voice Server—120000 • VMP—240000 • Engage—1260000	Enter a value.

Note: If Engage alarms and alerts are delivered through Voice server, then you must de-duplicate VMI data. For more information, see **Deduplicating VMI Data**

Note: Fields marked with an asterisk (*) are mandatory.

2. Perform one of the following:
   a. **Add**—Adds a source.
   b. **Reset**—Deletes and resets your configured values.
3. Click **Pipeline**.
   The Pipeline configuration page appears.

Configuring Pipeline

Configure the parameters of the Spark pipeline file.

The following figure shows the configuration of a Vocera Voice Server pipeline.

To configure a pipeline:

1. Provide the required information as outlined in the following table.

Field	Description	Action
Voice Server Version *	Specifies the Voice Server version that you have configured. **Note:** Ensure that you select the correct version of the Voice Server you configured to parse the data accurately.	Select a value. **Note:** For Voice Server version 5.3.1, select 5.3.
Master URL *	Indicates the master URL passed to Spark. Local[*] implies to run Spark locally with as many worker threads as logical cores on your system. The value displayed is local[*] by default.	Enter the master URL.
Batch Interval (milliseconds) *	Specifies the Spark micro batch interval. Spark streaming receives live input data streams and divides the data into batches. It is then processed by the Spark engine to generate the final stream of results in batches. The value displayed is 240000 by default.	Enter a value.
Shuffle Partitions *	Specifies the number of partitions involved in the shuffle. It is the measure of parallelism during aggregate operations such as **Join**. The value displayed by default is 8.	Enter a value.
Allow Multiple Contexts?	Indicates that Spark allows the creation of multiple streaming contexts.	Check the box to allow multiple contexts.

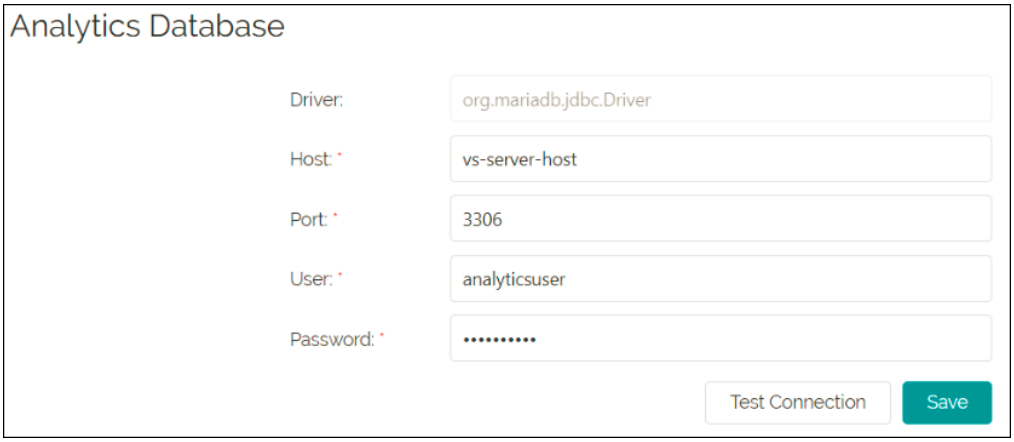
Note: Fields marked with an asterisk (*) are mandatory.

2. Click **Save**.
   Saves your entries.
3. Click **# Analytics Database**.
   The Analytics Database configuration page appears.

Configuring Analytics Database

Configure the parameters of the Analytics Database.

The following figure shows the configuration of an Analytics server database.



To configure Analytics Database:

1. Provide the required information as outlined in the following table.

Field	Description	Action
Driver	Displays the Maria DB driver name by default. You cannot edit the value in this field.	None.
Host *	Specifies the host IP address of the analytics database.	Enter the host IP address.

Field	Description	Action
Port *	Specifies the port number of the host IP address. By default, the value displayed is 3306.	Enter the port number of the host IP address.
User *	Displays the analytics username by default.	None.
Password *	Specifies a string of characters used for user authentication.	Provide the password you used to install Maria DB.

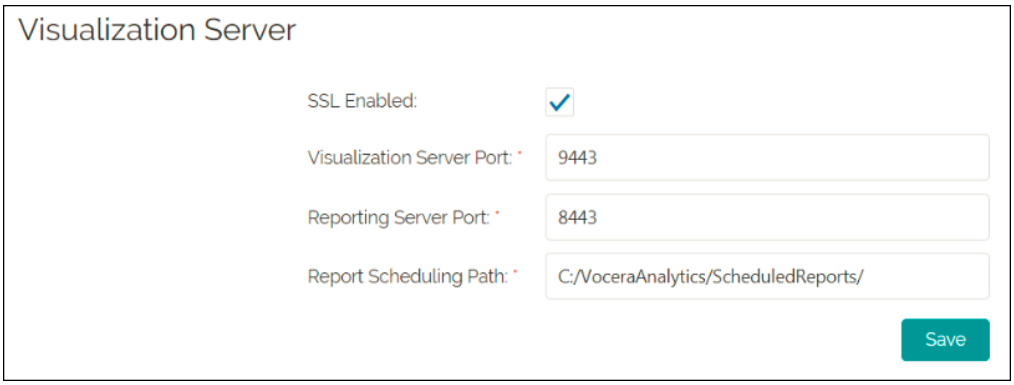
Note: Fields marked with an asterisk (*) are mandatory.

2. Click **Test Connection**.
   Tests the connection to the database and displays a notification message if the connection is successful or unsuccessful.
3. Click **Save**.
   Saves your entries.
4. Click **Visualization Server**.
   The Visualization Server configuration page appears.

Configuring Visualization Server

Configure the parameters of the Visualization Server.

The following figure shows the configuration of a Visualization server.



To configure Visualization Server:

1. Provide the required information as outlined in the following table.

Field	Description	Action
SSL Enabled	Specifies the connection is SSL enabled and secure. SSL enabled ensures that the link between the web servers and the browsers are encrypted and secure. By default, this field is checked. Toggling the field changes the value for **Visualization Server Port** and **Reporting Server Port** fields.	Check the box to enable SSL.
Visualization Server Port *	Specifies the Visualization server port number. By default the value displayed is 9443 for SSL Enabled and 9000 for SSL disabled.	Enter the port number of the Visualization server.
Reporting Server Port *	Specifies the Reporting server port number. By default the value displayed is 8443 for SSL Enabled and 8080 for SSL disabled.	Enter the port number of the Reporting server.
Report Scheduling Path *	Specifies the report scheduling path. The reports you schedule are stored in this location.	Specify the report scheduling path.

Note: Fields marked with an asterisk (*) are mandatory.

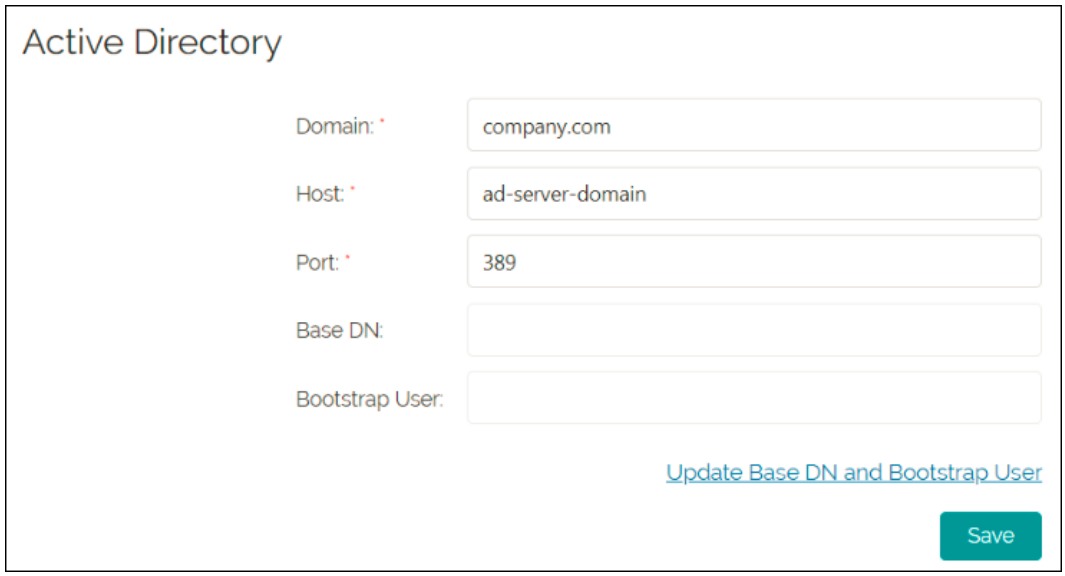
2. Click **Save**.
   Saves your entries.
3. Click **Active Directory**.
   The Active Directory configuration page appears.

Configuring Active Directory

Configure the parameters of the Active Directory.

The following figure shows the configuration derails.

To configure Active Directory:

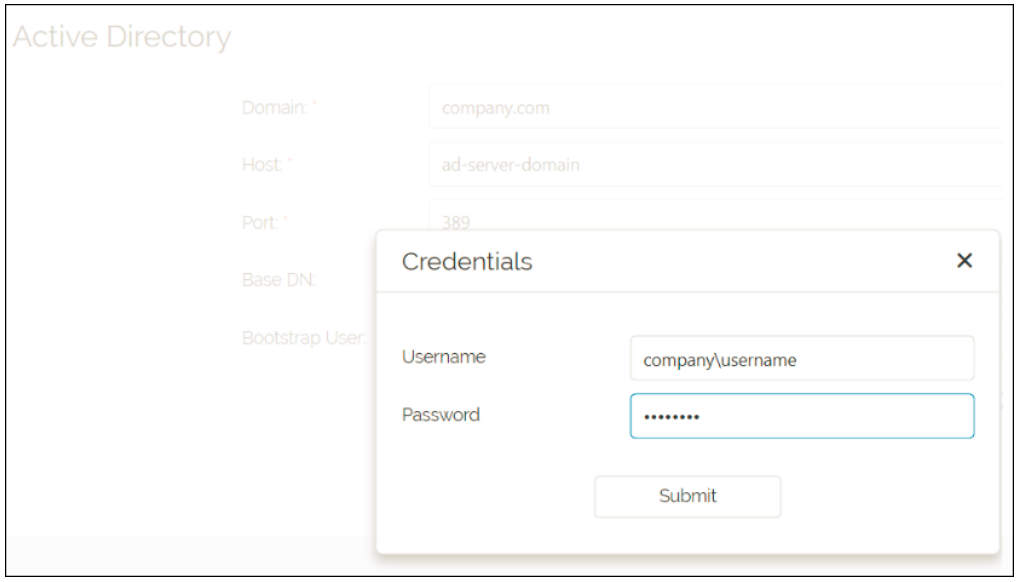
1. 

2. Provide the required information as outlined in the following table.

Field	Description	Action
Domain *	Specifies the domain name of your organization.	Enter the domain name.
Host *	Specifies the IP address of the host for the domain. By default the value displayed is **0.0.0.0**	Provide the host IP address.
Port *	Specifies the port number for the host IP address. By default the value displayed is 389.	Provide the port number of the host IP address.
Base DN	Specifies the base DN for the active directory.	Enter the base DN for the active directory.
Bootstrap User	Specifies the primary admin user for the Visualization server. This user would have access to User Management and Report Scheduling functionalities of the Visualization server.	Use update base DN and bootstrap link to update both Base DN and Bootstrap User.
Update Base DN and Bootstrap User	Indicates to update the Base DN and the bootstrap username fields. This field is enabled after you have entered relevant values for Domain, Host, and Port fields.	Click the link to update base DN and bootstrap username details.

Note: Fields marked with an asterisk (*) are mandatory.

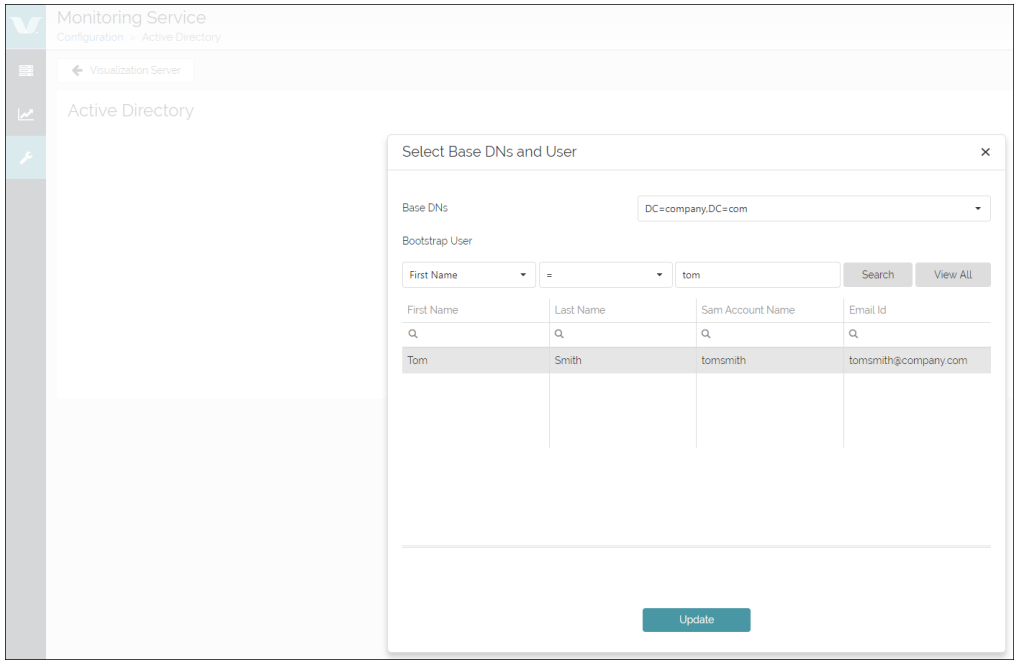
3. Click **Update Base DN and Bootstrap User**—Opens the credentials dialog box to authenticate user access to active directory.
   The following figure displays the credentials of the bootstrap user.



Field	Description	Action
Username	Specifies the active directory username.	Provide your domain name followed by the username. For example, **company\username**.
Password	Specifies a string of characters used for user authentication.	Provide the password configured for the user.

4. Click **Submit**—Authenticates the user against the active directory. On successful authentication, the **Select Base DNs and User** dialog box open.

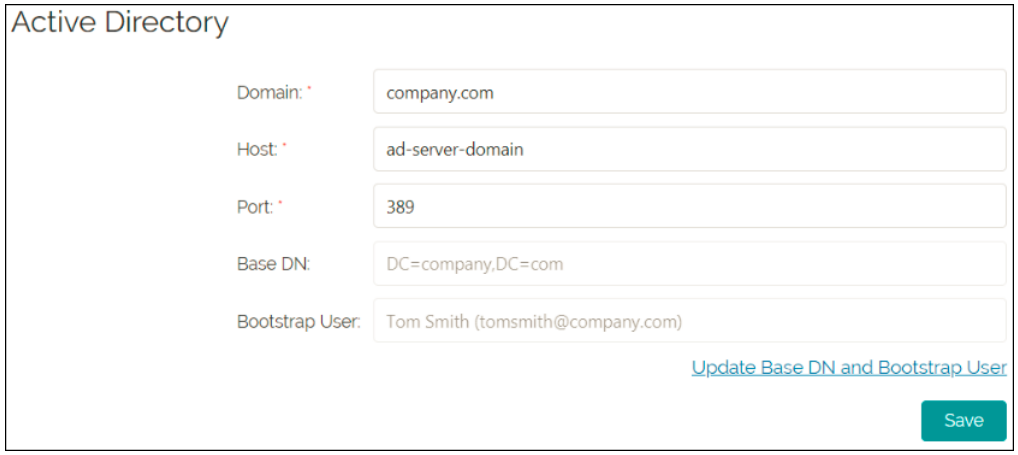
   The following figure displays the Base DN and Bootstrap user.



Field	Description	Action
Base DNs	Lists the available base distinguished names (DN) that reside within the active directory host.	Select a base DN to populate the available users.
Bootstrap User	Displays the users available within the base DN. Use the filters to search for different parameters.	Select a user from the table.

5. Click **Update**—Updates the Base DN and Bootstrap User fields.

   The following figure displays the active directory values after the Base DN, and the bootstrap user is configured.

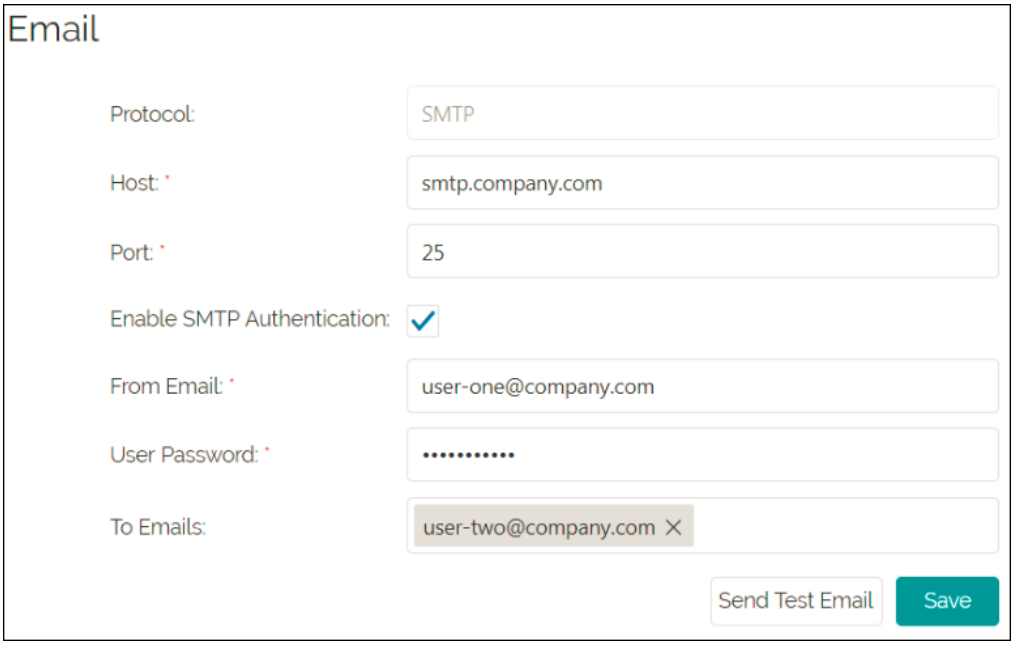


6. Click **Save**.
   Saves your entries.
7. Click **Email**.
   The Email configuration page appears.

Configuring Email

Configure the parameters of the email.

The following figure shows the details.



To configure email:

1. Provide the required information as outlined in the following table.

Field	Function	Action
Protocol	Displays the protocol used for the email server. This field is disabled and cannot be modified.	None.
Host *	Displays the host IP address for the email server.	Provide the host IP address.
Port *	Specifies the port number of the host. By default, the value displayed is 25.	Specify the port number of the host.
Enable SMTP Authentication	Specifies the email is authenticated using SMTP mechanism.	Check this box to enable SMTP authentication.

Field	Function	Action
Reporting Service		
From Email *	Specifies the email address of the Vocera Analytics Server Administrator. This email name is displayed for any email sent regarding the reporting service. All notification emails related to the reporting service are sent from this email address.	Provide the email address of the sender.
Monitoring Service		
From Email *	Specifies the email address of the sender.The Vocera Analytics administrator uses this email address. Emails regarding monitoring service will display this name as the sender. All notification emails related to the monitoring service are sent from this email address.	Provide the **From** email address.
To Email	Specifies the email address of the recipient that should receive the monitoring service notification emails. Click **Submit** to submit your changes.	Provide the **To** email address.

Note: Fields marked with an asterisk (*) are mandatory.

2. Click **Save**.
   Saves your entries.
3. Click **Send Test Email**.
   Sends an email to test if the configured email address works as expected.
4. Click **Done**.
   The Configuring Services page appears. For more information, refer to Configuring Services on page 68.

Flume Status File Information

The flume status file maintains the checkpoint to resume reading flume data. It is the point up to where data is read by flume. In the event of flume restart, the data starts processing from the checkpoint location in the flume status file.

The following are the contents of a sample `report-log-source` file.

```
{"LastIndex":596,"LastFileName":"report-
may-09-18-1111.txt","CreationTime":1525844468189,"SourceName":"report-source"}
```

In this example, up to line number `596` the data is read from the `report-may-09-18-1111.txt` flume source file. `1525844468189` is the creation time (in milliseconds) of the flume source file. The `report-log-source` filename indicates that it reads only the report log files.

Note: The system reads the flume status files in a chronological order.

Configuring Pipeline Job Failure Notifications

This topic describes the configuration of failed jobs notification for Spark.

If the Spark job fails, the user configured to receive the email should be notified of the failure based on the configuration provided.

The following is the configuration for notifying failed jobs in Spark:

```
spark {
        applicationName=AnalyticsServer-SparkExecutor
        failedJobs {
            action=stop
            actionAtCount=30
            notifyAtCount=3
        }
        hostName=localhost
        pollingInterval=15
        port="4040"
    }
```

The following is the explanation for the specified configuration:

- The service monitor would ping Spark for failed jobs during regular intervals of 15 minutes. The `pollingInterval` field denotes the regular interval.

  Note: Failed job notification email will be sent only for jobs that were not emailed earlier.

- At any point during the interval, the failed job count should reach 3 for the failed job notification email to be sent. The `notifyAtCount` field denotes the failed job count.
- If the total failed job count limit reaches 30, then the service monitor would stop the Flumes and Spark services. The `actionAtCount` field denotes the failed job count limit. The `action` field denotes the action taken to stop the Flume and Spark services. The action field has two options: `stop` and `restart`.

Administrator Settings

This section describes the administrator settings that are used to manage users and schedule reports.

User Management

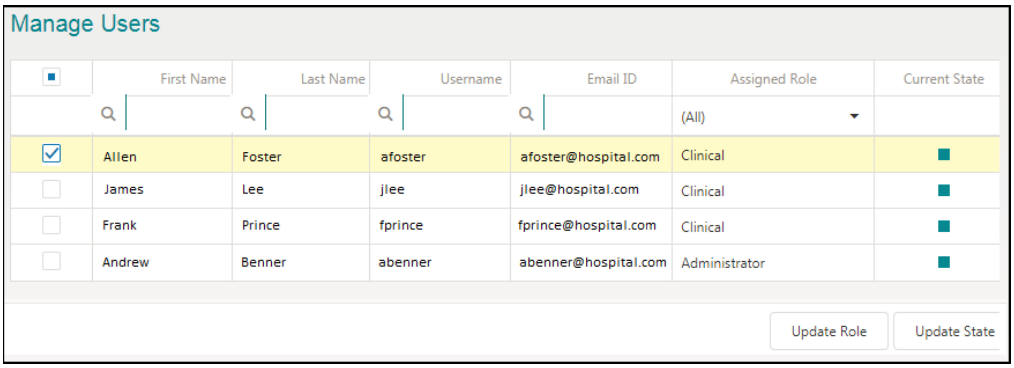
User Management tab allows you to import users from an Active Directory server and manage users.

To access the User Management option:

Navigate to Settings > User Management on the top right corner of the Vocera Analytics Visualization Server.

Manage Users

The Manage User page displays a list of users that are imported. The following screenshot is an example.



You can use the corresponding Search field to view the details of a user.

Note: Only imported and active users will be able to access the Visualization Server.

The following table describes the fields in the Manage Users page.

Field	Description
Check box	Allows you to select or deselect a user to perform a task.
First Name	Displays the first name of the user.
Last Name	Displays the last name of the user.
User Name	Displays the username of the imported user.
Email ID	Displays the email ID of the user.
Assigned Role	Displays the role that the user is assigned. Based on the role assigned, the user can perform activities.
Current State	Displays the status of the user. The current state is displayed as: • A tiny green box—It denotes that the user is active and can login to the Analytics application. • The entire row grayed out—It denotes that the user is inactive and consequently the user cannot access the Analytics application.

You can update the role of a user based on the activities they perform. To update role for a user, perform the following tasks:

1. Select an user.
2. Click Update Role.
   The Select Role dialog box is displayed.
3. Select one of the roles. For example: Administrator.
4. Click Update.
   The new role is applied to the user.

You can activate or deactivate a user based on their current state. To update the state of a user, perform the following tasks:

1. Select an user.
2. Click Update State.
   The Select State dialog box is displayed.
3. Select one of the options. For example: Deactivate.
4. Click Update.
   The user is deactivated.

Note: By default, an user is active.

Import Users

You can import users from an Active Directory server into Vocera Analytics. Importing users allow you to manage users, list users, assign a role to each user, and activate or deactivate a user.

To import a user, perform the following tasks:

1. Select an option from the Search Base dropdown. A Search Base filter specifies the base distinguished names. For example, DC=hospital,DC=com.

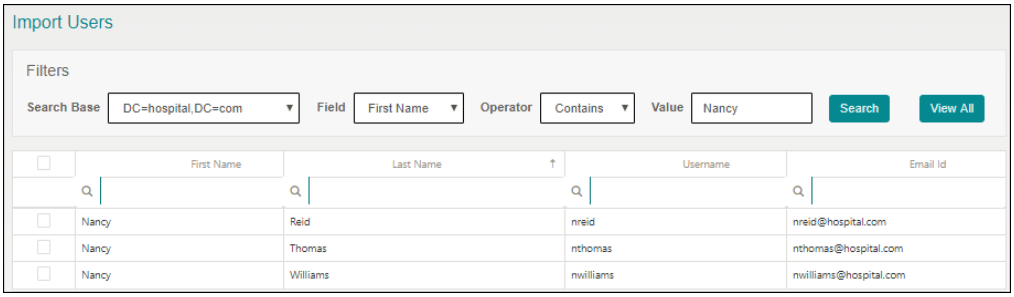
   Note: The available options are based on your base distinguished names set for your organization.

2. Select an option from the Field dropdown. A Field filter specifies the options available to search. For example, First Name. The options available are:
   - First Name
   - Last Name
   - User Name
   - Email ID
   - Title

- Department
- Group

3. Select an option from the Operator dropdown. The Operator filter specifies the action to be used based on the search criteria. For example, Contains. The options available are:
   - Contains
   - =
   - !=
4. Enter a value in the Value field. The Value field specifies the keyword related to the filters that you have selected. For example, Nancy.
5. Click Search.

   The search result is displayed based on the Search Base, Field, Operator, and Value selected.



Report Scheduler

The Report Scheduler tab allows you to schedule automatic generation and distribution of reports.

Vocera Analytics provides several reports, and manually generating and distributing each report on a recurring basis is time-consuming. The Report Scheduler makes it simple and easy to schedule reports, automatically generates and distribute reports to the appropriate users.

The Report Scheduler allows you to:

- Schedule reports that can be distributed to a shared file server or a mailing list proactively.
- Make efficient use of reports by distributing them to a variety of different users.
- Reduce administration of Vocera servers.

To access the Report Scheduler option:

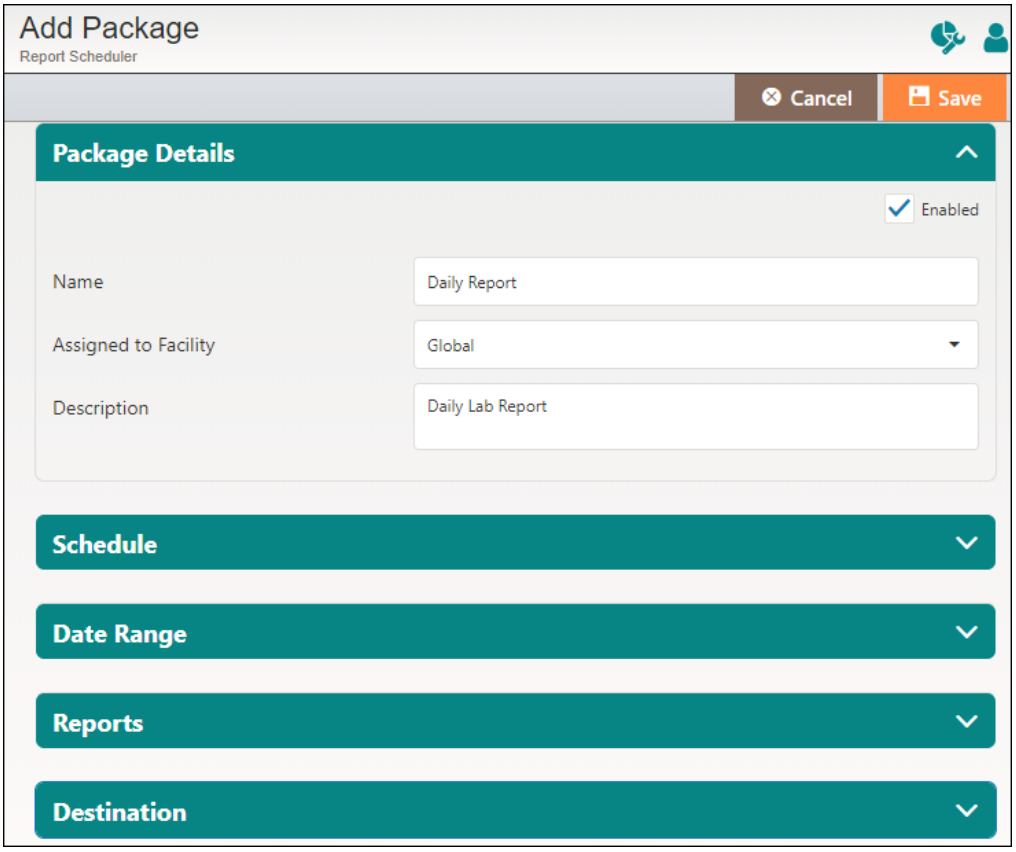
Navigate to Settings > Report Scheduler on the top right corner of the Vocera Analytics Visualization Server.

Adding Package Details

Package details help you provide basic information about the report package.

1. Click Package details.

   The package details page is displayed.



2. Provide information as per the table in the following table:

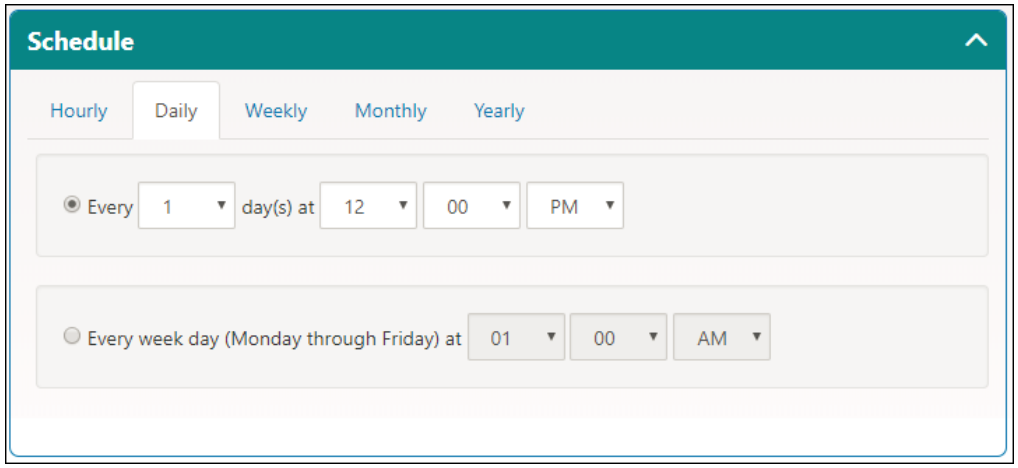
Field	Description
Enabled	Ensure that the checkbox is checked to enable the package schedule. To disable the package schedule, uncheck the **Enabled** check box.
Name	Enter a name for the report package (up to 50 characters).
Assigned to Facility	Select a facility for the package. The facility you select will be used for the Facility and Facility report parameters of the owner and also filter email recipients for package destinations.
Description	Enter a description of the report package (up to 250 characters).

Scheduling Report Package

The schedule section specifies the timeframe for which the report package must be scheduled.

1. Click Schedule.

   The schedule page is displayed.



2. Select options as required per the information mentioned in the following table:

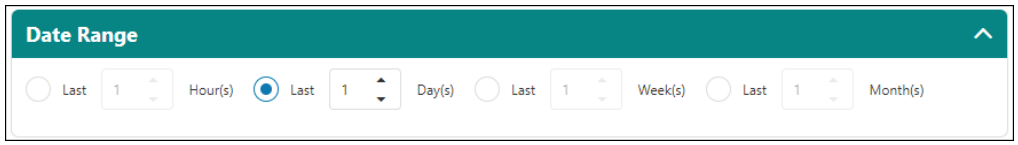
Field	Description
Hourly	Click **Hourly** to generate reports on an hourly basis. Specify the interval and the time that the report package should be scheduled.
Daily	Click **Daily** to generate reports on daily basis. To schedule the report package every day, select **Every 1 day(s)**. To skip days, select **Every 2 day(s)**, **Every 3 day(s)**, and so on, up to the number of days you want to skip. Specify the interval and the time that the report package should be scheduled. To schedule the report package only on weekdays, select **Every Week Day (Monday through Friday) at** and specify the time that the report package should be scheduled.
Weekly	Click **Weekly** to generate reports on a weekly basis. To schedule the report package every week, select the day or days that you want to schedule. Ensure boxes are checked for the days of the week (Sunday through Saturday) you want to schedule the report package. You can check multiple boxes.
Monthly	Click **Monthly** to generate reports on a monthly basis. To schedule the report package every month, select **On the n day of every x month(s)** and specify the time that the report package should be scheduled. For example, On the 2nd day of every 1 month(s) at 05: 30 PM. To skip months, select **On the n day of every 2 month(s)**, **On the n day of every 3 month(s)**, and so on, up to the number of months you want to skip. You can also schedule the report package based on any day of the week in a month. For example, On the Last Friday of every 1 month(s) at 6:00 PM.
Yearly	Click **Yearly** to generate report on a yearly basis. To schedule the report package every year, select **Every (month) on the n day** and specify the time that the report package should be scheduled. For example, Every January on the 1st day at 06: 30 PM. You can also schedule the report package based on any week of a month. For example, On the First Monday of December at 4:00 PM.

Date Range

The date range section specifies the date range to be considered for the report package.

1. Click Date Range.

   The Date Range page is displayed.



2. Select options as required per the information mentioned in the following table:

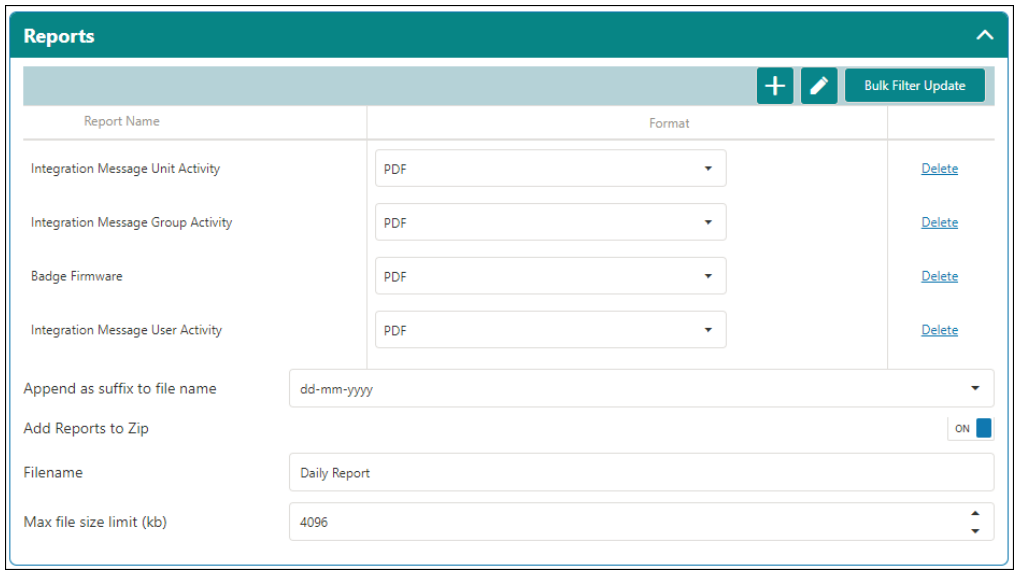
Field	Description
Date Range	Use the date range controls to specify the date range for the report: Click one of the following: Last **n** Hour(s) Last **n** Day(s) Last**n** Week(s) Last **n** Month(s) **n** denotes the relative range. Select a number in the field to specify how large the range is. For example: **Last n Days** includes the day that the report is generated. If you specify "Last 1 Days" for the date range, the report includes data from the previous day until the time of the scheduled dataload for the current day

Reports

The Reports section lets you select the reports to be be added to the report package. It also lets you define the report format, filename and maximum file size of the generated report package.

1. Click Reports.

   The Report page is displayed.



2. Select options as required per the information mentioned in the following table:

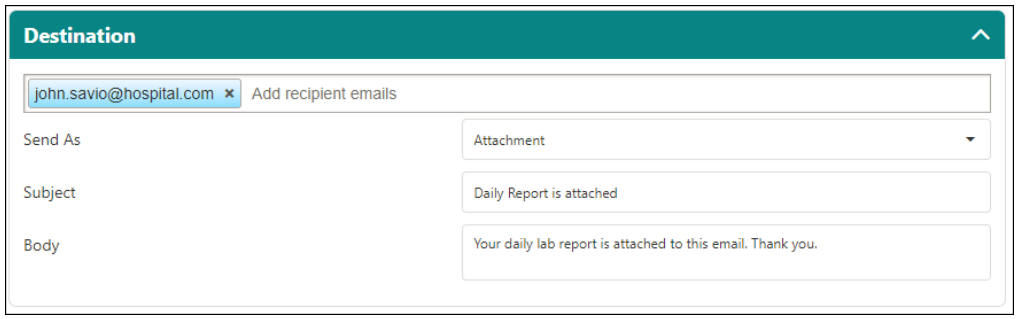
Field	Description
Add Report	Click the + to open the **Add Reports** dialog box and add reports to the package. Click **Save** to close the dialog box.
Edit Report Filter	Click the Edit to edit the report filters.
Bulk Filter Update	Click Bulk Filter Update open the **Edit Report Parameters** dialog box and edit the filter parameters. Click Save to close the dialog box.
Format	Select the format for the reports that are included in the report package.The options are: • PDF • CSV
Delete	Select a report and click the Delete to delete a report that you added.
Append as suffix to file name	Select a timestamp option to append it to the report package.
Add Reports to Zip	Select ON to automatically zip the report package.
Filename	Specifies the filename of the report package.
Max file size limit (kb)	Specifies the maximum file size of the report package. The default file size is 4096 KB. However, you can increase or decrease the file size.

Destination

The Destination page of the Add/Edit Package Schedule dialog box lets you specify the destination of the report package. You can link the report to a destination folder or distribute it as an attachment by email.

1. Click Destination.

   The following Destination page is displayed.



2. Select options as required per the information mentioned in the following table:

Field	Description
Add recipient emails	Specifies the email address of the recipient that receives the report package.
Send As	Specifies the delivery format of the report package. You can link the report to a destination folder or send it as an attachment.
Subject	Specifies the subject of the email for the report package.
Body	Specifies the contents of the email.

Configuring Multiple Engage Appliances

This section describes the settings required to configure multiple Engage appliances.

Settings for Engage Appliances

This section describes the configuration changes to be performed on Engage Appliances.

Facility Name

Provide unique Facility name for each Engage Appliance (or cluster). If there are multiple facilities on a single Engage appliance or cluster, facility names must be unique from each other in the environment.

Source Name

Modify every rule in the solution slice that contains the field `source_name` so that all the rules on one appliance (cluster) have the same `source_name` and it is unique to appliances. By default, the solution slice populates this field as Vocera.

For example:

- Appliance 1: source_name = Vocera_123.45
- Appliance 2: source_name = Vocera_123.46
- Appliance 3: source_name = Vocera_123.47

Where the `source_name` denotes the name of the appliance and the data it came for easy identification. For example, `[Name]_[IPAddress]`

Vocera Analytics is compatible with both Platform 6.0 and Platform 5.5. Different solution slices are required, depending on the platform version used. The following table lists the required solution slices for different versions of Vocera Analytics and Engage Platform.

Vocera Analytics Version	Engage Platform Version	VA Solution Slice Required
1.1	Platform 5.5	Vocera Analytics 1.0.0.1
	Platform 6.0	Vocera Analytics 1.1.0.10

Vocera Analytics Version	Engage Platform Version	VA Solution Slice Required
1.0	Platform 5.5	Vocera Analytics 1.0.0.1

Data Export Adapter Configuration

Ensure that every Engage appliance has a Data Export adapter and points to the same VA Server ldg database.

The data exported from the Engage appliances are exported to the same VA Server ldg database.

Crosswalk Configuration

This section describes the Voice Server location configuration and workflow crosswalk configuration.

- Voice Server location configuration: Configuring the locations in the Voice Server to facilitate crosswalk mapping to multiple Engage appliances.
- Workflow crosswalk configuration: Manual procedure for configuring the crosswalk tables using the ManageSites workflow on the Engage appliance.

Voice Server Location Configuration

Crosswalk configuration is critical to display data accurately, especially in a multiple Engage appliance environment.

Ensure that the following requirements are taken care of:

- Individual sites created in the Voice Server that correspond to each Engage facility.
- Each site in the Voice Server contains departments that match the corresponding units in Engage.
- The Voice Server Global site is reserved for users that appear in multiple sites.

Perform the following configuration steps on the Voice Server (VS):

- Create one site for each Engage facility.
  There should be one Engage facility for each Engage appliance (cluster).

  Note: It is possible to have a complex set up where there are multiple facilities on a single Engage appliance. In this case, the VS configuration is the same, that is, create one Voice Server site for each Engage facility. The result will be more sites than appliances.
- Compile a list of Engage units for each Engage facility.
  Ensure that the Facility-Unit relationship is known.
- Create departments for the sites in the Voice Server.
  There should be one Site-Department combination that correspond to each Engage Facility-Unit combination recorded earlier. For example, refer to the following table:

Engage Appliances		Voice Server	
Engage Facility	Engage Unit	VS Site	VS Department
Facility_1	NICU	Site 1	NICU
	CARDIO		CARDIO
Facility_2	NICU	Site 2	NICU
	CARDIO		CARDIO

- Assign users to their appropriate Site-Department combination.
- Assign regular users of multiple sites to the Global site. These users can still be assigned to departments in multiple sites.

  Note:
  The Voice Server Global site is now reserved for users that appear in multiple sites.

  Do not configure sub-departments as it will not display accurately.

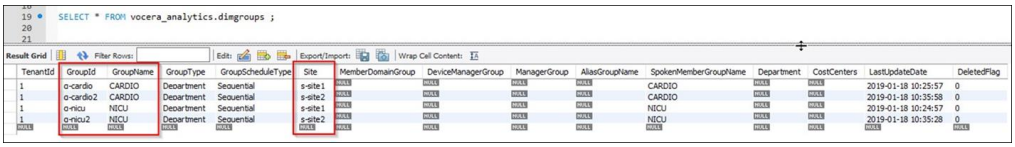
  Assigning users to multiple sites may generate inaccurately aggregated data in the dashboards and reports.

Identify Voice Server Department UID

After you configure the locations on the Voice Server (VS) and Engage appliances, identify the VS department UIDs prior to manually configuring the crosswalk tables using the workflow.

To determine the VS department UID, perform the following:

1. Complete the configuration of Facilities and Units on Engage appliances.
2. Complete the configuration of Sites and Departments on VS.
3. Install, configure, and start Vocera Analytics.
4. Confirm VS dimensional data is processed into the `vocera_analytics` dimensional tables.
5. Query dimensional table `vocera_analytics.dimgroups` to find the department UID.
   a. GroupID—Specifies the UID.
   b. GroupName—Specifies the department name created on the Voice Server.
   c. Site—Specifies the site that the department belongs to.



6. Add the department UID to the Site-Department combinations recorded earlier.

Engage Appliances		Voice Server		
Engage Facility	Engage Unit	VS Site	VS Department	VS GroupID (UID)
Facility_1	NICU	Site 1	NICU	g-nicu
	CARDIO		CARDIO	g-cardio
Facility_2	NICU	Site 2	NICU	g-nicu2
	CARDIO		CARDIO	g-cardio2

After you have determined all Engage Facility-Unit and Voice Server Site-Department and Department UID relationships, you can manually configure the crosswalk tables.

Workflow Crosswalk Configuration

This section describes the manual procedure for configuring the crosswalk tables using the ManageSites workflow.

- Use the ManageSites workflow on each Engage appliance to map the appliance facility/units to the corresponding Voice Server site/departments.
- Ensure that relationships are mapped 1:1.
  - Map each Engage facility to only one Voice Server site.
    No other Engage facilities can be mapped to that same Voice Server site.
  - Map each Engage unit in an Engage facility to only one Voice Server department within a Voice Server site.
    No Engage unit can be mapped to the same Voice Server department.

The manual procedure for configuring the crosswalk tables for a multiple Engage appliance environment is the same as for a single appliance environment. For more information, refer to: **Configuring Crosswalk** on page 52.

Vocera Analytics Server Configuration Overview

The information in the Vocera Analytics Server Configuration section applies to large, single-appliance hospitals and also to Multiple Engage appliances.

Vocera Analytics Server Configuration

This section describes the settings to be modified for Flume-Engage and MariaDB configuration files.

Modifying flume-Engage.conf File

Each Engage `ldg` table has a `max.rows` setting that specifies the number of records Flume should process in each cycle.

Change the settings for each table from 10,000 rows to 100,000 rows:

- agent1.sources.event_details.max.rows=100000
- agent1.sources.delivery_history.max.rows=100000
- agent1.sources.conversations.max.rows=100000
- agent1.sources.site_facility_xref.max.rows=100000
- agent1.sources.registration_transactions.max.rows=100000
- agent1.sources.deliveries.max.rows=100000
- agent1.sources.department_unit_xref.max.rows=100000
- agent1.sources.messages.max.rows=100000
- agent1.sources.events.max.rows=100000
- agent1.sources.responses.max.rows=100000

Modifying `MariaDB my.ini` File

Note: The following configuration is an example and must be manually set based on the actual VA Server environment being implemented.

The following excerpt from the `my.ini` file is provided for guidance to manually set the select values. The `my.ini` values prefixed as `A#` must be set at the time of installation and configuration. These values must be set relative to other A values. The current values of A1, A2, and A3 are an example only and should be set based on the below specification. The following values include:

- `A1 innodb_buffer_pool_size`
  Set by the installer to a percentage of the available system memory.
  This value will be used to calculate A2.
- `A2 innodb_log_file_size`
  Set as a rounded calculation relative to A1.
  The purpose of the calculation is to preserve the relationship that `innodb_log_file_size` * 2 should be <= 25% of the `innodb_buffer_pool_size`.
  A2 = A1 / 8 rounding off to the nearest whole number increment of 1024 M or 1G and then the calculated value is that whole number * 1024 M).
  The calculated value must be represented in increments of 1024 M to align with allowed memory allocation values. For example, if A1 / 8 is 6.4, drop the remainder and consider the whole number 6. Then the calculated value for A2 should be 6 * 1024 = 6144 M.

  Note: If the calculated value * 2 is not less than or equal to A1 / 4, then select a whole number increment of 1024 M that is less than or equal to 25% of A1.

  If the `mysqld` service fails to start, check the value you used and ensure that when divided by 1024, it divides leaving no remainder.
- `A3 innodb_log_buffer_size`
  Set to the outcome of calculating A2, that is the value of A3 should be equal to A2, that is, ensure A3 = A2.
  The purpose of setting this value is that the `innodb_log_buffer_size` should be equal to or smaller than the `innodb_log_file_size`.
  The other values should be set directly into the file as listed.

The following is an example configuration of `my.ini` file:

```
[mysqld]
datadir=C:\VoceraAnalytics\MariaDB\data
port=3306
# A1 value set by installer based on available system memory (A1)
innodb_buffer_pool_size=52428M
# read io threads increased to 8 from default of 4
innodb_read_io_threads=8
# write io threads increased to 8 from default of 4
```

```
innodb_write_io_threads=8
sql_mode="NO_ENGINE_SUBSTITUTION,NO_AUTO_CREATE_USER,PIPES_AS_CONCAT,ANSI_QUOTES,IGNORE_SPACE,
 NO_KEY_OPTIONS,NO_TABLE_OPTIONS,NO_FIELD_OPTIONS"
event_scheduler=ON
# A3 equal or smaller than log file size, not larger (A3 = A2)
innodb_log_buffer_size=6144M
# A2 log_file_size * 2 should be <= 25% of buffer_pool_size (A2 = A1 / 8 rounding to nearest
whole number increment of 1024M or 1G and then the calculated value is that number * 1024M)
innodb_log_file_size=6144M
# updated to 16MB from the default, size of memory block used for merge sorting in fast index creation
innodb_sort_buffer_size=16MB
# updated to 8MB from 2MB (can specify as MB)
sort_buffer_size=8MB
# same as current value set by installer, unchanged
max_connections=550
# same as current value set by installer, unchanged
query_cache_size=0
# value targeted for innodb insert/update/delete purge lag calculation when purge operations are
falling behind on a busy server (numeric only)
innodb_max_purge_lag=94967295
# number of threads dedicated to purging undo tablespace, up from the default of 4 as we are
very write/transaction heavy in our workload
innodb_purge_threads=12
# number of threads cleaning dirty pages innodb_page_cleaners=innodb_buffer_pool_instances which
is 8 by default
innodb_page_cleaners=12
# upper limit in delay for new insert/update/delete operations to allow purge catch-up
innodb_max_purge_lag_delay=10001
# maximum size of the undo log prior if innodb_undo_log_truncate is enabled (OFF by default,
and innodb_undo_tablespaces is currently 0, so only here as a placeholder for the future) (8G)
innodb_max_undo_log_size=8GB
# max allowed network data transfer (packets) 500MB
max_allowed_packet=500MB
# maximum size in memory of temp table space 320MB up from 16MB
tmp_table_size=320MB
# maximum size in memory of in-memory table 320MB up from 16MB
max_heap_table_size=320MB
# transaction isolation changed to READ-COMMITTED as replication is not currently being used
transaction_isolation=READ-COMMITTED
net_retry_count=30
slow_query_log=1
net_read_timeout=60
net_write_timeout=120
# up the minimum number of thread pool threads kept around from 1 to minimize thread retirement
on Windows Server
thread_pool_min_threads=25
# since all intended connections are coming from the same server, recommend skipping DNS reverse
lookups on connection creation
skip_name_resolve
stack-trace
core-file
disable-gdb
[client]
port=3306
plugin-dir=C:\VoceraAnalytics\MariaDB\lib\plugin
```

VRS to Vocera Analytics Mapping and Data Differences

This section describes the mapping of Vocera Report Server to Vocera Analytics, differences in data between dashboards and reports, and data differences in Engage data.

VRS to Vocera Analytics Mapping

The following table describes the mapping of Vocera Report Server (VRS) to Vocera Analytics.

Table 1: Summary Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Summary Report		
Simultaneous User Login Report	Administration > Simultaneous User Login	Administration > License Dashboard > Login Trend
Device Type Usage Report	System Usage > Device Version Usage	Asset Tracking > Status Tracking or Asset Usage
Inactive User Report	Directory > Inactive Users	Directory > Login
Inactive Group Report	Directory > Group Activity	Directory > Group Usage
Inactive Address Book Entries Report	Directory > Address Book Activity	Directory > Address Book Usage
Group Entry Summary Report	Directory > Group Activity	N/A
Address Book Entry Summary Report	Directory > Address Book Activity	N/A
Hourly Usage Summary Report	Administration > Hourly Usage	Administration > License Dashboard
Genie Session Summary Report	Administration > Genie Summary	Administration > License Dashboard > Genie Trend
Average Call Duration Statistics Report	No report in Vocera Analytics	System Usage > Location Call Summary or User Call Details
Telephony Usage Trend Report	Administration > Telephony Usage Trend	N/A
Tiered Administration Audit Report	Administration > Tiered Administration Audit	N/A
Command Usage Report	No report in Vocera Analytics	System Usage > Location Call Summary > Command Usage System Usage > User Activity Details > Command Usage
System Call Volume Trend Report	System Usage > System Call Volume Trend	System Usage > Location Call Summary Interruption > Interruption Summary or Unit Interruption Summary or Call Summary
PBX Call Volume Trend Report	Administration Folder> PBX Call Volume	N/A
Unassigned AP Report	Administration Folder > Unassigned Access Points	N/A

Table 2: Call Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Call Reports		
User Activity Report	System Usage > User Activity	System Usage > User Activity Details > Call Utilization
Incoming Call Reports (All: Users and Groups)	No report in Vocera Analytics	Interruptions > Call Summary
Outgoing Calls by User Reports (Summary and Detail)	System Usage > Outgoing Call Details	System Usage > User Activity Details > Call Utilization System Usage > User Call Details System Usage > Location Call Summary
Outgoing Call Summary Report	System Usage > Outgoing Call Details	System Usage > User Activity Details > Call Utilization System Usage > User Call Details
Broadcast Report	System Usage > Broadcasts	System Usage > Location Call Summary

Table 3: Speech Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Speech Reports		
Speech Recognition Results by User Detail Report	Speech Recognition > Speech Recognition User Details	Speech Recognition > User Statistics
Speech Recognition Results by User Report	Speech Recognition > Speech Recognition User Details	Speech Recognition > User Statistics
Speech Recognition Results by Access Point Report	Speech Recognition >Speech Recognition Location Details	Speech Recognition > Location Statistics
Speech Recognition Results by Department Report	No report in Vocera Analytics	No dashboard in Vocera Analytics
Speech Recognition Results by Device Report	Speech Recognition Group Details	Speech Recognition > Owning Group Statistics
Speech Recognition Distribution Report	No report in Vocera Analytics	Speech Recognition > Speech Statistics > Attempt Totals Speech Recognition > Speech Statistics > Attempt Trend
Speech Recognition Trend Report	No report in Vocera Analytics	Speech Recognition > Speech Statistics > Genie Totals Speech Recognition > Speech Statistics > Genie Trend

Table 4: Integration Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Integration Reports		
Integration Messages Group Activity, Ordered By Transaction ID	Administration > Integration Message Group Activity	Administration > Integration User Events
Integration Messages Group Activity, Ordered By ID	Administration > Integration Message Unit Activity	Administration > Integration Details
Integration Messages Group Activity, Ordered By Time	Administration > Integration Message Unit Activity	Administration > Integration Events
Integration Messages User Activity, Ordered By ID	Administration > Integration Message User Activity	Administration > Integration User Events

Vocera Report Server	Vocera Analytics	
Integration Messages User Activity, Ordered By Time	Administration > Integration Message User Activity	Administration > Integration User Events
Average Response Time Detailed Report	No report in Vocera Analytics	Administration > Integration User Events > User Reply Time
Average Response Time Trend Report	No report in Vocera Analytics	Administration > Integration User Events > Priority Event Trend

Table 5: Device Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Device Reports		
Device Last User Access Report	Asset Tracking > Badge/Mobile Last Used	Asset Tracking > Asset Usage Asset Tracking > Inventory Status
Device Last Network Access Report	No report in Vocera Analytics	Asset Tracking > Asset Usage Asset Tracking > Inventory Status
Device Inventory - Summary Report	Asset Tracking > Device Inventory Summary	Asset Tracking Dashboards
Device Inventory - Detail Report	Asset Tracking > Device Inventory Details	Asset Tracking Dashboards
Device Usage Report	Device Inventory Details	Asset Tracking Dashboards
Device Status Tracking Report	No report in Vocera Analytics	Asset Tracking > Status Tracking

Table 6: Asset Tracking Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Asset Tracking Reports		
Badge Last Used Report	Asset Tracking > Badge/Mobile Last Used	Asset Tracking > Asset Usage Asset Tracking > Inventory Status
Badge Usage Report	No report in Vocera Analytics	Asset Tracking > Asset UsageAsset Tracking > Inventory Status
Department Inventory - Summary Reports	Asset Tracking > Device Inventory Summary	Some of this is in the following except days used and date first used.
Department Inventory - Detailed Reports	Asset Tracking > Device Inventory Details	Asset Tracking > Asset Usage Asset Tracking > Inventory Status

Table 7: Exporting Data Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Exporting Data Reports		
Data - Incoming Phone Calls Report	Data—Outgoing Calls by Badge User Reports These reports are integrated into the general folders. All Dashboards may be exported to CSV files based upon specific user criteria. All Reports can be saved as either PDF or CSV files.	
Data - Recognition Results Report		
Data - Inventory Report		
Data - Broadcasts Report		
Data - Badge Last User Report		
Data - Device Migration Report		
Data - Device Last User Access Report		
Data - Device Last Network Access Report		

Table 8: Scheduler Diagnostics Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Scheduler Diagnostics Reports		
Task Scheduler Diagnostics - Standard Report	No report in Vocera Analytics	Administration > Scheduler Diagnostics
Task Scheduler Diagnostics - Filter Report	No report in Vocera Analytics	Administration > Scheduler Diagnostics

Table 9: Custom Reports

Vocera Report Server	Vocera Analytics	
Report Name	**Report Location Folder > New Report Name**	**Dashboard Location Folder > Dashboard > Widget**
Custom Reports		
Sample Customer Report - Badge Firmware	SAMPLE REPORT	Custom Folder **Note:** Custom folder holds a sample report to point users to documentation on how to create a custom report.

Differences between Vocera Report Server and Vocera Analytics

Some features in Vocera Analytics and Vocera Report Server are similar but vary in operation. The differences between Vocera Report Server and Vocera Analytics is provided in this topic.

The following table lists the features in Vocera Report Server (VRS) and Vocera Analytics (VA) that are similar but vary in operation:

Feature	Vocera Report Server	Vocera Analytics
Data Latency	Nightly updates	Variable: • Users: Updates every 10 minutes • Calls/Texts/Activity: Updates every 4 minutes • Engage: Configurable, default is every 60 minutes. Vocera Analytics also allows the refresh rate for Users and for Calls/Texts/Activity to be configured.
Call Duration	Includes network connection time. The time that the user hits genie button to the time the user ends the call with genie button is calculated.	Only actual talk time. Duration of actual call. Only display calls above 0 seconds.
Login Attempts	No login attempts counted.	User logins are included as speech attempts (both successful and unsuccessful) in Speech Recognition Activity.
Broadcast Messages		
General	Does not include broadcasts without a duration and hence the count shows only successful broadcast calls.	Includes broadcasts with zero duration. Hence unsuccessful broadcasts are also included. **Note:** Broadcast duration is calculated based on the talk time of the actual broadcast.
Broadcast Counts	• Maintains one record in the database for broadcast or multicast even though there are multiple recipients in the broadcast. • Maintains data from the caller perspective only and does include receiver details.	• Maintains separate entries for all the recipients for broadcast. • Maintains both caller and receiver message counts.
Users that are included in multiple units (permanent or temporary)	-	• User Facility is the displayed facility. • Some users also belong to several physical units from both facilities. • Attempts are shown for each unit but total shows only a single speech attempt.

Feature	Vocera Report Server	Vocera Analytics
Grouping	Unique grouping. For example, Unit + Unit + Unit, and so on.	Individual Unit (department) groupings.
User statistics	• All User type reports are tracked as the device owner or unit • Individuals assigned permanently to many units maintain dates and history. Reported individually but not rolled into grand totals.	-
User/Login Activity	Login is considered an activity.	Login is not considered as an activity. User must actually perform an activity.
Units	Group or Department (simply appended + if in multiple dept)	Group with Department box checked.
Device (Badge or Smartphone) Details	Does not include the device type that caller utilized.	Includes the caller device.
User Access	Only allows a single admin user login.	Active directory and role based system allowing clinical end users access to reports and dashboards but not administration functions.
Scheduling Reports	User emails no longer from Voice Server using name attributes.	Does not link back to voice server. Admins must enter full user email address. Recommend using distribution lists and active directory functionality.
Speech Recognition **Note:** No speech occurrences when user hit the button but did not say anything.	Includes No Speech Occurrences.	Removed references to No Speech Occurrences and excluded these from actual speech attempts count.
Device Activity	Limited to VRS logs and limited activities.	Captures the complete and detailed device activity logs for much more detailed transactions.
Integrations Activity	Groupings mostly by time or message ID.	Filters and groupings available by Facility and Unit.
PBX Call Data	Only keeps a record of the first person that accepts PBX calls.	All responses (unavailable, accepted, rejected, and so on) are reported.
Badge Firmware	Limited data available and limited filters.	Stores and reports actual software version.
Device Usage	Considers only Group and User calls.	Considers all calls such as Broadcast, Address Book, User, and Group.

Note: Instant Conference is considered as a Call Type. Hence the call count in Vocera Analytics can be higher than Vocera Report Server (VRS). The call count for Vocera Analytics and VRS will not match. VRS shows Instant Conference in User Activity Report as a push-to-talk (PTT) event, wherein it shows only the instant conference initiator and does not display receiver details.

The following table lists the features and the items that taken into consideration for calculating the data in Vocera Analytics (VA):

Features	Considerations in Vocera Analytics (VA)
Badge Last Used	Any genie interaction is considered as an activity in VA.
Device Version Usage	VA considers all calls (User, Group, Broadcast, Telephone) that are rejected by receiver and Aborted calls (canceled by caller), whereas VRS only considers answered user calls and group calls.
Genie Summary	VA filters out records if speech duration is null whereas VRS considers all. **Note:** In VRS, total unique users are counted as 1 by default when login counts cannot be determined.
Hourly Usage	• While logging, genie sessions are captured with user names in VA whereas in VRS it is captured as NLI (Not logged in). • VA captures more granular data. If the user presses the Call button on badge multiple times, all genie sessions are recorded in VA whereas VRS does not capture all genie sessions. • In some cases VA does not capture genie session whereas VRS does. For example, auto annunciated messages, starting genie after call hold, and so on.
Inactive Address Book Entries	Both **Inactive Address Book Entries** and **Address Book Entry Summary** are considered as Inactive Address Book Entries.
Inactive Groups	All group activities such as Voice message, VMI alerts, Calls, Broadcast, and VMP messages are considered.

Features	Considerations in Vocera Analytics (VA)
Inactive Users	VA considers any activity of user such as Login, VMP message sent, call, genie initialization by the user as active user and does not list under inactive whereas VRS does not consider VMP messages.

In VA, calls with **0** (zero) duration are not considered for calculating Average Duration, whereas VRS considers calls with 0 duration. Hence the Average Duration count is different for VRS and VA.

Note: Voice Server logs from active and standby servers are processed at the same time. Hence the number of calls and call duration might vary when VRS migration is not done.

Data Differences Between Unit Interruption Summary Dashboard and Unit Summary Report for Engage Data

This topic describes the differences in data between Unit Interruption dashboard and Unit Summary report for Engage data for alarms and alerts.

The data displayed in dashboards are live data whereas the data displayed in reports are aggregated data. The aggregation is done every hour. At any point in time, the report data is an hour old whereas dashboard data is live. Hence the difference in Engage data between dashboards and reports.

The following information further explains how data is derived for dashboards and reports. The Dashboard data is derived from the analytics table. The data is passed from the transactional tables that record dimension and fact details. The analytics table does not summarize or aggregate data. The data displayed in the dashboard is live data.

The Report data is derived from the analytics report tables. The data displayed in the report is aggregated, summarized, and averaged. The Report data is not live and is scheduled to run every hour. It displays data in terms of escalation tiers such as primary, secondary, and tertiary. It shows an event for each escalation tier.

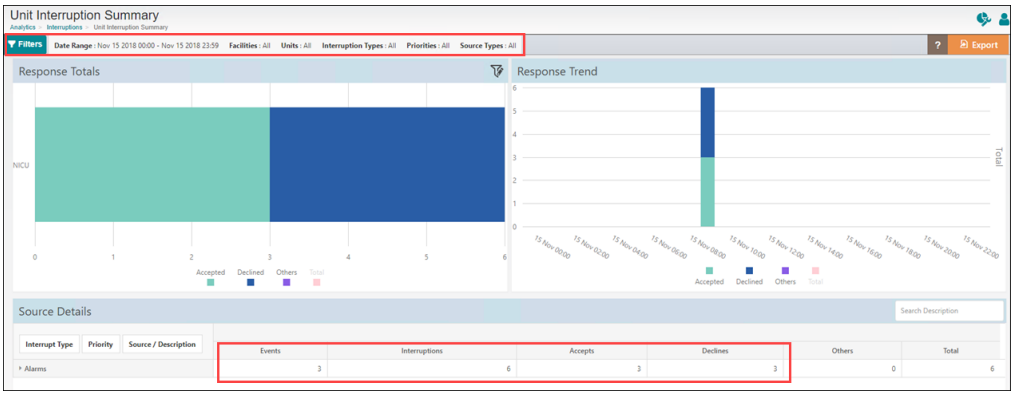
The Report data is displayed based on the escalation tier, that is, the time in the escalation path that an event or response occurred. This may or may not be related to the actual user assigned to primary, secondary, tertiary, and so on.

For example,

- An alert is sent to Nurse 1 assigned to the **Primary** care level
- Nurse 1 ignores the alert
- The alert is escalated by Engage and sent to Nurse 2 assigned to the **Secondary** care level
- Nurse 1 (**Primary**) then accepts the alert after it has been escalated
- The Report data will show the alert as Accepted at **Secondary**, even though it was Nurse 1, (**Primary**) that accepted it since the report evaluates where the activity was in the escalation cycle, not the user that interacts with the alert.

In the following example, we have considered identical filters for both Unit Interruption Summary dashboard and Unit Summary Report.

The Unit Interruption Summary dashboard shows 3 events wherein the interruptions count is 6, accepts count is 3, and declines count is 3.



The entries in the following three tables explain how the events and the records are calculated for the 3 events given in the Unit Interruption Summary dashboard.

The entries in the anl_event_history table shows 3 events.

event_id	event_type_id	event_type_name	parent_event_id	event_class_id	event_class_name	event_year	event_month	event_day	event_shift	event_hour	event_created_at
1110	1	***APNEA	-1	1	PATIENT MONITOR	2018	11	15	1	9	2018-11-15 09:00:57.264000
1111	9	***EXTREME BRADY	-1	1	PATIENT MONITOR	2018	11	15	1	9	2018-11-15 09:01:20.796000
1112	2	***ASYSTOLE	-1	1	PATIENT MONITOR	2018	11	15	1	9	2018-11-15 09:01:59.480000

The corresponding entry in the anl_event_delivery_history table show 6 deliveries. We can see that the event was delivered to the primary and the secondary user. Hence the total entries show 6 records even though there were only 3 events.

event_id	event_delivery_id	delivery_created_at	delivery_interface_name	delivery_recipient_id	delivery_recipient_name	delivery_tier_id	delivery_tier_name	rule_template_id	delivered
1110	2990	2018-11-15 09:00:57.755000	XMPP	1	test1	119	PRIMARY	219	1
1110	2991	2018-11-15 09:01:01.340000	XMPP	2	test2	120	SECONDARY	222	1
1111	2993	2018-11-15 09:01:21.153000	XMPP	1	test1	122	PRIMARY	219	1
1111	2994	2018-11-15 09:01:24.685000	XMPP	2	test2	123	SECONDARY	222	1
1112	2996	2018-11-15 09:01:59.831000	XMPP	1	test1	125	PRIMARY	219	1
1112	2997	2018-11-15 09:02:02.567000	XMPP	2	test2	126	SECONDARY	222	1

Similarly the anl_event_response_history table shows 6 responses. We can further see that the primary user declined and the secondary user accepted the event. Hence the total entries show 6 events even though there were only 3 events.

The anl_event_history, anl_event_delivery_history, and anl_event_response_history tables are used to derive the data for Unit Interruption Summary dashboard.

event_id	event_delivery_id	event_response_id	response_created_at	response_action	response_tier_id	response_tier_name	response_recipient_id	response_recipient_name	accepted	declined	responded
1110	2990	1710	2018-11-15 09:01:01.070000	Decline Primary	119	PRIMARY	1	test1	0	1	1
1110	2991	1711	2018-11-15 09:01:03.971000	Accepted	120	SECONDARY	2	test2	1	0	1
1111	2993	1712	2018-11-15 09:01:24.450000	Decline Primary	122	PRIMARY	1	test1	0	1	1
1111	2994	1713	2018-11-15 09:01:27.307000	Accepted	123	SECONDARY	2	test2	1	0	1
1112	2996	1714	2018-11-15 09:02:02.326000	Decline Primary	125	PRIMARY	1	test1	0	1	1
1112	2997	1715	2018-11-15 09:02:05.317000	Accepted	126	SECONDARY	2	test2	1	0	1

The Unit Summary Report shows 6 events wherein the delivered count is 6, accepted count is 3, and declined count is 3.

Unit Summary

Analytics > Interruptions > Unit Summary

Filters | Date Range : Nov 15 2018 00:00 - Nov 15 2018 23:59 | Sources : All | Tiers : All | Facilities : All | Units : All | Export

Group Tree | 1 / 1 | 100%

Main Report

PATIENT MONITOR

vocera

UNIT SUMMARY

From: 11/15/2018 00:00 To: 11/15/2018 23:59

SOURCE	UNIT	Event Count	Delivered	Accepted	Declined	No Reply	Reply Time (Avg)	Event Delay (Avg)	Total Time (Avg)	Accepted Time (Sec)			Declined Time (Sec)			No Reply Time (Sec)		
										Average	Fastest	Slowest	Average	Fastest	Slowest	Average	Fastest	Slowest
PATIENT MONITOR		6	6	3	3	0	2.6	1.9	4.9	2.5	2.4	2.5	2.8	2.3	3.1			
	NICU	6	6	3	3	0	2.6	1.9	4.9	2.5	2.4	2.5	2.8	2.3	3.1			
Total:		6	6	3	3	0												

The Unit Summary Report uses the anl_rpt_unit_summary_detail table and counts the total number of events that were delivered, accepted, declined, not responded, and the average response time. In addition, the report aggregates the data by time, event type, and escalation tier level. The following screenshot shows the anl_rpt_unit_summary_detail table.

report_date	tier_id	tier_name	facility_id	facility_name	unit_id	unit_name	priority_id	priority_name	event_class_id	event_class_name	event_type_id	event_type_name	event_count	delivered_count	accepted_count	declined_count
2018-11-15 09:00:00.000000	119	PRIMARY	1	FACILITY	1	NICU	1	HIGH	1	PATIENT MONITOR	1	***APNEA	1	1	0	1
2018-11-15 09:00:00.000000	120	SECONDARY	1	FACILITY	1	NICU	1	HIGH	1	PATIENT MONITOR	1	***APNEA	1	1	1	0
2018-11-15 09:00:00.000000	122	PRIMARY	1	FACILITY	1	NICU	1	HIGH	1	PATIENT MONITOR	9	***EXTREME BRADY	1	1	0	1
2018-11-15 09:00:00.000000	123	SECONDARY	1	FACILITY	1	NICU	1	HIGH	1	PATIENT MONITOR	9	***EXTREME BRADY	1	1	1	0
2018-11-15 09:00:00.000000	125	PRIMARY	1	FACILITY	1	NICU	1	HIGH	1	PATIENT MONITOR	2	***ASYSTOLE	1	1	0	1
2018-11-15 09:00:00.000000	126	SECONDARY	1	FACILITY	1	NICU	1	HIGH	1	PATIENT MONITOR	2	***ASYSTOLE	1	1	1	0

To summarize, the Unit Interruption Summary dashboard and the Unit Summary Report use different tables to derive data. Comparison should not be made between dashboard (live data) and report (schedule-based data) as the event count would vary.

Backing Up and Restoring Using CLI

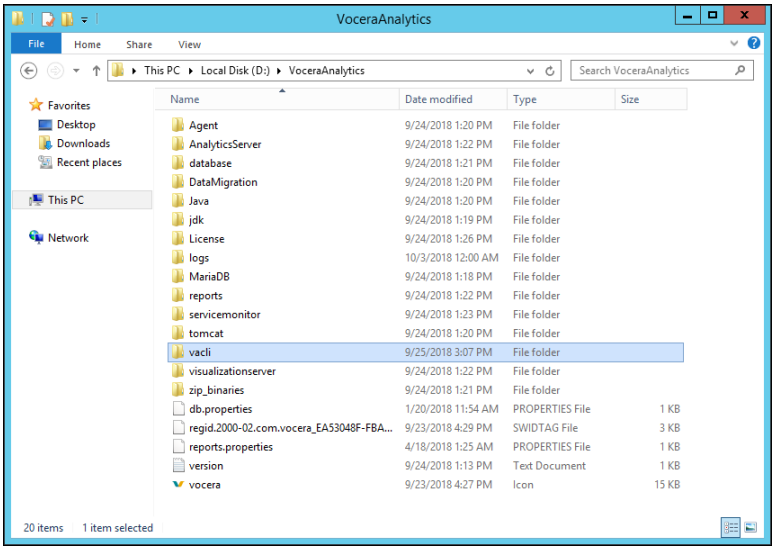
This section describes the backup and restore process within the VACLI framework.

Configuring Backup Using vacli

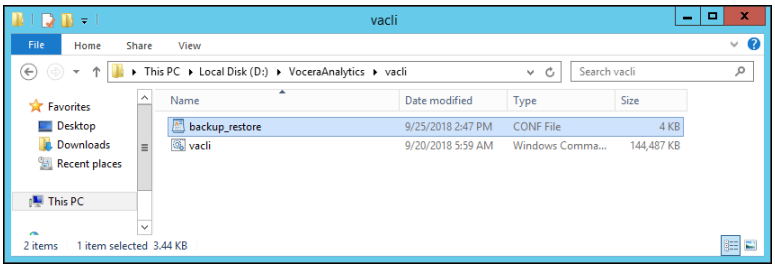
This topic describes the backup process.

To configure a backup, perform the following steps:

1. Login to the computer that has Vocera Analytics installed.
2. Navigate to the vacli folder in the Vocera Analytics installed drive. For example, D:\VoceraAnalytics

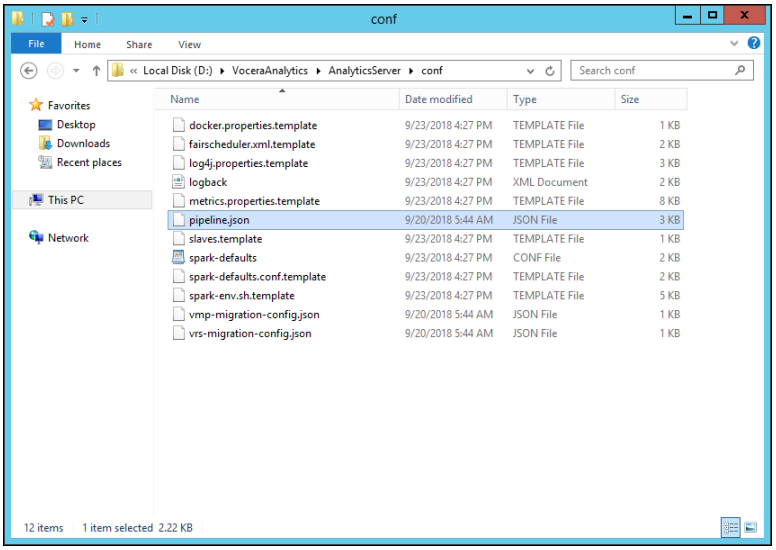


3. Double-click vacli folder to open and locate the `backup_restore.conf` file.

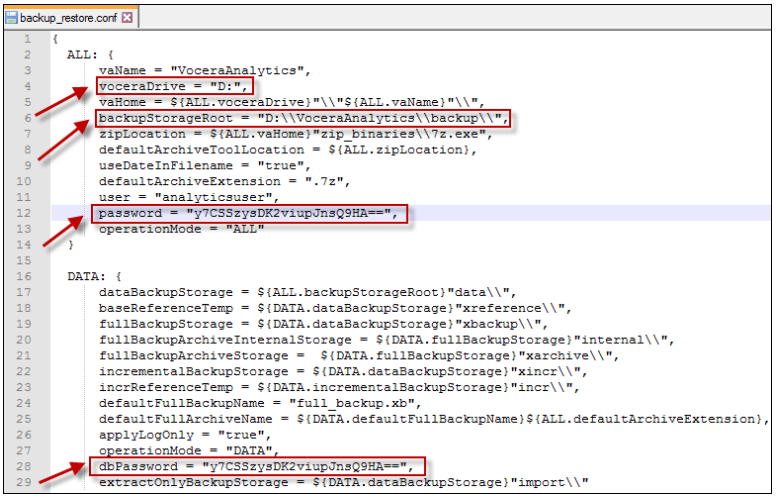


4. Open the `backup_restore.conf` file in a notepad and update the passwords in sections ALL and DATA respectively with the database password ciphertext assigned in the `pipeline.json` file.

   For example, if Vocera Analytics is installed on the `D:\` drive, the `pipeline.json` would be located at: `D:\VoceraAnalytics\AnalyticsServer\conf`.



5. Update the voceraDrive value to the drive where you want to store the backup of database and configuration files. By default, the `vacli` utility stores the backup in the C drive. We do not recommend storing the backup in the C drive.



```
backup_restore.conf
{
  ALL: {
      vaName = "VoceraAnalytics",
      voceraDrive = "D:",
      vaHome = ${ALL.voceraDrive}"\\"${ALL.vaName}"\\",
      backupStorageRoot = "D:\\VoceraAnalytics\\backup\\",
      zipLocation = ${ALL.vaHome}"zip_binaries\\7z.exe",
      defaultArchiveToolLocation = ${ALL.zipLocation},
      useDateInFilename = "true",
      defaultArchiveExtension = ".7z",
      user = "analyticsuser",
      password = "y7CSSzysDK2viupJnsQ9HA==",
      operationMode = "ALL"
  }

  DATA: {
      dataBackupStorage = ${ALL.backupStorageRoot}"data\\",
      baseReferenceTemp = ${DATA.dataBackupStorage}"xreference\\",
      fullBackupStorage = ${DATA.dataBackupStorage}"xbackup\\",
      fullBackupArchiveInternalStorage = ${DATA.fullBackupStorage}"internal\\",
      fullBackupArchiveStorage =  ${DATA.fullBackupStorage}"xarchive\\",
      incrementalBackupStorage = ${DATA.dataBackupStorage}"xincr\\",
      incrReferenceTemp = ${DATA.incrementalBackupStorage}"incr\\",
      defaultFullBackupName = "full_backup.xb",
      defaultFullArchiveName = ${DATA.defaultFullBackupName}${ALL.defaultArchiveExtension},
      applyLogOnly = "true",
      operationMode = "DATA",
      dbPassword = "y7CSSzysDK2viupJnsQ9HA==",
      extractOnlyBackupStorage = ${DATA.dataBackupStorage}"import\\"
```

6. Save the changes.
7. Open a notepad and copy the following commands in it:

```
SET BACKUP="D:\VoceraAnalytics\backup"
call vacli backup -FS backup_restore.conf
call vacli backup -e backup_restore.conf
call forfiles -p %BACKUP% -s -m export*.* /D -10 /C "cmd /c del /q @path"
```

Executing the `call vacli backup -FS backup_restore.conf` command creates a full secure backup. This command overwrites the existing backup. The `-FS` option creates a full backup and ensures that the backup is secured and encrypted. While performing a restore, you must use the `-S` option in the restore command to restore successfully. If you perform a secure backup, you must always perform a secure restore. Similarly, if you perform an unsecured backup, you must always do an unsecured restore.

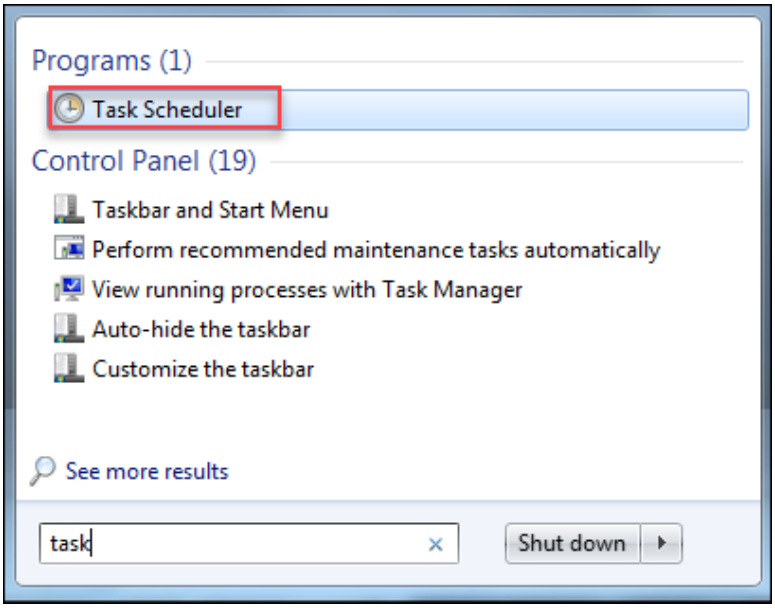
Executing the `call vacli backup -e backup_restore.conf` command archives the backup created into the backup directory root folder.

Executing the `call forfiles -p %BACKUP% -s -m export*.* /D -10 /C "cmd /c del /q @path"` command checks if archives are older than 10 days and deletes it. By default, the number of days to be archived is set to 10 days. However, this value can be modified as per your requirement.

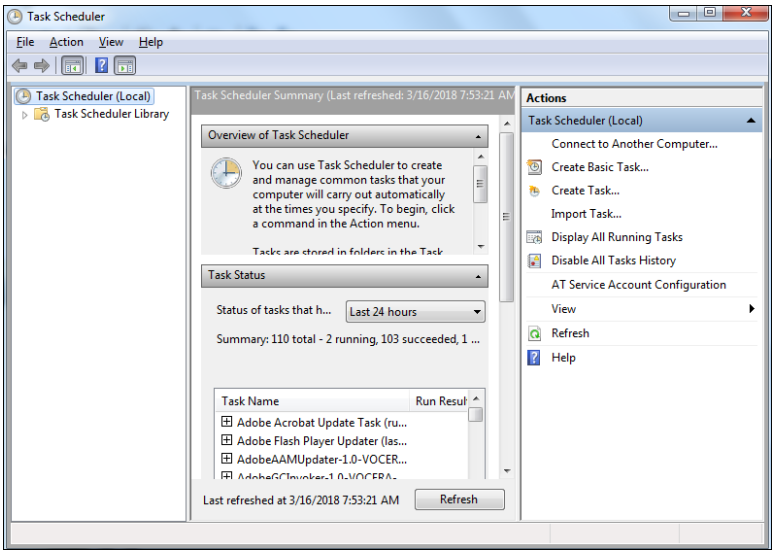
Note: The SET BACKUP path should be the same path as specified in the `backup_restore.conf` file for `backupStorageRoot`. For example, `D:\VoceraAnalytics\backup`.

8. Save the notepad as `RunVABackup.bat` in the following path `<VA_Install_Drive>\VoceraAnalytics\vacli`.

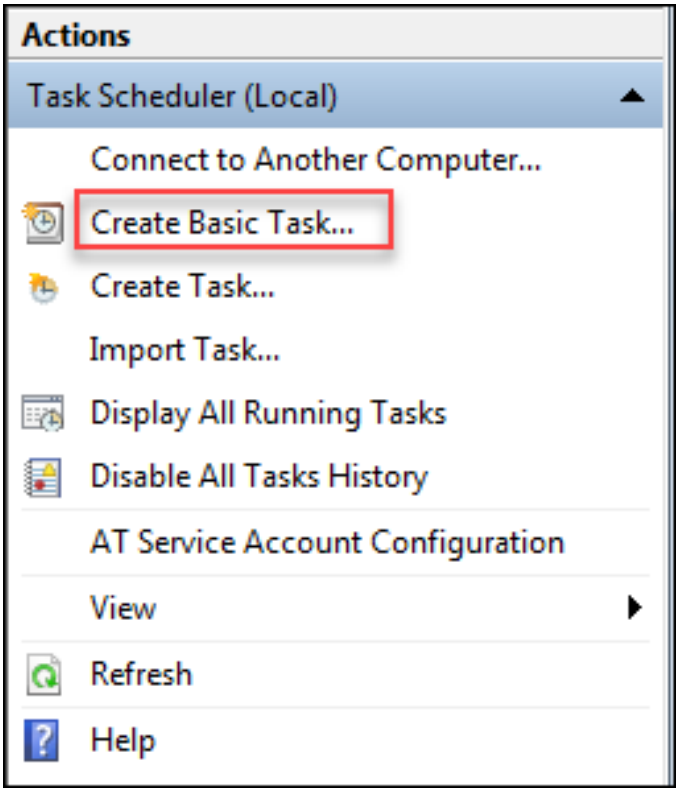
9. Click `Start` on your computer and type **Task** in `Search programs and files`.
   The Task Scheduler is displayed.



10. Click *Task Scheduler*.
    The Task Scheduler program opens.

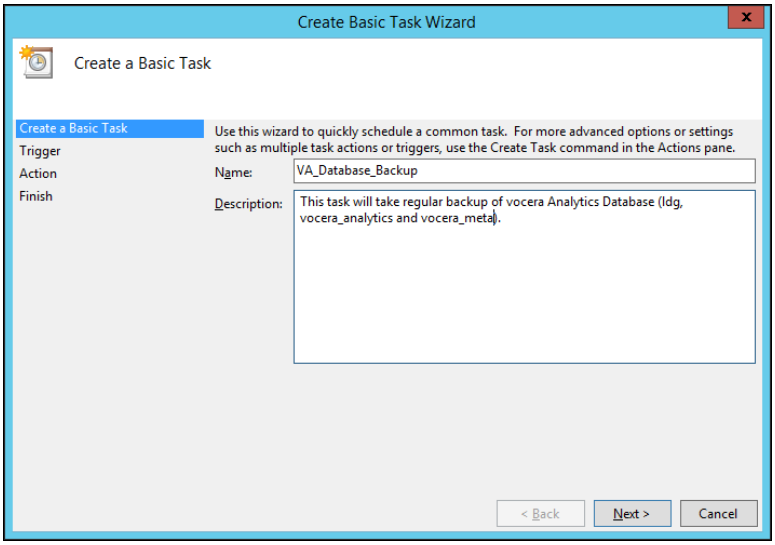


11. Select *Actions*>*Create Basic Task*.

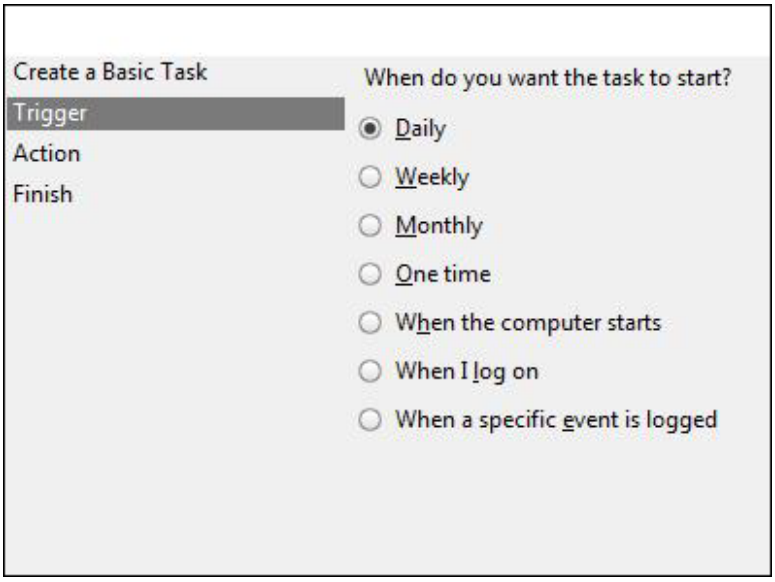


The Create Basic Task Wizard appears.

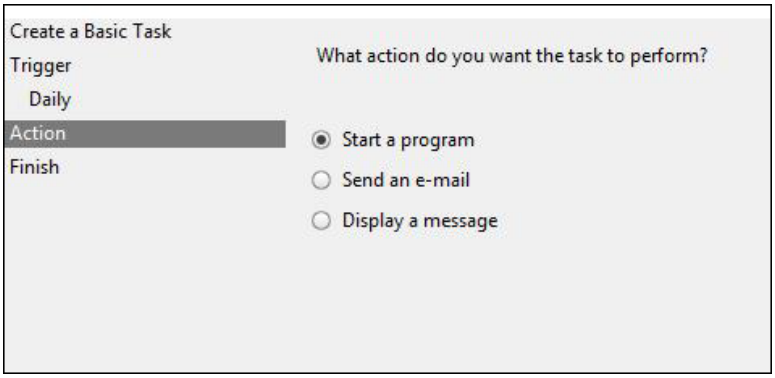
12. Perform the following actions:
    - Create a Basic Task—Enter the name, and the description of the task.



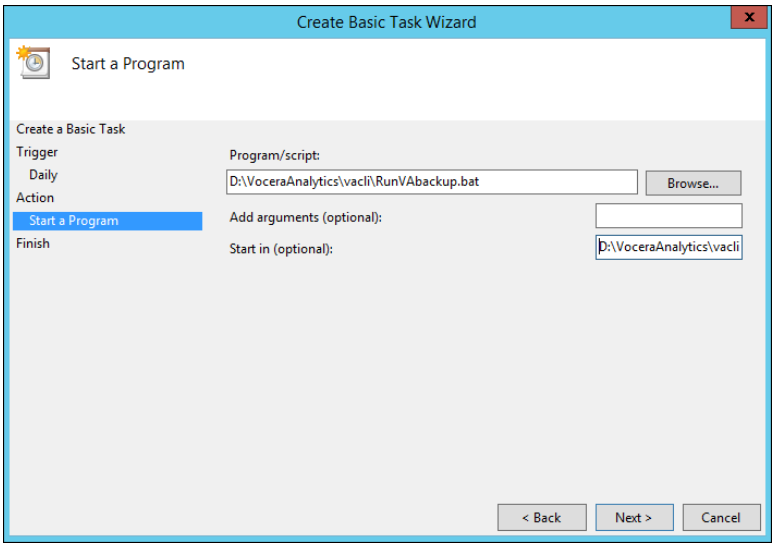
    - Trigger>When do you want the task to start—Select one of the options displayed in the screenshot.



- Action>What action do you want the task to perform—Select Start a program.



Click *Browse* and select the batch file you need to run.



- Start in (optional)—Enter D:\VoceraAnalytics\vacli.
- Click Next.

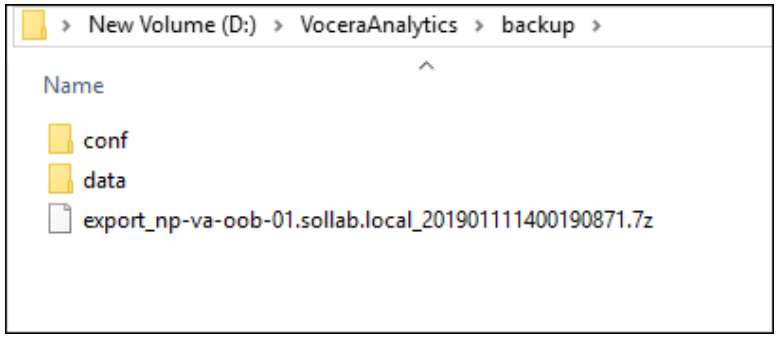
  The Finish screen appears.
- Click *Finish*.

  A basic task is created.

13. Execute the newly created task from Task Scheduler.

To verify if the backup is created successfully, perform the following step:

- Browse to the backup directory. In this example, `D:\VoceraAnalytics\backup` and verify that the backups are created.



The conf folder contains the file backups.

The data folder contains the full backup file.

The export_np-va-oob-01.sollab.local_20190111400190871.7z is the archive of the backup created in this root folder. By default, the archive stores 10 days of archived backup data. The format of the archive file is `export_<canonical server name>_<timestamp>.7z`.

Configuring Restore Using vacli

This topic describes the restore process.

To configure a restore, perform the following steps:

1. Go to service monitor and stop all services such as Flume, Spark, Analytics Server, Visualization Server, and Report Server.

   Note: All services that are running must be stopped before performing a restore.

2. Open `services.msc` in Windows and stop the **service monitor** service.
3. Open Command Prompt, go to `D:\VoceraAnalytics\vacli` directory, and type the command

   ```
   vacli restore -m=ALL -S backup_restore.conf
   ```

   Note: Ensure that you open Command Prompt and run as an administrator to execute the backup and restore commands.

   The backup is now restored.

   Note: For any restore, the system automatically takes an internal backup and stores it in a different location. In case a restore fails, you can undo the last restore by using the command

   ```
   vacli restore -m=DATA -S -U backup_restore.conf
   ```

   The internal backup is done only if MySQL database service is running. After the internal backup is complete, the restore command turns off the MySQL database service.

4. Open `services.msc` in Windows and start the **service monitor** service.
5. Go to service monitor and start all services such as Flume, Spark, Analytics Server, Visualization Server, and Report Server.

   Upon successful restore, the MySQL database service starts automatically.

Exporting an Archive on Backup and Restoring from an Archive

This topic describes the steps to export an archive on backup and restore from an archive.

1. Run Command Prompt as an administrator, go to `C:\VoceraAnalytics\vacli` directory, and type the command

   ```
   vacli backup -m=ALL -S -e backup_restore.conf
   ```

   where

   - **-m = ALL** is the mode of operation and backs up both data and configuration

- **-S** is the secure backup option
- **-e** creates an export archive

Note: The **-S** option ensures that the backup is secured and encrypted. While performing a restore, you must use the **-S** option in the restore command to restore successfully.

The archive is created in the backup storage location. By default, the location is `C:\backup`.

Note: If your installation drive is any other drive other than `C:\` drive, you must edit the configuration file to change the installation drive. If you have not installed Vocera Analytics on C:\ drive, ensure that you update the configuration file to the drive you installed. Otherwise you will receive an error when you execute the `restore` command.

2. Go to service monitor and stop all services such as Flume, Spark, Analytics Server, Visualization Server, and Report Server.

   Note: All services that are running must be stopped before performing a restore.

3. Open `services.msc` in Windows and stop the **service monitor** service.
4. Open Command Prompt, go to `C:\VoceraAnalytics\vacli` directory, and type the command

```
vacli restore -m=ALL -S -a=C:\backup\export_BJOHN-DT.company.local_201810201702070608.7z
```

   where

   - **-m = ALL** is the mode of operation and backs up both data and configuration
   - **-S** is the secure backup option
   - **-a=C:\backup** is the location of the exported archive
   - **export_BJOHN-DT.company.local_201810201702070608.7z** is the exported archive

   Note: The **-S** option ensures that the backup is secured and encrypted. While performing a restore, you must include the **-S** option in the restore command to restore successfully. If you perform a secure backup, you must always perform a secure restore. Similarly, if you perform an unsecured backup, you must always do an unsecured restore.

   Note: Ensure that you open Command Prompt and run as an administrator to execute the backup and restore commands.

   The backup is now restored.

   Note: You can revert to an initial backup if you encounter issues with incremental backups. Consider the first backup is saved as `full_backup.xb.7z`. Subsequent backups taken are called incremental backups. In circumstances where incremental backups contain issues and you want to restore to the first backup, use the command

```
vacli restore -m=DATA -S -a=full_backup.xb.7z
```

   However, you must not have performed an export action.

5. Open `services.msc` in Windows and start the **service monitor** service.
6. Go to service monitor and start all services such as Flume, Spark, Analytics Server, Visualization Server, and Report Server.
   Upon successful restore, the MySQL service database starts automatically.

Exporting an Archive created in a different Server and Restoring on your System

This topic describes the steps to restore an exported archive that was created in a different server.

1. Go to the `backup_restore.conf` file in your system, and change the `ALL.password` to match the `ALL.password` from the `backup_restore.conf` in the source Analytics server that created the archive.

   Note: Do not update the `DB.password` even though it is different on both the machines.

2. Go to service monitor and stop all services such as Flume, Spark, Analytics Server, Visualization Server, and Report Server.

   Note: All services that are running must be stopped before performing a restore.

3. Open `services.msc` in Windows and stop the **service monitor** service.
4. Perform the restore. For example, execute the command

   ```
   vacli restore -m=ALL -S -a=C:\backup\export_BJOHN-DT.company.local_201810201702070608.7z
   ```

   where
   - **-m = ALL** is the mode of operation and backs up both data and configuration
   - **-S** is the secure backup option
   - **-a=C:\backup** is the location of the exported archive
   - **export_BJOHN-DT.company.local_201810201702070608.7z** is the exported archive
5. Go to the backup_restore.conf file in your system, and change the DB.password to match the DB.password ciphertext on the source Analytics server.
6. Open `services.msc` in Windows and start the **service monitor** service.
7. Go to service monitor and start all services such as Flume, Spark, Analytics Server, Visualization Server, and Report Server.

   Upon successful restore, the MySQL service database starts automatically.

Importing Select Tables From a Restored Backup

You can selectively import tables that contain data into the target database. This topic describes the steps to import select tables from a restored backup.

1. Run Command Prompt as an administrator, go to `C:\VoceraAnalytics\vacli` directory, and type the command

   ```
   vacli backup -m=DATA -S backup_restore.conf
   ```

   where
   - **-m = DATA** is the mode of operation and backs up data
   - **-S** is the secure backup option

   Note: The **-S** option ensures that the backup is secured and encrypted. While performing a restore, you must use the **-S** option in the restore command to restore successfully.

   The archive is created in the backup storage location. By default, the location is `C:\backup`.

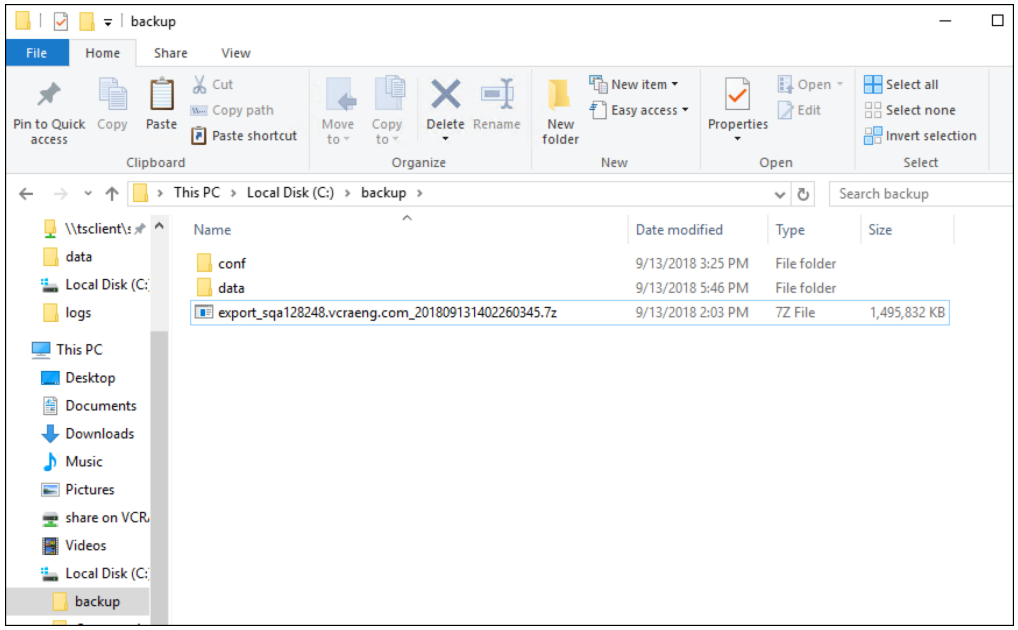
   Note: If your installation drive is any other drive other than `C:\` drive, you must edit the configuration file to change the installation drive. If you have not installed Vocera Analytics on C:\ drive, ensure that you update the configuration file to the drive you installed. Otherwise you will receive an error when you execute the `restore` command.
2. In `C:\VoceraAnalytics\vacli` directory, type the command

   ```
   vacli backup -m=DATA -S -e backup_restore.conf
   ```

   where **-e** creates an export archive.

   The archive is created in the backup storage location. By default, the location is `C:\backup`.

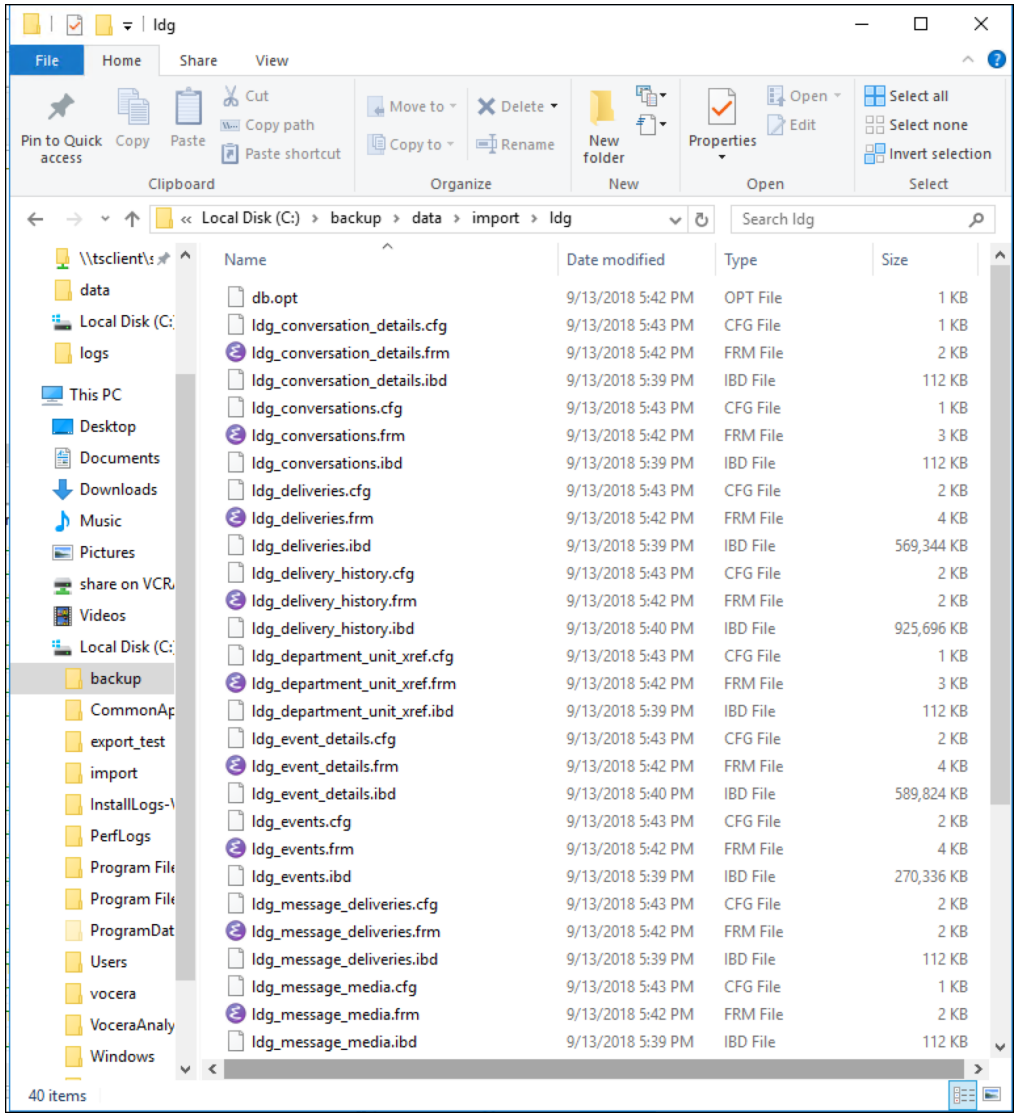
   For example, `export_sqa128248.vcraeng.com_201809131402260345.7z` is the export archive created inside the backup folder. The following screenshot is an example of the export archive.



3. Perform a restore using the `-n` option so as to not replace the contents of the data directory during the restore operation by executing the command

```
vacli restore -m=DATA -S -a=C:\backup\export_sqa128248.vcraeng.com_20180913140226 0345.7z -n C:
\VoceraAnalytics\vacli\backup_restore.conf
```

Based on the configuration within the `backup_restore.conf`, the restored export will be stored in the `import` directory located directly under the `data` directory within backup. The following screenshot is an example of the `import` folder.



4. Open a query window on the target database and run the following command for each table you want to replace using import

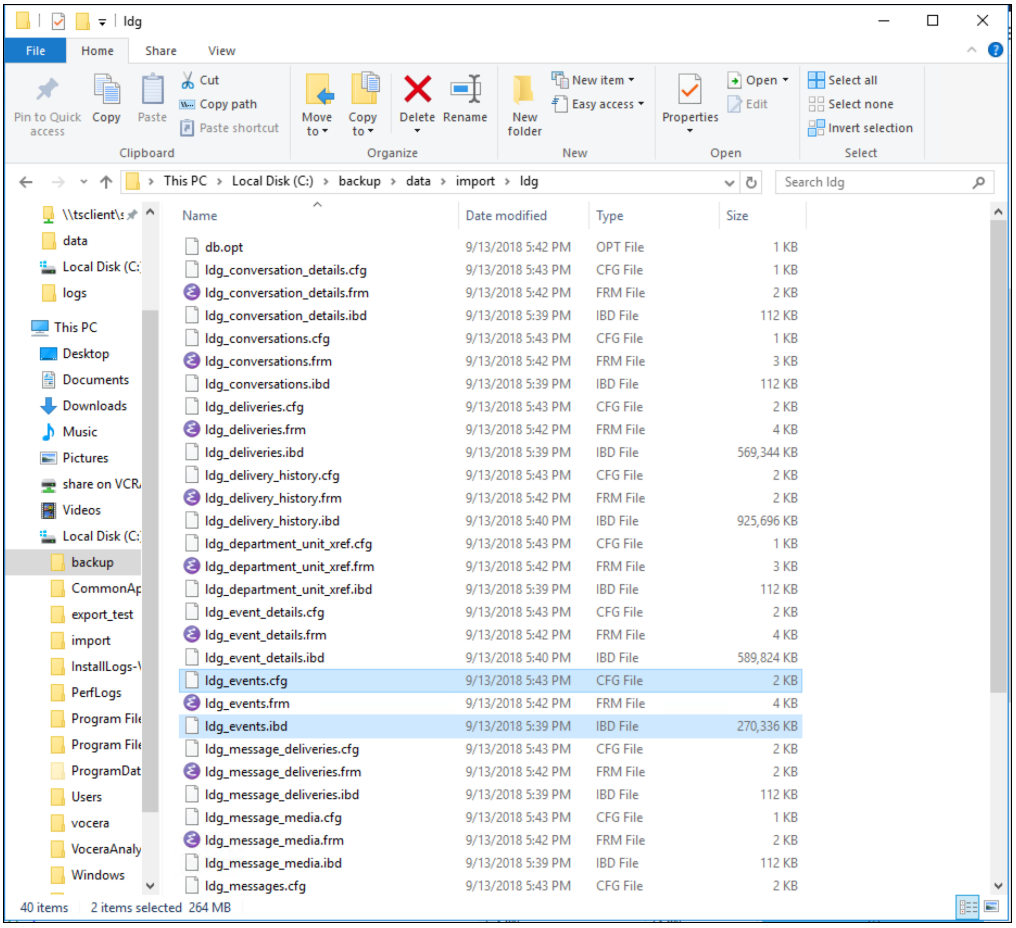
   ```
   alter table <tablename> discard tablespace
   ```

   For example, to replace **ldg.ldg_events** table, use the command

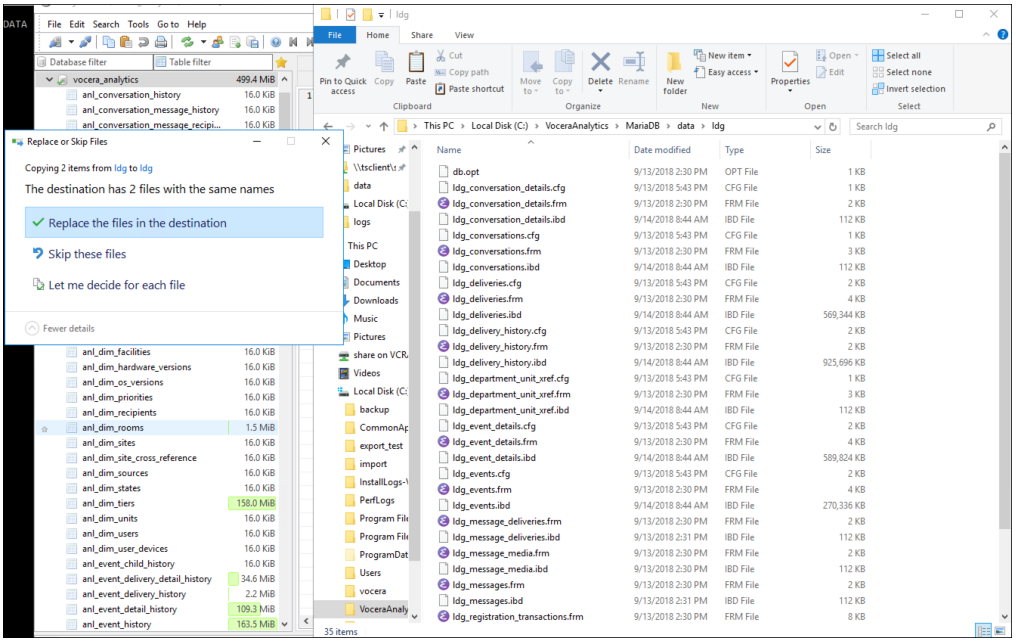
   ```
   alter table ldg.ldg_events discard tablespace
   ```

5. Copy the **.ibd** and **.cfg** files for the tables you import from your local **ldg** directory to the **ldg** directory in your target database data directory.

   For example, consider your local directory is C:\backup\data\import\ldg and your target database directory is C:\VoceraAnalytics\MariaDB\data\ldg, then copy the **.ibd** and **.cfg** files from C:\backup\data\import\ldg to C:\VoceraAnalytics\MariaDB\data\ldg. The following screenshot is an example of the `import` folder on the local directory.



The following screenshot is an example of the `import` folder on the target database directory.



Note: Executing the restore command populates the configured directory with the restored import within the import directory, by default.

6. Open a query window on the target database and run the following command for each table you want to replace using import

```
alter table <tablename> import tablespace
```

For example, to import **ldg.ldg_events** table, use the command

```
alter table ldg.ldg_events import tablespace
```

7. Verify if the imported data is available in the import table on the target database to complete the process.

Configuration Example

Configuration for the backup and restore commands is provided by a `.conf` file that utilizes the Human-Optimized Config Object Notation (HOCON) format.

This allows the file to use substitutions such that it is easier to maintain. The file consists of JSON objects. The HOCON-style substitution requires that the file have a `.conf` extension so that it can be correctly interpreted. The file itself is broken into objects based around the operation mode in which the commands are being used. The operation modes are *DATA*, *CONF*, and *ALL* (both *DATA* and *CONF*).

The following is an example of a backup and restore configuration:

```
{
  ALL: {
      vaName = "VoceraAnalytics",
      voceraDrive = "C:",
      vaHome = ${ALL.voceraDrive}"\\"${ALL.vaName}"\\",
      backupStorageRoot = "C:\\backup\\",
      zipLocation = ${ALL.vaHome}"zip_binaries\\7z.exe",
      defaultArchiveToolLocation = ${ALL.zipLocation},
      useDateInFilename = "true",
      defaultArchiveExtension = ".7z",
      user = "analyticsuser",
      password = "userpassword",
      operationMode = "ALL"
  }

  DATA: {
      dataBackupStorage = ${ALL.backupStorageRoot}"data\\",
      baseReferenceTemp = ${DATA.dataBackupStorage}"xreference\\",
      fullBackupStorage = ${DATA.dataBackupStorage}"xbackup\\",
      fullBackupArchiveInternalStorage = ${DATA.fullBackupStorage}"internal\\",
      fullBackupArchiveStorage =  ${DATA.fullBackupStorage}"xarchive\\",
      incrementalBackupStorage = ${DATA.dataBackupStorage}"xincr\\",
      incrReferenceTemp = ${DATA.incrementalBackupStorage}"incr\\",
      defaultFullBackupName = "full_backup.xb",
      defaultFullArchiveName = ${DATA.defaultFullBackupName}${ALL.defaultArchiveExtension},
      applyLogOnly = "true",
      operationMode = "DATA",
      dbPassword = "dbpassword",
      extractOnlyBackupStorage = ${DATA.dataBackupStorage}"import\\"
  }

  CONF: {
      operationMode = "CONF",
      configurationBackupStorage = ${ALL.backupStorageRoot}"conf\\",
      CONFIGURATIONS: [
        {
          archiveName = "VA-properties",
          archiveLocation = ${ALL.vaHome}"\\",
          archivePatterns: [
            "*.properties"
          ],
          includeWithDATA = "false",
          database = ""
        },
        {
          archiveName = "Flume-conf",
          archiveLocation = ${ALL.vaHome}"Agent\\Flume\\conf\\",
          archivePatterns: [
            "*.template",
            "*.xml"
          ],
          includeWithDATA = "false",
          database = ""
```

```
      },
      {
        archiveName = "Flume-conf-engage",
        archiveLocation = ${ALL.vaHome}"Agent\\Flume\\conf\\engage\\",
        archivePatterns: [
          "*.conf",
          "*.xml"
        ],
        includeWithDATA = "false",
        database = ""
      },
      {
        archiveName = "Flume-conf-vmp",
        archiveLocation = ${ALL.vaHome}"Agent\\Flume\\conf\\vmp\\",
        archivePatterns: [
          "*.conf",
          "*.xml"
        ],
        includeWithDATA = "false",
        database = ""
      },
      {
        archiveName = "Flume-status-engage",
        archiveLocation = ${ALL.vaHome}"Agent\\Flume\\flume-status\\engage\\",
        archivePatterns: [
          "*.status"
        ],
        includeWithDATA = "true",
        database = "ldg"
      },
      {
        archiveName = "AnalyticsServer-conf",
        archiveLocation = ${ALL.vaHome}"AnalyticsServer\\conf\\",
        archivePatterns: [
          "*.template",
          "*.conf",
          "*.xml",
          "*.json"
        ],
        includeWithDATA = "false",
        database = ""
      },
      {
        archiveName = "VisualizationServer-conf",
        archiveLocation = ${ALL.vaHome}"visualizationserver\\conf\\",
        archivePatterns: [
          "*.conf",
          "*.xml",
          "*.json"
        ],
        includeWithDATA = "false",
        database = ""
      },
      {
        archiveName = "ServiceMonitor-conf",
        archiveLocation = ${ALL.vaHome}"servicemonitor\\conf\\",
        archivePatterns: [
          "*.conf",
          "*.xml",
          "*.json"
        ],
        includeWithDATA = "false",
        database = ""
      },
      {
        archiveName = "ServiceMonitor-conf-emailTemplates",
        archiveLocation = ${ALL.vaHome}"servicemonitor\\conf\\emailTemplates\\",
        archivePatterns: [
          "*.txt"
        ],
        includeWithDATA = "false",
        database = ""
```

```
        }
      ]
  }
}
```

Uninstalling Vocera Analytics

The following sections describe how to uninstall Vocera Analytics 1.1.0.

Before you uninstall Vocera Analytics, you must take a backup. For more information, refer to **Configuring Backup Using vacli** on page 99.

Uninstalling Vocera Analytics Suite on the Analytics Server

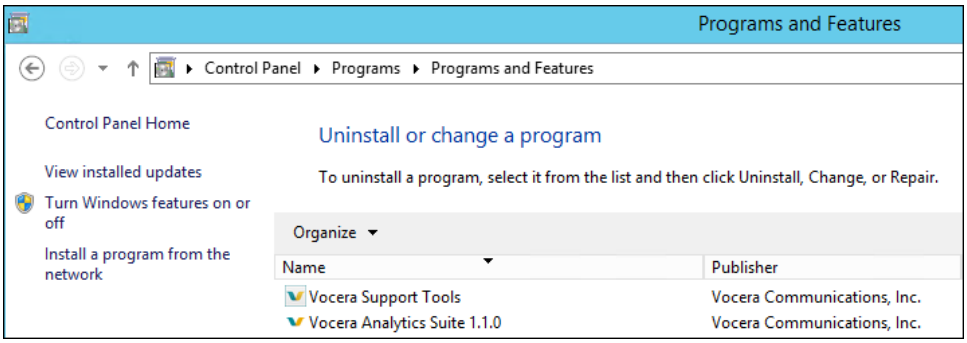
Use the steps in this topic to uninstall the Vocera Analytics Suite on the Analytics Server.

Note: For information on back up and restore, refer to **Backing Up and Restoring Using CLI** on page 99.

To uninstall the Vocera Analytics Suite, perform the following tasks:

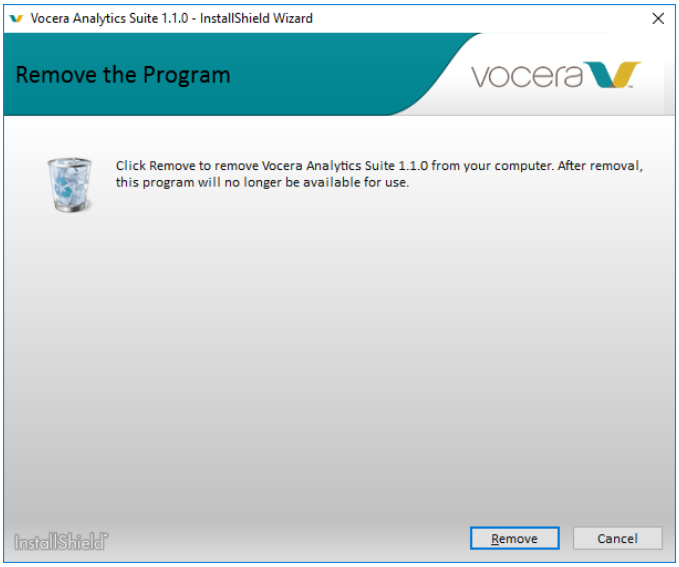
1. Log into the Vocera Analytics Server computer with administrator privileges.
2. Navigate to Control Panel > All Control Panel Items > Programs and Features.

   The Uninstall or change a program screen appears.



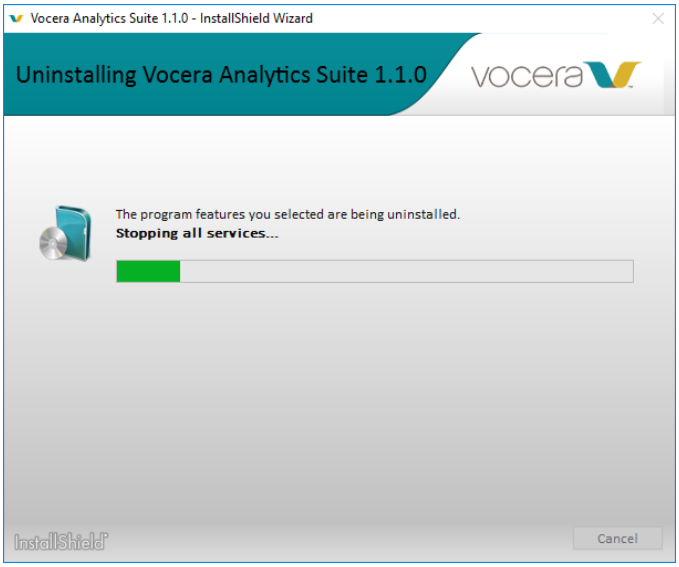
3. Select Vocera Analytics Suite 1.1.0.
4. Click Uninstall.

   The Remove the Program screen appears.



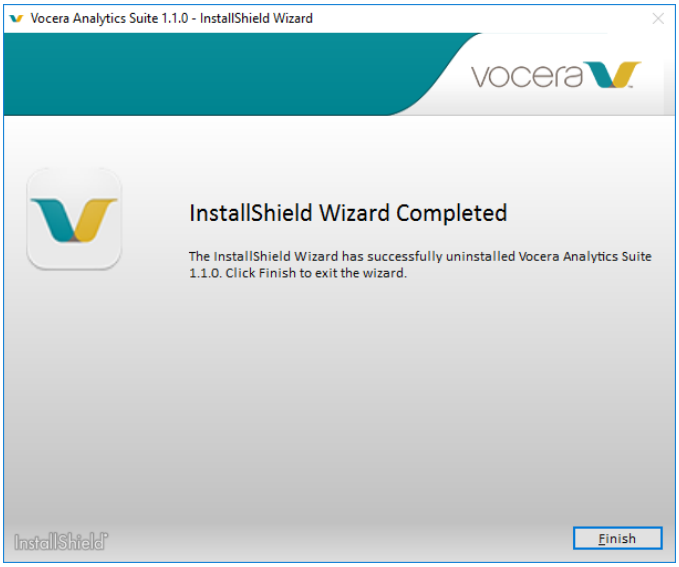
5. Click Remove.

   The Uninstalling screen appears.



Note: Do not close the uninstaller window before the program is completely uninstalled.

The program starts uninstalling all the services and the components. The InstallShield Wizard Completed screen appears.



6. Click Finish.
   Vocera Analytics Suite 1.1.0 is uninstalled.

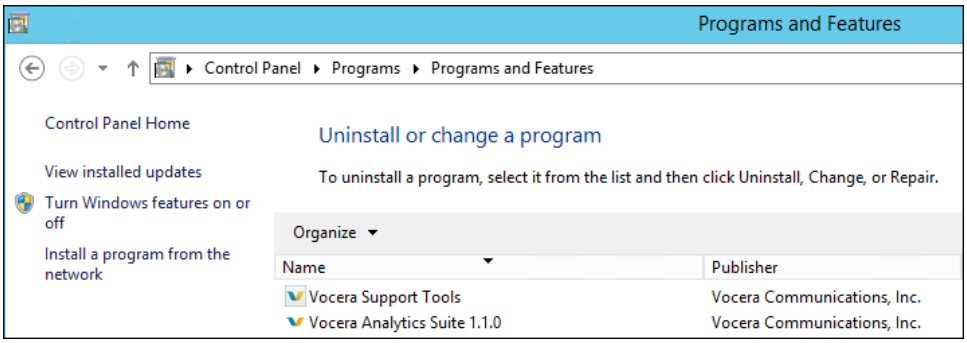
Uninstalling the Remote Agent on the Voice Server

Use the steps in this topic to uninstall the Vocera Analytics Suite on the Voice Server.

Note: For information on back up and restore, refer to **Backing Up and Restoring Using CLI** on page 99.

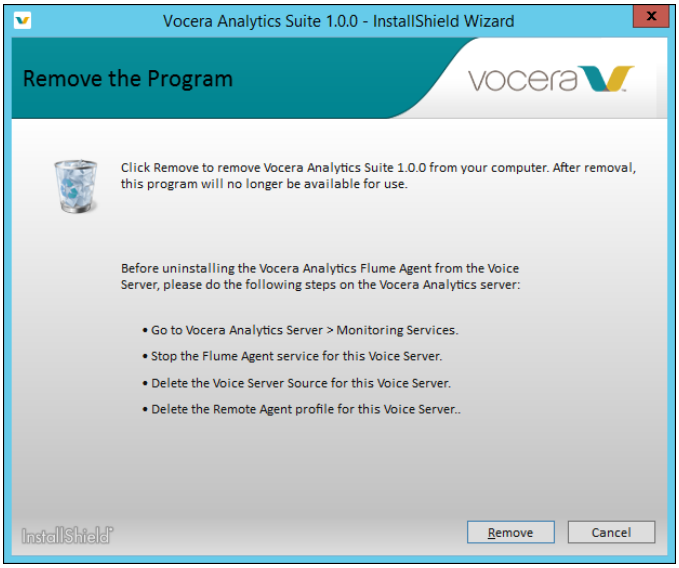
To uninstall the Vocera Analytics Suite, perform the following tasks:

1. Log into the Voice Server computer with administrator privileges.
2. Navigate to Control Panel > All Control Panel Items > Programs and Features.
   The All Control Panel Items screen appears.



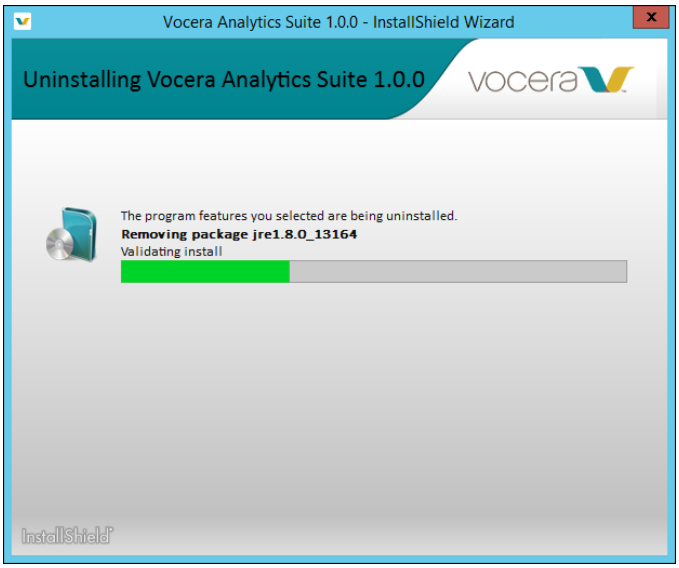
3. Select Vocera Analytics Suite 1.1.0.
4. Click Uninstall.
   The Remove the Program screen appears.

Note: Follow the instructions provided on the following screen before you proceed to uninstall the program.



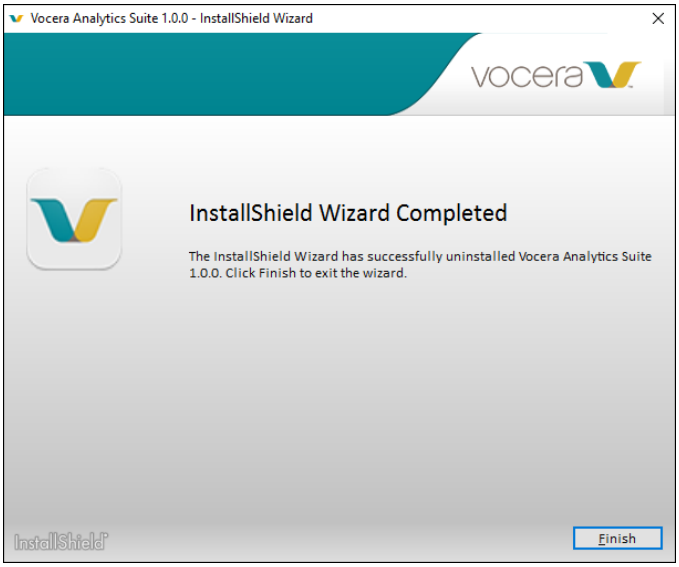
5. Click Remove.

   The Uninstalling screen appears.



Note: Do not close the uninstaller window before the program is completely uninstalled.

The program starts uninstalling all the services and its components. When complete, the Uninstall Complete screen appears.



6. Click Finish.

Uninstalling the Remote Agent on the Vocera Platform 6.0

To uninstall the Remote Agent on Vocera Platform 6.0, perform the following tasks:

- Uninstall Flume Agent
- Uninstall Monitoring Service
- Uninstall Analytics Data Sync Adapter

Uninstalling Flume Agent

Prerequisites:

To uninstall Flume Agent you must:

- Stop all services from the Service Monitor application.

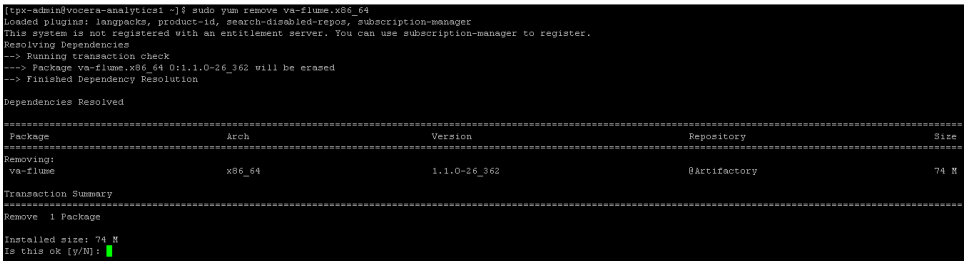
Configuration:

To uninstall Flume on the Vocera Platform 6.0 system, perform the following steps:

1. Login to the Vocera Platform 6.0 system using PuTTY.
2. To uninstall, execute the command

```
sudo yum remove va-flume.x86_64
```

where `va-flume.x86_64` is the RPM name.



```
[tpx-admin@vocera-analytics1 ~]$ sudo yum remove va-flume.x86_64
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Resolving Dependencies
--> Running transaction check
---> Package va-flume.x86_64 0:1.1.0-26_362 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================================
 Package                          Arch                          Version                          Repository                  Size
================================================================================================================================
Removing:
 va-flume                         x86_64                        1.1.0-26_362                     @Artifactory                74 M

Transaction Summary
================================================================================================================================
Remove  1 Package

Installed size: 74 M
Is this ok [y/N]:
```

After you execute the command, the system displays the package details and prompts for a confirmation to uninstall.

3. Click **y** to confirm uninstallation.

```
Is this ok [y/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Erasing    : va-flume-1.1.0-26_362.x86_64                                                                    1/1
  Verifying  : va-flume-1.1.0-26_362.x86_64                                                                    1/1

Removed:
  va-flume.x86_64 0:1.1.0-26_362

Complete!
```

The system uninstalls the flume package and displays Complete! upon uninstallation.

Uninstalling Service Monitor

To uninstall service monitor, perform the following steps:

1. To uninstall, execute the command

   `sudo yum remove va-monitoring.x86_64`

   where `va-monitoring.x86_64` is the RPM name.

```
[tpx-admin@vocera-analytics1 ~]$ sudo yum remove va-monitoring.x86_64
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Resolving Dependencies
--> Running transaction check
---> Package va-monitoring.x86_64 0:1.1.0-99_362 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================================
 Package                                Arch                           Version                                Repository                                Size
================================================================================================================================
Removing:
 va-monitoring                          x86_64                         1.1.0-99_362                           @Artifactory                              60 M

Transaction Summary
================================================================================================================================
Remove  1 Package

Installed size: 60 M
Is this ok [y/N]:
```

   After you execute the command, the system displays the package details and prompts for a confirmation to uninstall.

2. Click **y** to confirm uninstallation.

```
Is this ok [y/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Stopping va-monitoring.
  Erasing    : va-monitoring-1.1.0-99_362.x86_64                                                               1/1
  Verifying  : va-monitoring-1.1.0-99_362.x86_64                                                               1/1

Removed:
  va-monitoring.x86_64 0:1.1.0-99_362

Complete!
```

   The system uninstalls the service monitor and displays Complete! upon uninstallation.

Uninstalling Analytics Data Sync Adapter

Prerequisites:

To uninstall Analytics Data Sync Adapter you must:

- Stop AnalyticsDataSync service from Vocera Platform 6.0 Web console.

Configuration:

To uninstall Analytics Data Sync Adapter on the Vocera Platform 6.0 system, perform the following steps:

1. To uninstall, execute the command

   `sudo yum remove vocera-analytics-data-sync-service.x86_64`

   where `vocera-analytics-data-sync-service.x86_64` is the adapter name.

```
[tpx-admin@vocera-analytics1 ~]$ sudo yum remove vocera-analytics-data-sync-service.x86_64
Loaded plugins: langpacks, product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to register.
Resolving Dependencies
--> Running transaction check
---> Package vocera-analytics-data-sync-service.x86_64 1:1.0.0.30- will be erased
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================================
 Package                                Arch                           Version                                Repository                                Size
================================================================================================================================
Removing:
 vocera-analytics-data-sync-service     x86_64                         1:1.0.0.30-                            @Artifactory                              9.5 M

Transaction Summary
================================================================================================================================
Remove  1 Package

Installed size: 9.5 M
Is this ok [y/N]:
```

Click **y** to confirm uninstallation.

```
Is this ok [y/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Erasing    : 1:vocera-analytics-data-sync-service-1.0.0.30-.x86_64                                                    1/1
  Verifying  : 1:vocera-analytics-data-sync-service-1.0.0.30-.x86_64                                                    1/1

Removed:
  vocera-analytics-data-sync-service.x86_64 1:1.0.0.30-

Complete!
[tpx-admin@vocera-analytics1 ~]$
```

The system uninstalls the service monitor and displays Complete! upon uninstallation.

Verification:

To verify if the AnalyticsDataSync service is uninstalled successfully, perform the following steps:

1. Login to Vocera Platform 6.0 Web console.
2. Go to Status > Adapter Services and check the list of adapter services displayed.

   The `AnalyticsDataSync` service should not be listed in the list of available services.

Logging in to the UI

The Visualization Server is a browser-based user interface application that you can use to view the Vocera Analytics dashboards and reports. You can log in to the Visualization Server using a Web browser.

To log in to the Visualization Server:

1. Open a Web browser window.
2. Enter the following in the Address field of the browser window:

   `https://host_name:9443` where *host_name* is either the numeric IP address or the DNS name of the Visualization Server.

   The Visualization Server login page appears.

   You might want to create a Favorites link (also called a bookmark) in your browser for the Visualization Server URL.
3. Enter the username.

   You can either use your active directory username if it is configured using Service Monitor or you can use the Service Monitor username, that is *admin*.
4. Enter the password.

   Provide your active directory password if you have chosen active directory username or enter your service monitor password if you have chosen *admin* as the username.

   The password is case-sensitive. If you see an error message when you attempt to log in, ensure the Caps Lock key on your keyboard is not turned on.
5. Click Login.

   The Visualization Server login page appears.

   The following figure shows the login page.

Working with Dashboards

Vocera Analytics dashboard is a tool that analyzes, tracks, and displays a collection of data based on defined metrics and key performance indicators (KPIs) for the entire Vocera platform.

The information that is displayed is customizable to meet the needs of a specific department or a unit in a healthcare provider setup.

The main features of the Vocera Analytics dashboards are to:

- Provide near real-time monitoring of data for a particular group/role in a given location.
- Provide near real-time statistical data such as operational figures, workflow level flows, and interrupt types.
- Compare near real-time statistical reports between different users/groups/locations across a healthcare enterprise.
- Allow export of dashboard data as a CSV file.

Data in the dashboards are represented as pie charts and bar graphs. Some dashboards also represent data in a tabular format.

The pie charts are represented by size, clockwise, with the largest portion at the upper right side. The bar charts or any other widget is displayed in alphabetical order.

Note: If the unit has the same name in multiple facilities, then the corresponding facility name is appended in parenthesis. For example, if the unit name NICU is available in Downtown facility and Community facility, then the dashboard displays the unit names as NICU (Downtown) and NICU (Community).

Wherever content in a field is more than the field width, hover over the field to view the entire content.

Note: Although Engage data is not part of the dashboard, Engage facility and unit will be displayed in the filter.

Working with Reports

Vocera Analytics enables you to generate reports from data logs created by the Vocera Voice Server. Creating these reports can improve your implementation of Vocera since you can identify problem areas that can then be addressed.

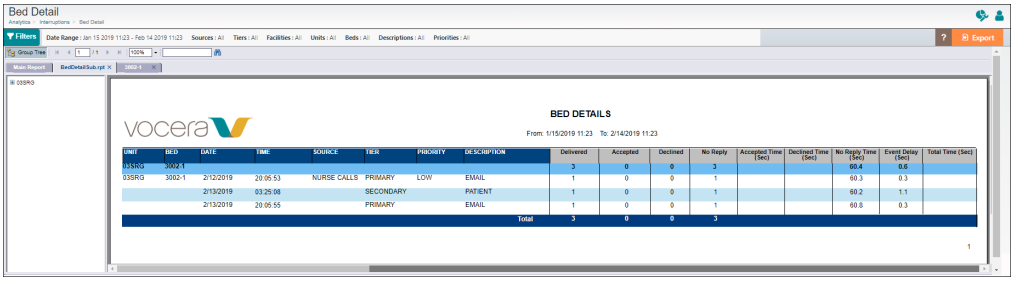
The key features of the Vocera Analytics reports are:

- Vocera Analytics is installed separately and runs outside the Vocera Voice Server.
- The Vocera Voice Server generates log files to support the Vocera Analytics Server. The Vocera Analytics Server uses this data to generate reports. Some of the reports can help you diagnose end-user and network issues related to the Vocera system. Other reports can help you spot usage trends, keep track of devices, and monitor call volume.
- The **report console** is a browser-based application that interacts with the Vocera Analytics Server. Use the **report console** to generate reports and administer the Vocera Analytics Server.
- Generate system performance reports such as average time to deliver an alarm, voice recognition performance, and so on.
- Generate diagnostic reports such as users with voice recognition challenges, units/APs with the most number of connection drops, units/areas with longest alarm delivery time, users with a most number of failed login attempts, and so on.
- Generate offline reports by allowing the user to pick reports and schedule it to be sent by email to their official email address on a daily/weekly/monthly basis.
- Provide the ability for the user to set up custom reports at customer site.

Note: If the unit has the same name in multiple facilities, then the corresponding facility name is appended in parenthesis. For example, if the unit name NICU is available in Downtown facility and Community facility, then the report displays the unit names as NICU (Downtown) and NICU (Community).

Behavior of Reports in Interruption Folder

Interruption Reports calculate metrics only for escalated events. In certain cases, the count shows zero for average, fastest, and longest elapse escalation time. Also, typical events that are normally configured to not escalate, include device messages and emails.



For information on navigating to sub-reports within Interruption reports, refer to **Navigating Sub-Reports in Interruptions Folder** on page 260.

Working with Filters

Filters in Vocera Analytics dashboards and reports help in generating the required data.

Filters must be used effectively to quickly display the expected data.

Few best practices to use filters are:

- Ensure that the appropriate facility is selected to narrow the unit list if units intended to be viewed are from the same facility. This helps prevent excessive scrolling.
- Ensure that the corresponding facility is selected in the query if the intent is to view by unit.
- Ensure to select a facility to drill in to view the metrics associated to a given facility.

The following list describes the filter behavior:

- If a user belongs to multiple facilities and units, then all units that the user is associated with appears regardless of the selected facility. For example, you will see units from facility B even if you filter to see only facility A because the filter is based on the user's associations with the units.
- Filter values get carried forward to other dashboards and reports irrespective of owner facility, group facility, and user facility.
- If there are many facilities or units, the search box disappears from view when scrolling.
- Although Engage data is not part of the dashboard, Engage facility and unit will be displayed in the filter.

Note: If the unit has the same name in multiple facilities, then the corresponding facility name is appended in parenthesis. For example, if the unit name NICU is available in Downtown facility and Community facility, then the filter displays the unit names as NICU (Downtown) and NICU (Community).

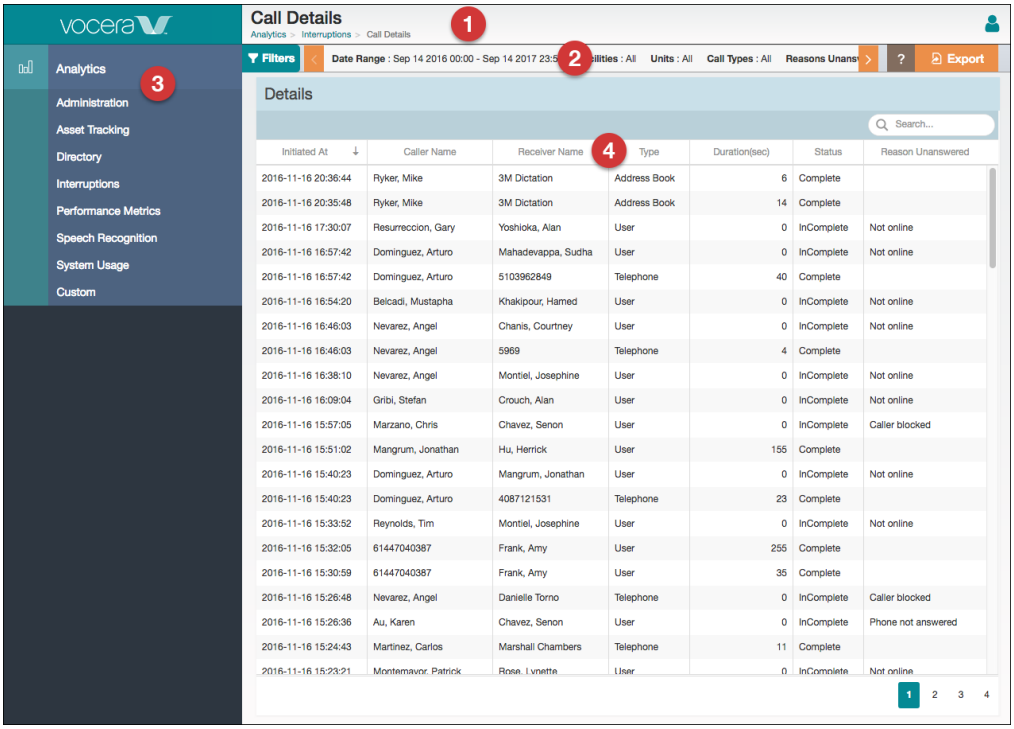
The Instance Conference call type has few limitations. For more information, refer **Limitations of Instant Conference** on page 259.

For Vocera Vina, the device type is displayed as Smartphone and device version is displayed as Vocera Vina as Vocera Analytics cannot differentiate between iOS device and Android device.

Working with Vocera Analytics UI

Vocera Analytics contains a streamlined User Interface that enables easy navigation across various dashboards and reports.

The following figure shows the basic components in the Vocera Analytics UI.



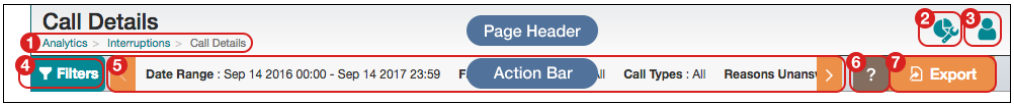
The following table describes the basic components in the Vocera Analytics UI.

Number	Component	Description
1	Page Header	Displays the name of the current page, a list of breadcrumbs for quick navigation, and links to application-level settings.
2	Action Bar	Displays the controls for the current page appear. In Analytics, this is also where report filters can be adjusted. Current filter settings are shown in any available free space of the Action Bar.
3	Navigation Panel	Provides quick access to the various areas within Analytics. As new modules are made available within the Vocera Web Platform, the Navigation Panel expands to include those modules too.
4	Content Area	Displays dashboards and reports within Vocera Analytics. The bulk of the work done within the application takes place here.

Working with the Page Header and Action Bar

The Page Header is the topmost part of the Vocera Web Application user interface. It contains the page title, breadcrumbs, and application-level menus.

The Action Bar is displayed below the Page Header and is a multi-purpose area where various buttons and actionable items relevant to the current page are displayed. In Vocera Analytics, the report filters are displayed here.



The following table describes the components in the Page Header and Action Bar.

Number	Components	Description
1	Breadcrumbs	List of links shows the current path within Analytics to enable quick navigation.
2	Analytics Settings	Settings for customizing Analytics experience and scheduling of custom reports.

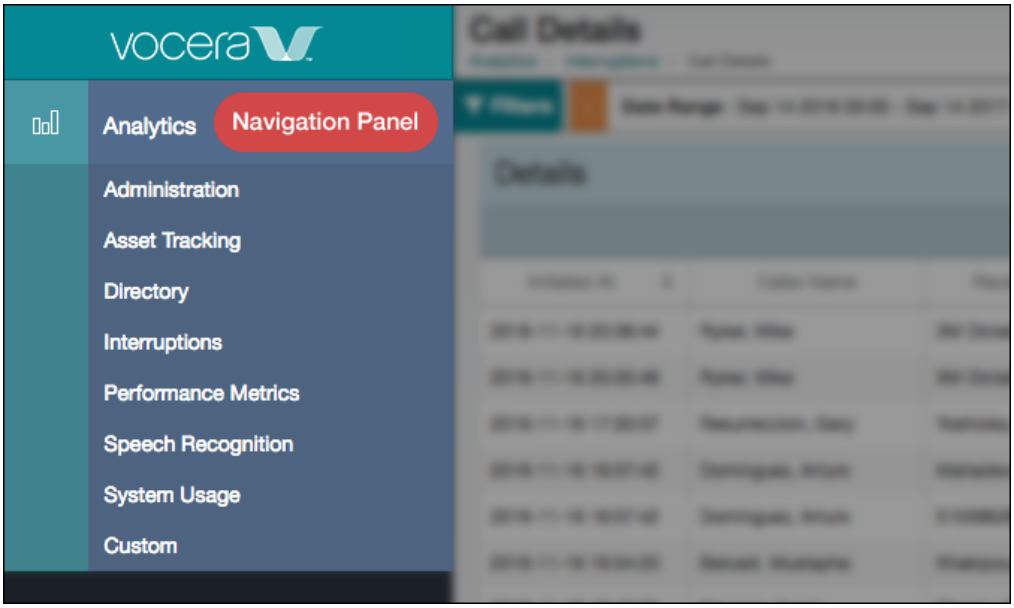
Number	Components	Description
3	Account Settings	Settings to changes your personal account and is also where you would go to sign out of Vocera Analytics.
4	Filter Menu	Option to update filters. Clicking on this button causes the filter menu slide into view to provide full customization of the report.
5	Filter Summary	Option to update filter summary. The filter summary expands to fill any available space on the Action Bar. This allows for quick adjustments to the report, as clicking on any element within the filter summary allows the user to edit that specific element.
6	Help	Option to opens a new browser tab with detailed help about the page currently being viewed.
7	Export	Option to enables export of the displayed information to a PDF or CSV file.

Working with the Navigation Panel

The Navigation Panel provides quick access to the various areas within Analytics. As new modules are made available within the Vocera Web Platform, the Navigation Panel will expand to include those modules also.

On the Navigation Panel, a module is denoted by an icon on the left edge, while the module's associated areas are listed within the blue area directly beneath it.

Clicking on the Vocera logo at the top of the Navigation Panel causes the panel to collapse, providing increased screen space for the Content Area. While collapsed, links to module areas are hidden, and only module icons are shown. Clicking the Vocera logo again returns the Navigation Panel to the state shown below.



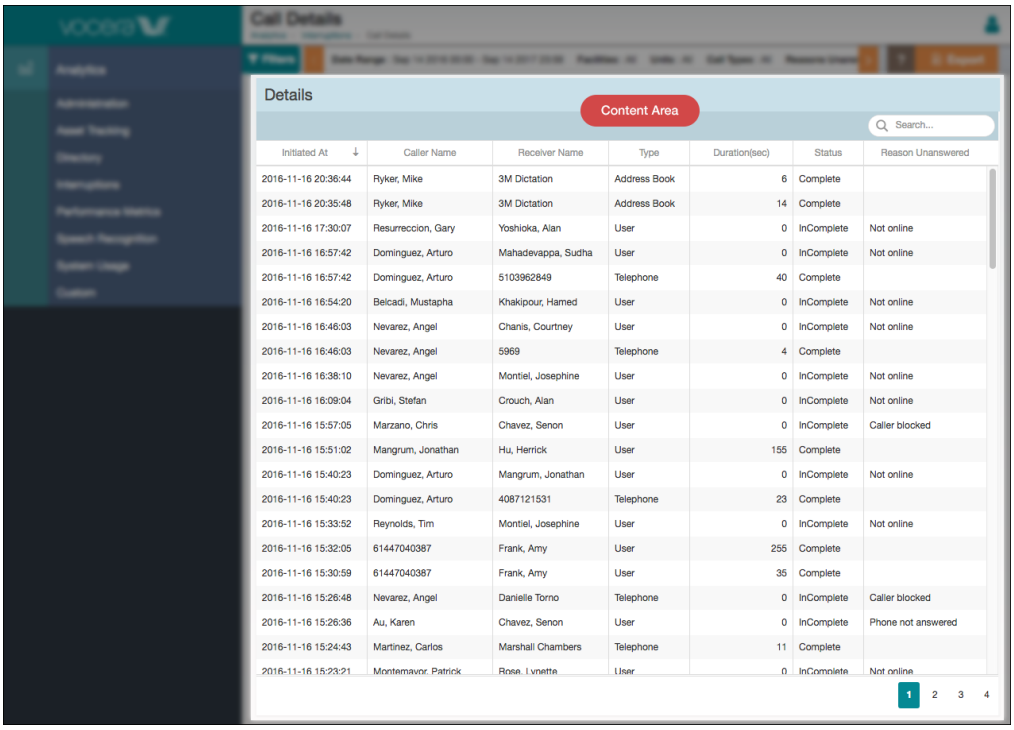
The following table describes the elements that constitute the Navigation Panel.

Item	Description
	Click to expand/collapse the Navigation Panel.
	Click to return to the Analytics area selection screen.

Working with the Content Area

The Content Area is where dashboards and reports are shown in Vocera Analytics. The bulk of the work done within the application takes place here.

The Content Area is shown in the following figure.



Using the UI

This section describes the dashboards and reports in Vocera Analytics.

Administration

The Administration folder summarizes information for the Vocera administrator to review

Vocera Integrations with VMI and licensing information and perform user-specific troubleshooting.

Integration Details

[Data Source: VMI] Displays a detailed list of events from Vocera integration Partners through VMI where event details are available by units. Data includes event reply times as well as the specific progress of an event during various event states. Use this dashboard for troubleshooting specific event deliveries.

The Integration Details dashboard shows data for specific users and provides information more granularly.

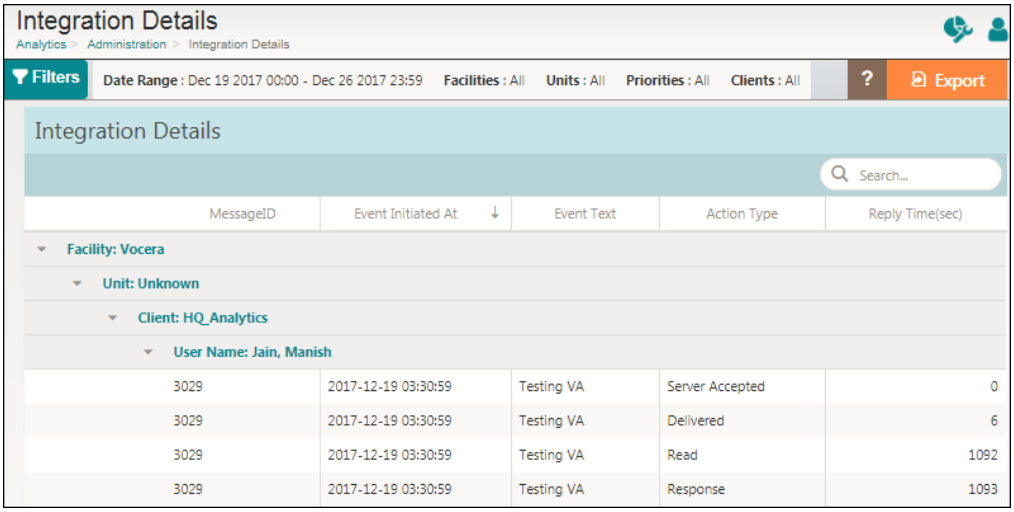
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 10: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.
Clients	Used to filter VMI alert data based on the client ID. Lists the client Id specified while sending an alert using VMI API.

Note: To generate dashboards quickly, it is recommended that you use a short date range or fewer facilities.

To find a specific facility or unit, use the **Search** field.



The generated dashboard data includes:

- Facility—Specifies the user facility.
- Unit—Specifies the unit of the user within the user facility.
- Client—Specifies the list of VMI client name.
- User Name—Specifies the name of the user that performed the action or to whom the alert was sent.
- Message ID—Unique ID of the message.

  In this scenario, 3029 is the message ID.
- Event Initiated A—Specifies the timestamp when the event was initiated.
- Event Text—Specifies the text entered by the user for the specific event.
- Action Type—Specifies the action taken by the user for the specific event. There are various types of action for an event. Every successful event would undergo the following sequence of action:
  - Server Accepted: The communication (event) is accepted by the VMI Server.
  - Delivered: The communication (event) was delivered to the Vocera client device.
  - Read: The communication (event) was read by user receiving the communication (event).
  - Response: The user responded to the communication (event) from their Vocera Client device.
- Reply Time—Specifies the time taken (in seconds) by the client to respond.

Integration Events

[Data Source: VMI] Summarizes event data and average reply time from VMI integrations sources only. Data displayed includes the events and priorities that are being sent and responded to for specific units. Use this dashboard to understand replies and actions taken by users.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

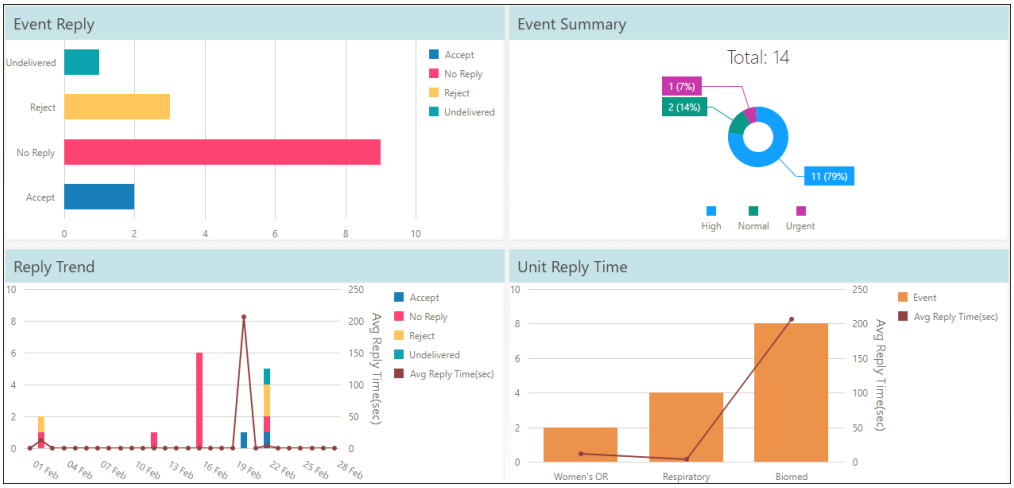
Table 11: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

Filter Name	Filter Description
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.
Clients	Used to filter VMI alert data based on the client ID. Lists the client Id specified while sending an alert using VMI API.

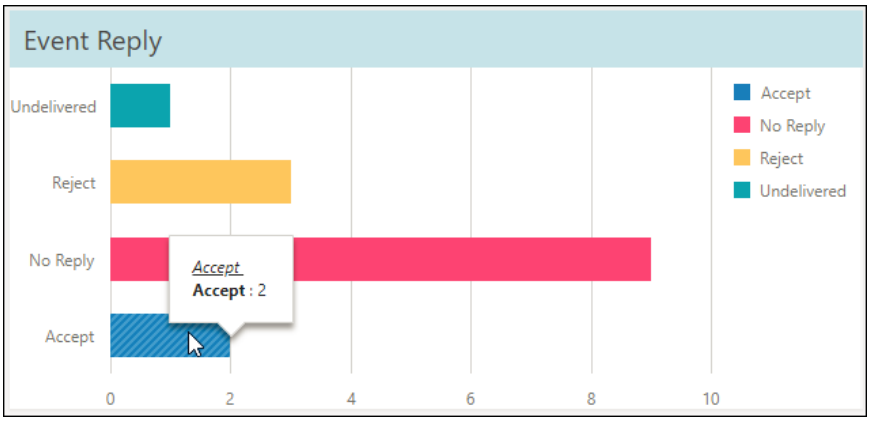
The Integration Events dashboard is classified into the following four widgets:

- Event Reply
- Event Summary
- Reply Trend
- Unit Reply Time



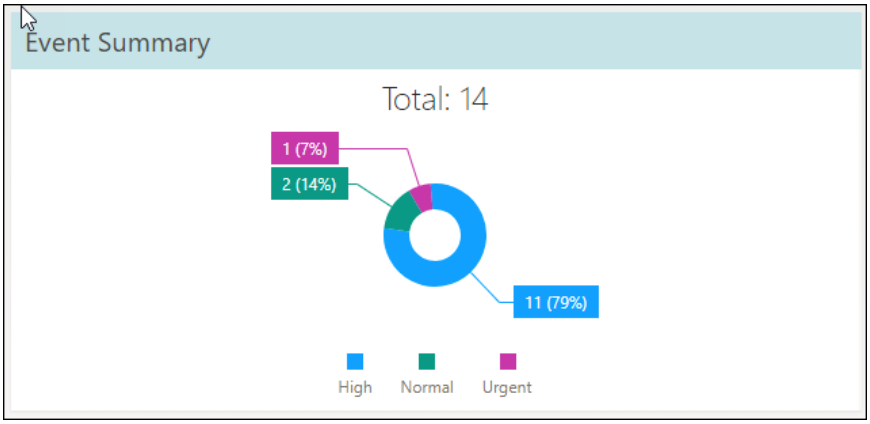
Event Reply

This widget displays the action taken by users for replying to an event. The actions are categorized as accept, reject, undelivered, and no reply. Mouse over an event reply type to display the count. Click on a legend to toggle the view.



Event Summary

Every event is classified based on its priority. The event priorities are Urgent, High, and Normal. This widget displays the event priorities and its percentage for the total number of events that occurred during the selected date range.

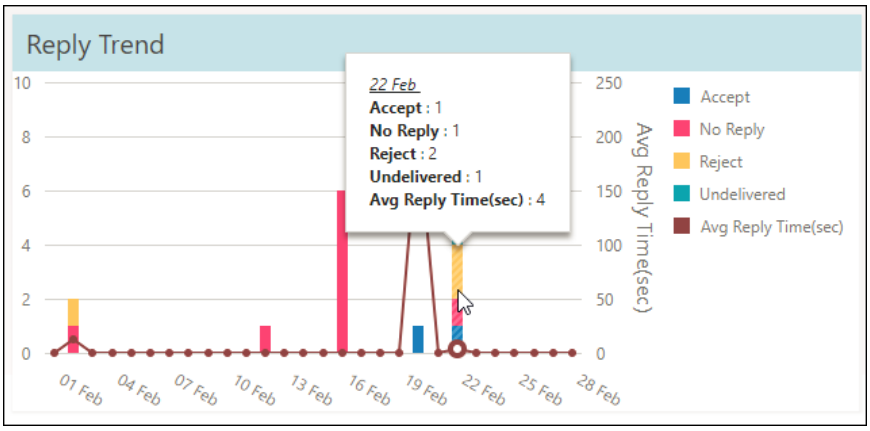


For example, in this scenario,

- Total Events count = 527
- Urgent Priority count = 233
  Percentage of Urgent Priority= (233/527) x 100 = 44%
- High Priority count = 251
- Percentage of High count = (251/527) x 100 = 48%
- Normal Priority count = 43
- Percentage of Normal count = (43/527) x 100 = 8%

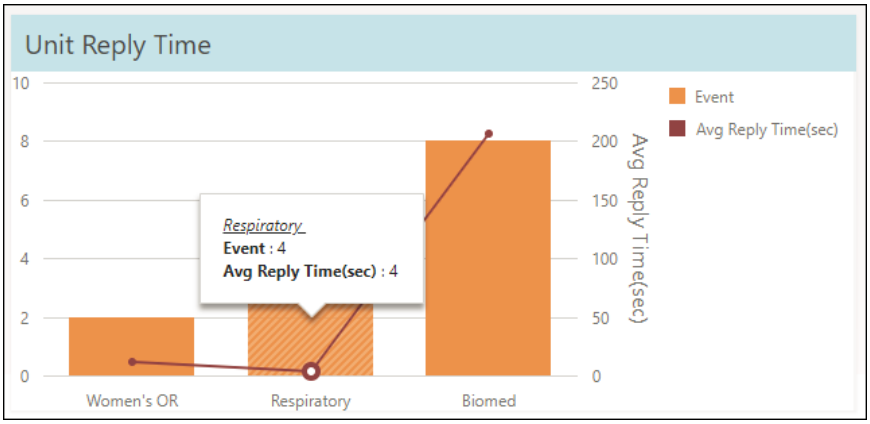
Reply Trend

The Reply Trend widget displays the number of alerts received over time along with the average reply time (in seconds) for the period specified. Mouse over a trended value to display the data for each reply type and the average reply time during the selected date range. Click on a legend to toggle the view.



Unit Reply Time

This widget displays the reply time taken by each unit. This information is used to identify and categorize the units based on their reply time. Mouse over a trended value to display the event count and the average reply time (in seconds) for the corresponding unit during the selected date range. Click on a legend to toggle the view.



Considerations

In Event Reply widget, only the following responses are configured by default in the Analytics system as Accept:

- ok
- yes
- acknowledge
- accept
- call started
- call ended
- call back
- accepted

Note: However, you can configure a new response for Accept in the `dimvmiresponse` table.

In Unit Reply Time, only Accept and Reject responses are considered for calculating average response time.

Note: For example, consider 4 events occurred during the selected date range. The average reply time displayed during the selected date range for these 4 events is 40 seconds. It must not be assumed that the time taken by each event is 40 seconds as there could be 1 accept, 1 reject, 1 not delivered, and 1 no response. In this case, accept and reject responses could have taken 40 seconds each. Hence the average reply time is (40+40) / 2 = 40.

Integration User Events

[Data Source: VMI] Contains a summary of all VMI events from a specific user perspective. Data displayed includes total events by user, priority along with average reply times from VMI data sources. Use this dashboard to review total VMI events for specific users.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

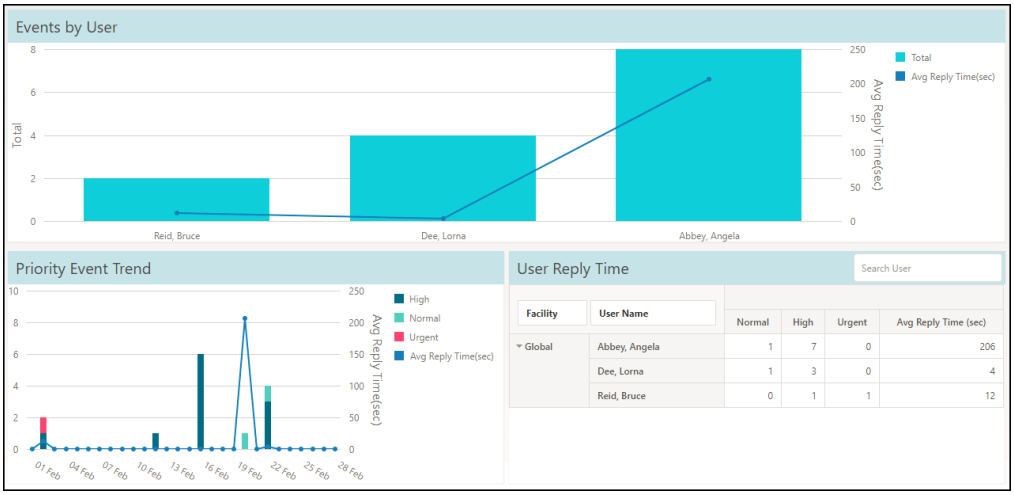
Table 12: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

Filter Name	Filter Description
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.
Clients	Used to filter VMI alert data based on the client ID. Lists the client Id specified while sending an alert using VMI API.

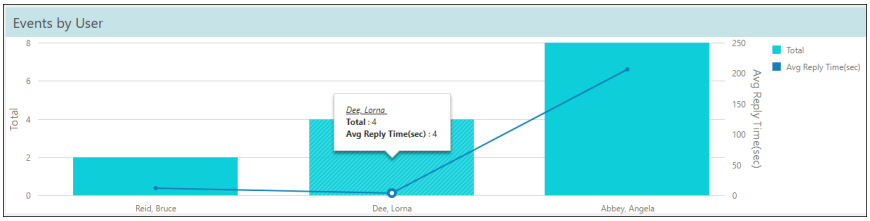
The Integration User Events dashboard is classified into the following three widgets:

- Events by User
- Priority Event Trend
- Unit Reply Time



Events by User

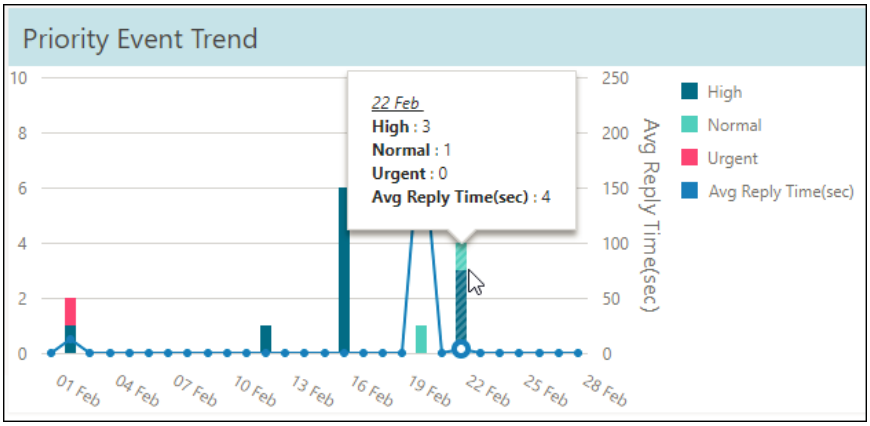
This widget displays the total events for each user along with the average response time for that user during the selected date range. Mouse over a username to display the total events and the average reply time (in seconds). Click on a legend to toggle the view.



For example, the user Dee, Lorna was assigned 4 events and the average reply time taken to address these events was 4 seconds.

Priority Event Trend

This widget displays the total number of events by priority for the selected date range. The event priorities are classified by Urgent, High, and Normal. Mouse over a date to display the priority count and the average reply time (in seconds). Click on a legend to toggle the view.

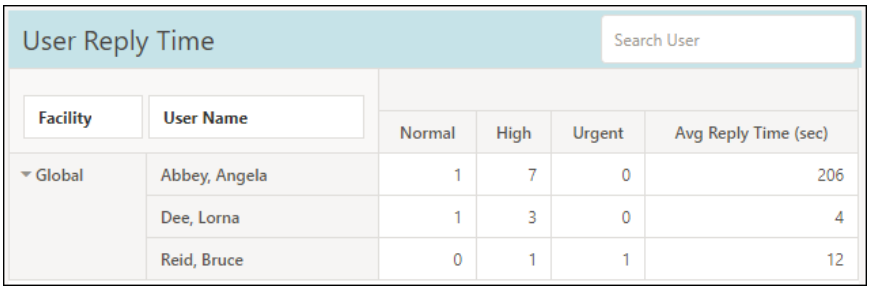


For example, there were 3 High and 1 Normal priority events that occurred during the selected date (22 February). The average time taken to reply was 4 seconds.

User Reply Time

This widget specifies the individual priority count and the average reply time (in seconds) for each user within a facility. The data is categorized based on facility and user.

To find a specific user, use the **Search** field.



Facility	User Name	Normal	High	Urgent	Avg Reply Time (sec)
Global	Abbey, Angela	1	7	0	206
	Dee, Lorna	1	3	0	4
	Reid, Bruce	0	1	1	12

For example, the user Abbey, Angela in Global facility replied to 1 Normal and 7 High priority events during the selected date range. The average time taken to reply was 206 seconds.

License Dashboard

[Data Source: Voice Server] Summarizes simultaneous login and genie interaction data. Displays include max usage and hourly trends of license activity including genie usage and login activity. Use this dashboard to review overall login and the potential need for additional licenses

Note: The data for License dashboard will be accurate if facility filter is not applied. However, when the facility filter is applied, the data may not be accurate as Voice Server licensing is not based on facility.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

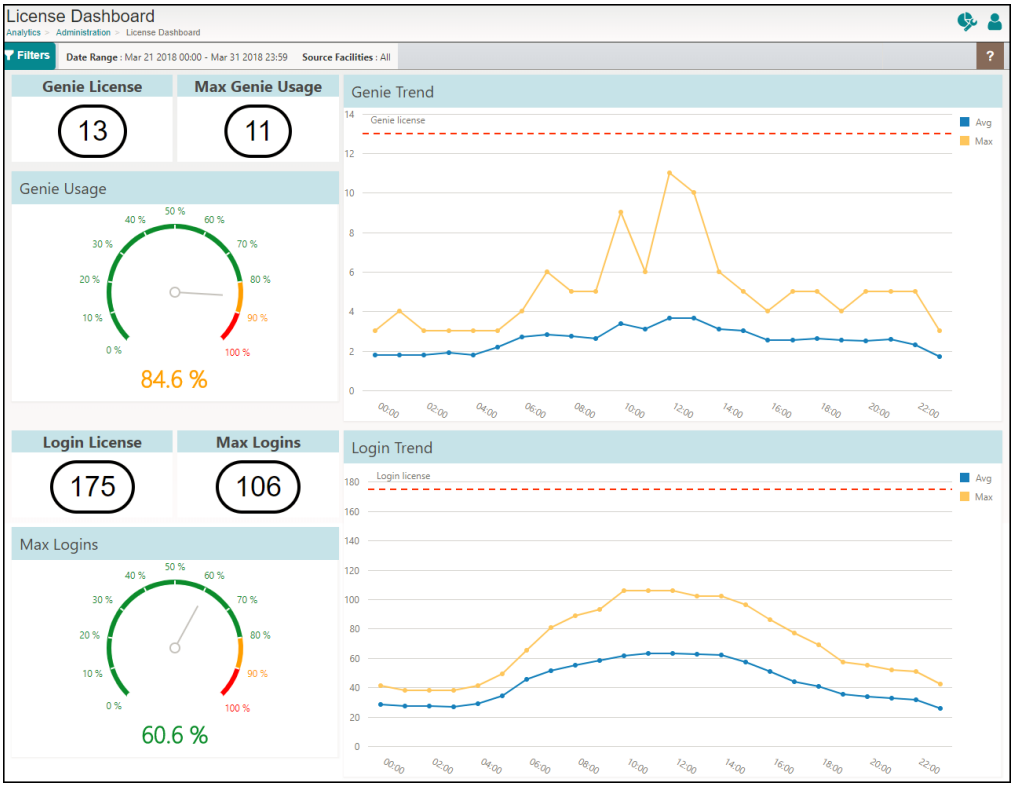
Table 13: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Source Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **user's** site.

This dashboard has the following widgets:

- Genie License
- Max Genie Usage

- Genie Usage
- Login License
- Max Logins
- Max Login Percentage
- Genie Trend
- Login Trend



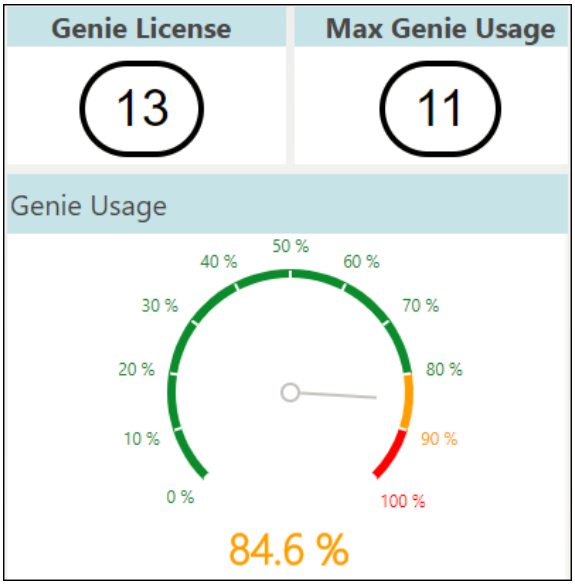
Note: As **Genie** and **Login** are two different datasets, we cannot export the data for this dashboard.

Genie Details

It is a combination of widgets that summarizes the total genie license for the facility, maximum usage of the genie, and percentage of usage. The indication of genie usage is color-coded in green, yellow, and red. For genie usage within 80%, the value is displayed in green. For usage of genie anywhere between 81% to 90%, the value is displayed in yellow. If the genie usage is 91% and beyond, the value is displayed in red to indicate that the user is approaching the maximum number of licenses assigned to their organization. This information helps the user to take precautionary measures or procure additional licenses.

For example, in this scenario,

- Genie license configured for the user = 13
- Maximum genie used = 11
- Percentage of maximum genie usage = 11/13 x100 = 84.6%

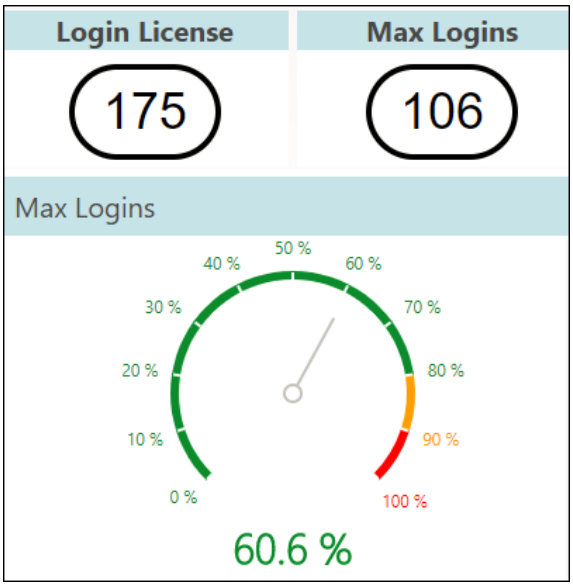


Login Details

It is a combination of widgets that summarizes the total login license for the facility, maximum logins, and percentage of maximum logins. The Login License data specifies the total login licenses assigned to the user and the data is fetched directly from the License Info page of Vocera Voice Server. The indication of maximum login is color coded in green, yellow, and red. For logins within 80%, the value is displayed in green. For usage of login anywhere between 81% to 90%, the value is displayed in yellow. If the maximum logins is 91% and beyond, the value is displayed in red to indicate that the user is approaching the maximum number of logins assigned to their organization. This information helps the user to take precautionary measures or procure additional licenses.

For example, in this scenario,

- Login license configured for the user = 175
- Maximum logins used = 106
- Percentage of maximum logins = 106/175 x100 = 60.6%



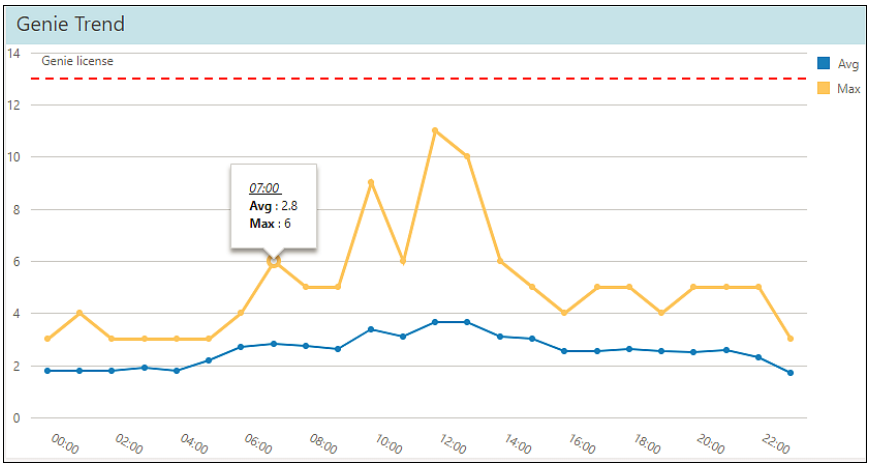
Genie Trend

This widget displays the genie license usage trend per hour over a 24-hour period. Mouse over a trended value to display the time of the day and its corresponding average genie usage count and the maximum genie usage count during the selected time. Click on a legend to toggle the view.

The formula to calculate average genie usage: (Genie usage on day 1 + Genie usage on day 2) / Number of days

For example, consider this scenario:

- Date range filter selected: 2 days
- Genie usage at 16:00 hours on day 1 = 10
- Genie usage at 16:00 hours on day 2 = 20
- Maximum genie usage at 16:00 hours for 2 days = 20
- Average genie usage at 16:00 hours for 2 days = (10+20) / 2 = 15



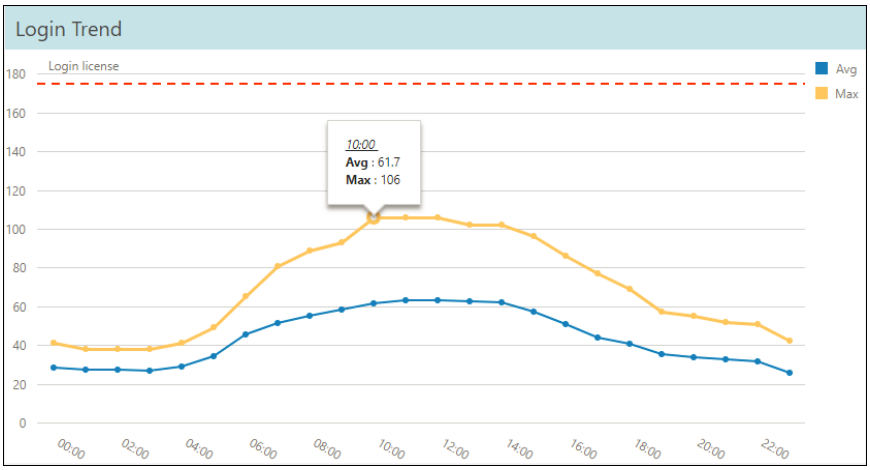
Login Trend

This widget displays the simultaneous user login trend per hour over a 24-hour period. Mouse over a trended value to display the time of the day and its corresponding average logins and the maximum logins during the selected time. Click on a legend to toggle the view.

The formula to calculate average login count: (Login usage on day 1 + Login usage on day 2) / Number of days.

For example, consider this scenario:

- Date range filter selected: 2 days
- Logins at 12:00 hours on day 1 = 100
- Logins at 12:00 hours on day 2 = 150
- Maximum logins at 12:00 hours for 2 days = 150
- Average logins at 12:00 hours for 2 days = (100+150) / 2 = 125



Scheduler Diagnostics

[Data Source: Vocera Analytics] Displays the list of exceptions that occurred when scheduled reports are executed. Data includes details such as package name, error and facility. Use this dashboard to troubleshoot specific issues with scheduled report packages.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

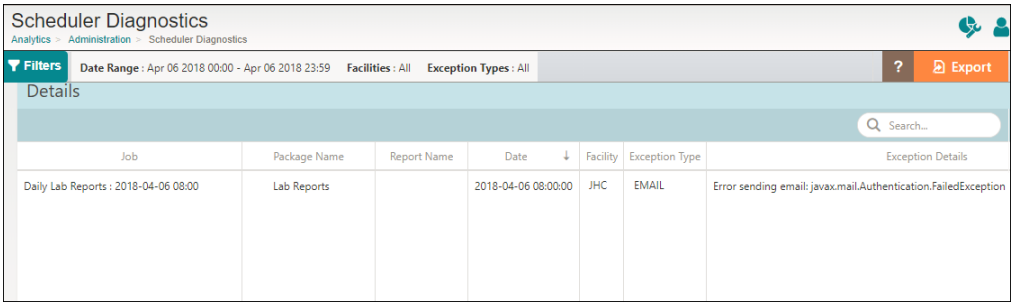
Table 14: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter scheduler diagnostic data on packages assigned to the facility.
Exception Types	Used to filter the schedule attempt failures based on the schedule exception step. The options are: • Report Invocation—Schedule failed as the system could not contact Tomcat application server. • Email—Schedule failed while sending an email. • Zipping—Schedule failed while zipping the output. • General Error—Schedule failed due to any other reasons apart from the ones listed above.

The report shows the list of exceptions that occurred during the Task Scheduler execution process. You can filter the report by date range. Exceptions are listed in reverse chronological order.

Note: The Report Scheduler does not send emails even to the correct email address if one of the recipient emails has an invalid email address.

To find a specific facility or exception type, use the **Search** field.



The following table describes the report fields:

Field	Description
Job	Specifies the job name and the date and timestamp when the job was scheduled.
Package Name	Displays the name of the package that was created in Report Scheduler page.
Report Name	Specifies the name of the report that is added to the package. **Note:** This field is blank if there are any errors at the package level. For example, if sending an email fails, then this field appears blank and does not display any report name.
Date	Displays the date and timestamp when the error occurred.
Facility	Specifies the facility name to which the package is assigned.
Exception Type	Specifies the type of exception encountered.
Exception Details	Specifies the details of the exception. It also displays the exception message.

Utilization

[Data Source: Vocera Analytics] Summarizes the Vocera Analytics utilization by displaying counts for each report or dashboard. Data identified includes a percentage of reports that were run unplanned, scheduled, or exported as a CSV file. Use this dashboard to review which reports are most popular and in which specific format.

This dashboard summarizes the number of times a report or dashboard was initiated during the selected time frame. Basic listing includes all dashboards or reports by name and indicates the percentage of reports that were viewed, scheduled, or extracted as a CSV file.

Note: Every view of a dashboard or a report by the user is counted as an entry.

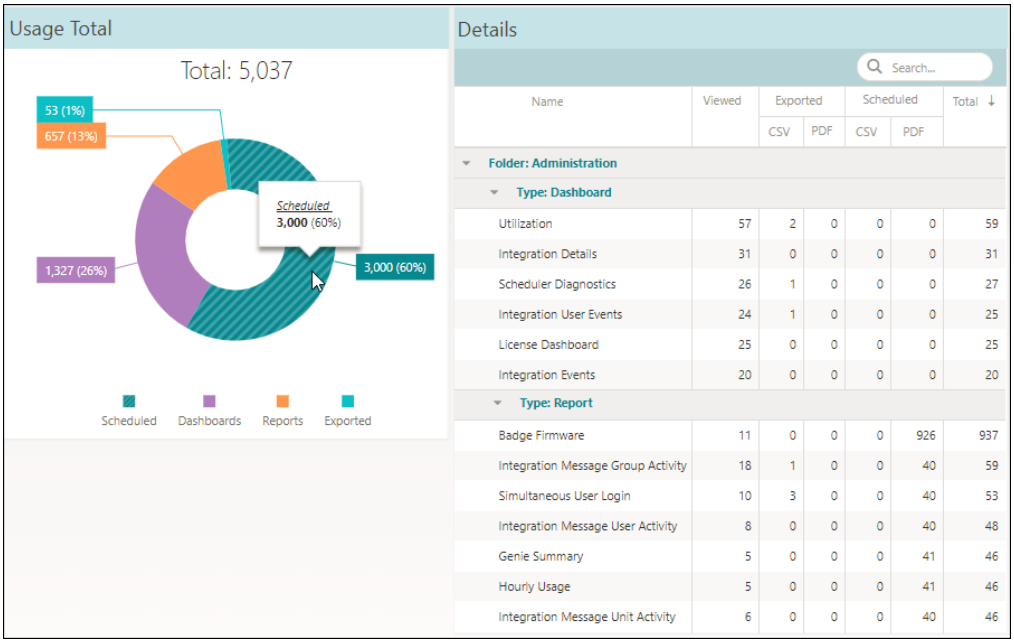
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 15: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Report Type	Used to filter usage data based on Dashboard and Report type.

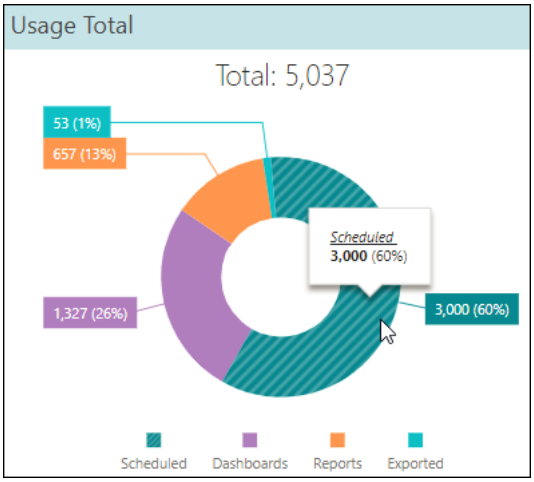
This dashboard has the following widgets:

- Usage Total: Provides a high-level summary view of the product utilization.
- Details: Provides a breakdown of each action the user takes specific to a report and dashboard.



Usage Total

This widget summarizes the usage of the application in both number and percentage. Mouse over a displayed value on the widget to view the type of usage.



The following table describes the legends in the Usage Total widget:

Legend	Description
Total	Specifies the total number of dashboards and reports viewed for the selected date range within a facility.
Dashboards	Specifies the total number of dashboards viewed.
Reports	Specifies the total number of reports viewed.
Exported	Specifies the number of dashboards and reports exported.
Scheduled	Specifies the number of dashboards and reports scheduled.

Note: Dashboards can be exported to CSV format only. Reports, however, can be exported to CSV and PDF formats.

For example, in this scenario:

Total number of dashboards and reports viewed = 5037

Total number of dashboards viewed = 1327

Total number of reports viewed = 657

Total number of dashboards and reports scheduled = 3000

Percentage of dashboards viewed = (1327/5037) x 100 = 26%

Percentage of reports viewed = (657/5037) x 100 = 13%

Percentage of dashboards and reports viewed = (53/5037) x 100 = 1%

Percentage of dashboards and reports scheduled = (3000/5037) x 100 = 60%

Note: The decimal values are rounded off to the nearest round figure.

Details

This widget lists the details of the usage based on folders and is further classified by Dashboards and Reports. It captures details of the report or dashboard viewed, exported (PDF or CSV), and scheduled (PDF or CSV). It also captures the total for each dashboard and report that was viewed, exported, and scheduled.

To find a specific report or dashboard, use the **Search** field.

Details

Search...

Name	Viewed	Exported		Scheduled		Total
		CSV	PDF	CSV	PDF	
Folder: Administration						
Type: Dashboard						
Utilization	57	2	0	0	0	59
Integration Details	31	0	0	0	0	31
Scheduler Diagnostics	26	1	0	0	0	27
Integration User Events	24	1	0	0	0	25
License Dashboard	25	0	0	0	0	25
Integration Events	20	0	0	0	0	20
Type: Report						
Badge Firmware	11	0	0	0	926	937
Integration Message Group Activity	18	1	0	0	40	59
Simultaneous User Login	10	3	0	0	40	53
Integration Message User Activity	8	0	0	0	40	48
Genie Summary	5	0	0	0	41	46
Hourly Usage	5	0	0	0	41	46
Integration Message Unit Activity	6	0	0	0	40	46

Conversation Activity

[Data Source: Voice Server, VCS] Displays the details of every conversation that had an activity during the selected date range. In this dashboard, you will find total conversations by latest activity, conversation type, conversation subject, and participants. Use this dashboard to view the activity of a conversation. This report does not include the actual conversation text.

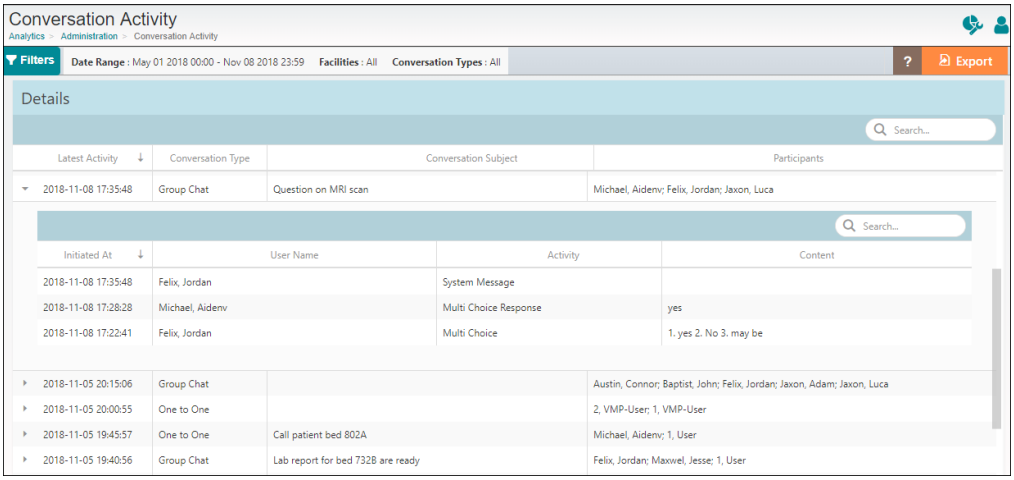
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Conversation Types	Used to filter conversation data based on the conversation type. The options are: • All—Includes all conversation types. • One to One—A sender and a receiver are involved in a conversation. • Group Chat—More than two participants are involved in a conversation. • Patient Linked—A one-to-one or group chat conversation is considered patient linked if there is patient context linked to it.

Conversations are a grouping of message types. Conversations are classified as One to One, Group Chat, or Patient Linked depending on the number of participants or context.

Messages types are those that are sent or received in a conversation and include text, photo, multiple choice, multiple choice response and system messages.

Following is a sample Conversation Activity dashboard:



Note: Access to the Conversation Activity dashboard is restricted to users with administrator access.

The Conversation Activity dashboard contains a *conversation view* and *conversation details view*. Upon initial filter, the *conversation view* displays the list of conversations sorted by Latest Activity, Conversation Type, Conversation Subject, and Participants. The Latest Activity field denotes the timestamp of the most recent activity. The Conversation Type field specifies the type of conversation such a group chat, one-to-one, or patient linked. The Conversation Subject specifies the subject of the conversation. The Participants column displays all the participants of the conversation separated by a semicolon.

To open the *conversation details view*, click the expandable arrow next to the date in the Latest Activity column to display the activities inside a conversation. The fields displayed are Initiated At, User Name, Activity, and Content. The Initiated At field denotes the timestamp that an activity was initiated. The User Name field specifies the user that initiated the activity. The Activity field specifies the type of activity such as a system message, text message, multi choice, or multi choice response. The values in the Content field displays all the response options for multi choice activity and the chosen response for the multi choice response activity.

Note: The Export action exports only data in the *conversation view* such as Latest Activity, Conversation Type, Conversation Subject, and Participants columns.

Note: Irrespective of when a conversation was started, if there was any activity for the conversation within the date range selected in the filter, such conversation is listed.

Note: After an upgrade from Vocera Analytics 1.0 to Vocera Analytics 1.1, the Conversation Subject field shows blank and does not display any data.

Use the Search field available inside the *conversation view* to search for conversation type, conversation subject, or participant.

To search for user name, activity, or content, use the Search field available inside the conversation details view.

An emoji is displayed as `??`, for messages sent from VMP that contain an emoji in the subject field.

Badge Firmware

[Data Source: Voice Server] Displays the total number of badges for each facility and unit. Also provides details of the badge such as firmware version, MAC Address, serial number, user, badge last use date, and days since last use.

This report generates data related to Vocera firmware and client device.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 16: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.

Note: To generate reports quickly, it is recommended that you use a short date range or fewer facilities.

Note: A user can be assigned to multiple groups. However, the badge count is considered as 1. For example, in the following report, the user Scot, Peter is assigned to units NICU and PICU within facility Global. The badges listed for NICU and PICU units specifies 1 badge for each unit. But the total badges used within facility Global is counted as 1.

Badge Firmware

From: 03/01/2018 00:00 To: 03/31/2018 23:59

Facility: Global

Unit: NICU

Firmware Version: 0

Badge MAC	Serial Number	User Name	Date Badge Last Used	Days Since Last Used	Last Location
aaa060dab1a6	K5EF163208B7	Scot, Peter	03/06/2018 16:28:05	44	1005cae7d05f Floor 1

Total Badges Used by Unit NICU : 1

Unit: PICU

Firmware Version: 0

Badge MAC	Serial Number	User Name	Date Badge Last Used	Days Since Last Used	Last Location
aaa060dab1a6	K5EF163208B7	Scot, Peter	03/06/2018 16:28:05	44	1005cae7d05f Floor 2

Total Badges Used by Unit PICU : 1

Total Badges Used by Facility Global : 1

Total Badges Used : 1

Note: A warning message is displayed if the date range filter selected is more than 30 days. In such case, it is recommended that you filter down further to a shorter date range.

The data displays the total number of badges for each facility. The report is further categorized based on units within a facility and includes the following:

- Firmware Version—Specifies the firmware version used on the badge.
  If the user does not provide the version, 0 is displayed.
- Badge MAC Address—Specifies the MAC address of the badge.
- Serial Number—Specifies the unique serial number assigned for the badge.
- User Name—Specifies the name of the user using the badge.
- Date badge Last Used—Specifies the last use date of the badge.
- Days Since Last Used—Specifies the number of days since the badge was last used.
- Last Location—Specifies the MAC address of the Access Point and the location where the badge was last used.

Genie Summary

[Data Source: Voice Server] Lists the daily maximum simultaneous sessions for the selected facility.

The Genie Session Summary report summarizes Genie interaction data for each day in the specified date range. Data includes maximum simultaneous sessions, average session duration, number of unique users, and total sessions.

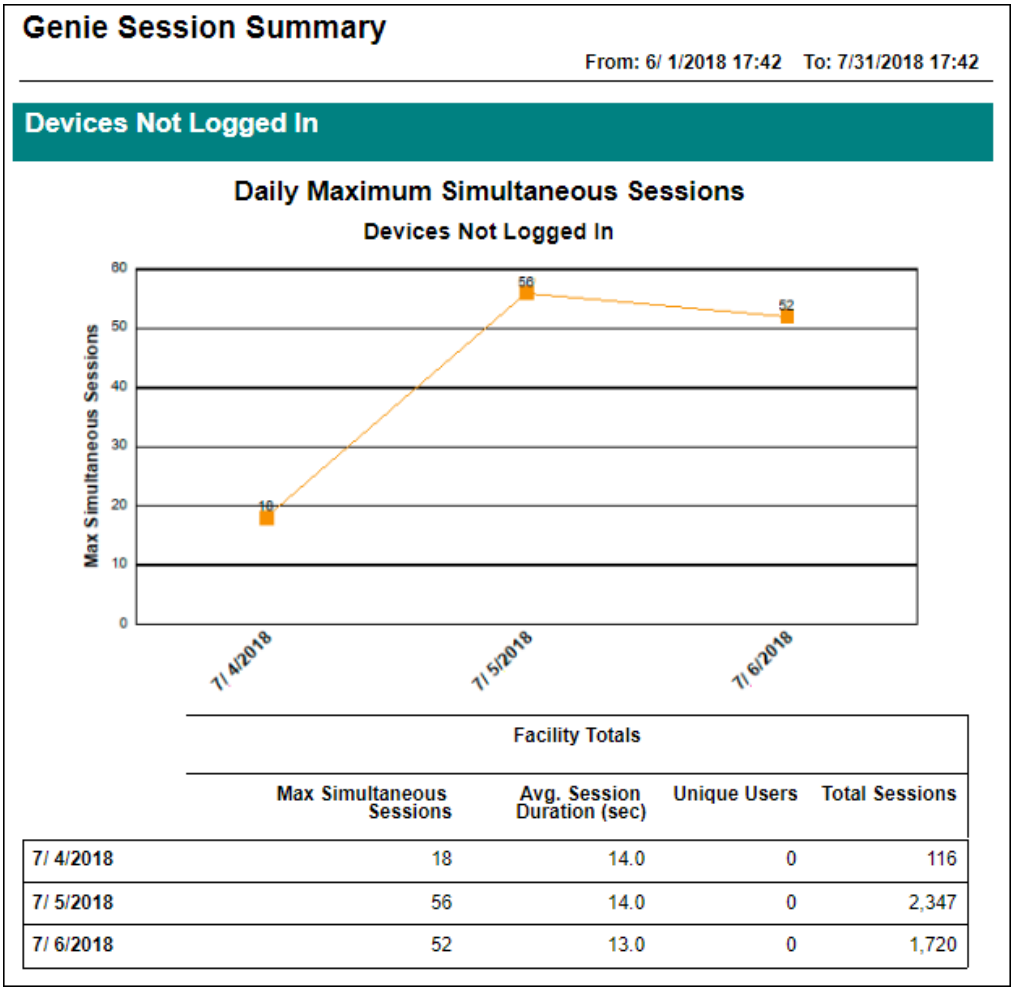
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 17: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

The Genie Session Summary report summarizes Genie interaction data for each day in the specified date range. The first part of the report plots the data in a graph, and the subsequent part shows detailed data in a table. Data includes maximum simultaneous sessions, average session duration, number of unique users, and total sessions.

The following figure shows a graph from a sample Genie Session Summary report.



Hourly Usage

[Data Source: Voice Server] Lists the overall Genie sessions on an hourly basis for the selected facility.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 18: Filters

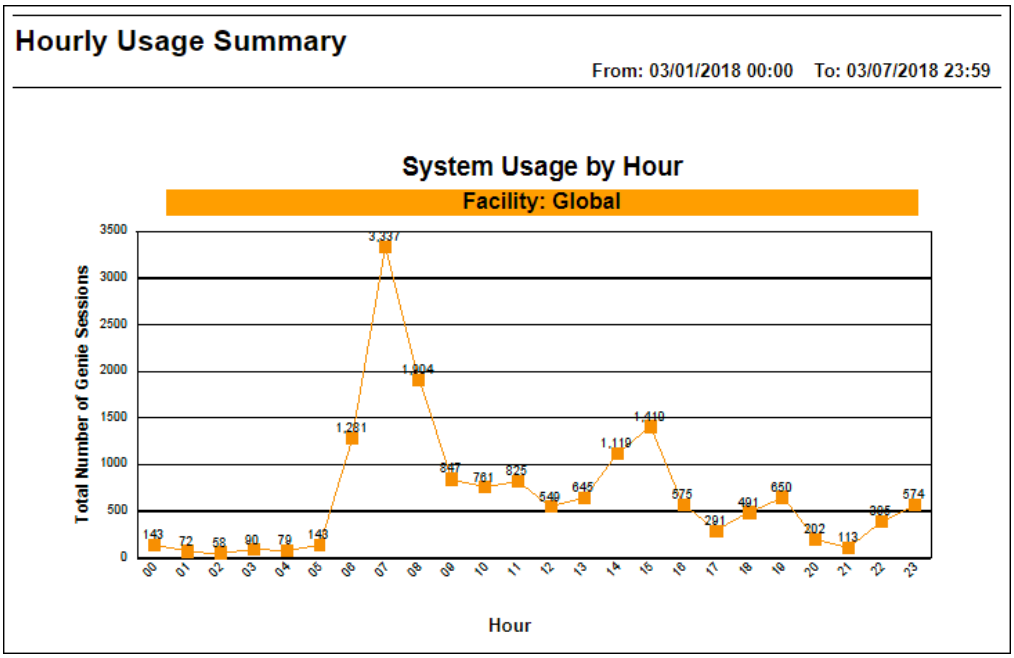
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Usage Chart

The Hourly Usage Summary report shows the number of Genie sessions per hour during a 24-hour period by each facility. The first page of the report charts the information in a graph; the second page tabulates the number of genie sessions each hour. You can use this information to schedule system maintenance. As a best practice, perform maintenance operations when system usage is minimal. The report shows the overall usage of the system on an hourly basis.

Based on the data in the report shown in the following figure, system maintenance can be performed starting around 8:00 p.m., as long as it is complete by 6:00 a.m.

The following figure shows a graph from a sample Hourly Usage Summary report.



Usage Total

The Hourly Usage Summary table summarizes the total sessions on an hourly basis for the selected facility.

Hourly Usage Summary

From: 03/01/2018 00:00 To: 03/07/2018 23:59

Facility: Global

	Total Sessions
00	143
01	72
02	58
03	90
04	79
05	143
06	1,281
07	3,337
08	1,904
09	847
10	761
11	825
12	549
13	645
14	1,119
15	1,410
16	575
17	291
18	491
19	650
20	202
21	113
22	395
23	574
Total	16,554

Integration Message Group Activity

[Data Source: VMI] Provides a list of messages from VMI clients to groups listed by Transaction ID.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 19: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Clients	Used to filter VMI alert data based on the client ID. Lists the client Id specified while sending an alert using VMI API.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

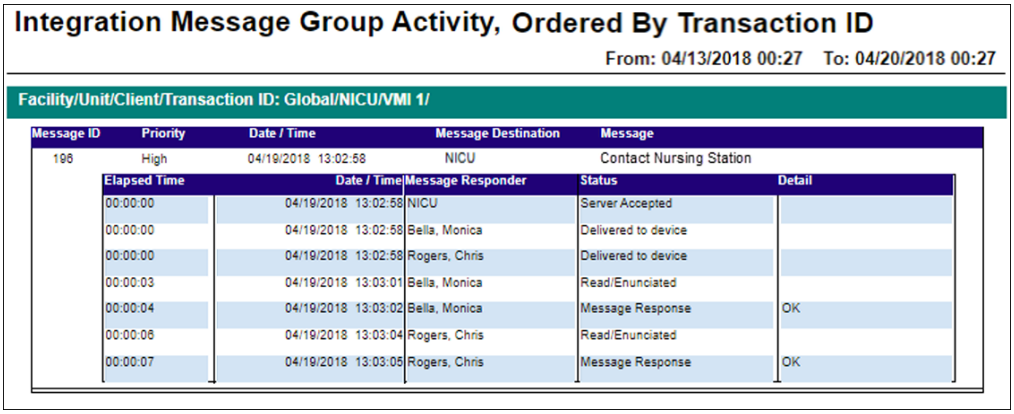
The report lists messages to groups, ordered by the associated Transaction ID. The report reveals integration message activity per client group, with messages listed by message ID.

Note: The report produces data only for integrated systems leveraging the `VMI::LogEvent()` method.

The report provides insight into the efficiency of the integrated system workflow. The time-lapse data is provided to track workflow forwarding of urgent and non-urgent messages until the transaction is completed. This information can help you determine the efficiency of the workflow response times.

Note: To generate reports quickly, it is recommended that you use a short date range or fewer facilities.

The following figure shows a graph from a sample Integration Message Group Activity report.



Integration Message Group Activity, Ordered By Transaction ID

From: 04/13/2018 00:27 To: 04/20/2018 00:27

Facility/Unit/Client/Transaction ID: Global/NICU/VMI 1/

Message ID	Priority	Date / Time	Message Destination	Message
196	High	04/19/2018 13:02:58	NICU	Contact Nursing Station

Elapsed Time	Date / Time	Message Responder	Status	Detail
00:00:00	04/19/2018 13:02:58	NICU	Server Accepted	
00:00:00	04/19/2018 13:02:58	Bella, Monica	Delivered to device	
00:00:00	04/19/2018 13:02:58	Rogers, Chris	Delivered to device	
00:00:03	04/19/2018 13:03:01	Bella, Monica	Read/Enunciated	
00:00:04	04/19/2018 13:03:02	Bella, Monica	Message Response	OK
00:00:06	04/19/2018 13:03:04	Rogers, Chris	Read/Enunciated	
00:00:07	04/19/2018 13:03:05	Rogers, Chris	Message Response	OK

Note: The left navigation hierarchy is not available for this report.

Integration Message Unit Activity

[Data Source: VMI] Provides details about messages sent from Vocera integration Partners through VMI to groups, listed in chronological order. This information helps you determine the efficiency of staff response time.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 20: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Groups	Used to filter group interruptions data based on Vocera Voice Server **Group** and VMP **distribution list**. It displays groups, departments, sub-departments, and VMP distribution lists. These groups are filtered based on the group facility selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria.
Clients	Used to filter VMI alert data based on the client ID. Lists the client Id specified while sending an alert using VMI API.

Filter Name	Filter Description
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

Note: To generate reports quickly, it is recommended that you use a short date range or fewer facilities.

The figure below shows a graph from a sample Integration Message Unit Activity report.

Integration Message Unit Activity

From: 04/13/2018 00:27 To: 04/20/2018 00:27

Facility/Unit/Destination Name: Global/NICU/NICU

04/19/2018	Client ID	Message ID	Priority	Message	Message Responder	Status	Detail	Elapsed Time
13:02:58	VMI 1	196	High	Contact Nursing Station	NICU	Server Accepted		00:00:00
13:02:58	VMI 1	196	High	Contact Nursing Station	Rogers, Chris	Delivered to device		00:00:00
13:02:58	VMI 1	196	High	Contact Nursing Station	Bella, Monica	Delivered to device		00:00:00
13:03:01	VMI 1	196	High	Contact Nursing Station	Bella, Monica	Read/Enunciated		00:00:03
13:03:02	VMI 1	196	High	Contact Nursing Station	Bella, Monica	Message Response	OK	00:00:04
13:03:04	VMI 1	196	High	Contact Nursing Station	Rogers, Chris	Read/Enunciated		00:00:06
13:03:05	VMI 1	196	High	Contact Nursing Station	Rogers, Chris	Message Response	OK	00:00:07

Note: The left navigation hierarchy is not available for this report.

The generated report data includes:

- Information about the routing and progression of urgent and non-urgent messages.
- Details about message activity data, including activity per group, with messages ordered by time.
- The elapsed time between message initiation and message termination.
- Information about how the message was initiated and the accepting responder.

Integration Message User Activity

[Data Source: VMI] Provides information about messages sent from Vocera integration Partners through VMI, listed in chronological order by users that received the message.

This report provides information about integration messages received by users. The report provides insight about user message activity, with messages listed by ID.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 21: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

Filter Name	Filter Description
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.
Clients	Used to filter VMI alert data based on the client ID. Lists the client Id specified while sending an alert using VMI API.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

Note: To generate reports quickly, it is recommended that you use a short date range or fewer facilities.

The figure below shows a graph from a sample Integration Message User Activity report.

Integration Messages User Activity

From: 04/18/2018 00:00 To: 04/20/2018 23:59

Facility/Unit/User Name: Global/PICU/Ruben, Sam

04/18/2018	Client ID	Message ID	Priority	Message	Message Destination	Status	Detail	Elapsed Time
16:34:56	CXWQMJVMI	188	Urgent	Contact post-operative care	2, Global	Server Accepted		00:00:00
16:34:56	CXWQMJVMI	188	Urgent	Contact post-operative care	2, Global	Delivered to device		00:00:00
16:35:03	CXWQMJVMI	188	Urgent	Contact post-operative care	2, Global	Read/Enunciated		00:00:07
16:35:04	CXWQMJVMI	188	Urgent	Contact post-operative care	2, Global	Message Response	Busy	00:00:08

Note: The left navigation hierarchy is not available for this report.

The generated report data includes:

- Information about the routing and progression of urgent and non-urgent messages.
- Details about user message activity, with messages ordered by ID.
- The elapsed time between message initiation and message termination.
- Information about how the call was initiated and the user activity associated with the message.

PBX Call Volume

[Data Source: Voice Server] Shows daily, weekly or monthly trends for incoming and outgoing PBX call volume over a specified date range. The report provides data for each facility as well as overall totals.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 22: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

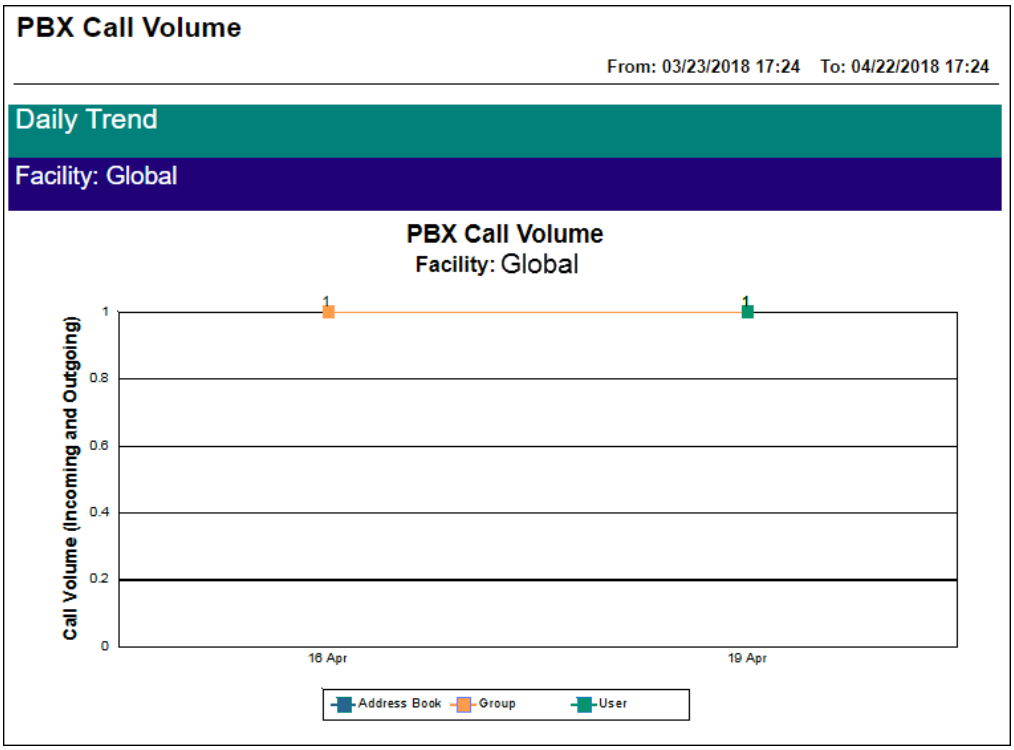
The PBX Call Volume report shows incoming and outgoing PBX call volume trend over a specified date range. You can plot the trend over daily, weekly, or monthly periods. If you generate the report for multiple facilities, the report provides data for each facility as well as overall totals.

PBX Call Volume results are grouped based on facility. For each facility, three different reports are provided:

- Line Chart—Displays call volume trends over time.
- Pie Chart—Shows slices for each category of call volume results.
- Table—Shows detailed call volume data.

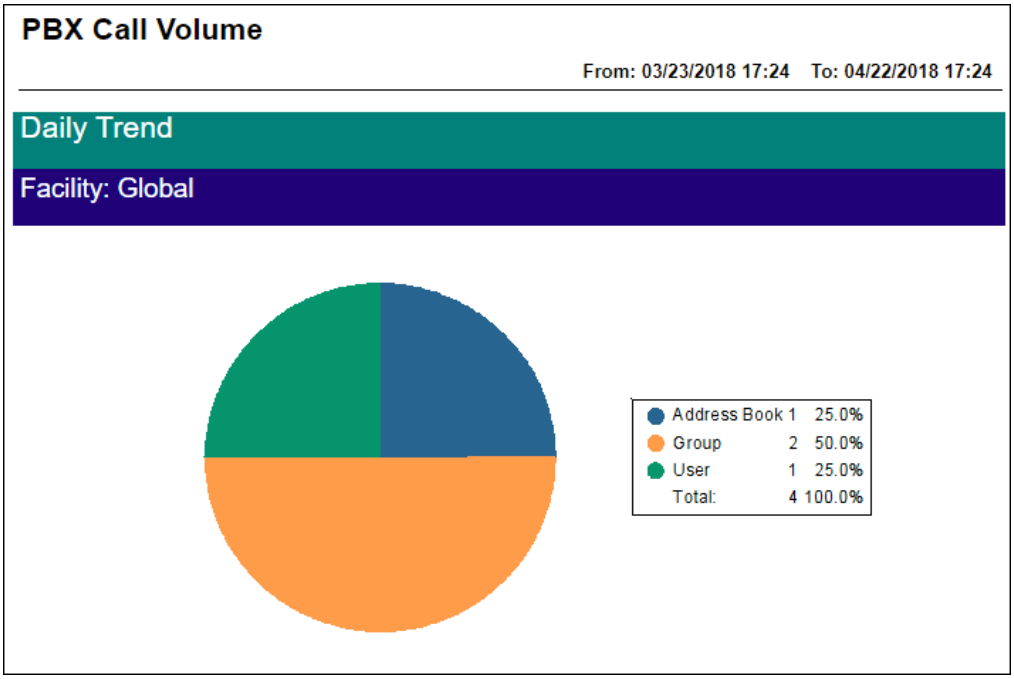
Line Chart

This report displays a line chart showing call volume trends over time.



Pie Chart

This report displays a pie chart showing slices for each category of call volume results.



Table

This report displays a table showing detailed call volume data.

PBX Call Volume

From: 03/23/2018 17:24 To: 04/22/2018 17:24

Daily Trend

Facility: Global

	Total	Address Book	Group	User
16 Apr	1	0	1	0
19 Apr	3	1	1	1
Total	4	1	2	1

Simultaneous User Login

[Data Source: Voice Server] Shows the number of simultaneous Voice Server users trending hourly, daily, monthly, or yearly depending on the date range selected. Use this report to determine the need to purchase additional Voice Server licenses.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 23: Filters

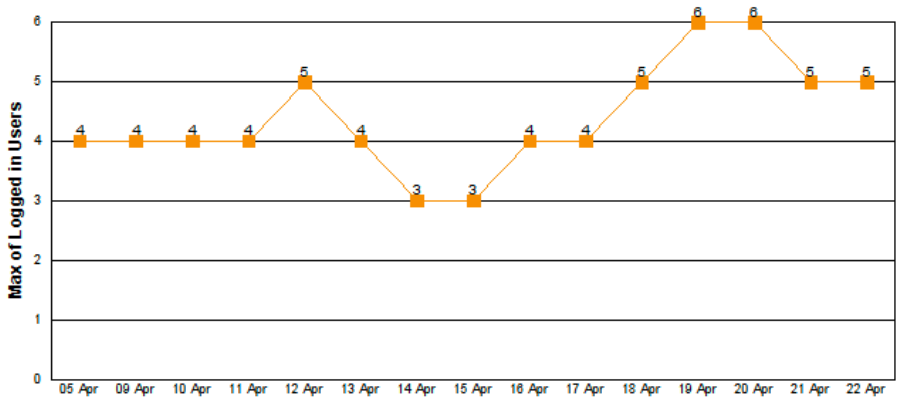
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

The Simultaneous User Login report shows the number of simultaneous Vocera users trending hourly, daily, or both. You can use this report to determine whether you need to purchase additional Vocera licenses. The report also displays the maximum number of licenses used during the selected date range and the total number of authorized licenses.

The figure below shows a graph from a sample Simultaneous User Login report.

Simultaneous User Login

From: 04/04/2018 17:24 To: 04/22/2018 17:24



Maximum Number of Licenses Used:	6
Total Number of Authorized Licenses:	10,000

Note: The Simultaneous User Login report does not display migrated data from VRS.

Telephony Usage Trend

[Data Source: Voice Server] Provides data about telephony port usage for each principal facility. You can generate hourly, daily, monthly or yearly depending on the date range selected.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 24: Filters

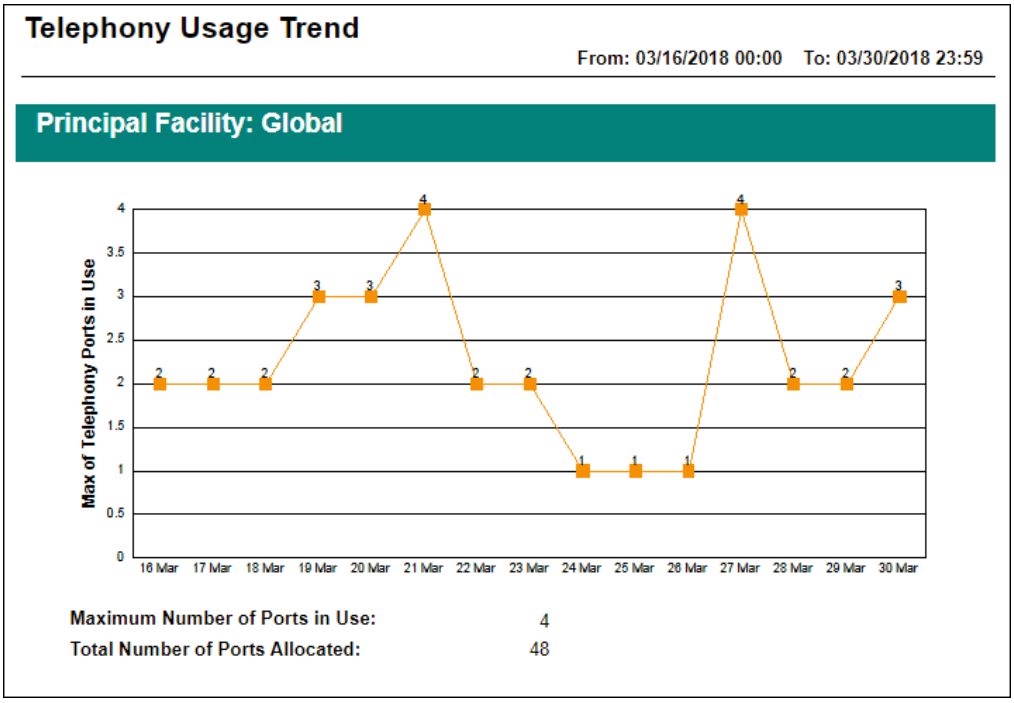
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

A principal facility may share its telephony server with other facilities. The Telephony Usage Trend report lists only principal facility, but it shows the cumulative port usage of all facilities that share a particular telephony server.

This report can help you determine if the number of licensed telephony ports available is sufficient to meet peak demand. During peak usage periods, calls can be delayed or dropped if the number of calls exceeds the number of ports available. If the number of ports is insufficient to meet your needs, you may want to consider licensing more ports.

The report charts usage based on the maximum number of telephony ports in use on a given date. It also provides the maximum number of ports in use during a specified date range and the total number of ports allocated for each principal facility.

Following is a sample Telephony Usage Trend report:



Tiered Administration Audit

[Data Source: Voice Server] Shows all activities performed through the Voice Server Administration Console.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 25: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Audit Categories	Used to filter audit information of Vocera Voice Server based on the modified entity type.

Tiered Administration Audit

From: 03/16/2018 00:00 To: 03/30/2018 23:59

Facility: Global

System

03/19/2018

Time	Modified By	Operation	Modified Entity Type	Modified Entity
13:07:47	Administrator	Update	User	Wall, Chris
13:07:54	Administrator	Update	User	Price, Cathy
13:08:03	Administrator	Update	User	Miller, David
13:08:17	Administrator	Update	User	Crouch, Bernard
13:08:33	Administrator	Update	User	Frank, Alice
13:08:43	Administrator	Update	User	Bowman, Tim
13:10:27	Administrator	Update	User	Norton, Keith
13:10:34	Administrator	Update	User	Stump, Mike

The following table describes the report columns.

Column	Description
Time	The Time column shows when a change was made.
Modified By	The Modified By column shows who made the change. This value corresponds to a User ID specified via the Administration Console or the User Console on the Vocera server unless the user logged in with the built-in login ID `Administrator`. If the operation was performed automatically by the Vocera system—for example, an automated restore of the database—the value is `System`. If the operation is a login by Report Server to the Vocera Voice Server to perform a dataload, this value is null.
Operation	The Operation column specifies the operation that changed the Vocera database. Here are some possible values: • Auto Restore—The Vocera system automatically restored data from the database. • Backup—The database was backed up. • Create—An entity was created. • Delete—An entity was deleted. • Login Admin Console—Someone logged in using the default administrator user name and password. • Login Tiered Admin Console—Someone logged in using a username and password that has administration rights. • **Login User Console**—Someone logged into the Vocera User Console. • **Login VAI**—Someone logged into a Vocera Administration Interface (VAI) client. • Send Text Message—Someone sent a text message to another user's device. • Update—One or more of an entity's property values changed. • Update Conference Group—The list of members of a conference group was changed. • Update System—One or more system property values changed.

Column	Description
Modified Entity Type	The Modified Entity Type column specifies the type of the entity that was changed. If no entity are changed, then this value is empty. Possible values: • AddrBook (address book entry) • Group • User
Modified Entity	The Modified Entity column identifies the entity that was changed. For a user, the value is the user ID. For a group, the value is the group name. For an address book entry, the value is the address book entry name. If the Vocera database was not changed, for example, when a Backup operation occurs, the displayed value is N/A.

Unassigned Access Points

[Data Source: Voice Server] Displays access points that do not have corresponding locations assigned in Voice Server Administration Console.

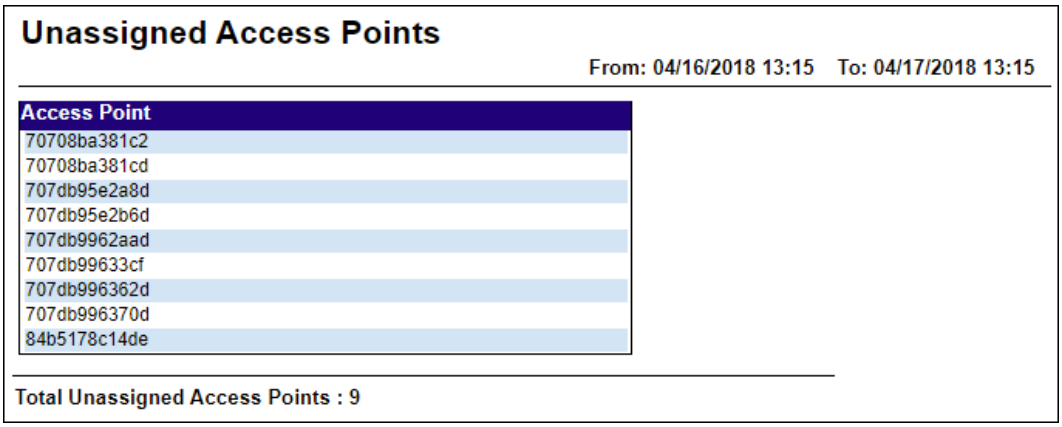
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 26: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

The Unassigned Access Points (AP) report shows access points that do not have corresponding Vocera locations. Users must have had a Genie interaction within the specified date range while connected to an unassigned AP for the AP to appear in this report. MAC address sorts the unassigned access points.

The following figure shows a page from an Unassigned Access Points report.



Unassigned Access Points

From: 04/16/2018 13:15 To: 04/17/2018 13:15

Access Point
70708ba381c2
70708ba381cd
707db95e2a8d
707db95e2b6d
707db9962aad
707db99633cf
707db996362d
707db996370d
84b5178c14de

Total Unassigned Access Points : 9

The best practice is to filter this report by a small date range (one or two weeks) to identify unassigned APs. It is possible that an unassigned AP is a rogue AP that may be active on your network for a short time and for which you would not want to assign a corresponding Vocera location. Consequently, a rogue AP may appear on the report for a particular date range and then drop off when you run the report for a later date range even though you did not assign the AP to a Vocera location.

Unassigned access points can cause Vocera devices to roam from their current site to the Global site incorrectly. This can result in speech recognition problems because of the difference in site grammars. Each site has its dynamic grammar that includes the names of users, groups, sites, locations, address book entries, and all their possible alternates.

Access points without location names also affect the location-related voice commands: Locate, Where Is?, and Where Am I?. These commands allow users to find the physical location of a particular user or member of a group. If an access point is not assigned a location name, the Genie will respond with the MAC address of the access point instead, which is not useful to most Vocera users.

Asset Tracking

Asset Tracking offers a 360° view of an organization's asset inventory, how users or locations use that inventory to improve inventory management better.

Information such as total inventory, overall assets used, totals by asset type, usage of asset types, asset versions, and device inventory status are provided. It also summarizes missing or lost devices.

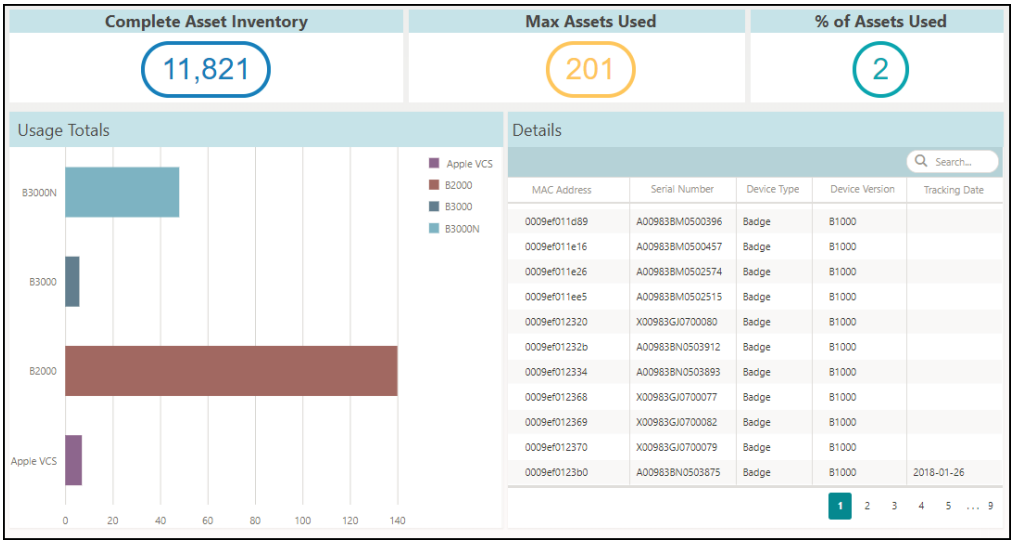
Asset Details

[Data Source: VCS, Vina, Voice Server] Summarizes the total inventory, overall assets used, and totals by asset type. Data also includes tracking date of each device. Use this dashboard to review device usage and help manage devices with expiring warranties.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 27: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Owner Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **Owning Group** Site and Engage Facility of the device.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Types	Used to filter Vocera Voice Server devices based on the device type. It displays Android, IOS, Badge, and Smartphone.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.



This dashboard has the following sections:

- Complete Asset Inventory
- Max Assets Used
- % of Assets Used
- Usage Totals
- Details

Complete Asset Inventory, Max Assets Used, and % of Assets Used

- Complete Asset Inventory—Displays the complete asset inventory for the selected facilities available in the Vocera Voice Server system.

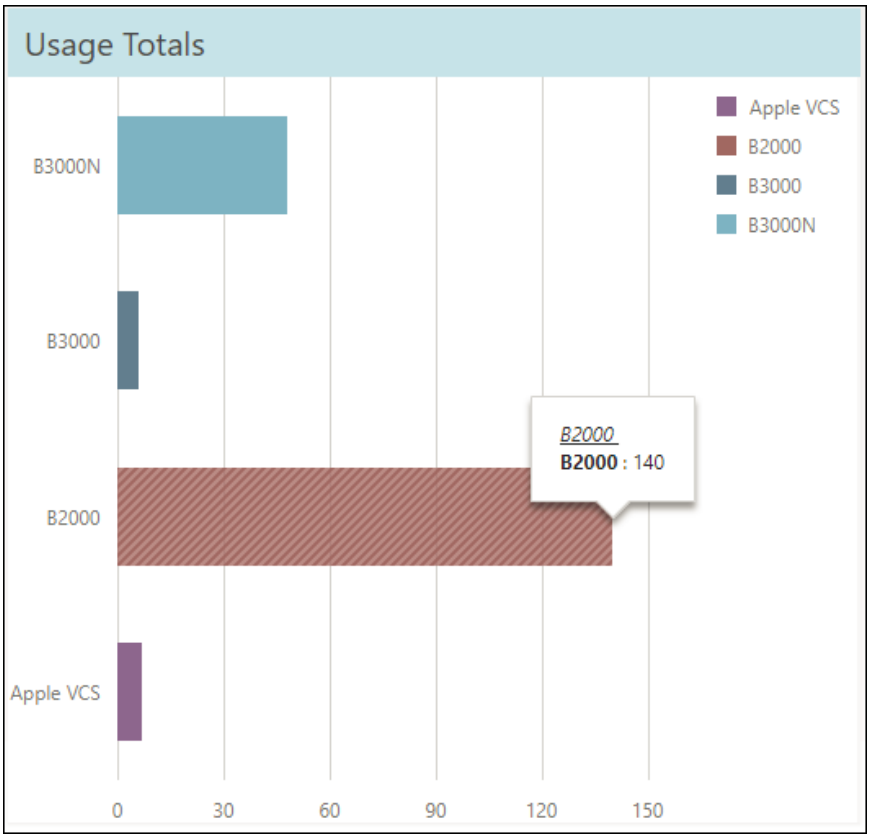
  Note: If a device is deleted and the deletion occurred during the selected date range, then the Complete Asset Inventory count would exclude the deleted device and display the updated device count. If the deletion occurred outside the selected date range, then the Complete Asset Inventory count would show the deleted device also.
- Max Assets Used—Displays the maximum number of assets that were used during the selected date range.
- % of Assets Used—Displays the percentage of assets used. The formula to calculate is (Max Assets Used / Complete Asset Inventory) x 100.

  For example, in the following screenshot, 11,821 is Complete Asset Inventory and Max Assets Used is 201. Hence, the percentage of Assets Used is (201/11821) x 100 = 2%.

  Note: The decimal values are rounded off to the nearest round figure.

Usage Totals

This widget summarizes the total device inventory within a facility for the selected date range. The usage of the asset is further classified based on the type of device. Mouse over a device type to display the total number of devices for the selected device type. Click a device type on the legend to hide or show a device.



Details

This widget summarizes the details of every asset that is in use for the selected date range. Details such as MAC address, serial number, device type, device version, and tracking date of the device are provided. To find a specific MAC address, serial number, device type, device version, or tracking date, use the **Search** field.

Note: The Details widget shows the complete inventory list and excludes the deleted device.

Details

Search...

MAC Address	Serial Number	Device Type	Device Version	Tracking Date
0009ef011d89	A00983BM0500396	Badge	B1000	
0009ef011e16	A00983BM0500457	Badge	B1000	
0009ef011e26	A00983BM0502574	Badge	B1000	
0009ef011ee5	A00983BM0502515	Badge	B1000	
0009ef012320	X00983GJ0700080	Badge	B1000	
0009ef01232b	A00983BN0503912	Badge	B1000	
0009ef012334	A00983BN0503893	Badge	B1000	
0009ef012368	X00983GJ0700077	Badge	B1000	
0009ef012369	X00983GJ0700082	Badge	B1000	
0009ef012370	X00983GJ0700079	Badge	B1000	
0009ef0123b0	A00983BN0503875	Badge	B1000	2018-01-26

Note: In the exported CSV file, the LastUpdateDate column displays the last used date of the device.

Asset Summary

[Data Source: VCS, Vina, Voice Server] Summarizes the usage of asset type and version. Data included is average devices per shift, device usage trend over time, as well as counts and percentages, and counts by version. Use this dashboard to understand when and how many devices are in use.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 28: Filters

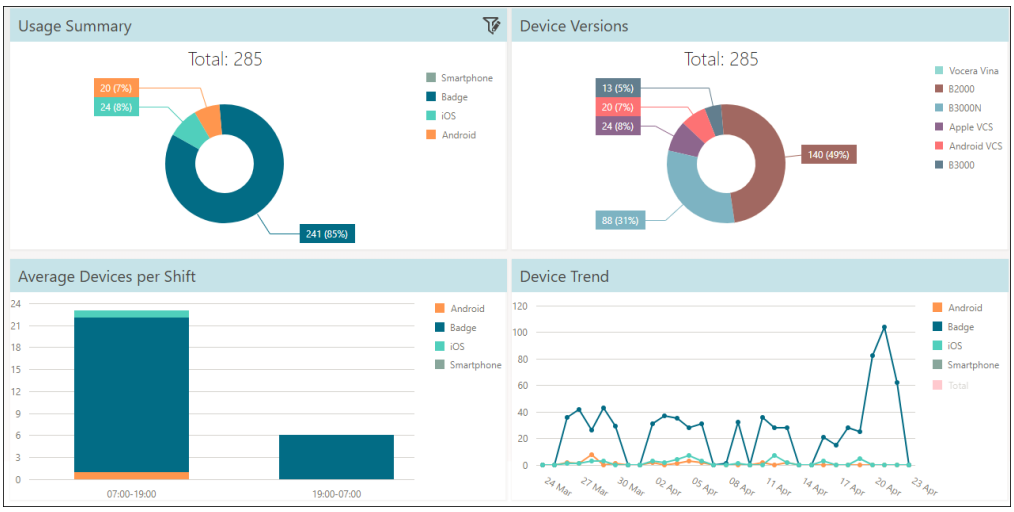
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

Filter Name	Filter Description
Device Types	Used to filter Vocera Voice Server devices based on the device type. It displays Android, IOS, Badge, and Smartphone.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.

Note: To generate dashboards quickly, it is recommended that you use a short date range or fewer facilities.

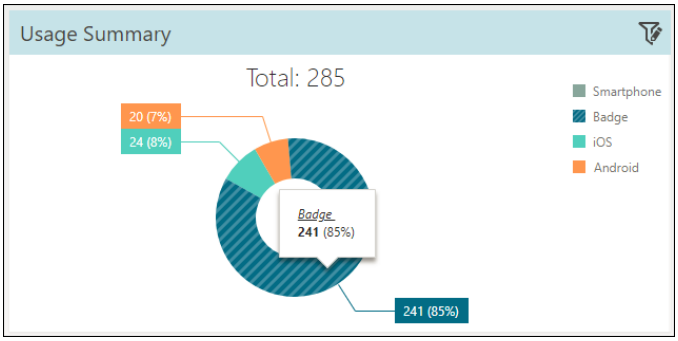
Asset Summary has the following widgets:

- Usage Summary—Summarizes the usage of the devices based on the types of device.
- Device Versions—Lists the devices based on the version.
- Average Devices per Shift—Displays the average count of devices used on a particular shift.
- Device Trend—Displays the device usage trend for the selected time frame.



Usage Summary

This widget summarizes the total usage of devices based on the types of the device along with its percentage of the selected time frame. Mouse over a device type or a distinct part of the donut to display its corresponding count and percentage. Click a legend to toggle the display.



For example, in this scenario:

Total number of devices used = 285

Total number of Badges used = 241

Total number of iOS devices used = 24

Total number of Android devices used = 20

Percentage of Badges used = (241/285) x 100 = 85%

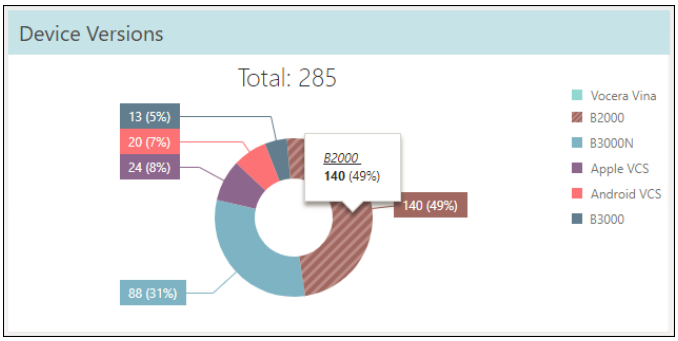
Percentage of iOS devices used = (24/285) x 100 = 8%

Percentage of Android devices used = (20/285) x 100 = 7%

Note: The decimal values are rounded off to the nearest round figure.

Device Versions

This widget categorizes the devices based on the version of the device. The widget summarizes the count and its percentage for the device versions used during the selected time frame. Mouse over a device version or a distinct part of the donut to display its corresponding count and percentage. Click a legend to toggle the display.



For example, in this scenario:

Total number of devices used = 285

Total number of B2000 used = 140

Total number of B3000N used = 88

Total number of Apple VCS used = 24

Total number of Android VCS used = 20

Total number of B3000 used = 13

Percentage of B2000 used = (140/285) x 100 = 49%

Percentage of B3000N used = (88/285) x 100 = 31%

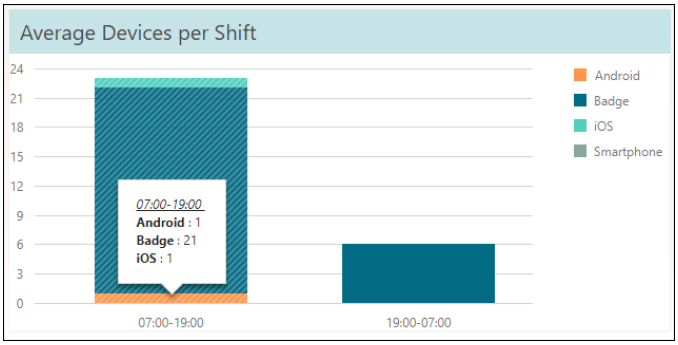
Percentage of Apple VCS used = (24/285) x 100 = 8%

Percentage of Android VCS used = (20/285) x 100 = 7%

Percentage of B3000 used = (13/285) x 100 = 5%

Average Devices per Shift

This widget displays the total assets including the different types of assets that are in use for each shift. The timeline is adaptive based on the date range. Mouse over a particular shift to display the average number of devices that were in use for each device type during the shift. Click a legend to toggle the display.



Note:

- This widget calculates the devices by shift.
- Two shift timings are considered in a day (24-hour period); the first shift is from 7 am to 7 pm of the first day and the second shift is from first day 7 pm to 7 am of the second day.
- The shift timings cannot be modified.
- To get the correct count of device used in a particular shift, ensure that the time frame you select matches the shift timings. For example, select 7 am of day 1 to 7 pm of day 2 and so on.
- A device is counted in both shifts if it was in use during both the shift timings.

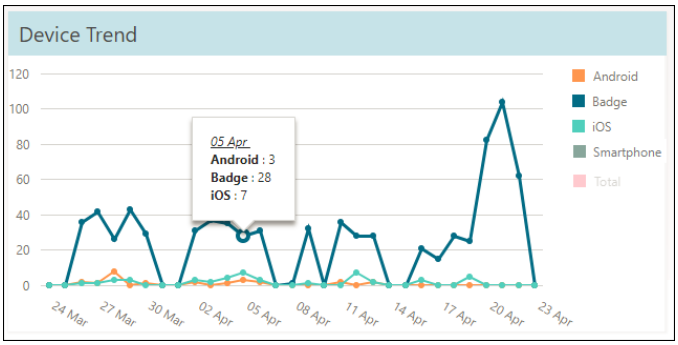
  If a device is in use from 4 pm to 10 pm, then it will be counted in 1st shift and 2nd shift because the 1st shift timings are from 7 am to 7 pm and
-

The following table describes an example:

Considerations	Details
Date Range	7 am May 1st to 7 pm May 2nd
Shifts considered during the selected date range	There are 3 shifts that are considered: • May 1st 7 am to 7 pm: 1st shift • May 1st 7 pm to 7 am May 2nd: 2nd shift • 7 am to 7 pm May 2nd: 1st shift Total number of 1st shifts: 2 Total number of 2nd shifts: 1
Number of Android devices used in 1st shift	• May 1st 7 am to 7 pm: 0 • May 2nd 7 am to 7 pm: 2 Total Android devices used in 1st shift is (0+2) = 2
Number of Android devices used in 2nd shift	May 1st 7 pm to 7 am May 2nd: 1
Number of Badges used in 1st shift	• May 1st 7 am to 7 pm: 20 • May 2nd 7 am to 7 pm: 22 Total Badges used in 1st shift is (20+22) = 42
Number of Badges used in 2nd shift	May 1st 7 pm to 7 am May 2nd: 6
Number of iOS devices used in 1st shift	• May 1st 7 am to 7 pm: 2 • 7 am to 7 pm May 2nd: 0 Total iOS devices used in 1st shift (2+0) = 2
Number of iOS devices used in 2nd shift	May 1st 7 pm to 7 am May 2nd: 3
Calculations	**Details**
Average number of Android devices used in 1st shift	Total Android devices used in 1st shift/Total number of 1st shifts. 2/2 = 1
Average number of Android devices used in 2nd shift	Total Android devices used in 2nd shift/Total number of 2nd shifts. 1/1 = 1
Average number of Badges used in 1st shift	Total Badges used in 1st shift/Total number of 1st shifts. 42/2 = 21
Average number of Badges used in 2nd shift	Total Badges used in 2nd shift/Total number of 2nd shifts. 6/1 = 6
Average number of iOS devices used in 1st shift	Total iOS devices used in 1st shift/Total number of in 1st shifts. 2/2 = 1
Average number of iOS devices used in 2nd shift	Total iOS devices used in 2nd shift/Total number of in 2nd shifts. 3/1 = 3

Device Trend

This widget displays trends for both the type of devices and the total number of devices that were in use during the selected time frame. The timeline is adaptive based on the date range.



In this example, the device trends are displayed for a month. Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to view the trend for the total devices that were used during the selected date range.

Asset Usage

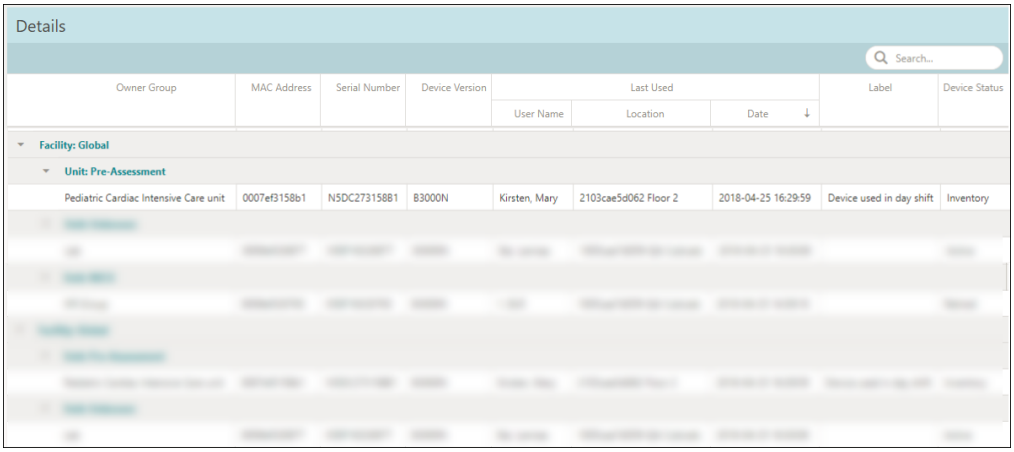
[Data Source: VCS, Vina, Voice Server] Displays a detailed accounting of overall usage for a device. Data available includes device owner group, MAC address, serial number, device version, last user of a device, date last used, last device use location, device label, and device status. Use this dashboard to locate missing devices and to determine if devices are being returned after each shift.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 29: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.

This dashboard is used by personnel from different departments. Use this dashboard to gain insight of issues with a specific device, track down missing devices, and view the user of the device and where it is used. Certain departments use this dashboard to track if the devices are returned at the end of a shift.



The information in this dashboard helps to identify devices that have moved to a different department and devices that may not be working properly. The dashboard provides information such as owner group, MAC address, serial number, device version, user, and device status. Last used information such as username, location, and date are also displayed. To search for a particular field value, use the **Search** field.

Inventory Status

[Data Source: VCS, Vina, Voice Server] Provides counts for devices that are active, inactive, and those in need of attention. Details include device owner facility, device owner group, device use status, MAC address, serial number, device version, last user of a device, user units, date last used, last device use location, days since last used, device label, and device status. Use this information to quickly review the asset status and general inventory for a selected organization or unit.

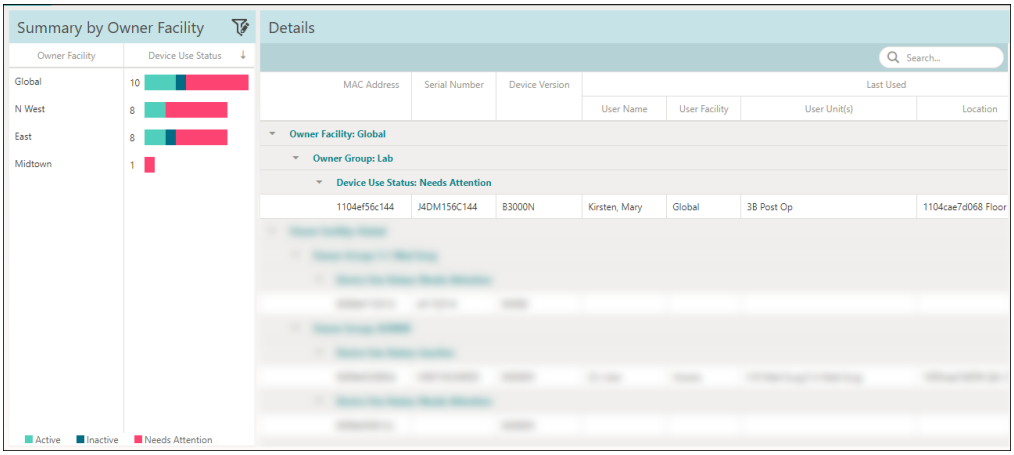
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 30: Filters

Filter Name	Filter Description
Owner Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **Owning Group** Site and Engage Facility of the device.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.

This dashboard has the following widgets:

- Summary by Owner Facility
- Details



Summary by Owner Facility

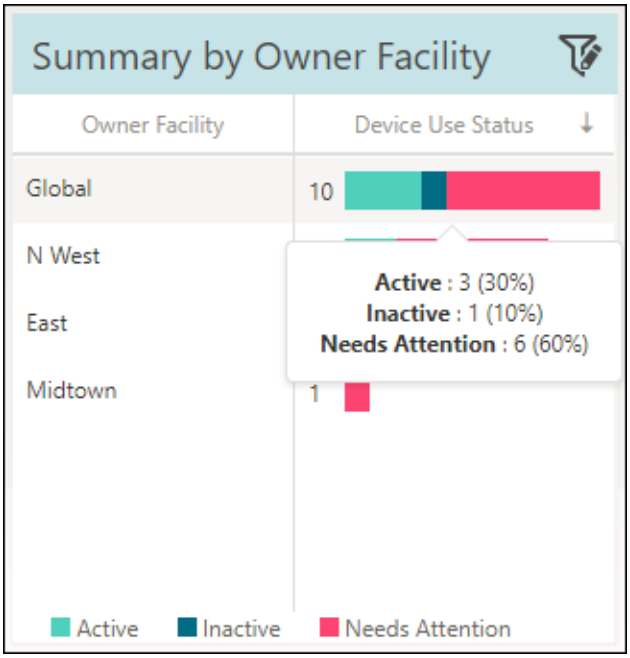
The widget summarizes the devices that are active, inactive, and needs attention within a facility. The widget summarizes both the count and its corresponding percentage. Mouse over a displayed value on the widget to view the distribution of devices within a facility.

For example, in the following widget, let us consider the Global Owner Facility:

- Total devices used: 10
- Active devices: 3
- Percentage of active devices: (3/10)x100 = 30%
- Inactive devices: 1
- Percentage of active devices: (1/10)x100 = 10%
- Needs attention: 6
- Percentage of devices that need attention: (6/10)x100 = 60%

The Summary by Owner Facility widget includes a contextual filter. Click an Owner Facility to display only the corresponding data in the Details widget. For example, click Global to display only the details of Global Owner Facility in the Details widget.

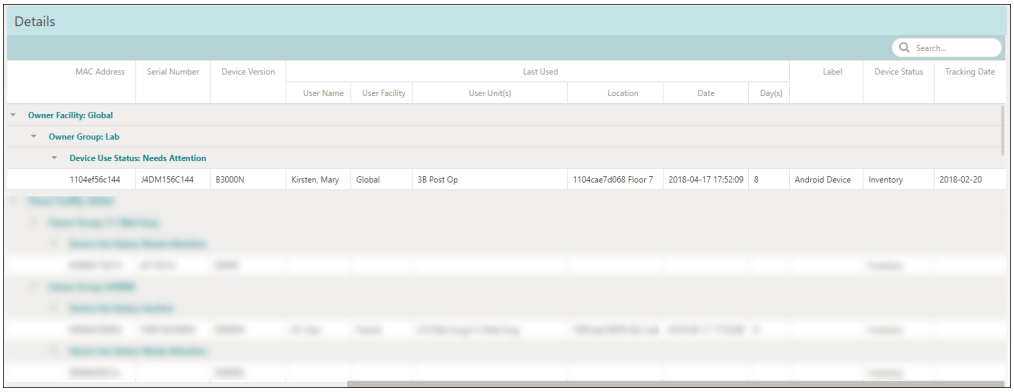
Note: By default, the Details widget displays the data of all Owner Facilities.



Details

This widget summarizes the details of the devices for all the three states (active, inactive, needs attention) within a facility. Information is ordered by Owner Facility, Owner Group, and Device Use Status. Data is sorted by the device MAC address and includes serial number, device version, label, device status, and tracking date. Last used information such as username, user facility, user unit, location, date, and number of days since last use are displayed.

To search on a particular field value, use the **Search** field.



Status Tracking

[Data Source: VCS, Vina, Voice Server] Presents status details for devices in owning groups. Data includes device status and version, change dates, MAC address, and serial number. Use this dashboard to review current device status for a given date range.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 31: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Owner Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **Owning Group** Site and Engage Facility of the device.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.
Device Status	Used to filter Vocera Voice Server devices based on the device status. It displays the historical status when the device was last active.

The Status Tracking report shows the device status changes that occurred for each device. You can track when each status change happened, and you can filter the report by different status types. This report helps identify which devices are currently Unregistered, Lost, In Repair, or in RMA. Information is grouped based on device owner, changed device MAC Address, device serial number, label, device status, and changed date.

To search on a particular field value, use the **Search** field.

Details

Search...

MAC Address	Serial Number	Device Version	Label	Device Status	Status Changed At
Owner Facility: Midtown					
Owner Group: Post Op					
aaa05232e84e	H5AE732153TC	Apple VCS		Active	2018-04-24 14:36:47
0006ef1071pe	H5AE151071PE	B3000N		Lost	2018-04-23 16:09:23
Owner Facility: Global					
Owner Group: Women's Diagnostic Center					
ddd02641d279	H5AE496753XT	Android VCS		Active	2018-04-23 14:08:49
0006ec41628a	H5AE1920475A	B3000N		Spare	2018-04-23 13:25:32

Badge/Mobile Last Used

[Data Source: VCS, Vina, Voice Server] The Badge Last Used report exports a CSV file that contains information about when devices were last used. It can help you find devices that have been placed into service with the Vocera server but are now lost or unaccounted for. Information is categorized based on the selected device owner group facility and device owner group unit.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 32: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Owner Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **Owning Group** Site and Engage Facility of the device.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.
Device Status	Used to filter Vocera Voice Server devices based on the device status. It displays the historical status when the device was last active.

The Badge Last Used report shows who last used the device and what access point or area they were last associated with.

In certain workplaces where groups of people work in shifts, devices are not assigned to specific individuals. Instead, the devices are stored with battery chargers, used by workers on a shift, and then returned when the shift is over.

If a device has not been in use for more than five days, it is highlighted in red in the **Days Since Last Used** column.

The following figure shows a page from a Badge/Mobile Last Used report:

Badge/Mobile Last Used

From: 04/19/2018 00:00 To: 04/20/2018 23:59

Facility: Global

Owner Group: Clinical Support

Label	Serial Number	MAC Address	Device Status	Days Since Last Used	Date Device Last Used	Last Location	User	Unit	Tracking Date	Notes
White Badge	B6EY12562011	0007ey562011	Active	1	04/19/2018 04:07:17	0012163f4fa1 S D 215	Holding, Chris	Clinical Support	2018-03-01	Single unit badge
Blue Badge	B5EX1621939E	0007ex21939e	Active	1	04/19/2018 11:56:20	0012165f4fb6 J B Basement 103	Rogers, Carl	Clinical Support	2018-02-04	Badge used in 2 units
Blue Badge	B5EX1621939E	0007ex21939e	Active	1	04/19/2018 11:56:20	0012165f4fb6 J B Basement 103	Rogers, Carl	Patient Services	2018-02-04	Badge used in 2 units
Red Badge	B5ED12146f6E	0004ed146f6e	Lost	1	04/19/2018 14:27:35	0012163f4fa1 S D 215	Patrick, Trevor	Clinical Support	2018-02-01	Single unit badge

Total Devices Used by Owner Group Clinical Support : 3

Total Devices Used by Facility Global : 3

Total Devices : 3

Note: A badge is listed twice if the user belongs to two units. However, the count is considered as 1.
For example, the generated report lists the user, Rogers, Carl twice as the user belongs to two units, that is Clinical Support and Patient Services. However, the badge count is considered as 1.

Device Inventory Details

[Data Source: VCS, Vina, Voice Server] Lists all devices used within a facility. The report summarizes details of the device and the user that uses the device. Information is categorized based on the selected user facility and user unit.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 33: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Device Types	Used to filter Vocera Voice Server devices based on the device type. It displays Android, IOS, Badge, and Smartphone.
Device Status	Used to filter Vocera Voice Server devices based on the device status. It displays the historical status when the device was last active.

Note: To generate reports quickly, it is recommended that you use a short date range or less number of facilities.

The Device Inventory Details report displays details of the devices that a user in a facility is using. Information is grouped by facility, unit within a facility and device MAC address. The data in the report includes a label, serial number, MAC address, last status of the device, access point location of the device, and the number of days the device was used.

Device Inventory Details

From: 04/26/2018 00:00 To: 04/26/2018 23:59

Facility: Global

NICU

Label	Serial Number	MAC Address	Last Status	Days Used
Nurse Admin	K5EF16320763	0009ef320763	Retired	1

Date Device Last Used	User	Owner	Last Location
04/26/2018 12:14:24	Russell, Craig	Patient Services	1005cae7d056 012-Global

Label	Serial Number	MAC Address	Last Status	Days Used
Nurse Admin	K5EF16320877	0009ef320877	Active	1

Date Device Last Used	User	Owner	Last Location
04/26/2018 12:01:53	Joe, Patrick	Lab	1005cae7d059 02-Basement

Total Devices Used by NICU : 2

Total Devices Used by Facility Global : 2

Note: The report may take time to generate if there are large numbers of records.

Device Inventory Summary

[Data Source: VCS, Vina, Voice Server] Summarizes the asset details such as usage and status of devices in various units. It also displays the device label, status, and percentage of days used.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 34: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Device Types	Used to filter Vocera Voice Server devices based on the device type. It displays Android, IOS, Badge, and Smartphone.
Device Status	Used to filter Vocera Voice Server devices based on the device status. It displays the historical status when the device was last active.

The Device Inventory Summary report summarizes the devices that a facility is using. Information is grouped by facility, and within a facility, by the label and device MAC address. The report data includes device details such as last status, days used, date first used, date last used, and percentage of days the device was in use.

The following figure shows a page from a Device Inventory Summary report.

Device Inventory Summary

From: 04/26/2018 00:00 To: 04/26/2018 23:59

Facility: Global

OR

Label	Serial Number	MAC Address	Owner	Last Status	Days Used	Date First Used	Date Last Used	% of Days in Use
	K5EF16320763	0009ef320763	HR Group	Active	1	04/26/2018	04/26/2018	100.0
	K5EF16320877	0009ef320877	Lab	Active	1	04/26/2018	04/26/2018	100.0
MyDevice for testing	K5EF163208B1	0009ef3208b1	Pediatric Cardiac Intensive Care unit	Active	1	04/26/2018	04/26/2018	100.0

Total Devices Used by OR : 3

Unit: PICU

Label	Serial Number	MAC Address	Owner	Last Status	Days Used	Date First Used	Date Last Used	% of Days in Use
MyDevice for testing	K5EF163208B1	0009ef3208b1	Pediatric Cardiac Intensive Care unit	Active	1	04/26/2018	04/26/2018	100.0

Total Devices Used by PICU : 1

Total Devices Used by Facility Global : 3

Note: A device is listed twice if the user belongs to two units. However, the count is considered as 1.

Directory

Shows Active/Inactive entities such as Address Book (Voice Server), Groups (Voice server), Distribution List (VCS), and Users (Voice Server and VCS) in the system. In addition, few reports provide the usage count.

Address Book Usage

[Data Source: VCS, Vina, Voice Server] Summarizes inactive address book entries. Data includes totals by facility, type, and last used date. Administratively, system admins will review this dashboard to identify specific address book entries that are no longer used.

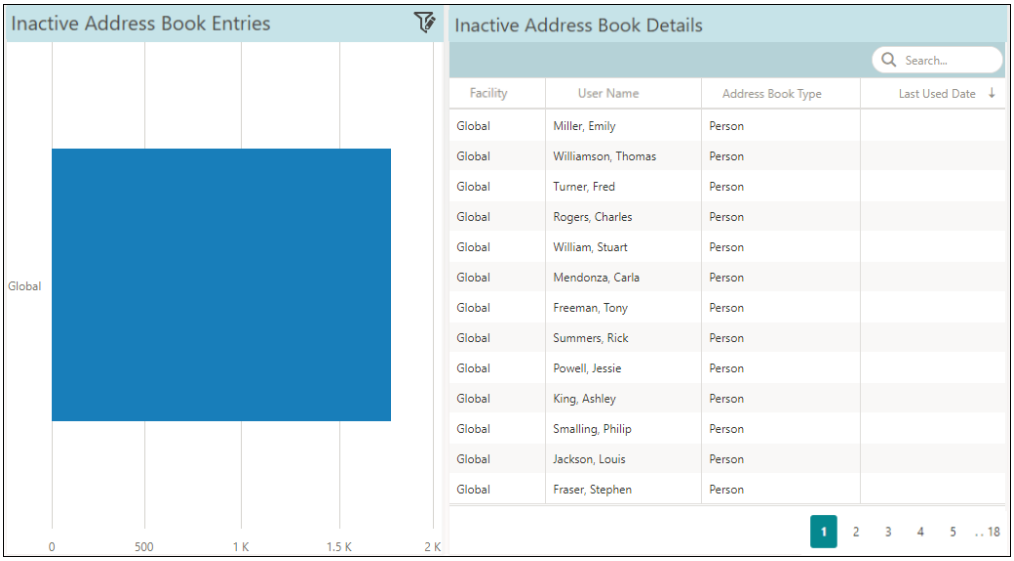
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 35: Filters

Filter Name	Filter Description
Date Range	The date range to be considered for arriving at the result. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on **Address Book** facilities (common facility name) specified while mapping Vocera Voice Server **Address Book** Site and Engage Facility.
Address Book Types	Used to filter data based on the address book type such as a person or a place. The address book type in Vocera Voice Server is a convenient way for badge users to contact people who do not use the badge.

For the selected date range, if there is no activity for the address book, it is considered as inactive and is displayed in the results. The dashboard lists the address book details based on the last used date by default. Click on a facility to display the details of inactive address book entries within the selected facility.

Use the Search field to search on a specific field value.

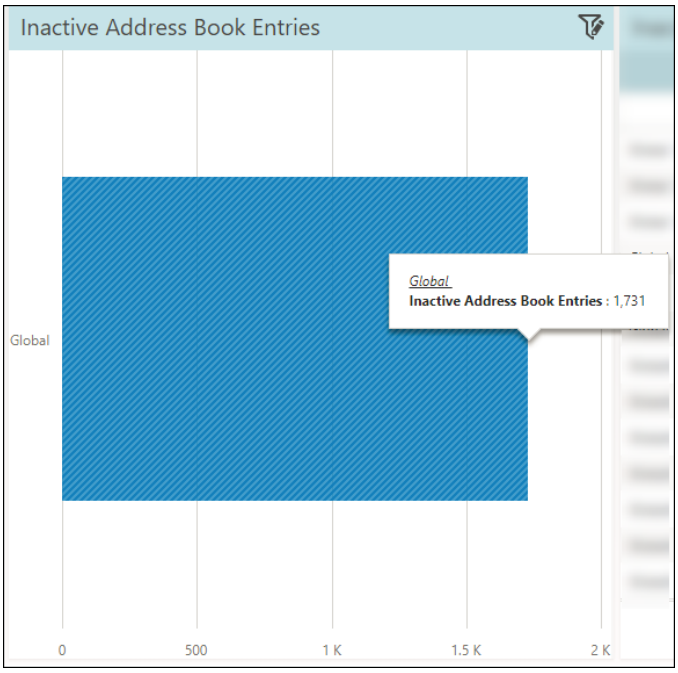


Address Book Usage dashboard has the following widgets:

- Inactive Address Book Entries
- Inactive Address Book Details

Inactive Address Book Entries

The widget displays the total number of inactive address book entries along with its facility. Mouse over a displayed value on the widget to view the total inactive address book entries in a facility.



The Inactive Address Book Entries widget includes a contextual filter.

The contextual filters contain a source and a target widget. In this case, Inactive Address Book Entries is the source widget, and Inactive Address Book Details is the target widget. Click a facility to display only the corresponding data in the Details widget. For example, click Global to display only the details of the Global facility in the Details widget.

Inactive Address Book Details

The widget displays all inactive address book entries along with its facility. It also displays the date when an address book entry was last used.

Inactive Address Book Details

Search...

Facility	User Name	Address Book Type	Last Used Date ↓
Global	Miller, Emily	Person	
Global	Williamson, Thomas	Person	
Global	Turner, Fred	Person	
Global	Rogers, Charles	Person	
Global	William, Stuart	Person	
Global	Mendonza, Carla	Person	
Global	Freeman, Tony	Person	
Global	Summers, Rick	Person	
Global	Powell, Jessie	Person	
Global	King, Ashley	Person	
Global	Smalling, Philip	Person	
Global	Jackson, Louis	Person	
Global	Fraser, Stephen	Person	

Note: If the Last Used Date field is blank, it indicates that the corresponding address book was never used.

Group Usage

[Data Source: VCS, Vina, Voice Server] Provides inactive group entries for an enterprise or facility. Data includes totals by facility or unit, group, and the last used date. Administratively, system admins will review the dashboard to review if specific groups are no longer using the system.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 36: Filters

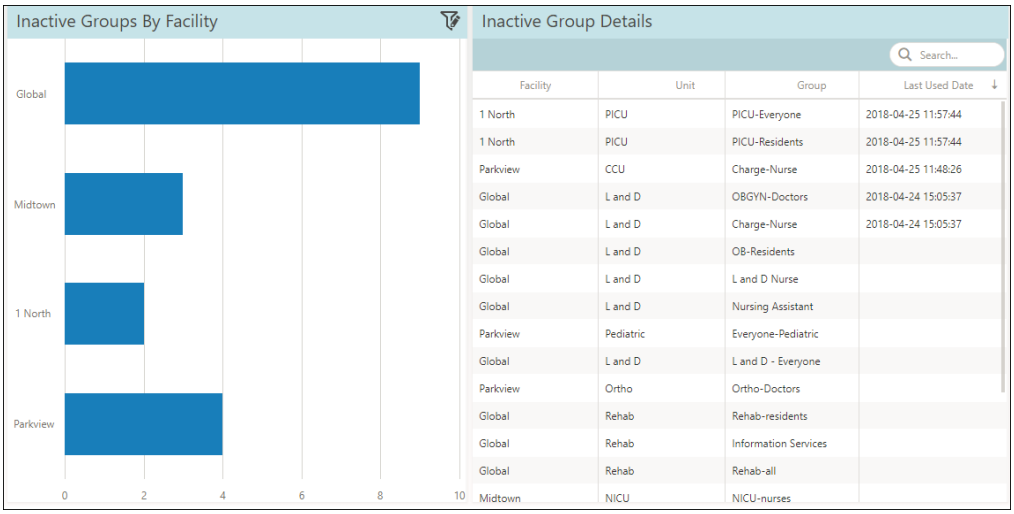
Filter Name	Filter Description
Date Range	The date range to be considered for arriving at the result. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on group facilities (common facility name) specified while mapping Vocera Voice Server **Group** site.
Units	Used to filter data based on group units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server Group Department. **Note:** The displayed units drop-down filter may be constrained by the Facilities filter. Unknown Unit or Department display data for all groups that are not part of any department selected within the Facilities filter.

Note: To generate dashboards quickly, it is recommended that you use a short date range or fewer facilities.

For the selected date range, if there is no activity for the group, it is considered as inactive and is displayed in the results. The dashboard lists the group details based on the last used date by default. Click on a facility to display the details of inactive groups within the selected facility.

Note: A group is considered to be active if a group call is made, a message is broadcasted to the group, or a message is sent to the group for the specified date range.

Use the Search field to search on a specific field value.

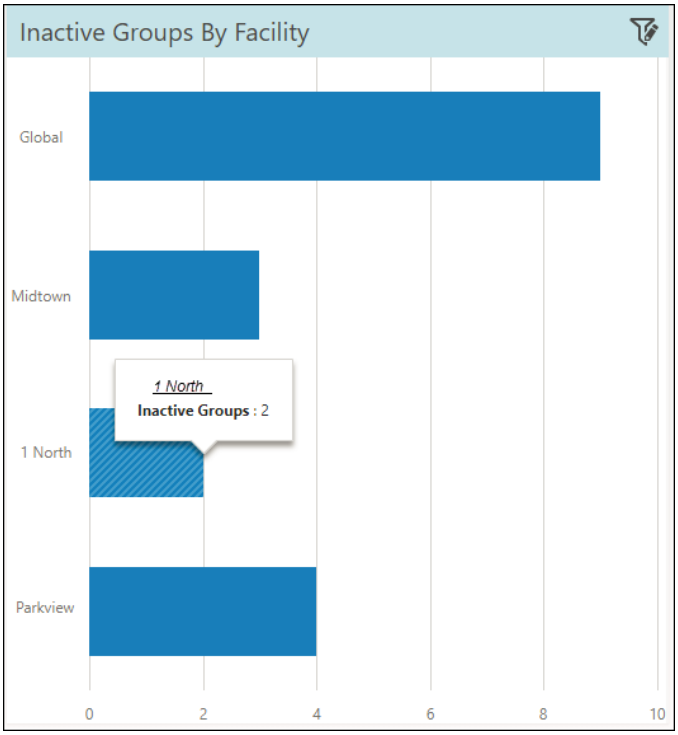


Group Usage dashboard has the following widgets:

- Inactive Groups By Facility
- Inactive Group Details

Inactive Groups By Facility

This widget displays the total number of unique inactive groups in each facility. Mouse over a displayed value on the widget to view the total unique inactive groups in a facility.



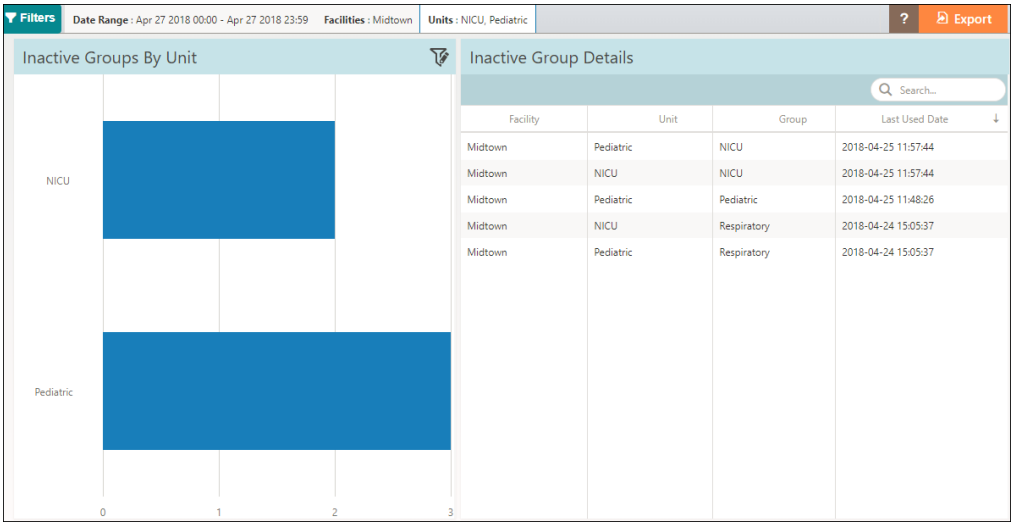
The Inactive Groups By Facility widget includes a contextual filter.

The contextual filters contain a source and a target widget. In this case, Inactive Groups By Facility is the source widget and Inactive Group Details is the target widget. Click a facility to display only the corresponding data in the Details widget. For example, click Global to display only the details of Global facility in the Details widget.

The left side widget toggles between Inactive Groups By Facility and Inactive Groups By Unit based on the following filter conditions:

Facility	Unit	Widget displayed
All	All	Inactive Groups By Facility
More than one	All	Inactive Groups By Facility
One	All	Inactive Groups By Unit
All	One	Inactive Groups By Unit
All	More than one	Inactive Groups By Unit

The following figure shows Inactive Groups By Unit.



Consider the scenario where Pediatric is a unit, NICU is a unit within Pediatric, and Respiratory is a group within NICU. In this case, Pediatric shows a count of 3 (Pediatric-Pediatric, Pediatric-NICU, and Pediatric-Respiratory) and NICU shows a count of 2 (NICU-NICU and NICU-Respiratory.)

Inactive Group Details

The widget displays all inactive groups along with facility and unit. It also displays the date when a group was last used.

Note: If the Last Used Date field is blank, it indicates that the corresponding group was never used.

Inactive Group Details

Search...

Facility	Unit	Group	Last Used Date
1 North	PICU	PICU-Everyone	2018-04-25 11:57:44
1 North	PICU	PICU-Residents	2018-04-25 11:57:44
Parkview	CCU	Charge-Nurse	2018-04-25 11:48:26
Global	L and D	OBGYN-Doctors	2018-04-24 15:05:37
Global	L and D	Charge-Nurse	2018-04-24 15:05:37
Global	L and D	OB-Residents	
Global	L and D	L and D Nurse	
Global	L and D	Nursing Assistant	
Parkview	Pediatric	Everyone-Pediatric	
Global	L and D	L and D - Everyone	
Parkview	Ortho	Ortho-Doctors	
Global	Rehab	Rehab-residents	
Global	Rehab	Information Services	
Global	Rehab	Rehab-all	
Midtown	NICU	NICU-nurses	

Login

[Data Source: VCS, Vina, Voice Server] Displays inactive user entries for an enterprise or facility. Data includes totals by facility or unit, username, and the last used date. Administratively, system admins will review the dashboard to review if specific users/logins that are no longer using the system.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

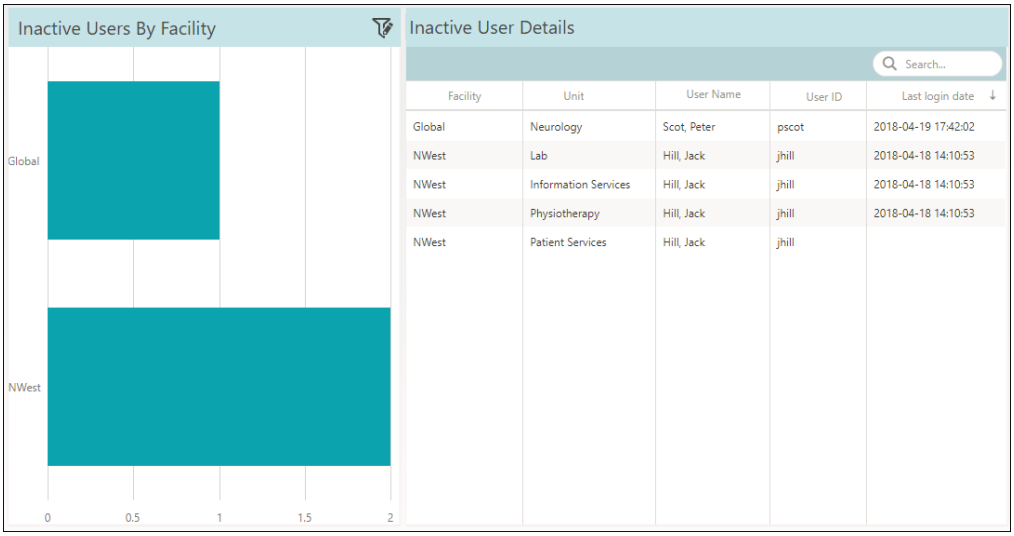
Table 37: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The Login dashboard lists the unique inactive users and their details based on the last login date by default.

Note: Login is not considered as an activity. For an activity to be considered, the user must log in and also participate in an activity. Examples of activity are any genie interaction, participation in a broadcast, call, or message.

To search for a specific filter value, use the Search field.

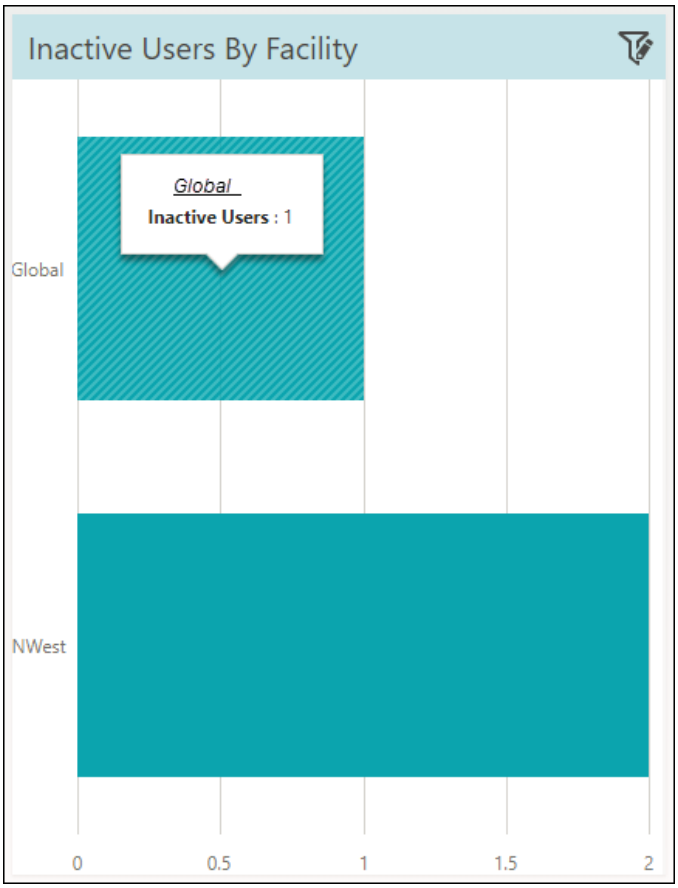


Login dashboard has the following widgets:

- Inactive Users By Facility
- Inactive User Details

Inactive Users By Facility

The widget displays the total number of unique inactive users in each facility. Mouse over a displayed value on the widget to view the total number of inactive users in a facility.



The Inactive Users By Facility widget includes a contextual filter.

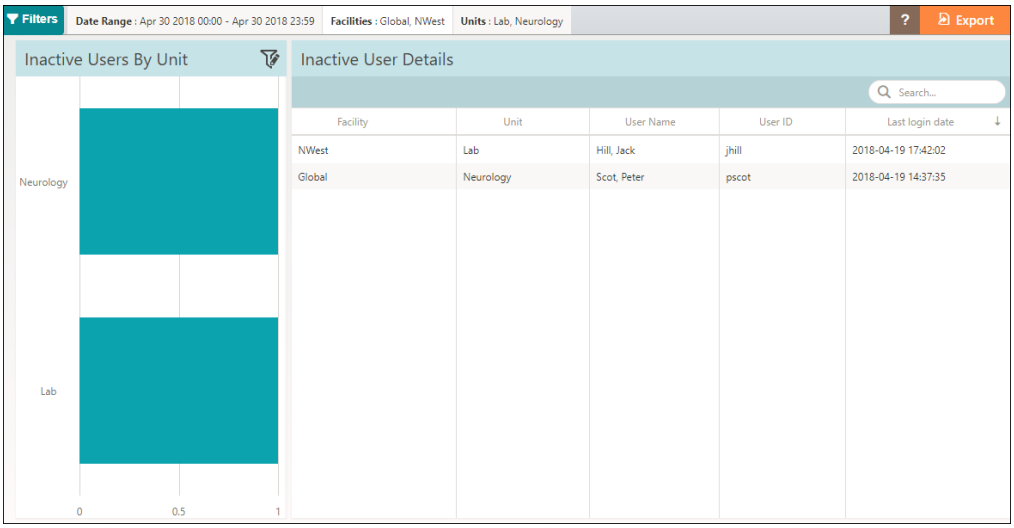
The contextual filters contain a source and a target widget. In this case, Inactive Users By Facility is the source widget, and Inactive User Details is the target widget. Click a facility to display only the corresponding data in the Details widget. For example, click Global to display only the details of the Global facility in the Details widget.

The left side widget toggles between Inactive Users By Facility and Inactive Users By Unit based on the following filter conditions:

Facility	Unit	Widget displayed
All	All	Inactive Users By Facility
More than one	All	Inactive Users By Facility
One	All	Inactive Users By Unit
All	One	Inactive Users By Unit
All	More than one	Inactive Users By Unit
More than one	More than one	Inactive Users By Unit

The following figure shows Inactive Users By Unit.

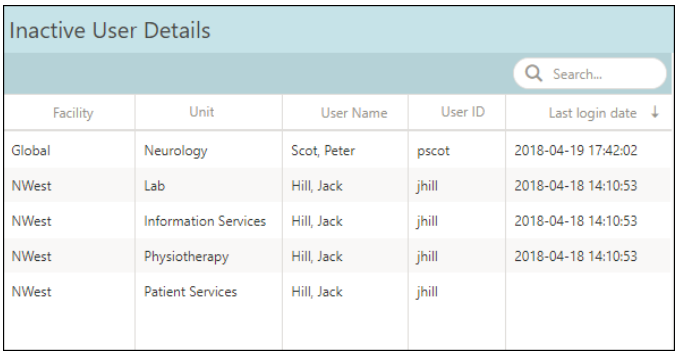
In the following figure, you can see that the facilities selected are more than one and the units selected are also more than one.



Inactive User Details

The widget displays the details of unique inactive users in each facility. Details such as username, user ID, and the unit to which the user belongs are displayed. The widget also displays the last login date of the user.

The following figure shows Inactive User Details.



Note: If the Last login date field is blank, it indicates that the corresponding user has never logged in.

Address Book Activity

[Data Source: VCS, Vina, Voice Server] Shows the total calls made to an Address Book entry. Use the information to find the entries that received the most number of calls. You can also use this information to determine unused entries and remove it from the system.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 38: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on Address Book facilities (common facility name) specified while mapping Vocera Voice Server Address Book Site and Engage Facility.
Flag	Used to filter Address Book of Vocera Voice Server based on active or inactive state.

Use this report to generate the address book entries that are active or inactive. Using this report, you can determine the address book entries that are frequently used. You can also determine the entries that were not used at all.

The following figure shows a page from an Address Book Activity report.

Address Book Activity

From: 03/31/2018 21:10 To: 04/30/2018 21:10

Facility: Global

Address Book Entry	Type	Times Used
Benner, Matthew	PERSON	11
Fred, Tony	PERSON	9
LAB	PLACE	8
NICU Main	PLACE	6
Samuel, Aaron	PERSON	3
Thomas, Jeffrey	PERSON	3
Turner, Lisa	PERSON	1
Victor, Ashley	PERSON	1
Warren, Steve	PERSON	N/A
William, Stuart	PERSON	N/A
White, Catherine	PERSON	N/A

Note: The value *N/A* displayed in the Times Used field indicates that the Address Book Entry was not used during the specified date range.

Group Activity Report

[Data Source: VCS, Vina, Voice Server] Shows the total calls, text messages, voice messages, and VMI alerts made to a Group entry. It also displays groups that did not receive calls or broadcasts during the selected date range.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 39: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on group facilities (common facility name) specified while mapping Vocera Voice Server **Group** site.

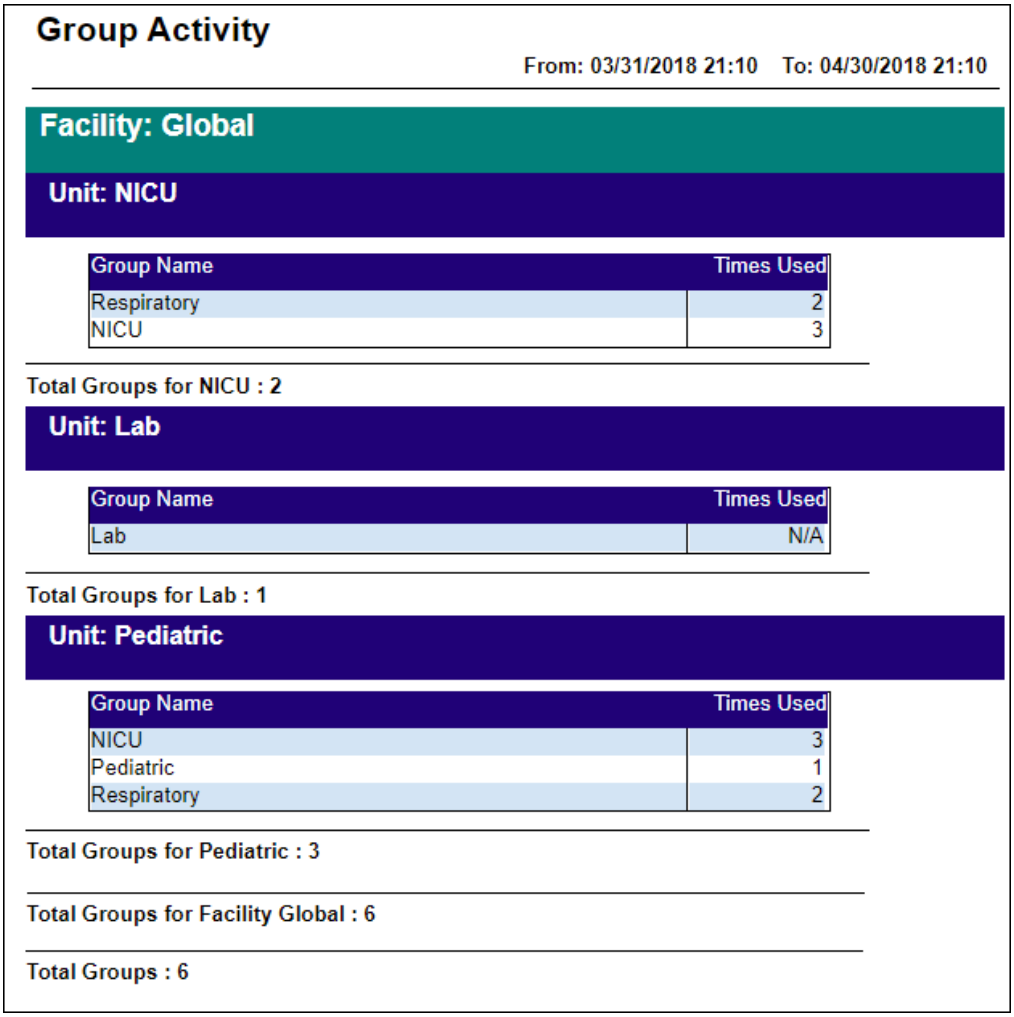
Filter Name	Filter Description
Units	Used to filter data based on group units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server Group Department. **Note:** The displayed units drop-down filter may be constrained by the Facilities filter. Unknown Unit or Department display data for all groups that are not part of any department selected within the Facilities filter.
Flag	Used to filter Groups that are entities of Vocera Voice Server or VMP based on active or inactive in Directory Reports.

Note: To generate reports quickly, it is recommended that you use short date range or fewer facilities.

The Group Activity report shows all groups that were active, inactive or both based on the flag during the selected date range. The groups can be filtered by site and department. The report can be used to remove inactive groups and improve name recognition. The following figure shows a page from a Group Activity report.

The Group Activity report shows groups that were not called or broadcasted to during the specified date range. The groups sorted by facility and unit. Use the report to remove inactive groups and improve name recognition.

The following figure shows a page from a Group Activity report.



Group Activity

From: 03/31/2018 21:10 To: 04/30/2018 21:10

Facility: Global

Unit: NICU

Group Name	Times Used
Respiratory	2
NICU	3

Total Groups for NICU : 2

Unit: Lab

Group Name	Times Used
Lab	N/A

Total Groups for Lab : 1

Unit: Pediatric

Group Name	Times Used
NICU	3
Pediatric	1
Respiratory	2

Total Groups for Pediatric : 3

Total Groups for Facility Global : 6

Total Groups : 6

Note: The value *N/A* displayed in the Times Used field indicates that the Group was inactive during the specified date range.

The Times Used field calculates the count if one of the following conditions is met:

- Group Call
- Message to a Group
- Broadcast to a Group

Inactive Users

[Data Source: VCS, Vina, Voice Server] Displays users that have not logged into the Vocera system within the specified date range. Use this information to remove inactive users and improve name recognition.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 40: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The Inactive Users report is sorted by facility and unit. The report is listed by user ID, first name, and last name. Use the report to determine and remove inactive users and to improve name recognition.

Inactive Users

From: 03/31/2018 21:10 To: 04/30/2018 21:10

Facility: Global

Unit: Lab

User Id	First Name	Last Name
mbenner	Matthew	Benner

Total Inactive Users for Lab : 1

Unit: Patient Services

User Id	First Name	Last Name
cpaul	Catherine	Paul

Total Inactive Users for Patient Services : 1

Total Inactive Users for Facility Global : 2

Total Inactive Users : 2

Interruptions

In the Vocera system, interrupt is defined as an alarm, alert, phone call, physical hallway conversation, text message, and so on that disrupts a person delivering care. The information collected in this screen will help users to analyze how frequently hospital staffs are being interrupted.

Call Details

[Data Source: VCS, Vina, Voice Server] Detailed review of all call information from a recipient perspective. Data includes caller and receiver names, call type, call duration, call status, and the reason for unavailability. Administrators can use this information to troubleshoot call transactions or extract the data through CSV for detailed groupings and analytics.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 41: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table cwunit that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit display data for all users that are not part of any department or unit selected within the Facilities filter.
Call Types	Used to filter call data based on recipient type. The available options are Address Book, Broadcast, Buddy, Group, Instant Conference, Telephone, and User.

Filter Name	Filter Description
Reasons Unanswered	Used to filter call data based on reason for call unanswered. The unanswered reasons are: • Busy • Call Rejected • Call Wait Rejected • Caller Blocked • Conference Too Large • Not Logged In • Not Online • Phone Line Unavailable • Phone Not Answered • Unavailable • Unknown

Note: Facility and Unit filters will filter data based on receiver user's facility and receiver user's unit.

The Call Details dashboard lists the calls in a chronological sequence based on the time that a call was initiated. Administrators can track the type of call and call duration by caller and receiver names. Call details show both complete and incomplete calls. Incomplete calls occur when the caller hangs up before reaching the receiver, or when the receiver is unavailable, irrespective of the caller leaving a message.

To find a specific value, use the **Search** field.

Following is a sample Call Details dashboard:

Details

Search...

Initiated At	Caller Name	Receiver Name	Type	Duration(sec)	Status	Reason Unanswered
2018-04-23 14:14:10	Johnson, Steve	Benner, Mathew	User	0	InComplete	Canceled
2018-04-23 14:09:25	Dominic, Joana	Benner, Mathew	User	26	Complete	
2018-04-23 14:05:44	Dominic, Joana	Benner, Mathew	User	42	Complete	
2018-04-23 13:17:10	Rogers, William	Drake, Chris	User	1	Complete	
2018-04-23 12:55:22	Chan, Peter	Chan, Kim	Address Book	0	InComplete	Unavailable

The Call Details dashboard lists the timestamp that the call was initiated, the name of the caller, call receiver name, type of calls such as a user or group call, duration of the call (in seconds), the status of the call whether complete or incomplete and the reason for not answering the call.

For example, consider the values provided in the Call Details dashboard. The first entry displays the following:

- 2018-04-23 14:14:10 as the time when the call was initiated.
- Johnson, Steve is the name of the caller.
- Benner, Mathew is the receiver of the call.
- User is the type of call.
- 0 seconds is the duration of the call.
- InComplete is status of the call.
- Cancel is the reason as the caller canceled the call.

Note: The Reason Unanswered field displays blank if the call was answered.

However, the second entry displays the Status as Complete as the call was answered and Reason Unanswered field displays blank as the call was accepted by the receiver.

Following is an example of a Group Call:

Details

Search...

Initiated At	Caller Name	Receiver Name	Type	Duration(sec)	Status	Reason Unanswered
2018-04-20 18:23:22	Smith, Tom	Benner, Cathy	Group	14	Complete	
2018-04-20 18:23:00	Smith, Tom	Paul, Peter	Group	0	InComplete	Call Rejected

In the case of Group Calls, if the first user does not answer and the second user answers, then there will be two entries for the same caller in the Caller Name field. In the example, you can notice that the caller Smith, Tom made a group call and Paul, Peter (receiver 1) rejected the call. The group call is then routed to Benner, Cathy (receiver 2). Hence the caller name Smith, Tom has two entries for the same call.

Note: Caller Name and Receiver Name fields display telephone numbers if the call is made or received from a telephone.

Call Summary

[Data Source: VCS, Vina, Voice Server] Summarizes all call data by call type, response and receiver. Data includes call volumes by type and response, as well as call details, status, and average call duration. This dashboard is used to review overall Vocera usage by facility, unit and role such as call volumes to the specific user level.

Use this dashboard to identify high volume or low volume users.

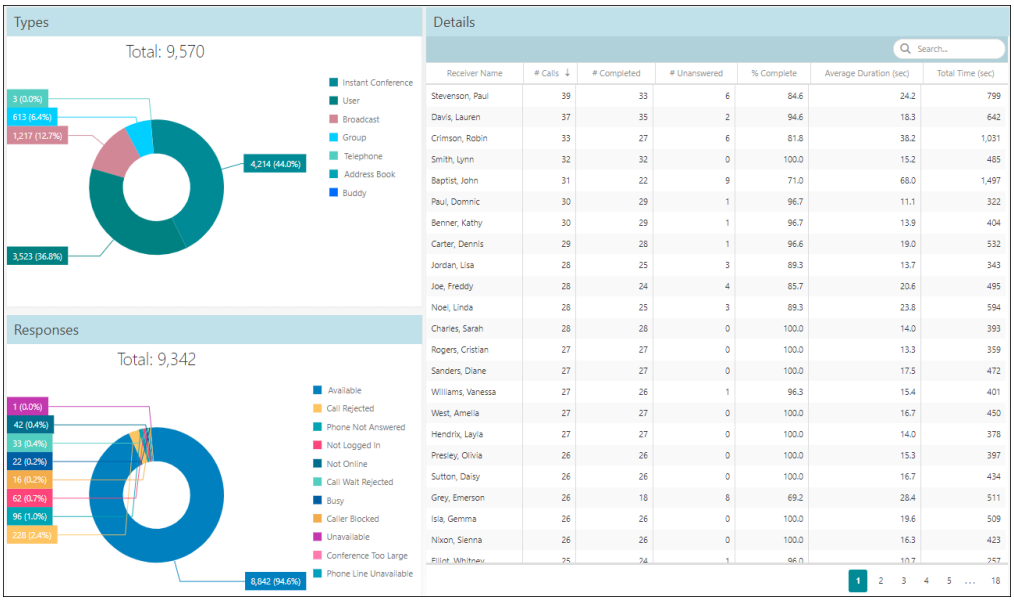
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit display data for all users that are not part of any department or unit selected within the Facilities filter.
Roles	Used to filter data based on Vocera Voice Server Group, Role, and VMP distribution list of the device. The groups are filtered based on the facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria.
Call Types	Used to filter call data based on recipient type. The available options are Address Book, Broadcast, Buddy, Group, Instant Conference, Telephone, and User.
Reasons Unanswered	Used to filter call data based on reason for call unanswered. The unanswered reasons are: • Busy • Call Rejected • Call Wait Rejected • Caller Blocked • Conference Too Large • Not Logged In • Not Online • Phone Line Unavailable • Phone Not Answered • Unavailable • Unknown

Note: To generate dashboards quickly, it is recommended that you use a short date range or fewer facilities.

Call Summary has the following widgets:

- Types
- Responses
- Details



Types

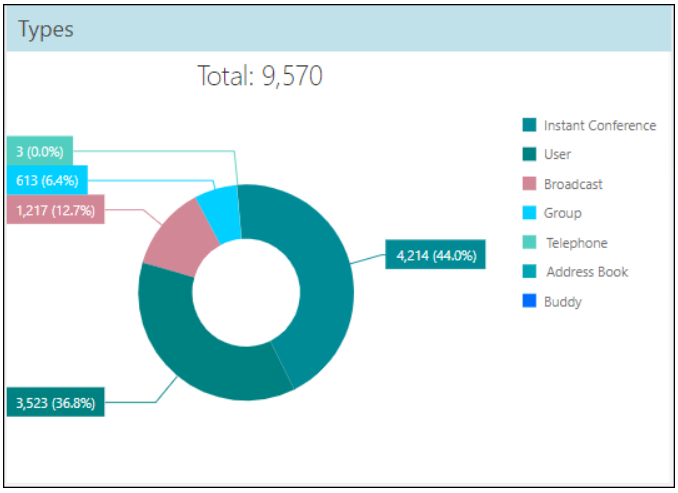
The Types widget summarizes the call based on call types for the filter selected. Mouse over a displayed value on the widget to view the call type and its corresponding percentage.

The percentage of a call type is calculated using the formula: (Type of Call/Total Calls)x100

For example,

- Total Calls—9570
- Broadcast calls—1217
- Percentage of Broadcast calls—(1217/9570)x100 = 12.7%

Note: The decimal values are rounded off to the nearest round figure.



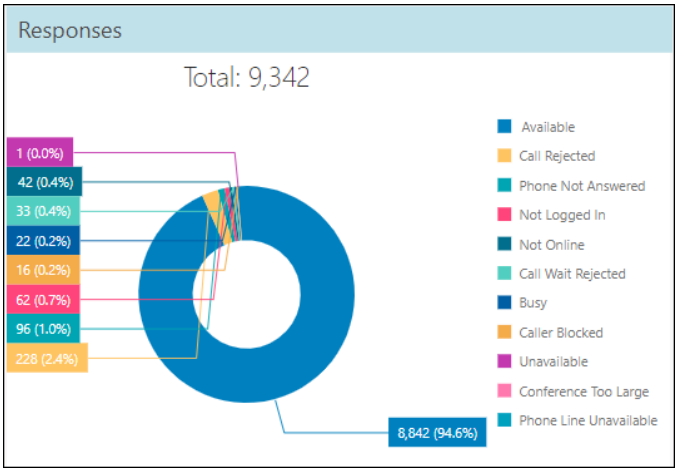
Responses

The Responses widget displays the number and percentage of responses received. It also displays the unanswered calls based on the reason for not answering a call. Mouse over a displayed value on the widget to view the response type and its corresponding percentage.

The percentage to calculate a response type is based on the formula: (Type of Response/Total Responses)x100

For example,

- Total Responses—9342
- Number of Responses for Available—8842
- Percentage of Responses for Available—(8842/9342)x100 = 94.6%



Details

Summarizes the calls received based on receiver perspective in a tabular format. The table lists the total number of calls received by a user, number of calls completed and its percentage, number of calls unanswered, average duration of a call, and total time spent on all calls by a user.

To find a specific Receiver Name, use the **Search** field.

In the following example, consider the data for the first Receiver Name, Stevenson, Paul:

- Calls received—39
- Completed calls—33
- Unanswered calls—6
- % complete —(Completed Calls/Total Calls)x100 = (33/39)x100 = 84.6%
- Average duration—(Total Time/Completed Calls) = 799/33 = 24.2 seconds
- Total Time—799 seconds

Details

Search...

Receiver Name	# Calls ↓	# Completed	# Unanswered	% Complete	Average Duration (sec)	Total Time (sec)
Stevenson, Paul	39	33	6	84.6	24.2	799
Davis, Lauren	37	35	2	94.6	18.3	642
Crimson, Robin	33	27	6	81.8	38.2	1,031
Smith, Lynn	32	32	0	100.0	15.2	485
Baptist, John	31	22	9	71.0	68.0	1,497
Paul, Domnic	30	29	1	96.7	11.1	322
Benner, Kathy	30	29	1	96.7	13.9	404
Carter, Dennis	29	28	1	96.6	19.0	532
Jordan, Lisa	28	25	3	89.3	13.7	343
Joe, Freddy	28	24	4	85.7	20.6	495
Noel, Linda	28	25	3	89.3	23.8	594
Charles, Sarah	28	28	0	100.0	14.0	393
Rogers, Cristian	27	27	0	100.0	13.3	359
Sanders, Diane	27	27	0	100.0	17.5	472
Williams, Vanessa	27	26	1	96.3	15.4	401
West, Amelia	27	27	0	100.0	16.7	450
Hendrix, Layla	27	27	0	100.0	14.0	378
Presley, Olivia	26	26	0	100.0	15.3	397
Sutton, Daisy	26	26	0	100.0	16.7	434
Grey, Emerson	26	18	8	69.2	28.4	511
Isla, Gemma	26	26	0	100.0	19.6	509
Nixon, Sienna	26	26	0	100.0	16.3	423

Group Interruptions

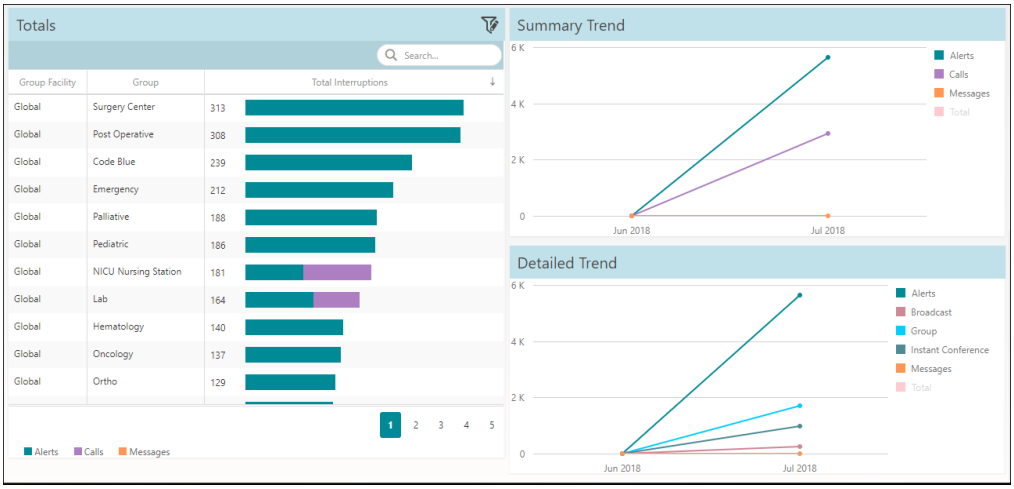
[Data Source: VCS, Vina, VMI, Voice Server] Displays group interruptions for all events. Data includes total interruptions, summary trend and detailed trend. This dashboard is used to review group usage for specific events and received calls.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 42: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Group Facilities	Used to filter group interruptions data based on facilities (common facility name) specified while mapping Vocera Voice Server **Group** Site.
Groups	Used to filter group interruptions data based on Vocera Voice Server **Group** and VMP **distribution list**. These groups are filtered based on the group facility selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria.
Interruption Types	Used to filter interruptions data based on the interruption type. Displays calls, messages, alarms, and alerts.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

Note: The dashboard displays VS/VMP data only. Alarms interrupt type is not considered as Engage data is not considered for this dashboard.



The Group Interruptions dashboard includes a contextual filter.

The contextual filters contain a source and target widgets. In this case, Totals is the source widget, and Summary Trend and Detailed Trend are the target widgets. Click a Group Facility, Group, or bar graph to display only the corresponding data in the Summary Trend and Detailed Trend widgets. For example, click **Global** to display only the details of Global facility in Summary Trend and Detailed Trend widgets.

Group Interruptions has the following widgets:

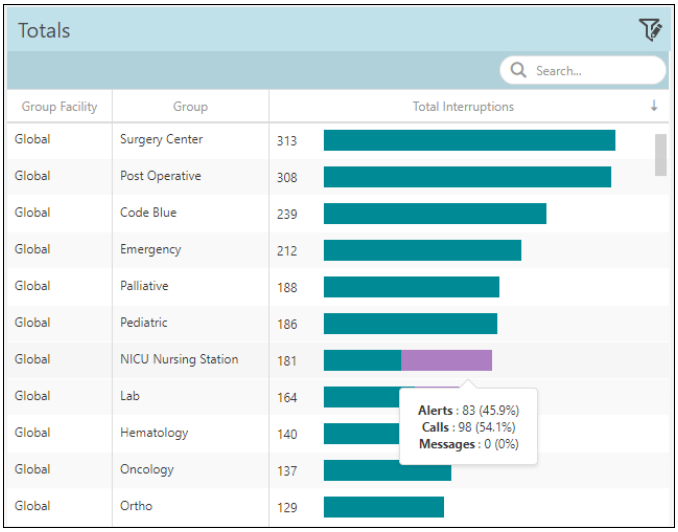
- Totals
- Summary Trend
- Detailed Trend

Totals

The Totals widget displays the total interruptions encountered within a group in a facility. Using this widget you can quickly compare the interruptions between groups. The total interrupts displayed is a combination of all interrupts sorted by total interruptions. The widget displays group facility, group name, and the total interruptions to a group.

Click a group to view the trended and detailed data.

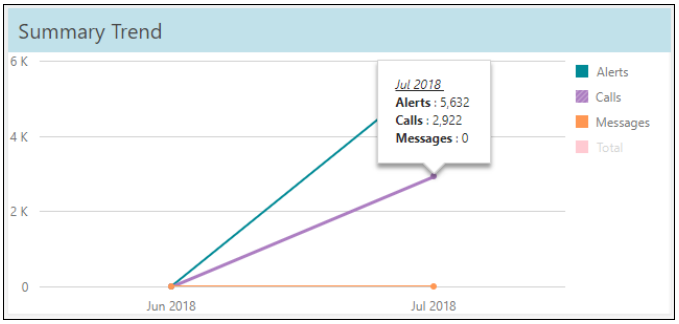
Mouse over a bar graph to view the interrupt type, count of each interrupt, and its corresponding percentage for the specific group.



Summary Trend

The Trended widget summarizes the trend of how the group is interrupted by alerts, calls, or messages during the selected timeline. The timeline is adaptive based on the date range. For example, if the date range selected is 1 day, the timeline displays data for every hour. If the date range is more than a day and less than a month, the timeline displays data for every day.

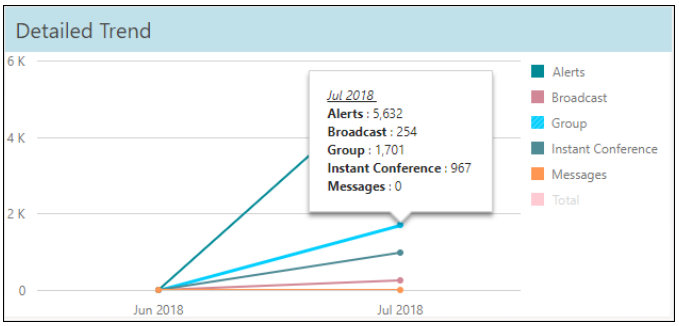
Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to enable and view the total trended summary.



Detailed Trend

The Detailed Trend widget displays the trend for all interruption types such as alerts, broadcast, group, instant conference, and messages for the selected timeline. Call interruption type are categorized into groups calls and broadcasts calls. The timeline is adaptive based on the date range. For example, if the date range selected is 1 day, the timeline displays data for every hour. If the date range is more than a day and less than a month, the timeline displays data for every day.

Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to enable and view the total trended summary.



Interruption Summary

[Data Source: Engage, VCS, Vina, VMI, Voice Server] Summarizes interruptions for all types (calls, alerts, alarms and messages) by priority and facility. Data includes summary by facilities, unit, priority and time trends for all interruption sources. This dashboard is used to compare interruptions between facilities and units by priorities and specific interruption types.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 43: Filters

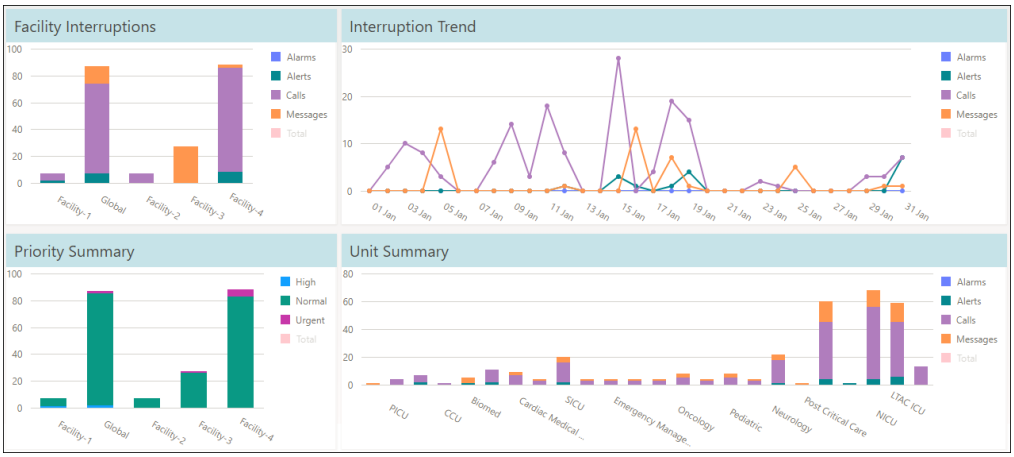
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Interruption Types	Used to filter interruptions data based on the interruption type. Displays calls, messages, alarms, and alerts.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

The interrupts are classified based on interrupt types such as alarms, alerts, calls, and messages.

Interruption Summary has the following widgets:

- Facility Interruptions
- Interruption Trend
- Priority Summary
- Unit Summary



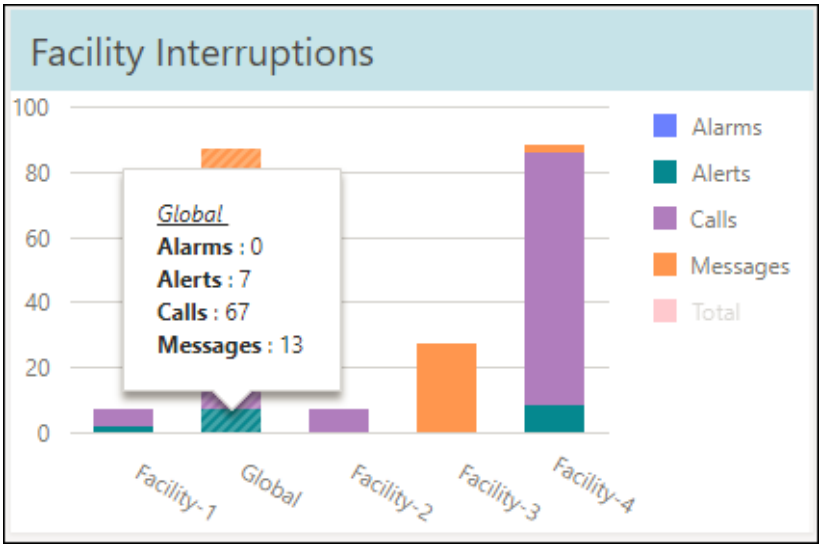
Facility Interruptions

The Facility Interruptions widget displays the number of interruptions that occurred in a facility during the selected period. The information displayed is classified based on all interrupt types such as alarms, alerts, messages, and calls. Mouse over a bar chart to display the count for each interrupt type within a selected facility.

Note: The interrupt type Calls also includes instant conference.

Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to enable and view the total interrupt trend across the selected facilities.

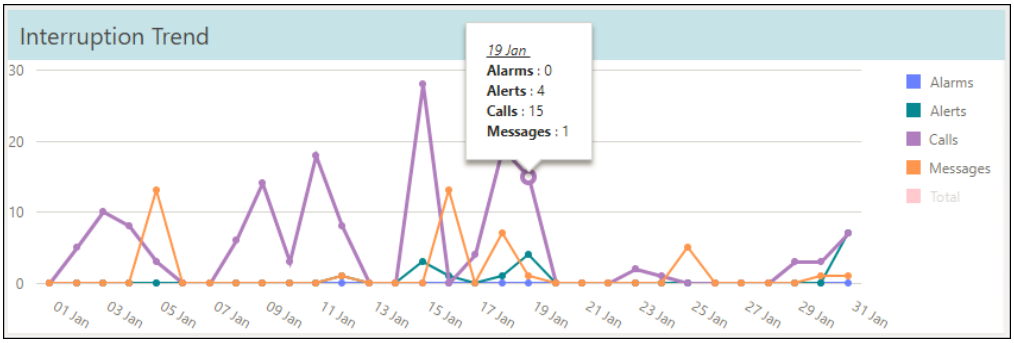
Note: If a user is not part of any facility, an interrupt that the user receives is considered as Unknown.



Interruption Trend

The widget displays the interruption trend based on the timeline. The widget displays a line graph for each interruption type and total interruptions. The timeline is adaptive based on the date range. For example, if the date range selected is 1 day, the timeline displays data for every hour. If the date range is more than a day and less than a month, the timeline displays data for every day.

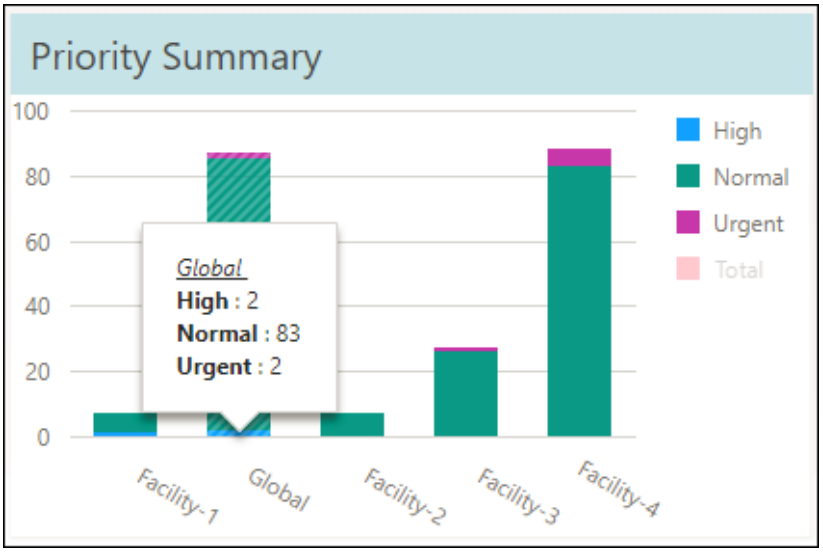
Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to enable and view the total interruption trend.



Priority Summary

The Priority Summary widget displays the priority of the messages that are received in a facility. The data displayed can be used to compare the interruptions and priorities between facilities at a high level. The total interrupts displayed is a combination of user interrupts distributed by interrupt priority and segregated by facility. The Total legend is disabled by default. Click the Total legend to enable and view the total priority trend.

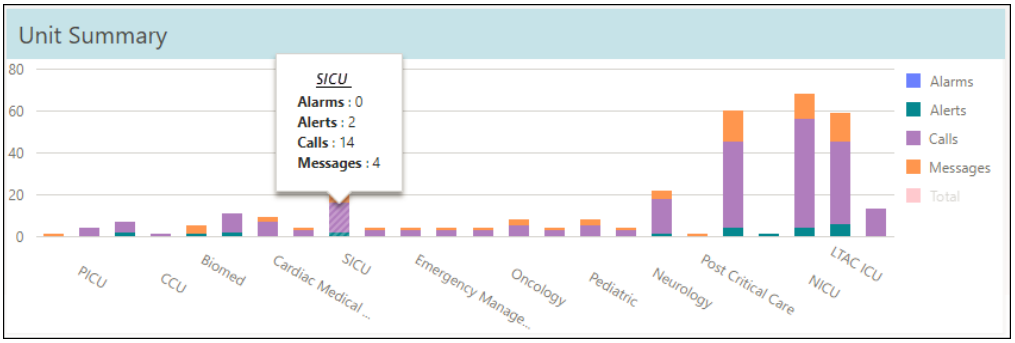
Mouse over a bar graph to view the count of each priority for the specific group.



Unit Summary

The Unit Summary widget summarizes the total interruptions encountered within a specific unit for the selected date range. The data displayed is classified based on all interrupt types such as alarms, alerts, messages, and calls. The bar graph identifies the total interruptions encountered with the respective unit. The Total legend is disabled by default. Click the Total legend to enable and view the total priority trend.

Note: If a user is part of multiple units, the interruptions that the user received will be displayed for all the units that the user belongs to.



Note: If there are two similar units names in different facilities, the unit name is succeeded by the facility name in parenthesis. For example, consider NICU unit is available in both Global and Parkside facilities. Then, the NICU unit will be displayed as NICU (Global) and NICU (Parkside).

Message Details

[Data Source: VCS] Displays the total number of messages by location categorized by message types and also details of the messages. In this dashboard, you will find timestamps for messages sent, read, delivered, received, and responded to. It also captures names of the message sender and receiver, message priority, message type, MCR responded timestamp, conversation type, and the number of participants. Use this dashboard to understand the message progression between sender and receiver.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

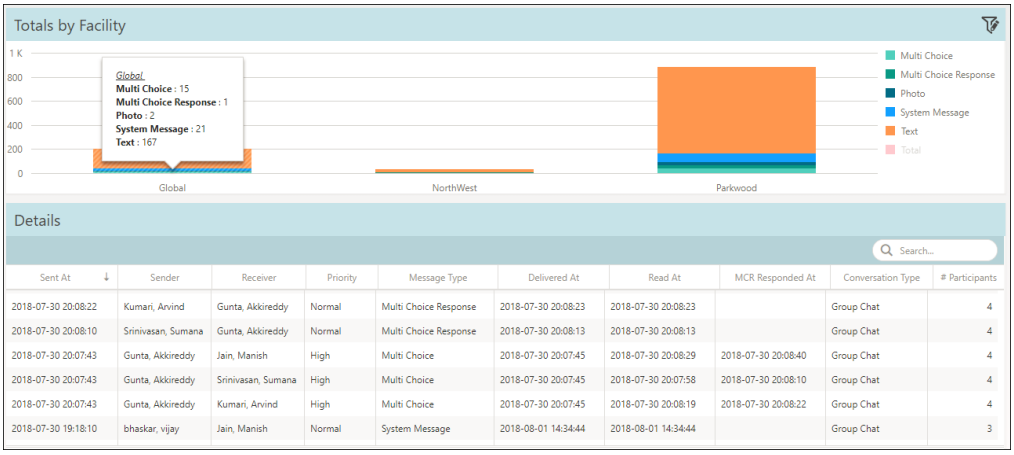
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The dashboard has the following widgets:

- Totals by Facility or Unit
- Details

Following is a sample Message Details dashboard:



The Message Details dashboard includes contextual filters.

The contextual filters contain a source and a target widget. In this case, Totals by Facility or Unit is the source widget and the Details widget is the target widget. Click a facility to display only the corresponding data in the Details widget. For example, click Global to display only the message details of Global facility in the Details widget.

Messages types are those that are sent or received in a conversation and include text, photo, multiple choice, multiple choice response and system messages.

The types of messages are categorized as follows:

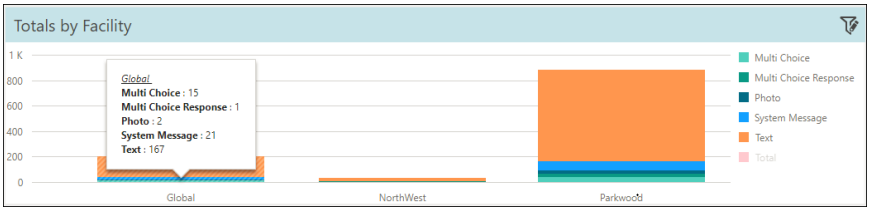
- Text—A simple text message sent by the user.
- System Message—Any message generated by the system. For example, adding a user to a conversation.
- Photo—Any media sent by the user.
- Multi Choice—A set of options sent by the sender to the receiver of the message. The receiver can only respond by selecting one of the options provided by the sender.
- Multi Choice Response—Response by a user to a multi choice message.

Totals by Facility or Unit

The Totals by Facility or Unit widget summarizes messages based on user facilities and units for the filter selected. Mouse over a facility on the widget to view the message types and its corresponding count.

If only one facility is selected, the widget displays messages based on the units within the selected facility.

The facilities or units are sorted alphabetically in the Totals by Facility or Unit widget.

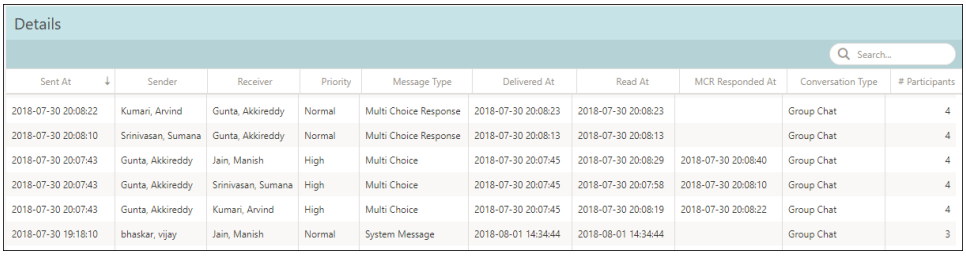


Details

The Details table displays the message details based on the latest sent time. Details such as sender, receiver, message priority, message type are displayed. Also timestamp information of a message delivered, read, and MCR responded at (only for multi choice response type messages) are displayed. The table also displays the type of conversation and the number of participants in a message. The messages are sorted by reverse chronological order.

Note: If there are more than 30,000 records, only the first 300 pages are shown. Sorting or search functionality is applicable only to the first 30,000 records.

Use the Search field to search on any text.



Details

Search...

Sent At	Sender	Receiver	Priority	Message Type	Delivered At	Read At	MCR Responded At	Conversation Type	# Participants
2018-07-30 20:08:22	Kumari, Arvind	Gunta, Akkireddy	Normal	Multi Choice Response	2018-07-30 20:08:23	2018-07-30 20:08:23		Group Chat	4
2018-07-30 20:08:10	Srinivasan, Sumana	Gunta, Akkireddy	Normal	Multi Choice Response	2018-07-30 20:08:13	2018-07-30 20:08:13		Group Chat	4
2018-07-30 20:07:43	Gunta, Akkireddy	Jain, Manish	High	Multi Choice	2018-07-30 20:07:45	2018-07-30 20:08:29	2018-07-30 20:08:40	Group Chat	4
2018-07-30 20:07:43	Gunta, Akkireddy	Srinivasan, Sumana	High	Multi Choice	2018-07-30 20:07:45	2018-07-30 20:07:58	2018-07-30 20:08:10	Group Chat	4
2018-07-30 20:07:43	Gunta, Akkireddy	Kumari, Arvind	High	Multi Choice	2018-07-30 20:07:45	2018-07-30 20:08:19	2018-07-30 20:08:22	Group Chat	4
2018-07-30 19:18:10	bhaskar, vijay	Jain, Manish	Normal	System Message	2018-08-01 14:34:44	2018-08-01 14:34:44		Group Chat	3

Note:

- The **Delivered At** field is blank if the message is not yet delivered.
- The **Read At** field is blank if the message is not read or not yet delivered.
- The **MCR Responded At** field is applicable only for multi choice messages. This field is blank if the recipient user does not select a response option. It displays the timestamp when the recipient user responds to the multiple choice.

Note: Only 1 million records can be exported.

Unit Interruption Summary

[Data Source: Engage, VCS, Vina, VMI, Voice Server] Displays consolidated interruption details for all interruption types (calls, alerts, alarms and messages) within the Vocera environment. The various views provide detailed data including totals, interruption sources, user responses as well as contextual views based on specific interruption units types. This dashboard is used to review total interruptions and associated responses for multiple units.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 44: Filters

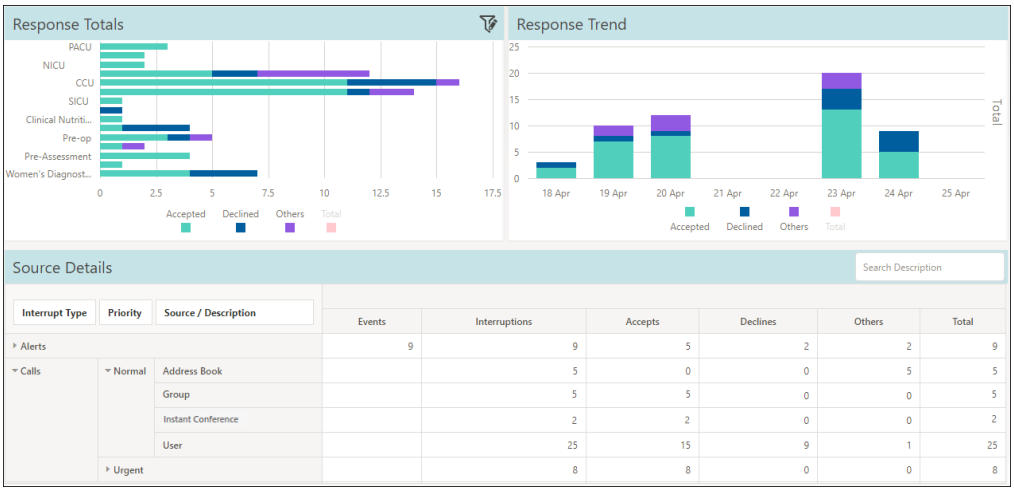
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Interruption Types	Used to filter interruptions data based on the interruption type. Displays calls, messages, alarms, and alerts.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

Source Types	Used to filter interrupts data based on the source type.
	The source types are:
	• Calls—Address Book, Broadcast, Buddy, Group, Instant Conference, Telephone, and User.
	• Messages:
	  • Badge—Messages sent from a badge.
	  • Console—Messages sent from VMP web console, and Vocera Voice server User console
	  • Email—Messages sent from email clients to the Vocera Voice server.
	  • Smartphone—Messages sent from VCS clients.
	  • VMP Others—Messages sent from other device.
	  • VST—Messages sent from VST App.
	• Engage Alarms and Alerts Types—Alarms and alerts sent from Nurse Call, Patient Monitor, Report, and so on.
	• VMI Alert Types—Alerts sent from the VMI client ID that are set in the VMI application.
	Note: Source Type filter is used in Interrupt Type.

Unit Interruption Summary has the following widgets:

- Response Totals
- Response Trend
- Source Details



Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

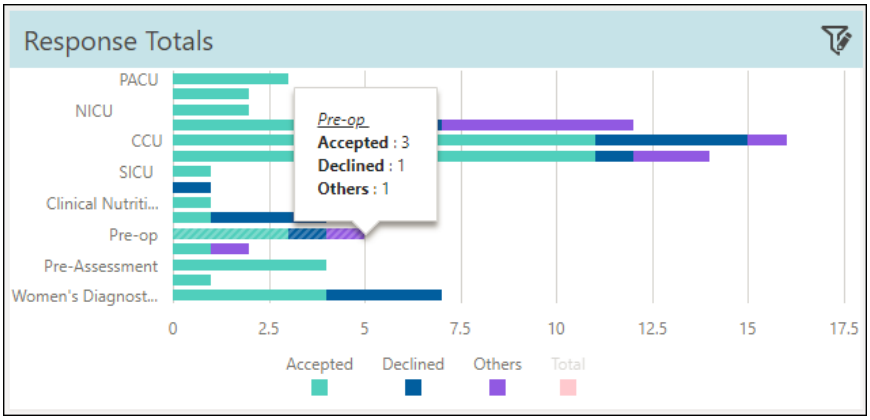
The Unit Interruption Summary dashboard includes a contextual filter.

The contextual filters contain a source and target widgets. In this case, Response Totals is the source widget, and Response Trend and Source Details are the target widgets. Click a bar graph in Response Totals widget to display only the corresponding data in the Response Trend and Source Details widgets. For example, click **CCU** to display only the details of CCU unit in Response Trend and Source Details widgets.

Response Totals

The widget displays the total responses by the user sorted by unit for the selected period. The information displayed is classified based on the types of responses such as Accepted, Declined, and Others. Mouse over a bar chart to display the name of the unit and the individual count for the types of responses within the unit. Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to view the trend for the total responses for all units during the selected date range.

Note: VMP messages are not considered in the widget.

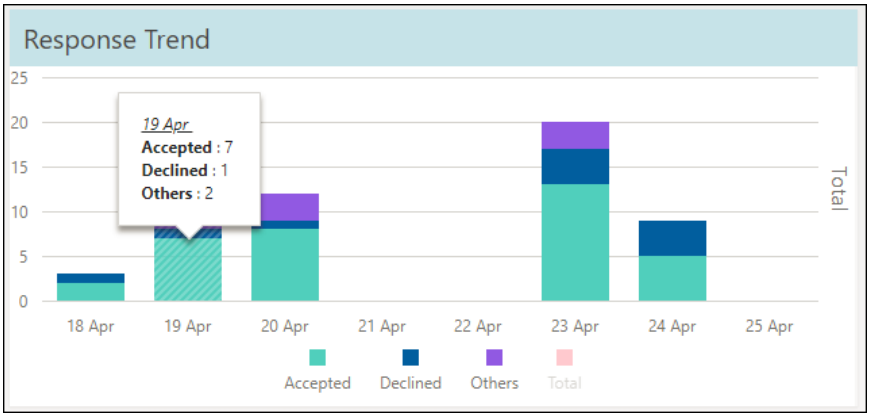


Response Trend

The widget displays the response trend as a bar graph for the selected timeline. The information displayed is classified based on the types of responses such as Accepted, Declined, and Others.

Note: VMP messages are not considered in the widget.

The timeline is adaptable. For example, if the date range selected is Today or Yesterday, then the response trend displays data on an hourly basis for the 24-hour time frame. If the date range selected is more than a day but within a month, then the response trend displays data for every day in the selected date range. Similarly, if the date range selected is more than a month but within a year, the response trend displays data for every month in the selected date range.



Mouse over a value to display the name of the unit and the individual count for the types of responses within the unit. Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to view the trend for the total responses for all units during the selected date range.

Source Details

The Source Details widget displays the count for events, interruptions, response type, and sum total of responses. Information is sorted by Interrupt Types (Alarms, Alerts, Calls, and Messages) and is further classified by Priority and Source / Description.

Note: The interrupt type Calls also includes instant conference.

Source Details

Search Description

Interrupt Type	Priority	Source / Description	Events	Interruptions	Accepts	Declines	Others	Total
Alerts	High		4	4	2	1	1	4
	Normal		1	1	1	0	0	1
	Urgent		4	4	2	1	1	4
Calls	Normal	Address Book		5	0	0	5	5
		Group		5	5	0	0	5
		Instant Conference		2	2	0	0	2

Use the Search Description option to search on a specific description.

User Interruptions

[Data Source: Engage, VCS, Vina, VMI, Voice Server] Provides an interruption summary for specific users. Data includes interruption types, user ID, name, facility, unit, group, time of occurrence, as well as a time trend. Use this dashboard to review interruptions for specific users and units as well as for reviewing specific times where users may be overwhelmed.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 45: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Interruption Types	Used to filter interruptions data based on the interruption type. Displays calls, messages, alarms, and alerts.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

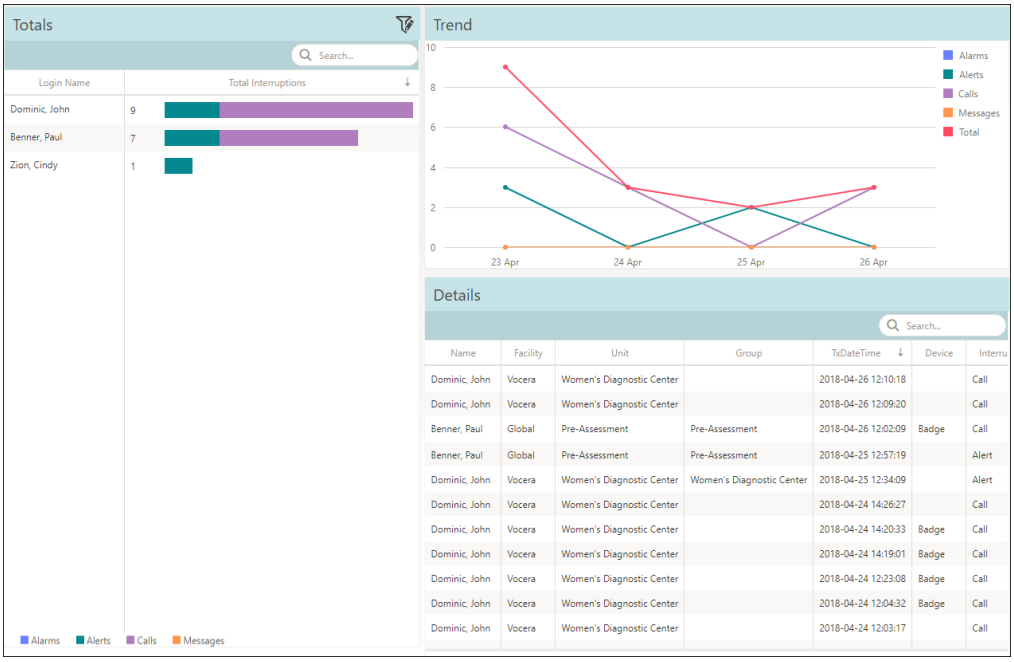
Source Types	Used to filter interrupts data based on the source type.
	The source types are:
	• Calls—Address Book, Broadcast, Buddy, Group, Instant Conference, Telephone, and User.
	• Messages:
	  • Badge—Messages sent from a badge.
	  • Console—Messages sent from VMP web console, and Vocera Voice server User console
	  • Email—Messages sent from email clients to the Vocera Voice server.
	  • Smartphone—Messages sent from VCS clients.
	  • VMP Others—Messages sent from other device.
	  • VST—Messages sent from VST App.
	• Engage Alarms and Alerts Types—Alarms and alerts sent from Nurse Call, Patient Monitor, Report, and so on.
	• VMI Alert Types—Alerts sent from the VMI client ID that are set in the VMI application.
	Note: Source Type filter is used in Interrupt Type.

The User Interruptions dashboard provides detailed information on interrupts encountered by the hospital staff within a hospital system. You can view the details of an interrupt encountered by a particular user.

The interrupts are further classified based on interrupt types such as alarms, alerts, calls, and messages.

The User Interruptions dashboard has the following widgets:

- Totals
- Trend
- Details



Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

The User Interruptions dashboard includes contextual filters.

The contextual filters contain a source and a target widget. In this case, Totals is the source widget and Trend and Details are target widgets. Click a user in Totals widget to display only the corresponding user data in the remaining widgets. For example, click user Dominic, John to display only the details of Dominic, John in Trend and Details widgets.

Totals

The Totals widget displays the total number of interruptions encountered by a target user. Data is sorted based on total interruptions. The Login Name column represents the name of the user. The Total Interruptions column displays the total interruptions count and a bar graph that depicts the types of interruptions encountered by the user. Mouse over a bar graph to display the individual interruption count and its corresponding percentage.

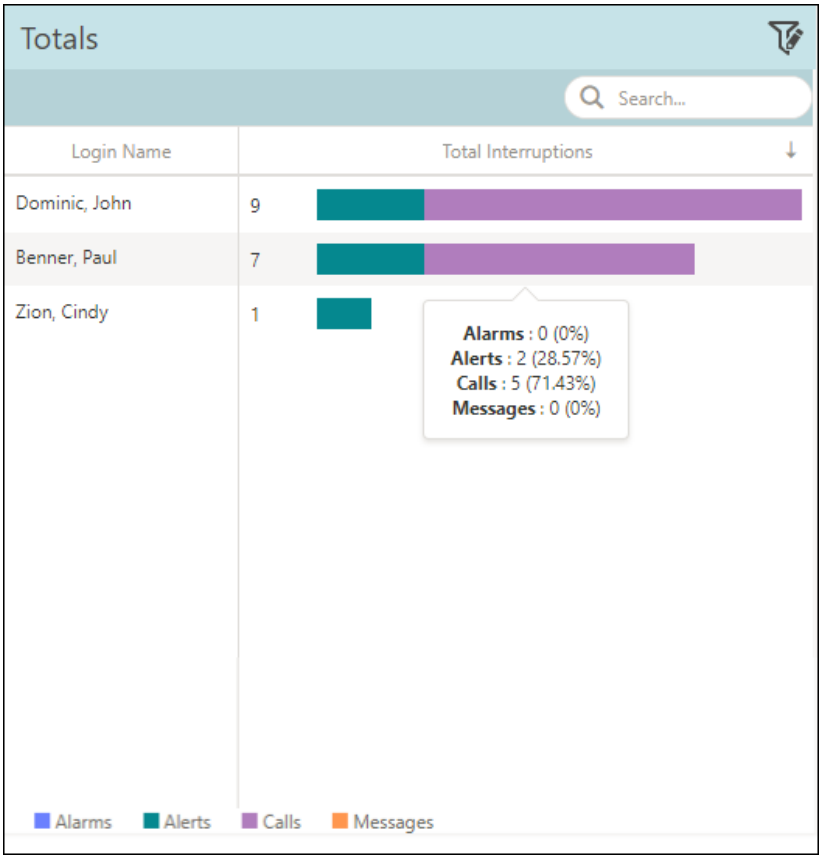
For example, in the following figure, consider the interruptions encountered by user Benner, Paul.

- Total Interruptions—7
- Alarms—0
- Alerts—2

  Percentage of Alerts is (2/7)x100=28.57%
- Calls—5

  Percentage of Calls is (5/7)x100=71.43%

  Note: The interrupt type Calls also includes instant conference.
- Messages—0

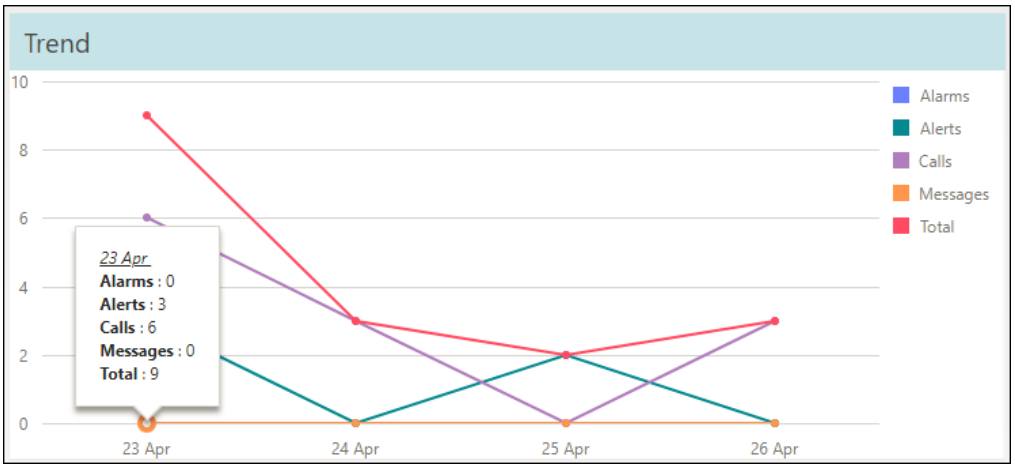


Trend

The Trend widget represents the total interruptions encountered for the selected timeline in a trended graph. The timeline is adaptive based on the date range. For example, if the date range selected is 1 day, the timeline displays data for every hour. If the date range is more than a day and less than a month, the timeline displays data for every day.

Mouse over a timeline or a particular trend graph to display the individual count for each interruptions type and the total interruptions count.

For example, in the following figure, the count for 23 Apr displays Alarms: 0, Alerts: 3, Calls: 6, Messages: 0, and Total: 9.



Details

The Details widget summarizes the details of every interrupt that a user encountered during the selected date range. Details such as facility, unit, and group that a user belongs is displayed. The widget also displays the timestamp of the interruption, device that interrupted the user, response by the user for the encountered interrupt, and unanswered reason if the interrupt was unanswered. To find a particular value in the displayed fields, use the Search field.

Details

Search...

Name	Facility	Unit	Group	TxDateTime	Device	Interrupt Type	Interrupt Reply	Reason Unanswered
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-26 12:10:18		Call	No Reply	Busy
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-26 12:09:20		Call	No Reply	Caller blocked
Benner, Paul	Global	Pre-Assessment	Pre-Assessment	2018-04-26 12:02:09	Badge	Call	Accepted	
Benner, Paul	Global	Pre-Assessment	Pre-Assessment	2018-04-25 12:57:19		Alert	No Reply	
Dominic, John	Vocera	Women's Diagnostic Center	Women's Diagnostic Center	2018-04-25 12:34:09		Alert	Accepted	
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-24 14:26:27		Call	No Reply	Not logged in
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-24 14:20:33	Badge	Call	No Reply	Not online
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-24 14:19:01	Badge	Call	No Reply	Not online
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-24 12:23:08	Badge	Call	Accepted	
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-24 12:04:32	Badge	Call	No Reply	Not online
Dominic, John	Vocera	Women's Diagnostic Center		2018-04-24 12:03:17		Call	No Reply	Caller blocked

Bed Detail

[Data Source: Engage] Lists all alarms and alerts that are sent, accepted, escalated, and not responded for all beds in a unit with their respective timestamp. It also includes the total time taken to process the alarm or alert.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 46: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Tiers	Used to filter Vocera Engage alerts and alarms data based on using Escalation Tier information. For example, Tiers can be Primary, Secondary, or Tertiary.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Beds	Used to filter alarms and alerts data based on Engage Room-Bed names.
Descriptions	Used to filter Engage alarms and alerts data based on its description.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

The following figure displays a Bed Detail report. Click on a unit name to drill down to view the list of beds within the unit. To view the details of a particular bed, click on a bed to view the details of the bed.

BED DETAILS

From: 04/01/2018 00:00 To: 04/30/2018 23:59

UNIT	BED	Delivered	Accepted	Declined	No Reply	Accepted time (Sec)	Declined time (Sec)	Noreply time (Sec)	Event Delay (Sec)	Total time (Sec)
CCU	ALL	48	27	19	2					
NICU	ALL	47	31	14	3					
PICU	ALL	8	8	0	0					
Rehab	ALL	5	5	0	0					
Total		108	71	33	5					

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Bed Detail Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Accepted Time (Sec)	numerically-based	Total time for a recipient to accept the event notification.
Declined Time (Sec)	numerically-based	Total time for a recipient to decline the event notification.
No Reply Time (Sec)	numerically-based	Total time time elapsed when a recipient does not reply to an event (usually prior to an escalation rule).
Event Delay (Sec)	numerically-based	Amount of time an event may be intentionally delayed by a rule configuration.
Total Time (Sec)	numerically-based	Total time between event creation and first accept/decline.

Bed Summary

[Data Source: Engage] Lists the number of events that are accepted, declined, and not responded per bed. It also lists the average, fastest, and slowest response time for every event. You can further view the details of an individual unit and a bed.

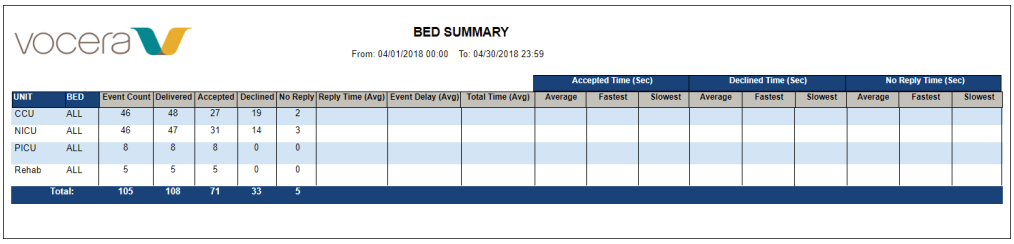
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 47: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

Filter Name	Filter Description
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Tiers	Used to filter Vocera Engage alerts and alarms data based on using Escalation Tier information. For example, Tiers can be Primary, Secondary, or Tertiary.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Beds	Used to filter alarms and alerts data based on Engage Room-Bed names.
Descriptions	Used to filter Engage alarms and alerts data based on its description.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

The following figure displays a Bed Summary report. Click on a unit name to drill down to view the list of beds within the unit. To view the details of a particular bed, click on a bed to view the details of the bed.



BED SUMMARY

From: 04/01/2018 00:00 To: 04/30/2018 23:59

										Accepted Time (Sec)			Declined Time (Sec)			No Reply Time (Sec)		
UNIT	BED	Event Count	Delivered	Accepted	Declined	No Reply	Reply Time (Avg)	Event Delay (Avg)	Total Time (Avg)	Average	Fastest	Slowest	Average	Fastest	Slowest	Average	Fastest	Slowest
CCU	ALL	46	48	27	19	2												
NICU	ALL	46	47	31	14	3												
PICU	ALL	8	8	8	0	0												
Rehab	ALL	5	5	5	0	0												
Total:		105	108	71	33	5												

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Bed Summary Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.

Column	Data Type	Description
Reply Time (Avg)	numerically-based	Amount of time of the events that are accepted, declined, or no reply is calculated, and then divided by the number of responses.
Event Delay (Avg)	numerically-based	Count of the amount of time an event may be intentionally delayed by a rule configuration. This value may account for the effect of escalation design on overall event delivery time. For example, a client's escalation strategy may include a 30 second delay for a Monitor Tech to evaluate an alarm/alert.
Total Time (Avg)	numerically-based	Total time between event creation and first accept/decline.
Average Accepted Time (Sec)	numerically-based	Average amount of time it took for all events to be accepted. This is calculated as the total time that elapsed for an event (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Accepted Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to accept the event notification; the fastest accept time.
Slowest Accepted Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to accept the event notification; the slowest accept time.
Average Declined Time (Sec)	numerically-based	Average amount of time it took for all events to be declined. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Declined Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to decline the event notification; the fastest decline time.
Slowest Declined Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to decline the event notification; the slowest decline time.
Average No Reply Time (Sec)	numerically-based	Average amount of time it took for all events that never had a reply. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest No Reply Time (Sec)	numerically-based	Reports the shortest period of time that elapsed when a recipient never replied to an event.
Slowest No Reply Time (Sec)	numerically-based	Reports the longest period of time that elapsed when a recipient never replied to an event.

Mobile Activity Unit

[Data Source: Engage] Lists the mobile activity of users across all units. It also displays the total events, events that are delivered, accepted, declined, not responded, and text messages for every unit. You can further view the details of an individual unit.

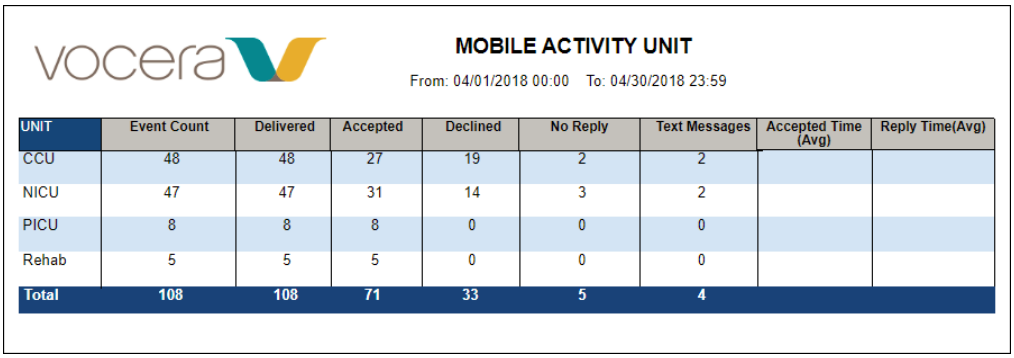
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 48: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.

Filter Name	Filter Description
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The following figure displays a Mobile Activity Unit report. Click on a unit name to drill down to view the list of sources within the unit.



MOBILE ACTIVITY UNIT

From: 04/01/2018 00:00 To: 04/30/2018 23:59

UNIT	Event Count	Delivered	Accepted	Declined	No Reply	Text Messages	Accepted Time (Avg)	Reply Time(Avg)
CCU	48	48	27	19	2	2		
NICU	47	47	31	14	3	2		
PICU	8	8	8	0	0	0		
Rehab	5	5	5	0	0	0		
Total	**108**	**108**	**71**	**33**	**5**	**4**		

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Mobile Activity Unit Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Text Messages	numerically-based	Count of text messages surrounding an event and users, excluding system messages containing 'extension' in either the user or recipient.
Accepted Time (Avg)	numerically-based	Average time it took for recipients to accept a notification.
Reply Time (Avg)	numerically-based	Amount of time of the events that are accepted, declined, or no reply is calculated, and then divided by the number of responses.

Mobile Activity User

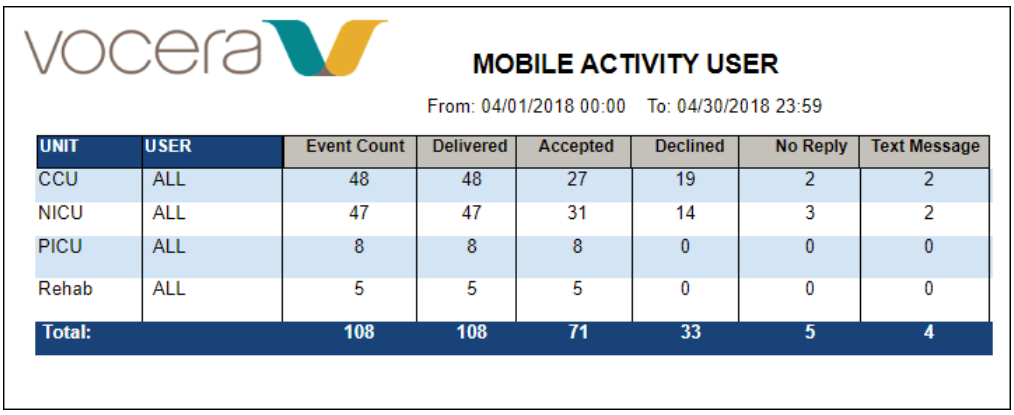
[Data Source: Engage] Lists a summary of overall events of users across all units. It also displays the total events, events that are delivered, accepted, declined, not responded, and text messages for every user in a unit. You can further view the details of an individual unit and a user.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 49: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The following figure displays a Mobile Activity User report. Click on a unit name to drill down to view the list of users within the unit. To view the details of a particular user, click a username to view the details of the user.



MOBILE ACTIVITY USER

From: 04/01/2018 00:00 To: 04/30/2018 23:59

UNIT	USER	Event Count	Delivered	Accepted	Declined	No Reply	Text Message
CCU	ALL	48	48	27	19	2	2
NICU	ALL	47	47	31	14	3	2
PICU	ALL	8	8	8	0	0	0
Rehab	ALL	5	5	5	0	0	0
Total:		108	108	71	33	5	4

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Mobile Activity User Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.

Column	Data Type	Description
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Text Message	numerically-based	Count of text messages surrounding an event and users, excluding system messages containing 'extension' in either the user or recipient.

Nurse Detail

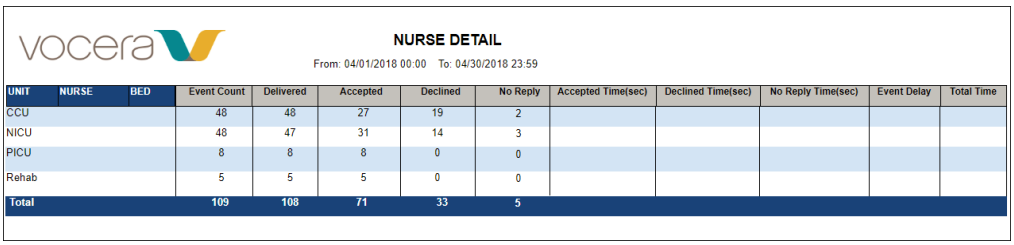
[Data Source: Engage] Lists the total events and events that are delivered. It also lists accepted, declined, and not responded events and its corresponding timestamps for a caregiver. You can further view the details of an individual unit, a caregiver, and a bed.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 50: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Tiers	Used to filter Vocera Engage alerts and alarms data based on using Escalation Tier information. For example, Tiers can be Primary, Secondary, or Tertiary.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Beds	Used to filter alarms and alerts data based on Engage Room-Bed names.
Nurses	Used to filter data based on Engage nurses. Displays user login names.

The following figure displays a Nurse Detail report. Click on a unit name to drill down to view the list of nurses within the unit. To view the list of beds assigned to a particular nurse, click on a nurse name.



NURSE DETAIL

From: 04/01/2018 00:00 To: 04/30/2018 23:59

UNIT	NURSE	BED	Event Count	Delivered	Accepted	Declined	No Reply	Accepted Time(sec)	Declined Time(sec)	No Reply Time(sec)	Event Delay	Total Time
CCU			48	48	27	19	2					
NICU			48	47	31	14	3					
PICU			8	8	8	0	0					
Rehab			5	5	5	0	0					
Total			109	108	71	33	5					

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Nurse Detail Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Accepted Time (Sec)	numerically-based	Total time for a recipient to accept the event notification.
Declined Time (Sec)	numerically-based	Total time for a recipient to decline the event notification.
No Reply Time (Sec)	numerically-based	Total time elapsed when a recipient does not reply to an event (usually prior to an escalation rule).
Event Delay (Sec)	numerically-based	Amount of time an event may be intentionally delayed by a rule configuration.
Total Time (Sec)	numerically-based	Total time between event creation and first accept/decline.

Nurse Summary

[Data Source: Engage] Lists the total events, the time taken for events that are delivered, accepted, declined, or not responded by a caregiver in a unit. You can use this report to review all the interruptions for a nurse or mobile user, identifying beds with a high volume of activity.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 51: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Tiers	Used to filter Vocera Engage alerts and alarms data based on using Escalation Tier information. For example, Tiers can be Primary, Secondary, or Tertiary.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Beds	Used to filter alarms and alerts data based on Engage Room-Bed names.
Nurses	Used to filter data based on Engage nurses. Displays user login names.

The following figure displays a Nurse Summary report. Click on a unit name to drill down to view the list of nurses within the unit. Click on a nurse name to drill down and display further details in the report.

NURSE SUMMARY

From: 04/01/2018 00:00 To: 04/30/2018 23:59

UNIT	NURSE	Event Count	Delivered	Accepted	Declined	No Reply
CCU		48	48	27	19	2
NICU		48	47	31	14	3
PICU		8	8	8	0	0
Rehab		5	5	5	0	0
Total		**109**	**108**	**71**	**33**	**5**

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Nurse Summary Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Reply Time (Avg)	numerically-based	Amount of time of the events that are accepted, declined, or no reply is calculated, and then divided by the number of responses.

Column	Data Type	Description
Event Delay (Avg)	numerically-based	Count of the amount of time an event may be intentionally delayed by a rule configuration. This value may account for the effect of escalation design on overall event delivery time. For example, a client's escalation strategy may include a 30 second delay for a Monitor Tech to evaluate an alarm/alert.
Total Time (Avg)	numerically-based	Total time between event creation and first accept/decline.
Average Accepted Time (Sec)	numerically-based	Average amount of time it took for all events to be accepted. This is calculated as the total time that elapsed for an event (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Accepted Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to accept the event notification; the fastest accept time.
Slowest Accepted Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to accept the event notification; the slowest accept time.
Average Declined Time (Sec)	numerically-based	Average amount of time it took for all events to be declined. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Declined Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to decline the event notification; the fastest decline time.
Slowest Declined Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to decline the event notification; the slowest decline time.
Average No Reply Time (Sec)	numerically-based	Average amount of time it took for all events that never had a reply. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest No Reply Time (Sec)	numerically-based	Reports the shortest period of time that elapsed when a recipient never replied to an event.
Slowest No Reply Time (Sec)	numerically-based	Reports the longest period of time that elapsed when a recipient never replied to an event.

Unit Detail

[Data Source: Engage] Lists the total events, events that are delivered, accepted, declined, or not responded in a unit for a given shift. It also lists the average duration for reply, event delay, and total time along with the average, fastest, and slowest response time for every action. You can further view the details of a unit, source, and tier.

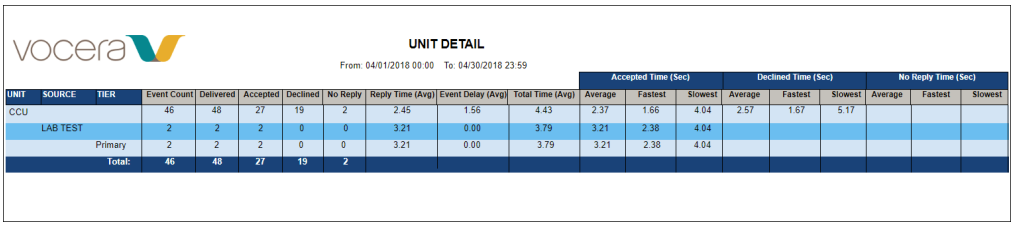
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 52: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Tiers	Used to filter Vocera Engage alerts and alarms data based on using Escalation Tier information. For example, Tiers can be Primary, Secondary, or Tertiary.

Filter Name	Filter Description
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Descriptions	Used to filter Engage alarms and alerts data based on its description.
Priorities	Used to filter interruptions data based on its priority. Displays high, urgent, normal priority for VMP messages, VMI, and Vocera Voice Server. It also displays alarms and alert priorities from Engage.

The following figure displays a Unit Detail report. Click on a unit name to drill down and display further details in the report.



UNIT DETAIL

From: 04/01/2018 00:00 To: 04/30/2018 23:59

										Accepted Time (Sec)			Declined Time (Sec)			No Reply Time (Sec)		
UNIT	SOURCE	TIER	Event Count	Delivered	Accepted	Declined	No Reply	Reply Time (Avg)	Event Delay (Avg)	Total Time (Avg)	Average	Fastest	Slowest	Average	Fastest	Slowest	Average	Fastest	Slowest
CCU			46	48	27	19	2	2.45	1.56	4.43	2.37	1.66	4.04	2.57	1.67	5.17			
	LAB TEST		2	2	2	0	0	3.21	0.00	3.79	3.21	2.38	4.04						
		Primary	2	2	2	0	0	3.21	0.00	3.79	3.21	2.38	4.04						
		Total:	46	48	27	19	2												

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Unit Detail Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Reply Time (Avg)	numerically-based	Amount of time of the events that are accepted, declined, or no reply is calculated, and then divided by the number of responses.
Event Delay (Avg)	numerically-based	Count of the amount of time an event may be intentionally delayed by a rule configuration. This value may account for the effect of escalation design on overall event delivery time. For example, a client's escalation strategy may include a 30 second delay for a Monitor Tech to evaluate an alarm/alert.

Column	Data Type	Description
Total Time (Avg)	numerically-based	Total time between event creation and first accept/decline.
Average Accepted Time (Sec)	numerically-based	Average amount of time it took for all events to be accepted. This is calculated as the total time that elapsed for an event (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Accepted Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to accept the event notification; the fastest accept time.
Slowest Accepted Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to accept the event notification; the slowest accept time.
Average Declined Time (Sec)	numerically-based	Average amount of time it took for all events to be declined. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Declined Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to decline the event notification; the fastest decline time.
Slowest Declined Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to decline the event notification; the slowest decline time.
Average No Reply Time (Sec)	numerically-based	Average amount of time it took for all events that never had a reply. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest No Reply Time (Sec)	numerically-based	Reports the shortest period of time that elapsed when a recipient never replied to an event.
Slowest No Reply Time (Sec)	numerically-based	Reports the longest period of time that elapsed when a recipient never replied to an event.

Unit Summary

[Data Source: Engage] Lists the total events, events that are delivered, accepted, declined, or not responded in a unit. It also lists the average duration for reply, event delay, and total time along with the average, fastest, and slowest response time for every action. You can use this report to compare interruptions for several units including its response time.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

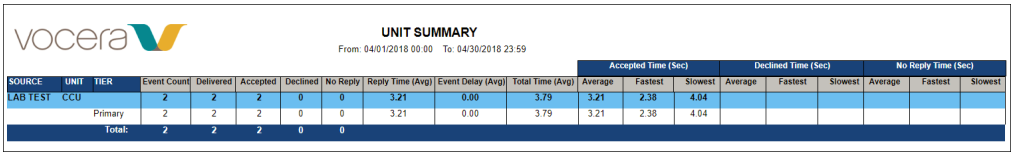
Table 53: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Sources	Used to filter Engage alarms and alerts data. For example Nurse Call, Patient Monitor, Report, and so on. **Note:** This list is automatically updated when new integrations are added through the Vocera Engage Appliance.
Tiers	Used to filter Vocera Engage alerts and alarms data based on using Escalation Tier information. For example, Tiers can be Primary, Secondary, or Tertiary.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

To generate meaningful results, select a limited number of parameters to display in the Unit Summary report. For example, select a one day period, one escalation tier, two or three units, and all sources.

The following figure displays a Unit Summary report. Click on a unit name to drill down and display further details in the report.



UNIT SUMMARY

From: 04/01/2018 00:00 To: 04/30/2018 23:59

										Accepted Time (Sec)			Declined Time (Sec)			No Reply Time (Sec)		
SOURCE	UNIT	TIER	Event Count	Delivered	Accepted	Declined	No Reply	Reply Time (Avg)	Event Delay (Avg)	Total Time (Avg)	Average	Fastest	Slowest	Average	Fastest	Slowest	Average	Fastest	Slowest
LAB TEST	CCU		2	2	2	0	0	3.21	0.00	3.79	3.21	2.38	4.04						
		Primary	2	2	2	0	0	3.21	0.00	3.79	3.21	2.38	4.04						
		Total:	2	2	2	0	0												

Delivery to groups will never have the correct response; that is, no response will be linked with an Engage appliance.

For example, alarm 1 is sent to group A.

- Group A delivery consists of user 1 and user 2.
- User 1 and User 2 respond.
- Metric Calculation: 1 alarm event, 2 deliveries, 2 responses. Since user does not match delivery group, the user reply metrics will be calculated and displayed as 0.

Unit Summary Data Dictionary

The following table lists the report parameters and its description.

Column	Data Type	Description
Event Count	numerically-based	Total count of the events that occurred within the time range specified for the report.
Delivered	numerically-based	Count of the events that were delivered to recipients, such as a clinician's smartphone.
Accepted	numerically-based	Count of the events that were delivered and accepted by recipients.
Declined	numerically-based	Count of the events that were delivered and declined by recipients.
No Reply	numerically-based	Count of the events that were delivered, but neither accepted nor declined by the recipient. No Reply indicates an event that is automatically escalated to the next tier.
Reply Time (Avg)	numerically-based	Amount of time of the events that are accepted, declined, or no reply is calculated, and then divided by the number of responses.
Event Delay (Avg)	numerically-based	Count of the amount of time an event may be intentionally delayed by a rule configuration. This value may account for the effect of escalation design on overall event delivery time. For example, a client's escalation strategy may include a 30 second delay for a Monitor Tech to evaluate an alarm/alert.
Total Time (Avg)	numerically-based	Total time between event creation and first accept/decline.

Column	Data Type	Description
Average Accepted Time (Sec)	numerically-based	Average amount of time it took for all events to be accepted. This is calculated as the total time that elapsed for an event (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Accepted Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to accept the event notification; the fastest accept time.
Slowest Accepted Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to accept the event notification; the slowest accept time.
Average Declined Time (Sec)	numerically-based	Average amount of time it took for all events to be declined. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest Declined Time (Sec)	numerically-based	Reports the shortest period of time that elapsed for a recipient to decline the event notification; the fastest decline time.
Slowest Declined Time (Sec)	numerically-based	Reports the longest period of time that elapsed for a recipient to decline the event notification; the slowest decline time.
Average No Reply Time (Sec)	numerically-based	Average amount of time it took for all events that never had a reply. This is calculated as the total time that elapsed (the actual time, plus the delivery time, plus any intentional event delay), divided by the number of events that occurred.
Fastest No Reply Time (Sec)	numerically-based	Reports the shortest period of time that elapsed when a recipient never replied to an event.
Slowest No Reply Time (Sec)	numerically-based	Reports the longest period of time that elapsed when a recipient never replied to an event.

Note: The left hand navigation drill down functionality is disabled to allow for unit summaries to be displayed for every alert or alarm source at each level of the report structure (main report, sub report, detail report). This provides more information to the user with less manipulation of the reports.

Performance Metrics

Performance Metrics folder shows the overall Vocera product adoption and comparison across date range.

Event Index

[Data Source: Engage] Provides a summary of users responses to interruption events. Data includes total events, responses and saves as well as trended data over time. This dashboard is used to review the progress of platform usage and workflow validation using a percentage of acceptance or saved events over time.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 54: Filters

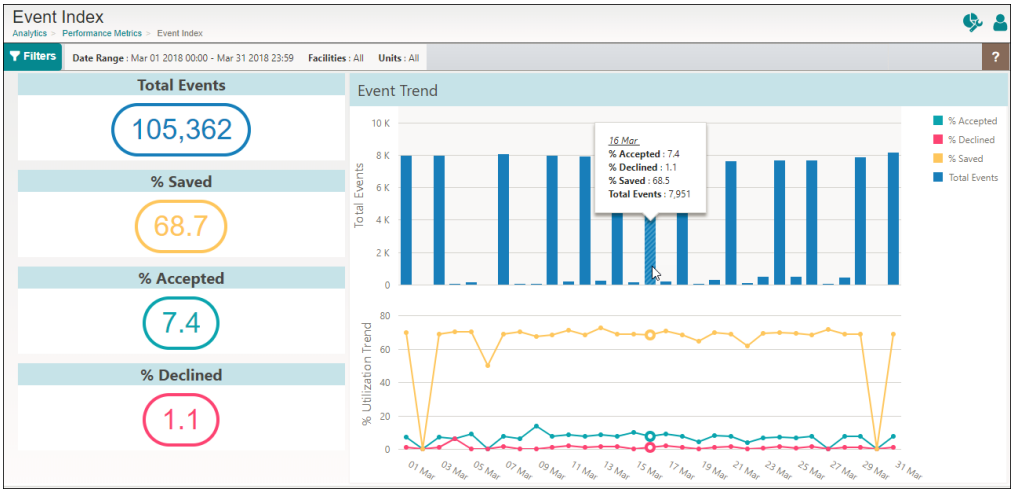
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

This dashboard has the following widgets:

- Total Events
- % Saved
- % Accepted
- % Declined
- Event Trend

Following is a sample Event Index dashboard:



Events Widget

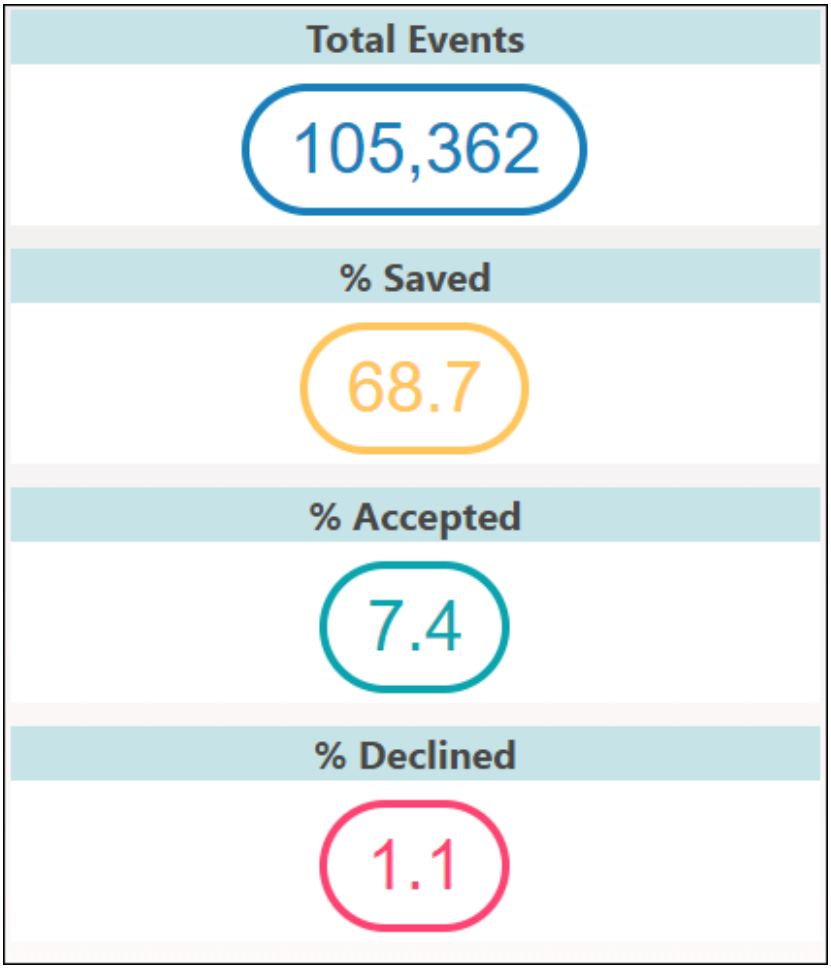
- Total Events: Displays the total number of events based on the unique event ID generated by the Engage system. The data displayed includes both delivered and undelivered events.
- % Saved: Lists the percentage of events that were saved but not delivered because of the set rules. The calculation is based on the formula: (Total Undelivered Events / Total Events) * 100

  For example, consider Total Events is 25, Undelivered Events is 4, then % saved = (4/25) * 100 = 16%
- % Accepted: Displays the percentage of delivered events that were accepted. The calculation is based on the formula: (Accepted Events / (Total Events – Undelivered Events)) * 100

  For example, consider Accepted Events is 18, Total Events is 25, and Undelivered Events is 4, then % Accepted is (18 / 21) * 100 = 85.71%
- % Declined: Displays the percentage of delivered events that were declined by the Engage system. The calculation is based on the formula: (Total Declined Events / (Total Events – Undelivered Events)) * 100

  For example, consider Total Event is 25, Declined Events is 12, and Undelivered Events is 4)) , then % Declined = (12/21) * 100 = 57%

Note: An event is counted only once even if multiple decline responses exist for a single event.

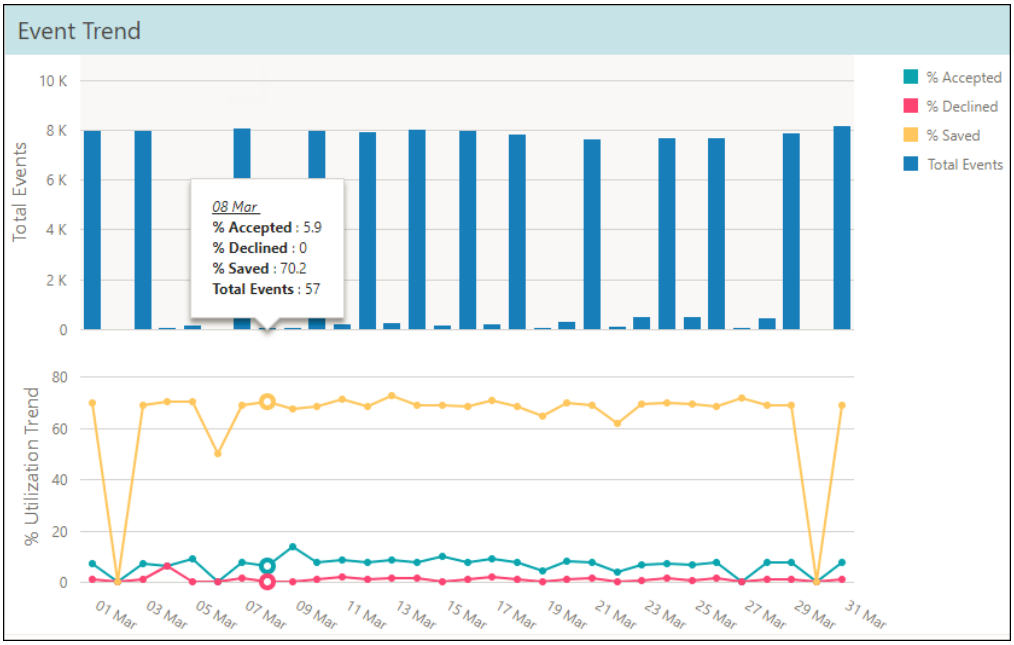


Note: Percentages for Saved, Accepted, and Declined events cannot be summed. Summing them will never total upto 100% as one event typically has multiple deliveries. Also, a single event may have been both declined and accepted and will be accounted for in each of the categories.

Event Trend

The Event Trend widget represents the total events in a bar graph and the utilization percentage in a trended graph. The graph indicates the total number of events that were delivered and undelivered for the selected date range. Mouse over a bar in the bar graph or a particular trend graph to display the percentages of accepted events, declined events, saved events, and the total events for the particular time frame.

For example, in the following figure, the count for 8 March displays % Accepted as 5.9, % Declined as 0, % Saved as 70.2, and **Total Events** as 57.



Platform Health Index

[Data Source: Engage, VCS, Vina, VMI, Voice Server] Compares overall Vocera adoption for two specific date ranges. Data includes user metrics from specific voice call features such as calls to groups, broadcast calls, speech recognition, text messages, conversations, badge usage by version, VCS usage, and maximum user logins. Use this dashboard to compare data across two date ranges to help measure specific facility initiatives.

Note: It is recommended that you select similar date ranges. For example, this month versus the last month and so on. Currently, there is no restriction for selecting the date ranges.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 55: Filters

Filter Name	Filter Description
Date Range 1	Used to filter based on the date range. By default, the value is the current date. However, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days" or Custom date. This filter data will be considered as the base of comparison for the filtered data from Date Range 2.
Date Range 2	Used to filter based on the date range. By default, the value is the current date. However, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days" or Custom date. This filter data will be considered as the base of comparison for the filtered data from Date Range 1.
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Note: Call to User & Other, Call to Group, and Broadcast are grouped based on receiver user facility. The count shows the number of times the users was interrupted. For example, in the screenshot, 20653 times the users were interrupted in a Community facility.

The dashboard consists of the following sections:

- Usage Comparison
- Integration Summary

Usage Comparison

Following is a sample Usage Comparison dashboard:

Usage Comparison

Search...

	Date Range 1		Date Range 2		% Change	
	Total	Daily Average	Total	Daily Average	Total	Average
Facility: Community						
Max User Logins	51	0.19	0	0.00	-100.00 %	-100.00 %
Calls to User & Other	35	0.13	12	0.40	-65.71 %	214.22 %
Calls to Group	88	0.32	0	0.00	-100.00 %	-100.00 %
Broadcasts	3	0.01	3	0.10	0.00 %	817.43 %
Instant Conference	0	0	0	0	0	0
% Recognized	87.00 %	87.00 %	0.00 %	0.00 %	-100.00 %	-100.00 %
B2000s	50	0.18	0	0.00	-100.00 %	-100.00 %
B3000s	0	0	0	0	0	0
B3000Ns	0	0	0	0	0	0
V5000	1	0.00	0	0.00	-100.00 %	-100.00 %
Vocera Vina	0	0	0	0	0	0
Vocera Collaboration Suite (...	0	0	0	0	0	0
Events	0	0	0	0	0	0
Conversations	1	0.00	1	0.03	0.00 %	825.00 %
Text Messages	10	0.04	1	0.03	-90.00 %	-8.52 %

1 2 3 ... 27

The following table describes the calculations used for the data points.

Table 56: Calculations

Field	Description
Date Range	• Total—Specifies the total count. • Daily Average—Specifies the daily average for the date range selected. The formula used: Total Count / Daily Average. For example, date range = 7 days, total count = 70, then the daily average is 70/7 = 10. **Note:** The calculation is the same for Date Range 1 and Date Range 2.
% Change	• Total—Specifies the average percentage of change in the total count between Date Range 1 and Date Range 2. The formula used: ((Date Range 2 Total - Date Range 1 Total) / Date Range 1 Total) x 100. For example, Date Range 1 Total = 51, Date Range 2 Total = 40, then % change is (40-51/51) x100 = -21.57% • Average—Specifies the average percentage of change in daily average for the date range selected.

Note: An event should have at least 1 delivery for it to be considered.

The following table describes the fields and its description.

Field	Description
Max User Logins	Specifies the total and daily average count for maximum user logins for the selected date range.
Call to User & Other	Specifies the calls to user and others. Others include Telephone, Address Book and Buddy.
Call to Group	Specifies the calls to type **Group**. Displays the number of group calls made within a facility.
Broadcasts	Specifies the number of broadcast calls done to the group within a facility.

Field	Description
% Recognized	Specifies the percentage of speech recognized. The calculation used is (recognized / (recognized +rejected+others)) x 100. **Note:** The genie session recognition percentage is grouped based on initiator user facility.
B2000, B3000, B3000N	Specifies the number of badges used in the facility for the selected date range. For example, four badges are used in the **Community** facility for the selected date range. It can be any activity performed by these badges.
Vocera Collaboration Suite (VCS)	Specifies the number of VCS mobile app users in the facility for the selected date range.
Events	Specifies the event count based on the sum of Engage and VMI data.
Conversations	Specifies the number of conversations that had new text messages based on receiver user facility for the selected date range. For example, if there are ten messages for one conversation, the count for conversations are displayed as 1 and count for messages will be displayed as 10.
Text Messages	Specifies the number of text messages that were received by the receiver user for the selected date range.
Instant Conference	Specifies the number of instant conference done within a facility for the selected date range.

To find a specific facility or field, use the **Search** field.

Integration Summary

The Integration Summary dashboard displays the integration source or client details and a total number of integrations from Engage and VMI during the selected date range.

Following is a sample Integration Summary dashboard:

Integration Summary

	Date Range 1		Date Range 2	
	Integrations	Total	Integrations	Total
Engage	PATIENT MONITOR, NURSE CALLS, ORDER, LAB TEST, REPORT	5	NURSE CALLS, PATIENT MONITOR, ORDER, REPORT, LAB TEST	5
Vocera Messaging Interface (VMI)	VMI_Patient_Monitor, VMITester	2	VMI_Nurse_Call, VMI_Patient_Monitor	2

Voice Index

[Data Source: VCS, Vina, Voice Server] Provides a single view containing several summary widgets that specifically measure new Vocera voice metrics. Data included is Voice Index measuring calls per day versus unique users, speech recognition attempts, and a time trend showing calls and logins over time. This dashboard is used to review overall usage of the voice system and measure adoption progress.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

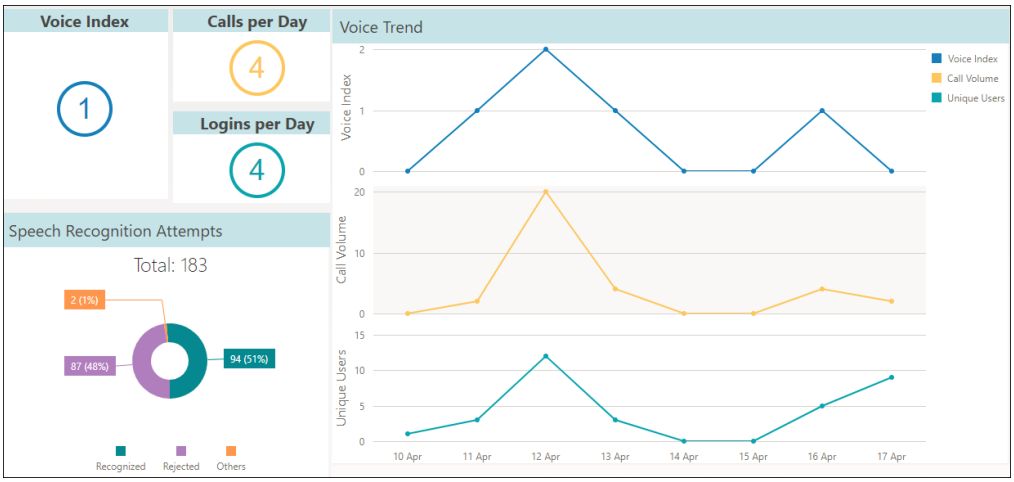
Table 57: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

This dashboard has the following widgets:

- Voice Index
- Calls per Day
- Logins per Day
- Voice Trend
- Speech Recognition Attempts

Note: The interrupt type Calls also includes instant conference.



Voice Index, Calls per Day, Logins per Day

This section displays calls per day, logins per day, and Voice Index details for the selected date range. The widgets are:

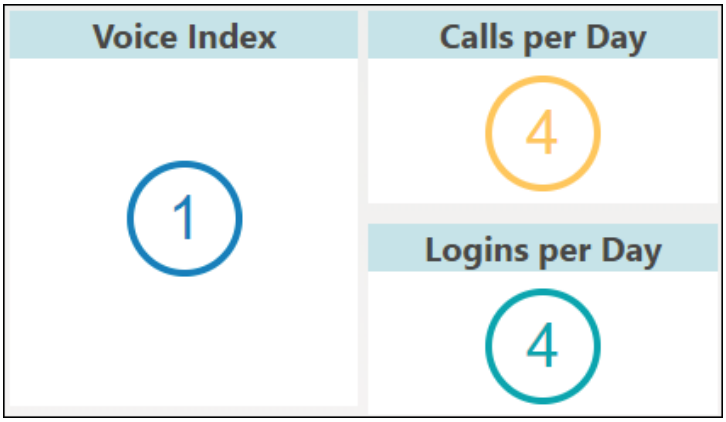
- Calls per Day—Specifies the average number of calls/broadcasts per day for the selected date range.

  For example, if date range selected is 8 days and total calls made during the selected date range is 32, then the average calls per day are 32/8=4.
- Logins per Day—Specifies the average number of logins per day for the selected date range.

  For example, if date range selected is 8 days and total logins during the selected date range is 33, then the average logins per day are 33/8=4.

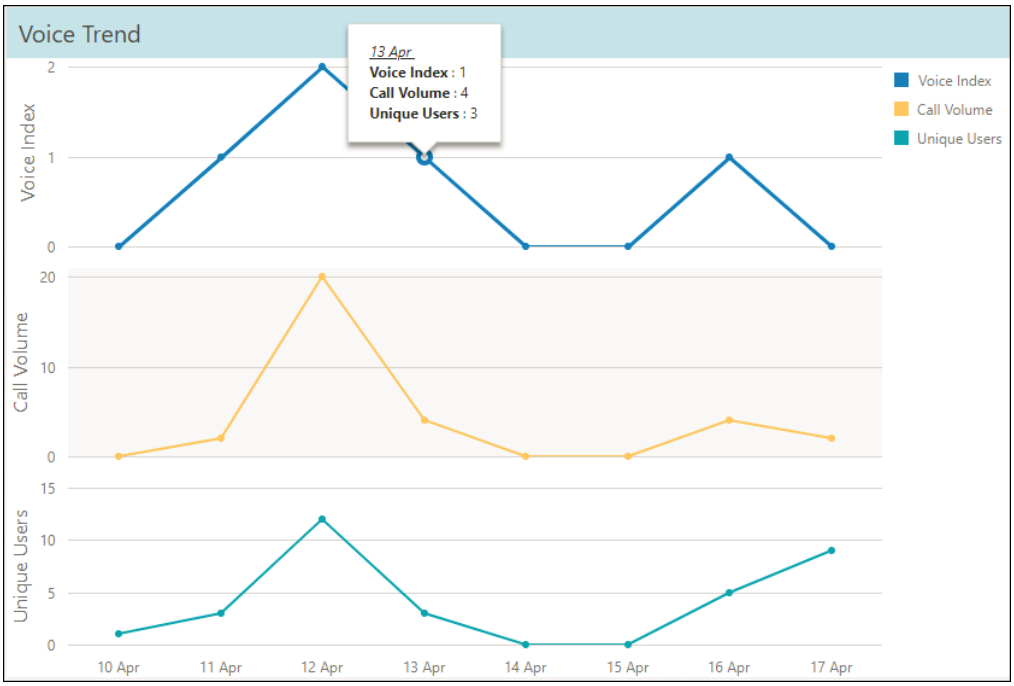
  Note: Values are rounded off to the nearest whole number.
- Voice Index—Specifies the Voice Index per day for the selected date range.

  For example, if date range selected is 8 days, average calls per day are 4, and average logins per day is 4, then Voice Index is calculated by: Average calls per day / Average logins per day, which is 4/4=1.



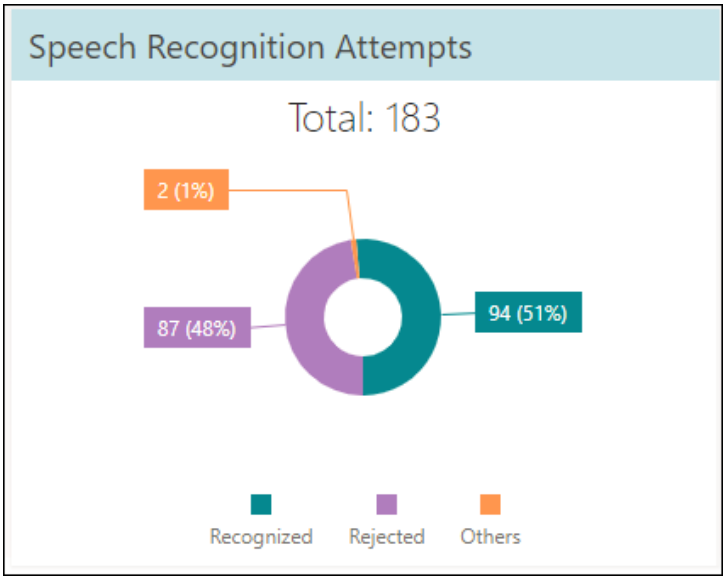
Voice Trend

The Voice Trend widget represents the metrics for Voice Index, Call Volume, and Unique Users in a trended graph for the selected date range. Mouse over a period on the trended graph to display the individual count for all the three metrics for the particular time frame.



Speech Recognition Attempts

The Speech Recognition Attempts widget displays the total number of speech recognition attempts made during the selected date range. The widget is categorized into Recognized, Rejected and Others. The widget shows the count and its corresponding percentage for recognized speech attempts compared to rejected, and other speech attempts in a donut format. The others category considers speech attempts where speech occurred but was not recognized.



In this scenario:

- Total Speech Recognition Attempts is 183
- Speech Recognized is 98. Speech recognized percentage is 98/183 = 51%
- Speech Rejected is 87. Speech rejected percentage is 87/183 = 48%
- Others is 2. Others percentage is 2/183 = 1%

Note: Values are rounded off to the nearest whole number.

Speech Recognition

Speech Recognition reports and dashboards show speech statistics across different entities of Voice Server (Device, Location, User). These dashboards and reports help in finding access points, devices, or users with low-speech recognition and troubleshoot similar problems.

Location Statistics

[Data Source: VCS, Vina, Voice Server] Displays speech statistics for specific locations in a facility. Data includes speech recognition rates by the access point with the ability to search. This dashboard is used to identify specific access points that may have low speech recognition rates for troubleshooting purposes.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 58: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Access Point Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server Site and Engage Facility.
Access Point Locations	Used to filter data based on Vocera Voice Server access point location names. The filter data will be filtered on access point facilities selected.
Recognized Threshold	Used to filter data of the Speech statistics. The recognition rate as a percentage of attempts, and whether the results displayed are above or below that recognition rate. For example, you can filter data to display all results below a recognition rate of 50% or above a recognition rate of 75%.

The Location Statistics dashboard displays speech statistics grouped by facility, location name, and access point MAC address. By default, data is sorted by MAC address of the access point.

Use the Search field to search on a specific MAC address.

The dashboard displays the following speech parameters based on the filters applied:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Occurrences—The number of communication attempts made by the indicated MAC address of the access point, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

The dashboard allows you to filter results to view specific data, such as results that show low recognition rates only. For example, a Recognized Threshold % set to Below 70% filters the results to include only data with a recognition rate between 0% and 69.9%.

To view all data, leave the Recognized Threshold % set to Above 0%. This will show data from 0.01% and will not include 0% data.

To view 0% data, set the Recognized Threshold % to below 0 %.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognition and therefore are not included in the speech recognition output for dashboards and reports. This report also excludes attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

The following illustration shows the Location Statistics dashboard when it first appears. Notice that the location names and the access point MAC addresses are concealed, and only the name of the facility is visible.

Details

Search MAC Address

Facility	Location	Access Point MAC	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
Global			14	60.9 %	9	39.1 %	0	0 %	23	1
North Edge			126	60.6 %	80	38.5 %	2	1.0 %	208	26
South End			68	67.3 %	33	32.7 %	0	0 %	101	22

To view statistics for each location in the facility, click the expanding arrow next to the facility name to expand the display. Also, click the expanding arrow next to the location name to view the MAC address of the access point at that location.

The following illustration shows the Location Statistics dashboard with the view expanded to present statistics by each location and access point MAC address in the facility:

Details

Search MAC Address

Facility	Location	Access Point MAC	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
Global	Mezzanine Floor	1005cadba4a6	14	60.9 %	9	39.1 %	0	0 %	23	1
North Edge			126	60.6 %	80	38.5 %	2	1.0 %	208	26
South End			68	67.3 %	33	32.7 %	0	0 %	101	22

Note: If an access point MAC address is not assigned to a location, it will be listed as Unknown Facility and Unknown Location.

Owning Group Statistics

[Data Source: VCS, Vina, Voice Server] Provides speech statistics for specific devices. Data includes owning group of the device, facility of the owning group, MAC address, and speech recognition statistics. Use this dashboard to identify specific groups or devices that may have low speech recognition rates for troubleshooting purposes. Data includes speech recognition for login attempts.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 59: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Owner Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **Owning Group** Site and Engage Facility of the device.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.
Recognized Threshold	Used to filter data of the Speech statistics. The recognition rate as a percentage of attempts, and whether the results displayed are above or below that recognition rate. For example, you can filter data to display all results below a recognition rate of 50% or above a recognition rate of 75%.

The Owning Group Statistics dashboard displays speech statistics grouped by facility, location name, and access point MAC address. By default, data is sorted by MAC address of the access point.

Use the Search field to search on a specific MAC address.

The dashboard displays the following speech parameters based on the filters applied:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Occurrences—The number of communication attempts made by the indicated device, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognition and therefore are not included in the speech recognition output for dashboards and reports. This report also excludes attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

To display the speech recognition statistics for each owning group, you can sort and filter statistics by the type of device and also display statistics for individual devices sorted by MAC addresses.

The following illustration shows the Owning Group Statistics dashboard when it first appears. Notice that the device types and the device MAC addresses are concealed, and the only name of the owning group is visible.

Details

Search MAC Address

Owner Group	Device	MAC Address	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
Cardiac Care Unit			48	59.3 %	33	40.7 %	0	0 %	81	12
Lab			63	67.7 %	30	32.3 %	0	0 %	93	13
P B X Operator			28	51.9 %	25	46.3 %	1	1.9 %	54	9
Pediatric Cardiac Intensive Care			69	66.3 %	34	32.7 %	1	1.0 %	104	15

To view owning group statistics by the type of device, click the expanding arrow next to the group name to expand the display. Also, click the expanding arrow next to the device type to view statistics for individual devices in the owning group.

The following illustration shows the Owning Group Statistics dashboard with the view expanded to present statistics by device type and also statistics for the individual B3000N devices.

Details

Search MAC Address

Owner Group	Device	MAC Address	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
Cardiac Care Unit	B3000N	0009ef320763	48	59.3 %	33	40.7 %	0	0 %	81	12
Lab	B3000N	0009ef320877	63	67.7 %	30	32.3 %	0	0 %	93	13
P B X Operator	B3000N	0009ef3208b2	28	51.9 %	25	46.3 %	1	1.9 %	54	9
Pediatric Cardiac Intensive Care	B3000N	0009ef3208b1	69	66.3 %	34	32.7 %	1	1.0 %	104	15

Telephone is listed as a device type. However, the Owning Group field for telephone displays Unknown.

The following illustration shows the statistics for telephone.

Details

Search MAC Address

Owner Group	Device	MAC Address	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
Unknown	Telephone	103	19	32.2 %	40	67.8 %	0	0 %	59	18

Speech Statistics

[Data Source: VCS, Vina, Voice Server] Summarizes speech statistics by facilities and units. Data includes percentages for speech recognition and genie usages as well as time trends. This dashboard is used to review overall adoption and successful usage of Vocera voice recognition.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 60: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The Speech Statistics dashboard displays the following widgets:

- Attempt Totals—Displays the total number of utterances in the Recognized, Rejected, and Others categories.

- Attempt Trend—Displays the recognition trend in the Recognized, Rejected, and Others categories.
- Genie Totals—Displays the total number of utterances in the Speech and No Speech categories.
- Genie Trend—Displays the recognition trend in the Speech and No Speech categories.

The Speech Statistics dashboard results are represented both as a summary pie chart and also as a bar chart showing the trend over time.

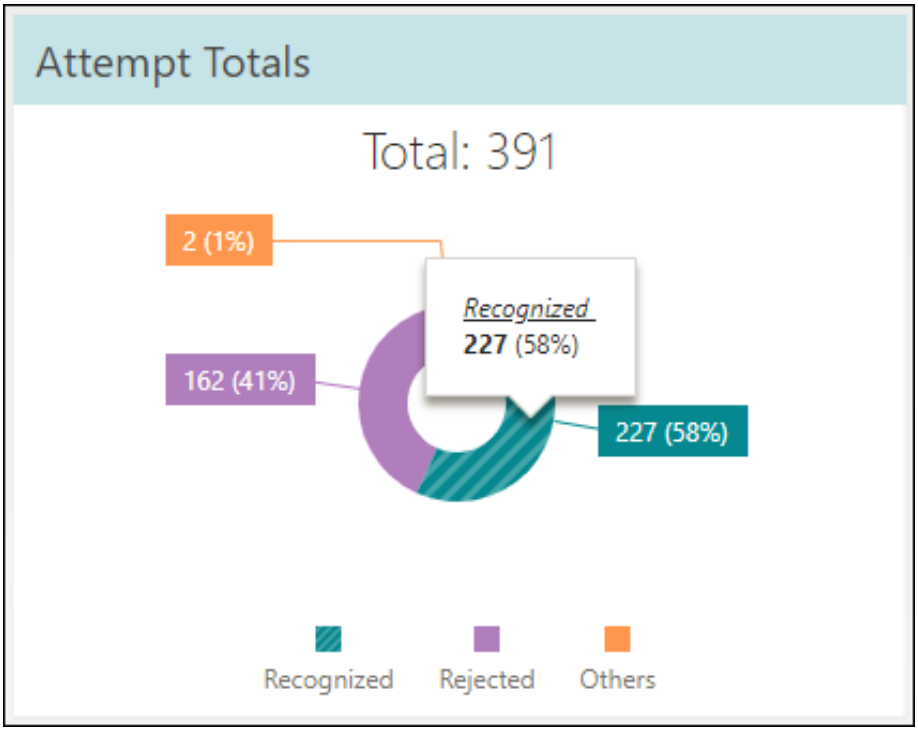
This dashboard displays the following types of speech recognition statistics:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Occurrences—The number of communication attempts made by the indicated MAC address of the access point, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognition and therefore are not included in the speech recognition output for dashboards and reports. This report also excludes attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

Attempt Totals

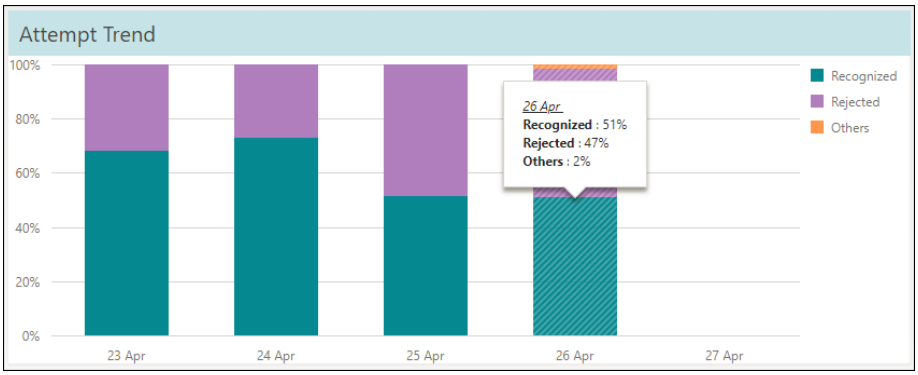
The widget breaks down the total number of utterances for the specified facilities, units, and time range into categories of Recognized, Rejected, and Other (for example, too much speech). The widget includes speech recognition attempts made after the user has successfully logged into the Vocera device; it also includes login attempts.



Attempt Trend

This widget displays the trend of recognition results for the specified facilities and units over the specified time range, one day at a time. The results are broken down into categories of Recognized, Rejected, and Others. For example, no speech or too much speech. The widget includes speech recognition attempts made after the user has successfully logged into the Vocera device; it also includes login attempts.

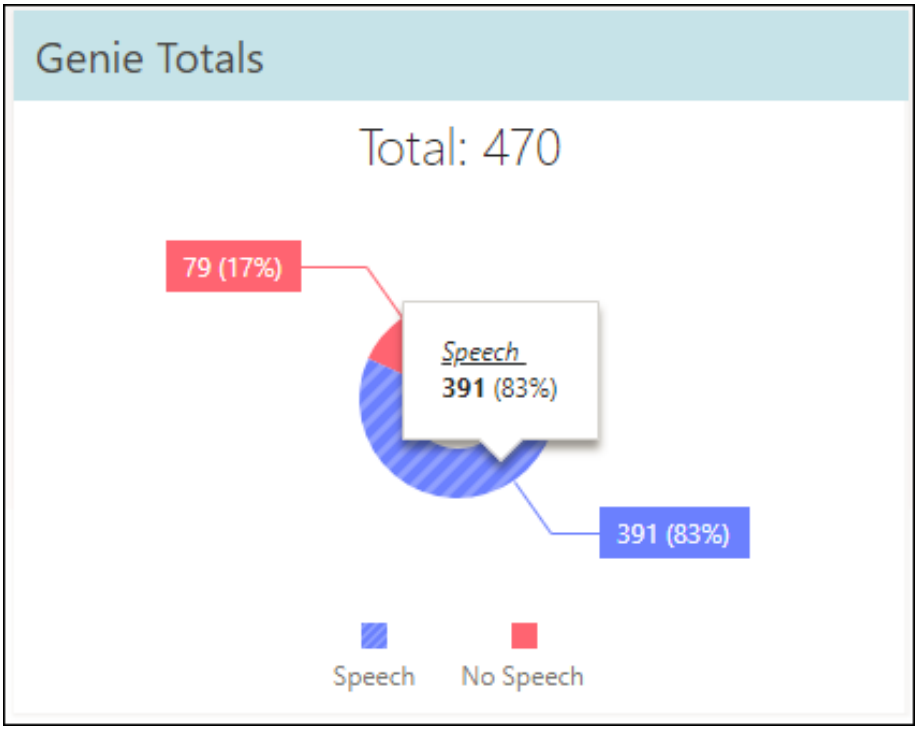
The date range is adaptable. For example, if the date range selected is Today or Yesterday, then the response trend displays data on an hourly basis for the 24-hour time frame. If the date range selected is more than a day but within a month, then the response trend displays data for every day in the selected date range. Similarly, if the date range selected is more than a month but within a year, the response trend displays data for every month in the selected date range.



Genie Totals

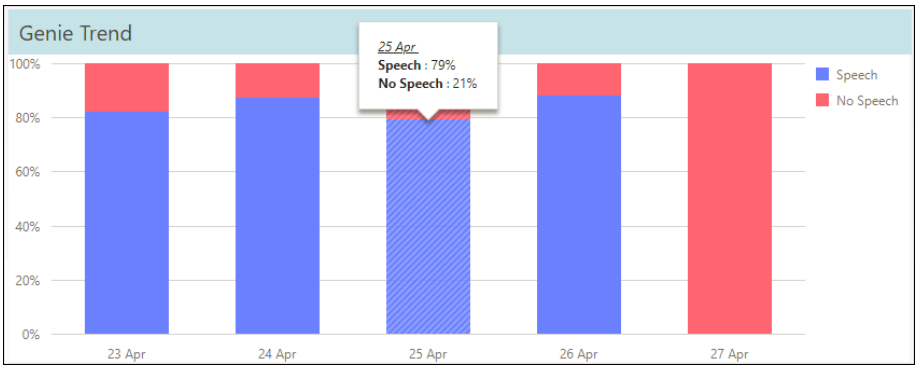
This widget breaks down the total number of utterances for the specified facilities, units, and time range into categories of Speech and No Speech. The widget includes speech recognition attempts made after the user has successfully logged into the Vocera device; it also includes login attempts.

A high percentage of No Speech results could potentially indicate a training issue. For example, a No Speech result occurs when a user presses the Call button of the device to open a communication channel and then does not issue a command. If users pause because they cannot remember the command or do not know the commands, you may need to initiate additional training.



Genie Trend

This widget displays the trend of recognition results for the specified facilities and units over the specified time range, one day at a time. The results are broken down into categories of Speech and No Speech. The widget includes speech recognition attempts made after the user has successfully logged into the Vocera device; it also includes login attempts.



User Statistics

[Data Source: VCS, Vina, Voice Server] Details speech statistics for specific units, users, and devices. Data includes facilities, units, devices, and MAC address as well as speech recognition statistics. This dashboard is used to identify specific units, users or devices that may have low speech recognition rates for troubleshooting purposes.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 61: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.
Recognized Threshold	Used to filter data of the Speech statistics. The recognition rate as a percentage of attempts, and whether the results displayed are above or below that recognition rate. For example, you can filter data to display all results below a recognition rate of 50% or above a recognition rate of 75%.

The User Statistics dashboard displays speech statistics grouped by facility, location name, and access point MAC address. By default, data is sorted by MAC address of the access point.

Use the Search field to search on a specific MAC address.

The dashboard displays the following speech parameters based on the filters applied:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Occurrences—The number of communication attempts made by the indicated device, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

The dashboard allows you to filter results to view specific data, such as results that show low recognition rates only. For example, a Recognized Threshold % set to Below 70% filters the results to include only data with a recognition rate between 0% and 69.9%.

To view all data, leave the Recognized Threshold % set to Above 0%. This will show data from 0.01% and will not include 0% data.

To view 0% data, set the Recognized Threshold % to below 0 %.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognition and therefore are not included in the speech recognition output for dashboards and reports. This report also excludes attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

The following illustration shows the User Statistics dashboard when it first appears; notice that the user, device type, and device MAC addresses are concealed, and results are displayed at the unit level only:

Details

Search MAC Address

Unit / User / Device / Device MAC	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
NICU	6	85.7 %	1	14.3 %	0	0 %	7	1
PACU	3	100.0 %	0	0 %	0	0 %	3	1
Lab	25	65.8 %	13	34.2 %	0	0 %	38	0
Women's Diagnostic Center	21	48.8 %	21	48.8 %	1	2.3 %	43	12

To view statistics for individual users, click the expanding arrow next to the unit name to expand the display; successively clicking to expand the username reveals the user's devices and their MAC addresses.

The following illustration shows the User Statistics dashboard with the view expanded to present statistics for individual users and their devices:

Details

Search MAC Address

Unit	User	Device	Device MAC	Recognized	% Recognized	Rejected	% Rejected	Others	% Others	Speech Attempts	No Speech Occurrences
NICU	Li, Jane	B3000N	0009ef320763	6	85.7 %	1	14.3 %	0	0 %	7	1
PACU	B, Stan	B3000N	0009ef3208b1	3	100.0 %	0	0 %	0	0 %	3	1
Lab	Dominic, John			1	50.0 %	1	50.0 %	0	0 %	2	0
	Paul, Cathy			16	69.6 %	7	30.4 %	0	0 %	23	0
	Louis, Dan			4	50.0 %	4	50.0 %	0	0 %	8	0
	Sanders, Jeremiah			3	75.0 %	1	25.0 %	0	0 %	4	0
	Blighton, Bill			1	100.0 %	0	0 %	0	0 %	1	0
Women's Diagnostic Center	Abraham, Sarah			21	48.8 %	21	48.8 %	1	2.3 %	43	12

Speech Recognition Group Details

[Data Source: VCS, Vina, Voice Server] Shows recognition statistics sorted by group name, device type, and individual device. You can use this report to determine if poor speech recognition is consistent for all devices. For example, suggesting a possible network issue or suggesting a possible device issue if it is limited only to a specific device. The report includes speech recognition attempts made after the user has successfully logged into the Vocera device. It also includes login attempts.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 62: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Owner Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server **Owning Group** Site and Engage Facility of the device.
Owner Groups	Used to filter data based on Vocera Voice Server **Group** of the device. It displays groups, departments, sub-departments, and VMP distribution lists. The groups are filtered based on the Owner Facilities selected. **Note:** Filter displays 25 groups sorted based on group name. The filter fetches groups based on the search criteria. The filter also displays VMP distribution list. Filtering on such groups will not display any data.
Device Versions	Used to filter Vocera Voice Server devices based on the device version. It displays the version of devices available in the Voice Server device management. **Note:** Telephone is listed as both Device Type and Version in few dashboards.
Recognized Threshold	Used to filter data of the Speech statistics. The recognition rate as a percentage of attempts, and whether the results displayed are above or below that recognition rate. For example, you can filter data to display all results below a recognition rate of 50% or above a recognition rate of 75%.

The report displays the following speech parameters based on the filters applied:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Occurrences—The number of communication attempts made by the indicated MAC address of the access point, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

The report allows you to filter results to obtain specific data. For example, you can filter the results to show only low recognition rates or filter the information for results specific to devices with speech recognition problems. For example, a Recognized Threshold % set to Below 70% filters the results to include only data with a recognition rate between 0% and 69.9%.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognition and therefore are not included in the speech recognition output for dashboards and reports. This report also excludes attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

The following illustration shows a page from a Speech Recognition Group Details report:

Speech Recognition Group Details

From: 04/23/2018 00:00 To: 04/27/2018 23:59

Facility: Global

Owner Group: P B X Operator

			Speech								No Speech
			Recognized		Rejected		Others		Attempts		Occurrences
P B X Operator	B3000N	0007bt5106b1	28	51.9%	25	46.3%	1	1.9%	54		9
		Total	28	51.9%	25	46.3%	1	1.9%	54		9
	Total		28	51.9%	25	46.3%	1	1.9%	54		9
Total			28	51.9%	25	46.3%	1	1.9%	54		9

Owner Group: Pediatric Intensive Care Unit

			Speech								No Speech
			Recognized		Rejected		Others		Attempts		Occurrences
Pediatric Intensive Care Unit	B3000N	0006ed2407b1	69	66.3%	34	32.7%	1	1.0%	104		15
		Total	69	66.3%	34	32.7%	1	1.0%	104		15
	Total		69	66.3%	34	32.7%	1	1.0%	104		15
Total			69	66.3%	34	32.7%	1	1.0%	104		15

Speech Recognition Location Details

[Data Source: VCS, Vina, Voice Server] Lists speech recognition statistics for each access point location. This information can help you determine if a specific access point is failing, overloaded, or incorrectly configured, and causing poor speech recognition.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 63: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

Filter Name	Filter Description
Access Point Facilities	Used to filter data based on facilities (common facility name) specified while mapping Vocera Voice Server Site and Engage Facility.
Access Point Locations	Used to filter data based on Vocera Voice Server access point location names. The filter data will be filtered on access point facilities selected.
Recognized Threshold	Used to filter data of the Speech statistics. The recognition rate as a percentage of attempts, and whether the results displayed are above or below that recognition rate. For example, you can filter data to display all results below a recognition rate of 50% or above a recognition rate of 75%.

The report displays the following speech parameters based on the filters applied:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Occurrences—The number of communication attempts made by the indicated MAC address of the access point, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

This report allows you to filter results to obtain very specific data. For example, you can filter the results to show only low recognition rates or filter the information for results specific to devices with speech recognition problems. For example, a Recognized Threshold % set to Below 70% filters the results to include only data with a recognition rate between 0% and 69.9%. To see 0% data, leave the Recognized Threshold % set to Below 0%.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognition and therefore are not included in the speech recognition reports. This report also excludes attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

Note: To generate reports quickly, it is recommended that you use short date range or fewer facilities.

The following illustration shows a page from a Speech Recognition Location Details report:

Speech Recognition Location Details

From: 04/23/2018 00:00 To: 04/27/2018 23:59

Facility: Global

Location: Floor 2

			Speech								No Speech
			Recognized		Rejected		Others		Attempts	Occurrences
Global	Floor 2	000fam0c3e2	1	100.0%	0	0%	0	0%	1	0
		000fam0e4e6	6	33.3%	12	66.7%	0	0%	18	1
		000fam1d6e5	116	69.0%	51	30.4%	1	0.6%	168	20
		000grp7p3d8	3	14.3%	17	81.0%	1	4.8%	21	5
		Total	126	60.6%	80	38.5%	2	1.0%	208	26
	Total		126	60.6%	80	38.5%	2	1.0%	208	26
Total			126	60.6%	80	38.5%	2	1.0%	208	26

Speech Recognition User Details

[Data Source: VCS, Vina, Voice Server] Provides speech recognition statistics sorted by user, then by device type, and then by device MAC address. You can use this report to determine if poor speech recognition occurs for a user on multiple devices. For example,

suggesting a possible user training issue or suggesting a possible device issue if it is limited to a specific device. The report includes speech recognition attempts made after the user has successfully logged into the Vocera device; it does not include login attempts. You can filter the results of this report by facility, unit, or for one or more specific users.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 64: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.
Recognized Threshold	Used to filter data of the Speech statistics. The recognition rate as a percentage of attempts, and whether the results displayed are above or below that recognition rate. For example, you can filter data to display all results below a recognition rate of 50% or above a recognition rate of 75%.

The report displays the following speech parameters based on the filters applied:

- Recognized—The number of recognized speech attempts by users on the indicated access point. The recognized field display the number of occurrences based on the total number of speech attempts.
- % Recognized—The percentage of successful speech attempts.
- Rejected—The number of rejected speech attempts by users on the indicated access point.
- % Rejected—The percentage of rejected speech attempts.
- Others—The number of speech received, but not processed by the Vocera system. Speech may not be processed if the duration of the speech exceeds the ability of the system to interpret it or if the speech started earlier than the Genie prompt.
- Speech Attempts—The number of speech attempts made by users on the indicated access point. The total value include the following parameters: Recognized, Rejected, and Others.
- No Speech Attempts—The number of communication attempts made by the indicated MAC address of the access point, where no speech was received. This condition occurs when users press the Call button and do not say anything. For example, the user may have forgotten the name of the intended recipient and does not speak. This field shows the number of times users pressed the Call button without speaking.

This report allows you to filter results to obtain very specific data. For example, you can filter the results to show only low recognition rates or filter the information for results specific to devices with speech recognition problems. For example, a Recognized Threshold % set to Below 70% filters the results to include only data with a recognition rate between 0% and 69.9%. To see 0% data, leave the Recognized Threshold % set to Below 0%.

Note: When Vocera badge users respond to Genie prompts, they can press the Call button to indicate "Yes" or the DND button to specify "No." These button responses are not treated as speech recognitions and therefore are not included in the speech recognition reports. This report also excludes attempts where the user did not speak and attempts that resulted in too much speech. For example, if the user initiated a call while talking to another user instead of issuing a command.

The following illustration shows a page from a Speech Recognition User Details report:

Speech Recognition User Details

From: 04/23/2018 00:00 To: 04/27/2018 23:59

Facility: Global

Unit: NICU

				Speech								No Speech
				Recognized		Rejected		Others		Attempts		Attempts
NICU	Benner, Mathew	0007cf410482	B3000N	6	85.7%	1	14.3%	0	0.0%	7		1
			Total	6	85.7%	1	14.3%	0	0.0%	7		1
		Total		6	85.7%	1	14.3%	0	0.0%	7		1
	Total			6	85.7%	1	14.3%	0	0.0%	7		1
Total				6	85.7%	1	14.3%	0	0.0%	7		1

System Usage

Shows call details (calls and broadcasts) from an outgoing perspective. It also provides information on user activity to the granular level for troubleshooting purposes.

Conversation Summary

[Data Source: Voice Server, VCS] Displays the summary of active conversations for users in the Vocera system. In this dashboard, you will find total conversations by facility or unit with an overall total of all conversations distributed by conversation type. Additionally, you will find total conversations by user. You will also see total number of messages by message type. Use this dashboard to understand where conversations are coming from, by whom, and by type.

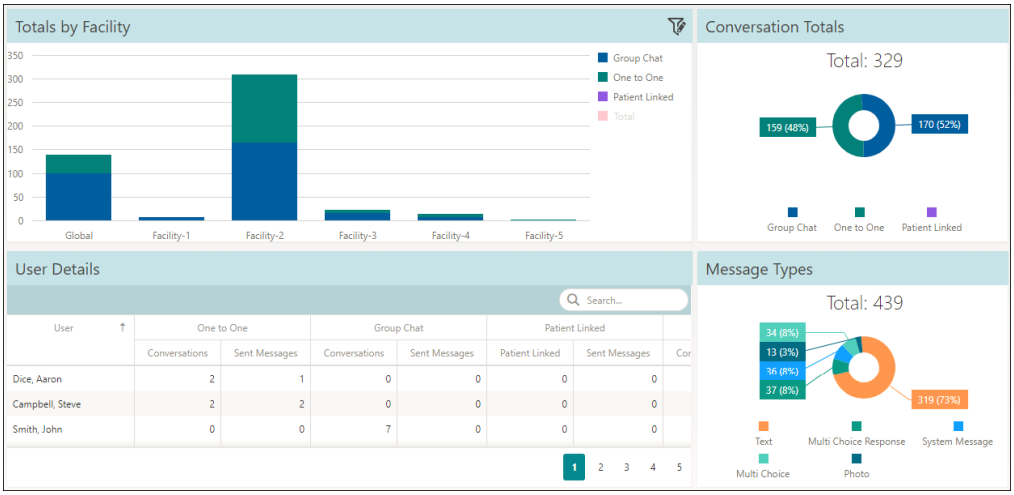
The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

The dashboard has the following widgets:

- Totals by Location
- Conversation Totals
- User Details
- Message Types

Following is a sample Conversation Summary dashboard:



Conversations are a grouping of message types. Conversations are classified as One to One, Group Chat, or Patient Linked depending on the number of participants or context.

The types of conversation are categorized as follows:

- Group Chat—More than two participants are involved in a conversation.
- One to One—A conversation with two participants.
- Patient Linked—If there is any patient context to the conversation, it is considered as patient linked. It can be one to one or group chat.

The Conversation Summary dashboard includes contextual filters.

The contextual filters contain a source and a target widget. In this case, Totals by Facility is the source widget and the remaining widgets are target widgets. Click a facility to display only the corresponding data in the remaining widgets. For example, click Global to display only the details of Global facility in all the other widgets.

Totals by Location

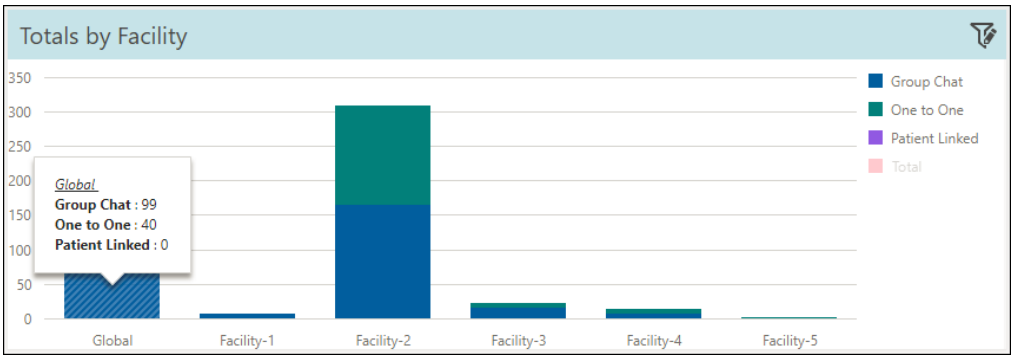
The Totals by Location (Facility or Unit) widget summarizes the total number of conversations by facility distributed by conversation type, such as:

- Group Chat
- One to One
- Patient Linked

The dashboard includes activities from both sender and receiver perspective.

If only one facility is selected, the widget changes to Totals by Unit and displays the totals conversations within the units in a facility.

Mouse over a displayed value (facility or unit) on the widget to view the facility and the count for all conversation types within the facility.



Conversation Totals

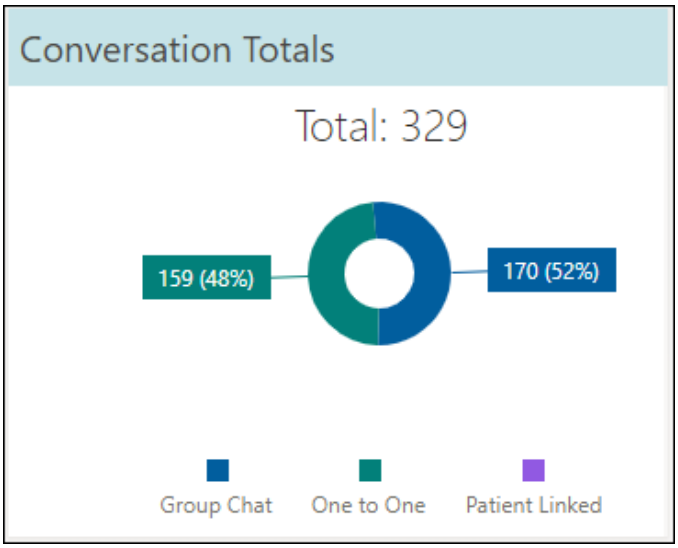
The Conversation Totals widget displays the total number of active conversations for each conversation type and its corresponding percentage and the cumulative total for the filter selected.

Click a legend to toggle the display. The Total legend is disabled by default. Click the Total legend to view the trend for the total devices that were used during the selected date range:

The percentage of conversation totals (active conversations) is calculated using the formula: (Type of Conversation/Total Conversations)x100

For example,

- Total Conversations—329
- Group Chat—159
- Percentage of Group Chat—(159/329)x100 = 48%

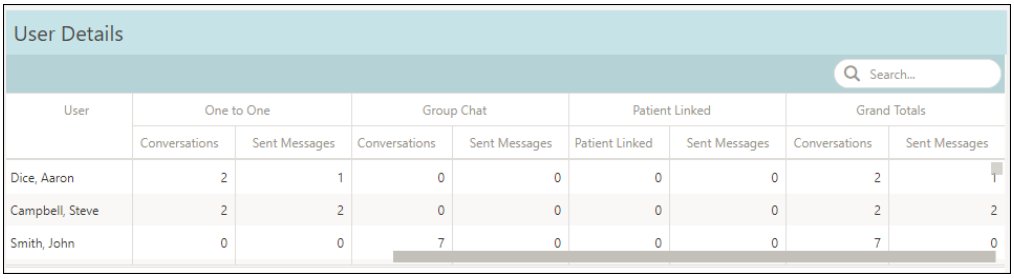


Note: The Conversation Totals widget shows the total number of unique conversations whereas the Totals By Facility widget does not necessarily show all unique conversations. For example, if a conversation includes users from Global as well as Facility-1, it will be counted against each facility. However, the total count in both the widgets match when you apply the contextual filter to a facility.

User Details

The User Details widget summarizes the conversation details of every user for the selected date range. Details such as conversations and messages sent for each conversation type and the cumulative total number of conversations and sent messages for every user is displayed.

Use the Search field to search on a particular user name.



User Details

Search...

User	One to One		Group Chat		Patient Linked		Grand Totals	
	Conversations	Sent Messages	Conversations	Sent Messages	Patient Linked	Sent Messages	Conversations	Sent Messages
Dice, Aaron	2	1	0	0	0	0	2	1
Campbell, Steve	2	2	0	0	0	0	2	2
Smith, John	0	0	7	0	0	0	7	0

Message Types

Messages types are those that are sent or received in a conversation and include text, photo, multiple choice, multiple choice response and system messages.

The Message Types widget displays the total number of messages for each conversation type and its corresponding percentage and the cumulative total for the filter selected.

The types of messages are categorized as follows:

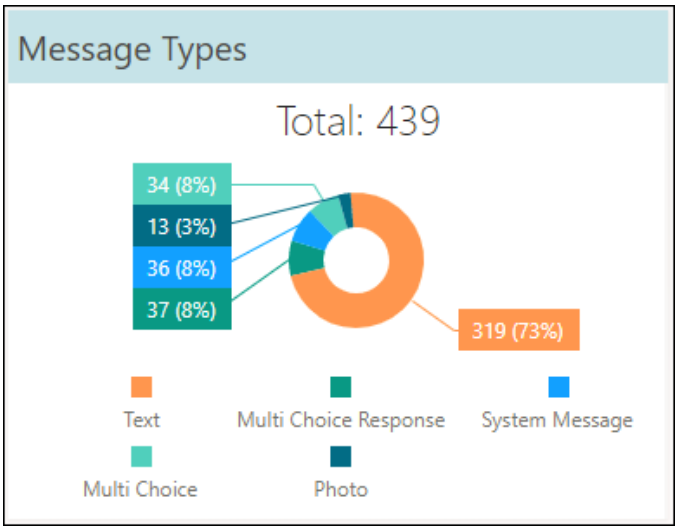
- Text—A simple text message sent by the user.
- System Message—Any message generated by the system. For example, adding a user to a conversation.
- Photo—Any media sent by the user.
- Multi Choice—A set of options sent by the sender to the receiver of the message. The receiver can only respond by selecting one of the options provided by the sender.
- Multi Choice Response—Response by a user to a multi choice message.

The percentage of a message total is calculated using the formula: (Type of Message/Total Messages)x100

For example,

- Total Conversations—439
- Text messages—319
- Percentage of text messages—(319/439)x100 = 73%

Note: Decimal values are rounded off to the nearest whole number.



Location Call Summary

[Data Source: VCS, Vina, Voice Server] Summarizes outgoing call activity across all units. Details include call types with call durations, command usage details, devices used type, and outgoing call volume trends for the selected date range. Use this dashboard to understand overall Vocera usage (by device or call type) and volume trends as well as the ability to drill into specific units.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 65: Filters

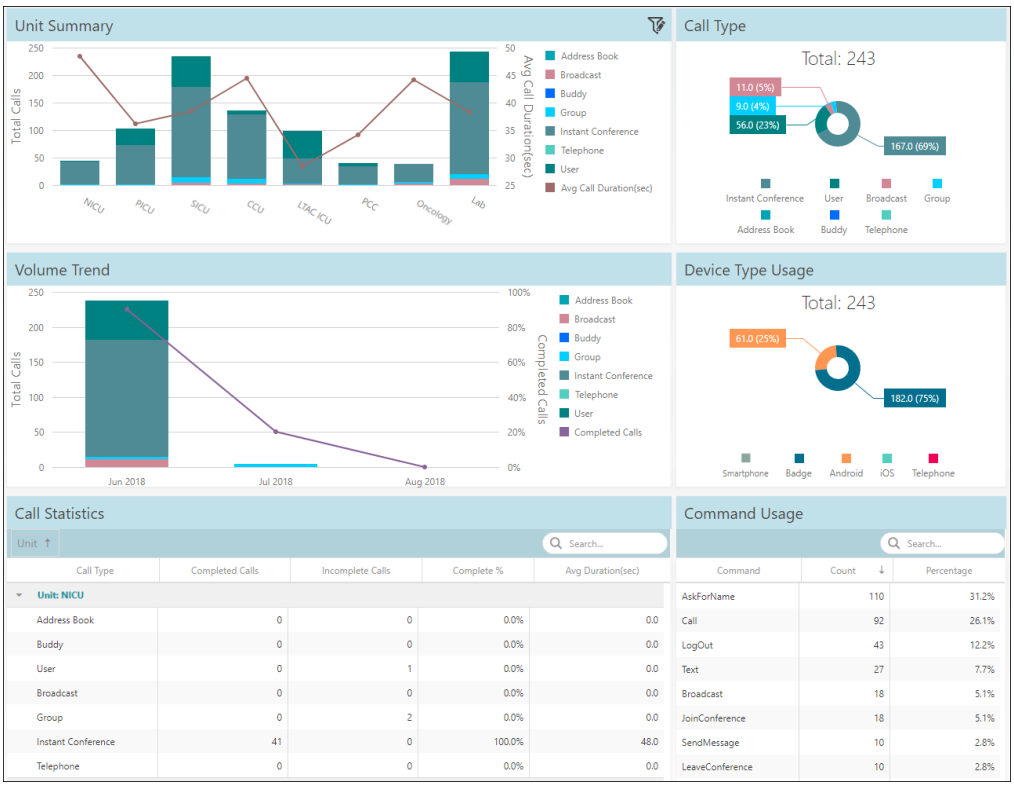
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

Filter Name	Filter Description
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Call Recipient Types	Used to filter call data based on recipient type. The available options are Address Book, Broadcast, Buddy, Group, Telephone, User, and Instant Conference.
Call Priorities	Used to filter call data on the priority of the call. List all possible priorities from Vocera Voice Server and Engage. **Note:** Call priorities can be Normal or Urgent Only. If filtered on any other call priority, the filter result will not show any data.

The dashboard has the following widgets:

- Unit Summary
- Call Type
- Volume Trend
- Device Usage
- Call Statistics
- Command Usage

Following is a sample Location Call Summary dashboard:

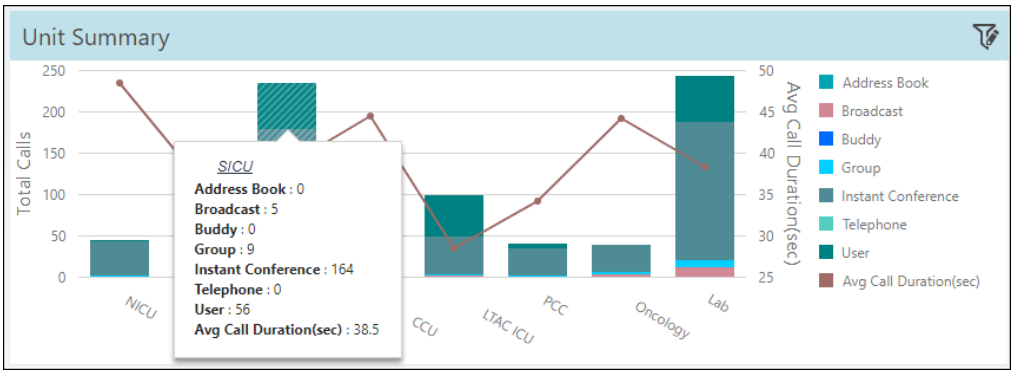


The Location Call Summary dashboard includes contextual filters.

The contextual filters contain a source and a target widget. In this case, Unit Call Summary is the source widget and the remaining widgets are target widgets. Click a unit to display only the corresponding data in the remaining widgets. For example, click NICU to display only the details of NICU unit in all the other widgets.

Unit Summary

The widget summarizes the total calls made in each unit. The parameters considered are total calls made in each unit and average call duration for the selected time frame. Data includes calls made to Address Book, Broadcast, Buddy, Group, Telephone, and User. The widget also displays the trend for average call duration. The Y-axis on the left displays the total number of calls and the Y-axis on the right displays the average call duration. Mouse over a bar chart to display the types of calls made and the average duration of a call for the selected unit.



In this example, the following calls were made from the unit SICU:

- Broadcast—5
- Group—9
- Instant Conference—164
- User—56

Average Call Duration (seconds)—38.5

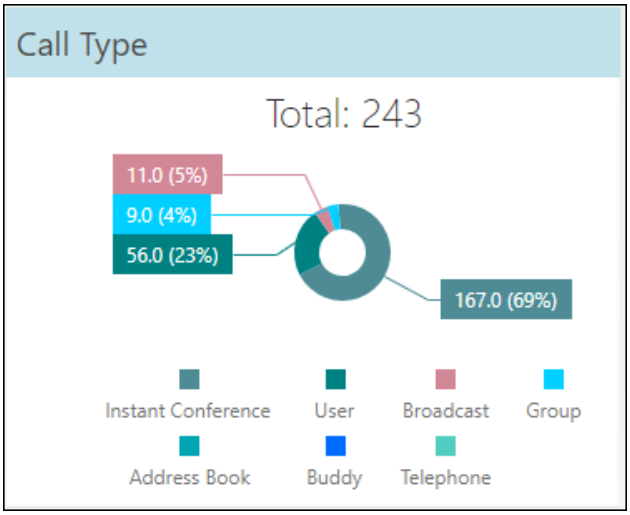
Call Type

The widget displays the different types of calls made at the Vocera Voice Server for the selected time frame. Data includes calls made to Address Book, Broadcast, Buddy, Group, Telephone, and User. Mouse over a slice on the pie chart to display the type of call made and its corresponding percentage.

Consider the data in the following figure:

- Total Calls—243
- Broadcast—11
  Percentage of Broadcast: (11/243)x100=5%
- Group—9
  Percentage of Group calls: (9/243)x100=4%
- Instant Conference—167
  Percentage of Instant Conference: (167/243)x100=69%
- User—56
  Percentage of User calls: (56/243)x100=23%

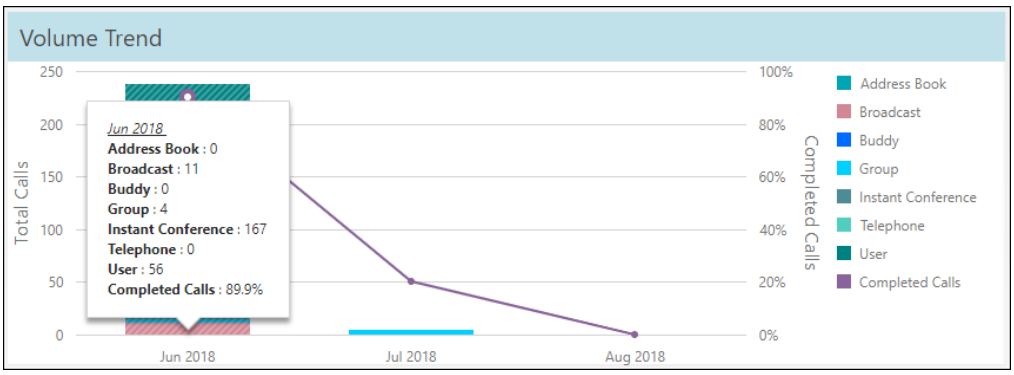
Note: The decimal values are rounded off to the nearest round figure.



Note: The count for a broadcast call is considered as 1, irrespective of the number of receivers for the particular broadcast call.

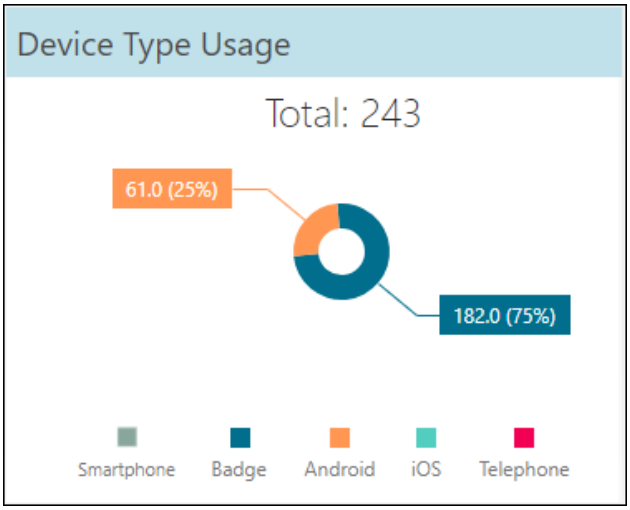
Volume Trend

This widget displays the call volume trend for the selected time frame. The left side of the chart displays the total number of calls and the right side of the chart displays the percentage of completed calls. The widget also displays the trend for completed calls. Mouse over a bar chart to display the types of calls made and the percentage of completed calls for the selected timeline.



Device Usage

This widget displays the number of times a device was used to make calls. The devices used within the Vocera system are categorized based on Android, iOS, badge, smartphone, and telephone. Mouse over a slice on the pie chart to display the device type and its corresponding percentage. The widget also displays the total number of calls made.



Call Statistics

This table displays the call statistics for the values that are displayed in the above four widgets. Based on the type of calls, it also lists the completed and incomplete calls, the percentage of completed calls and the average duration of the calls for each call type.

Use the **Search** field to search on a particular unit.

Call Statistics

Unit ↑ Search...

Call Type	Completed Calls	Incomplete Calls	Complete %	Avg Duration(sec)
Unit: NICU				
Address Book	0	0	0.0%	0.0
Buddy	0	0	0.0%	0.0
User	0	1	0.0%	0.0
Broadcast	0	0	0.0%	0.0
Group	0	2	0.0%	0.0
Instant Conference	41	0	100.0%	48.0
Telephone	0	0	0.0%	0.0

Command Usage

This table displays the list of commands used within a unit. It also displays the number of times and its corresponding percentage for the commands used.

Note: For commands that are less frequently used, the percentage might be 0% based on the average calculation.

Use the **Search** field to search on a particular command.

Command Usage

Search...

Command	Count	Percentage
AskForName	110	31.2%
Call	92	26.1%
LogOut	43	12.2%
Text	27	7.7%
Broadcast	18	5.1%
JoinConference	18	5.1%
SendMessage	10	2.8%
LeaveConference	10	2.8%

Note: In certain scenarios, the sum of percentages might be more than 100 due to rounding off value to the nearest whole number.

User Activity Details

[Data Source: VCS, Vina, Voice Server] Provides details of activities performed by users. Data displayed includes transaction times, type of activity, duration of activity, device version, call status, and party involved. Use this dashboard to perform ad-hoc troubleshooting and gather details on specific user transactions and activity.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 66: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.

Filter Name	Filter Description
Activities	Used to filter activities of the user. The options are: • Call Address Book—Call to an address aook. • Call User—Call to a user. • Call Telephone—Call to telephone number. • Call Buddy—Call to a buddy from user. • Call Group—Call to a group. The user receiving a call as part of group call is shown as **incoming** to that user. • Broadcast—Broadcast to a group. The user receiving a call as part of group is shown as **incoming** to these users. • Instant Conference—Instant conference to a group. Users joining instant conference will be shown as **incoming** to those users. • Text—Text message sent or received. • Photo—Photo sent or received. • Multi Choice—Multi choice message sent or received. • Multi Choice Response—Response to a multi choice message. • System Message—If a user adds another user to an existing conversation, a system message is generated and is shown as **outgoing** for the user performing this action. The other users in the conversation will also get a system message and it will be shown as **incoming**. • Voice Message—Voice message sent or received. • Add To Group—A user is added to a group using voice command. This activity will be shown for the user performing this action. • Remove From Group—A user is removed from a group using voice command. This activity will be shown for the user performing this action. • Login—Logging in to a device. • Logout—Logging out from a device. • DND—User enables/disables the do not disturb (DND) mode. When the user goes into DND activity, the Status field shows On and when the user comes out of DND, the status shows Off.
Directions	Used to filter the direction of the activities performed by the user. The options are: • All • Incoming • Outgoing

Note: To generate dashboards quickly, it is recommended that you use a short date range or fewer facilities.

Following is a sample User Activity Details dashboard:

Details

Search...

Time	Direction	Activity	Duration(sec)	Device Version	Status	Party Involved
User Name: Blair, Tom						
Date: 7/6/2018						
22:48:26	Incoming	Call User	0	Unknown	Incomplete due to User Canceled	Samuelson, Sam
21:27:40	Incoming	Instant Conferen...	12	B3000N	User Accepted	Wright, John
20:54:20	Incoming	Instant Conferen...	14	B3000N	User Accepted	Solly, Bill
19:18:50	Incoming	Call User	0	Unknown	Incomplete due to User Unavailable	Clarke, Sandy
19:14:18	Incoming	Instant Conferen...	16	B3000N	User Accepted	Paul, Kevin
19:00:17	Incoming	Instant Conferen...	23	B3000N	User Accepted	Parker, Tessy

The User Activity Details dashboard displays the activities of selected users from selected facilities and units. It provides a detailed view of the activities performed by users on each day. Information such as the time of call, direction of the call that denotes an incoming or outgoing call, activity of the user, duration of the activity, status of the activity, and party involved in the activity are displayed.

The Direction and Duration fields do not display any values for the following activities:

- Login
- Logout
- Add To Group
- Remove From Group

Only the Time and Status fields contain values for DND activity.

Use the Search field to search on a particular user name or field value.

Note: The Device Version field displays **Unknown** if the user is not logged in or the call is sent to a voice message.

If there are multiple values in Party Involved field, the values are separated by a semicolon.

If the content in a field is more than the field width, hover over the field to view the entire content within the field.

User Call Details

[Data Source: VCS, Vina, Voice Server] Compares details of overall call usage and statistics for one or many users. Details include total volumes, calls trends, devices used, completion percentages, and specific call durations of a user within the Vocera system. Use this dashboard for reviewing unit volume trends and identifying specific training opportunities for specific users and units.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 67: Filters

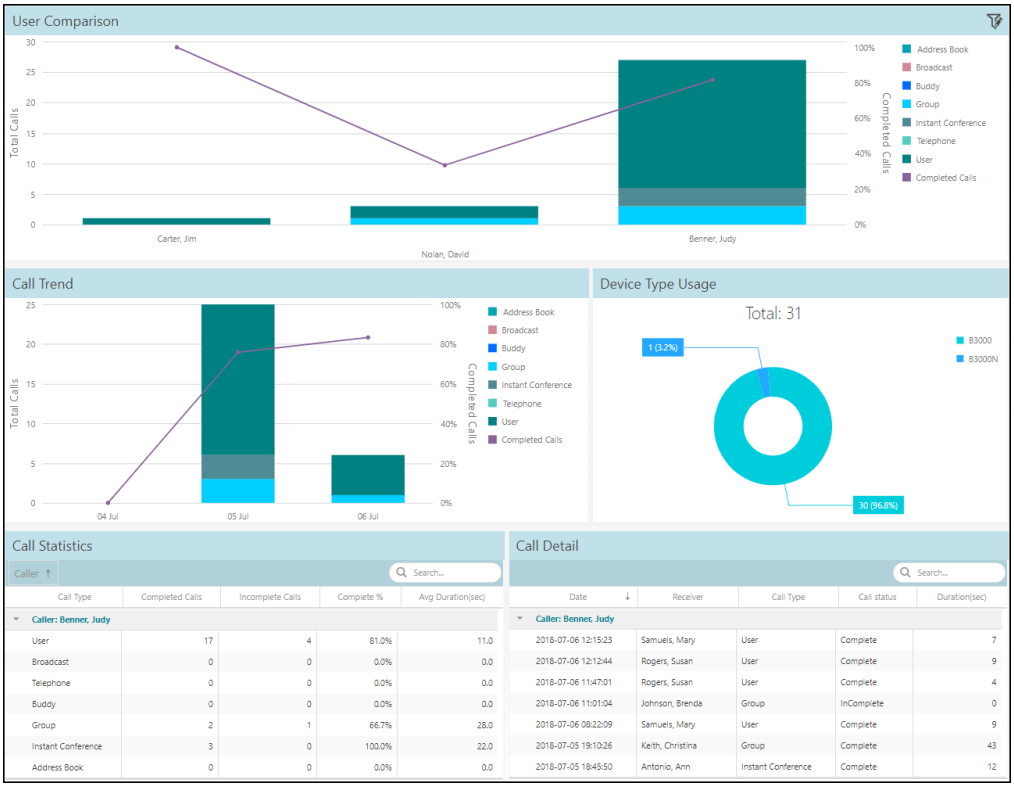
Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
Call Recipient Types	Used to filter call data based on recipient type. The available options are Address Book, Broadcast, Buddy, Group, Telephone, User, and Instant Conference.
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.

Note: To generate dashboards quickly, it is recommended that you use a short date range or fewer facilities.

The User Call Details dashboard has the following widgets:

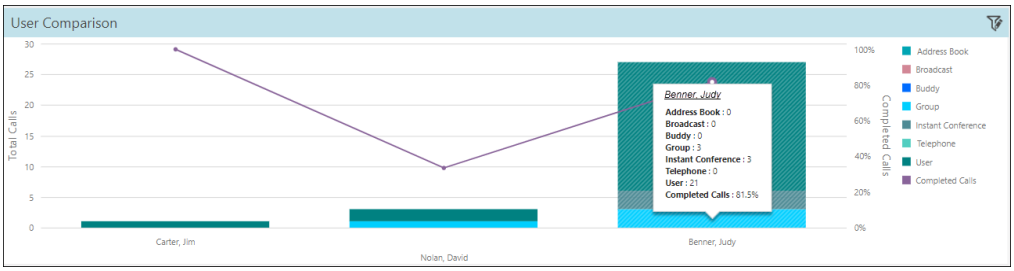
- User Comparison
- Call Trend
- Device Type Usage
- Call Statistics
- Call Detail

The following figure displays a sample User Call Details dashboard.



User Comparison

The User Comparison widget displays a comparative chart between all users, groups, address book entries, buddy, telephone, and broadcasts within a facility for the selected time frame. The widget also displays the trend for completed calls. Mouse over a bar chart to display the types of calls made and the average percentage of completed calls for the selected user.



In this example, the user Mary, Regina has made the following calls:

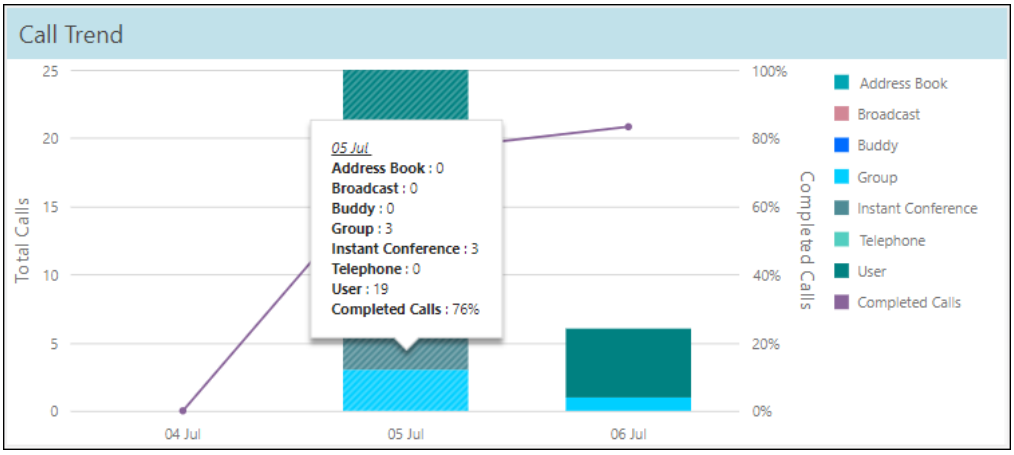
- Group—3
- Instant Conference—3
- User—21

Total calls made—27

Completed Calls Percentage—81.5%

Call Trend

This widget displays the call trend for the selected time frame based on the timeline. The timeline is adaptive based on the date range. For example, if the date range selected is 1 day, the timeline displays data for every hour. If the date range is more than a day and less than a month, the timeline displays data for every day. The Y-axis on the left displays the total number of calls and the Y-axis on the right displays the percentage of completed calls. Mouse over a bar chart to display the types of calls made and the average percentage of completed calls for the selected timeline. Click a legend to toggle the display.



Device Type Usage

The Device Type Usage widget displays the total calls by device type. The widget also includes the percentage of calls placed by each type of device. Mouse over a device type to display the total number of devices used including its percentage.

For example, in this scenario:

Total number of devices used—31

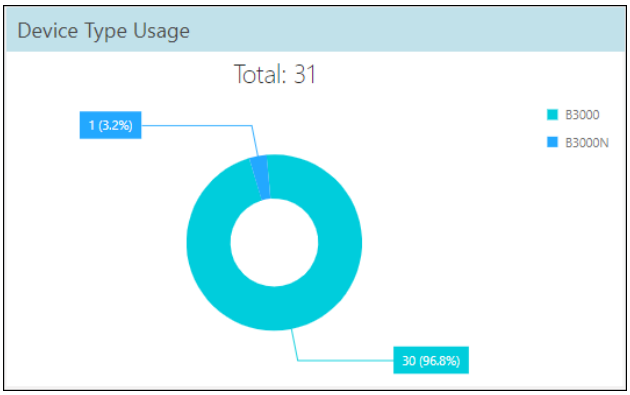
Total number of B3000N used—1

Percentage of B3000N used = (1/31) x100 = 3.2%

Total number of B3000 used—30

Percentage of B3000 used = (30/31) x100 = 96.8%

Note: The decimal values are rounded off to the nearest round figure.



Call Statistics

The Call Statistics table displays the call statistics for each caller. It lists the number of calls made based on the type of calls, completed and incomplete calls, the percentage of completed calls and the average duration of the calls for each call type.

Use the Search field to search on a particular field value.

Call Statistics

Caller ↑ Search...

Call Type	Completed Calls	Incomplete Calls	Complete %	Avg Duration(sec)
Caller: Benner, Judy				
User	17	4	81.0%	11.0
Broadcast	0	0	0.0%	0.0
Telephone	0	0	0.0%	0.0
Buddy	0	0	0.0%	0.0
Group	2	1	66.7%	28.0
Instant Conference	3	0	100.0%	22.0
Address Book	0	0	0.0%	0.0

Call Detail

The table lists the details of the call such as date and time of the call, receiver, call type, status of the call whether complete or incomplete, and the duration of the call.

Use the Search field to search on a particular field value.

Call Detail

Search...

Date ↓	Receiver	Call Type	Call status	Duration(sec)
Caller: Benner, Judy				
2018-07-06 12:15:23	Samuels, Mary	User	Complete	7
2018-07-06 12:12:44	Rogers, Susan	User	Complete	9
2018-07-06 11:47:01	Rogers, Susan	User	Complete	4
2018-07-06 11:01:04	Johnson, Brenda	Group	InComplete	0
2018-07-06 08:22:09	Samuels, Mary	User	Complete	9
2018-07-05 19:10:26	Keith, Christina	Group	Complete	43
2018-07-05 18:45:50	Antonio, Ann	Instant Conference	Complete	12

Broadcasts

[Data Source: VCS, Vina, Voice Server] Summarizes the broadcasts sent by a user to groups within a facility. The information includes date and time, user details, and duration of each broadcast in a unit. The result displayed is based on the group receiving the broadcast.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 68: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Group Facilities	Used to filter group interruptions data based on facilities (common facility name) specified while mapping Vocera Voice Server **Group** Site and Engage Facility.
Group Units	Used to filter data based on unit (common unit name). The common unit names are referenced from a crosswalk table cwunit that are mapped from Vocera Voice Server Group department.

The Broadcasts report summarizes the broadcasts sent by a user to groups. The information includes the date and time of each broadcast, the user who initiated the broadcast, the cost center to which the user belongs, and the duration of each broadcast. The information is listed by the group receiving the broadcast.

Note: The Broadcasts report includes broadcasts that were made using Vocera Connect apps.

Following is a sample Broadcasts report:

Broadcasts

From: 04/18/2018 22:11 To: 04/21/2018 22:11

Group Facility: Global

Group Unit: L and D

L and D

Date/Time	User Name	Cost Centers	Duration (sec)
04/19/2018 12:57:02	Simpson, Sarah	1000000	0

Total Broadcasts: 1 Average Duration (sec):

Group Unit: OB GYN

OB GYN

Date/Time	User Name	Cost Centers	Duration (sec)
04/19/2018 12:57:34	Simpson, Sarah	1000000	27

Total Broadcasts: 1 Average Duration (sec): 27.00

Facility Totals

Total Broadcasts: 2
Average Duration (sec): 27.00

Report Totals

Total Broadcasts: 2
Average Duration (sec): 27.00

Device Version Usage

[Data Source: VCS, Vina, Voice Server] Displays the total number of calls made using Vocera devices including call percentage. Results are generated based on the date range specified.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 69: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

The Device Version Usage report provides two types of information such as the overall device version usage and the usage trend for each device. Data includes number of calls including its percentage and total calls and percentage for the different types of devices used within the selected time frame.

Note: The interrupt type Calls also includes instant conference.

Device version usage results are grouped by devices. For each device, two different reports are provided:

- A table showing overall usage of device versions
- A line chart showing usage for each device

Following is the first page of a sample report that shows the overall device version usage.

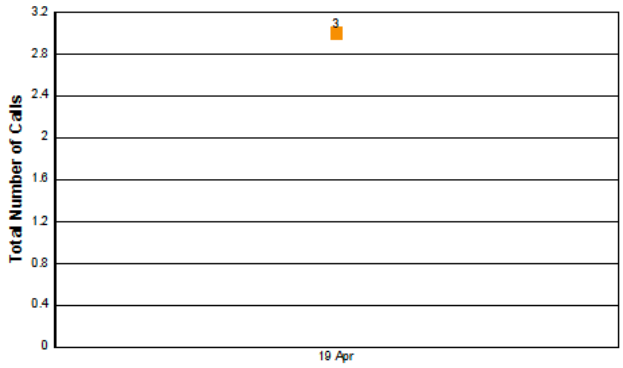
Device Version Usage

From: 04/18/2018 22:11 To: 04/21/2018 22:11

	Overall Device Version Usage	
	Number of Calls	Percentage of Calls
AccessAnywhere	3	13.04%
Android VCS	1	4.35%
Apple VCS	2	8.70%
B3000N	17	73.91%
Total	23	100.00%

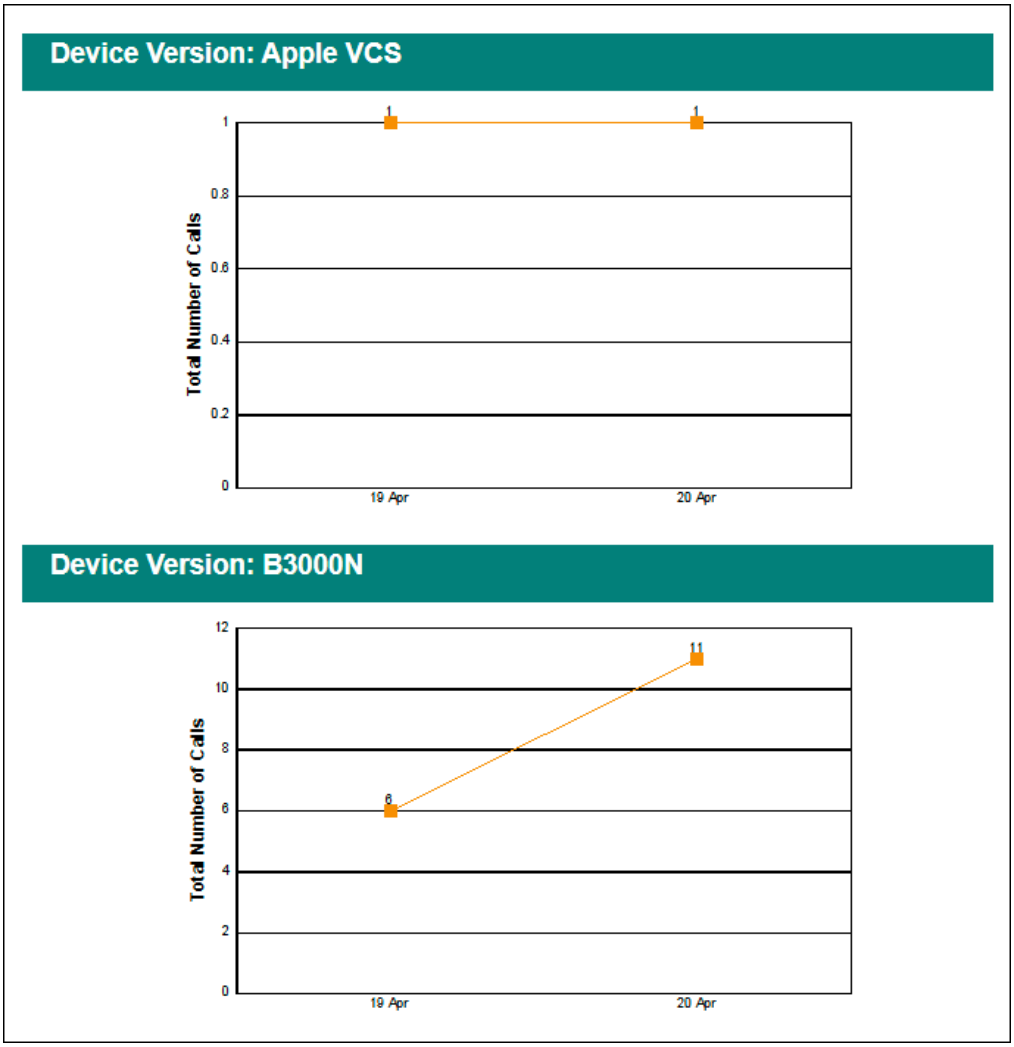
Following are the consecutive pages in a report that display the usage trend for every device used within the selected date range.

Device Version: AccessAnywhere



Device Version: Android VCS

Note: The Y-axis displays a decimal value if the date range selected has lesser number of calls.



Outgoing Calls Detail

[Data Source: VCS, Vina, Voice Server] Provides information about each outgoing call including the date and time of the call, the number or the person to whom the call was made, and the duration of the call. It also includes the total number of calls placed by the user for both complete and incomplete calls.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 70: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

Note: The interrupt type Calls also includes instant conference.

The Outgoing Calls Detail report provides information on all calls placed by the user, receiver name or group, total time spent on the calls, average duration of the call, and facility and report totals.

Note: To generate reports quickly, it is recommended that you use short date range or less number of facilities.

Following is a sample Outgoing Calls Detail report:

Outgoing Calls Detail

From: 09/10/2018 17:32 To: 11/10/2018 17:32

Facility: Global

Unit: Pre-Assessment

Jacobs, Mark Total Calls: 5

Incomplete Calls	Call Type	Called	Reason Incomplete	
09/10/2018 17:38:15	Address Book	Myers, Chris	Unavailable	
09/10/2018 17:40:47	Address Book	Myers, Chris	Unavailable	
09/10/2018 17:46:36	Address Book	Myers, Chris	Unavailable	
09/10/2018 18:02:08	User	Sanders, Patrick	Not logged in	
10/10/2018 22:05:28	Address Book	Myers, Chris	Unavailable	

Subtotal: 5

Average Duration (sec): Total Call Time:

Sanders, Patrick Total Calls: 4

Incomplete Calls	Call Type	Called	Reason Incomplete	
10/10/2018 22:03:40	Group	ICU	Myers, Chris => Unavailable	
10/10/2018 22:07:00	Address Book	Call, Test	Unavailable	
10/10/2018 23:04:30	User	Prince, Daisy	Phone not answered	

Subtotal: 3

Completed Calls	Call Type	Called	Accepted By	Duration (sec)
10/10/2018 20:54:57	Instant Conference	Williams, Jason	Williams, Jason	6

Subtotal: 1

Average Duration (sec):6 Total Call Time: 00:00:06

Note: In a group call, if a user in the group rejects the call, the Reason Incomplete field displays the name of the user and the reason for the rejection. For example, in the screenshot, the caller Sanders, Patrick made a group call, and the receiver Myers, Chris rejected the call. Hence the Reason Incomplete field displays Myers, Chris => Unavailable.

System Call Volume Trend

[Data Source: VCS, Vina, Voice Server] Displays incoming and outgoing call volume trend for various data sources for a specified date range. It also provides data for each facility as well as the overall system.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 71: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

Filter Name	Filter Description
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.

The System Call Volume Trend report shows all Vocera calls including PBX calls. You can plot the trend over daily, weekly, or monthly periods. Reports generated for multiple sites provide data for each site as well as aggregated total.

Call volume results are grouped by site. For each site, three different reports are provided:

- A line chart that displays call volume trends over time
- A pie chart that displays slices for each category of call volume results
- A table that displays detailed call volume data

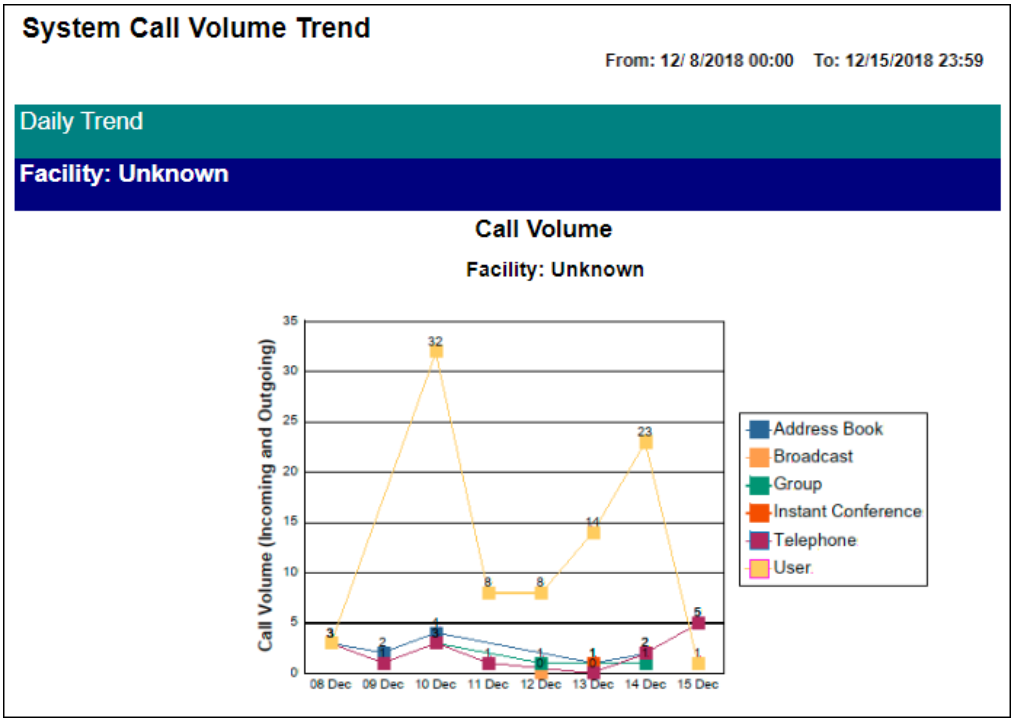
Call volume results are categorized as follows:

- Address Book
- Broadcast
- Group
- Instant Conference
- Telephone
- User

Following is a sample System Call Volume Trend report:

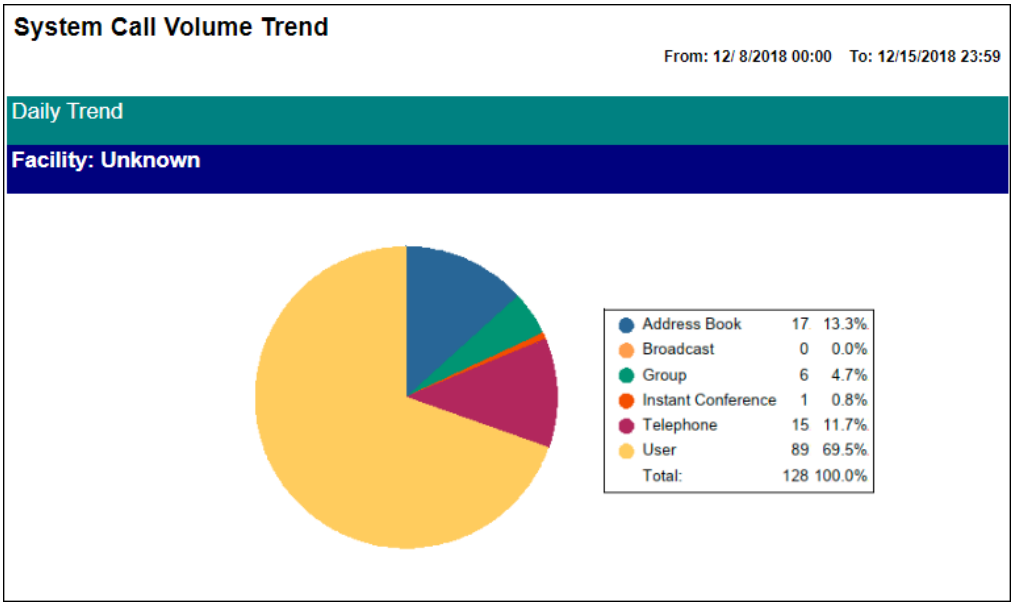
Line Chart

The line chart shows call volume trends over time.



Pie Chart

The pie chart displays slices for each category of call volume results.



Table

The table displays detailed call volume data.

System Call Volume Trend

From: 12/ 8/2018 00:00 To: 12/15/2018 23:59

Daily Trend

Facility: Unknown

	Total	Address Book	Broadcast	Group	Instant Conference	Telephone	User
08 Dec	9	3	0	0	0	3	3
09 Dec	3	2	0	0	0	1	0
10 Dec	42	4	0	3	0	3	32
11 Dec	9	0	0	0	0	1	8
12 Dec	9	0	0	1	0	0	8
13 Dec	17	1	0	1	1	0	14
14 Dec	28	2	0	1	0	2	23
15 Dec	11	5	0	0	0	5	1
Total	**128**	**17**	**0**	**6**	**1**	**15**	**89**

User Activity

[Data Source: VCS, Vina, Voice Server] Displays the activities of users in a Vocera system. It provides a detailed view of the activities performed by users on each day.

The information displayed on the screen is determined based on the filters that you apply. The available filters are:

Table 72: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."

Filter Name	Filter Description
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.
User Names	Used to filter data based on the names of the users. They are displayed based on the **LastName, FirstName** format. **Note:** Filter displays 25 users sorted based on username.
Activities	Used to filter activities of the user. The options are: • Call Address Book—Call to an address aook. • Call User—Call to a user. • Call Telephone—Call to telephone number. • Call Buddy—Call to a buddy from user. • Call Group—Call to a group. The user receiving a call as part of group call is shown as **incoming** to that user. • Broadcast—Broadcast to a group. The user receiving a call as part of group is shown as **incoming** to these users. • Instant Conference—Instant conference to a group. Users joining instant conference will be shown as **incoming** to those users. • Text—Text message sent or received. • Photo—Photo sent or received. • Multi Choice—Multi choice message sent or received. • Multi Choice Response—Response to a multi choice message. • System Message—If a user adds another user to an existing conversation, a system message is generated and is shown as **outgoing** for the user performing this action. The other users in the conversation will also get a system message and it will be shown as **incoming**. • Voice Message—Voice message sent or received. • Add To Group—A user is added to a group using voice command. This activity will be shown for the user performing this action. • Remove From Group—A user is removed from a group using voice command. This activity will be shown for the user performing this action. • Login—Logging in to a device. • Logout—Logging out from a device. • DND—User enables/disables the do not disturb (DND) mode. When the user goes into DND activity, the Status field shows On and when the user comes out of DND, the status shows Off.
Directions	Used to filter the direction of the activities performed by the user. The options are: • All • Incoming • Outgoing

Note: To generate reports quickly, it is recommended that you use short date range or less number of facilities.

The User Activity report shows the activities of selected users from selected facilities and units. It provides a detailed view of the following activities performed by users for each day:

Note: The Text, Photo, Multi Choice, Multi Choice Response, and System Message activities will be seen only when VCS messaging is used by the user.

There are several events the report cannot capture. It only captures events that occur when users are connected to the organization's Wi-Fi network. Consequently, it cannot capture when users roam off network or power off their devices. It also does not report on automatic logouts or on calls made remotely using Vocera Collaboration Suite or Vocera Access Anywhere.

The User Activity report can take a long time to generate. Consequently, you may want to schedule this report to run overnight.

Following is a sample User Activity report:

User Activity

From: 11/10/2018 00:00 To: 12/10/2018 23:59

Facility/Unit/User Name: Global/Pre-Assessment/Jackson, Deborah

Date: 12/10/2018

Time	Direction	Activity	Duration	Device Version	Status	Party Involved
21:32:43	Incoming	Call Group	0	Unknown	Incomplete due to User Caller blocked	Maxwell, John
21:16:25	Incoming	Call User	0	Unknown	Incomplete due to User Caller blocked	Rogers, Karen
21:01:54	Incoming	Call User	5	B3000	User Accepted	Maxwell, John
21:01:40	Incoming	Call User	0	Unknown	Incomplete due to User Caller blocked	Maxwell, John
21:01:17	Incoming	Call User	4	B3000	User Accepted	Maxwell, John
21:01:10	-	DND	-	-	On	-
18:36:26	Outgoing	Instant Conference	3	Unknown	User Accepted	Maxwell, John

Custom Reports

[Data Source: Engage, VCS, Vina, VMI, Voice Server] Specific custom created reports are viewed from this folder. Using Crystal Reports, you can customize your own reports for Vocera Analytics and add it to the Report Console.

To access the Vocera Analytics Server database, you must install Crystal Reports 2016 and the MySQL Connector/ODBC 3.51 driver on a computer other than the one on which the Vocera Analytics Server is installed. You must also set up an ODBC data source.

The information displayed on screen is determined by the filters that you apply. Sample filters included with this sample report are:

Table 73: Filters

Filter Name	Filter Description
Date Range	The date range to include in the results. By default, the value is the current date; however, you can select from a list of options. For example, you can select the option "Last 7 days" or "Last 30 days."
Facilities	Used to filter data based on user facilities (common facility name) specified while mapping Vocera Voice Server **User** Site and Engage Facility.
Units	Used to filter data based on user units (common unit name). Common unit names are referenced from a crosswalk table `cwunit` that are mapped from Vocera Voice Server User Department and Engage Units. **Note:** The displayed units drop-down filter may be constrained due to the Facilities filter. Unknown Unit or Department display data for all users that are not part of any department selected within the Facilities filter.

To create a custom report, you must add your report as a menu item and create a report template file.

Adding your report as a menu item

1. Open the `custom-menu.json` file from the following location: `<Install Drive>\Path of Visualization Server folder\ conf \custom-menu.json`.

   For example: `C:\Analytics\visualizationserver\conf\custom-menu.json`.

   Note: You must add the custom report so that it shows as a sub-menu inside the main menu of the report.

2. Define your custom report as shown below:

```
[{
"menuId" : "custom_report",
"name" : "Sample Custom Report",
"reportId" : "sample_custom_report",
"url" : "/sample_custom_report",
"templateUrl":"report/report.tpl.html",
"parent":"custom",
"params" : {
"templateFileName" : "samplecustomreport.rp.tpl",
"description" : "This is the sample report which summarizes Outgoing Calls."
```

```
},
"items" : []
}
]
```

The following table lists the menu item and its description:

Property	Description
menuId	An unique identifier for the menu.
name	Name of the report that will be displayed under menu.
reportId	An unique identifier for the report.
url	An unique relative URL that would be displayed on the address bar of the browser.
templateUrl	The templateUrl for reports is `report/report.tpl.html`. Refer the section for information on how to create a report template file.
parent	Name of the parent menu.
params > template_file_name	The name of the report template file created under `conf\Report Template` in Visualization Server.
params > description	A short description of the report.

Creating a report template file

1. Create a report template file in the following location: <Install Drive>\Path of Visualization Server folder\ conf\Report Templates
   For example: C:\Analytics\visualizationserver\conf\Report Templates

   Note: The .rpt file must be **created/copied** at C:\Analytics\reports.

   A report template file content is compiled into a report page in the Vocera Analytics Web console.
2. Define your report template file as shown below:
   The name format for the report template file must be given as: <Report Name>.rpt.tpl)

```
<va-report rpt-name="Outgoing Calls by Users - Summary">

    <va-report-container
        rpt-file="OutgoingCallsSummary.rpt"
        filter-params="fromTime|toTime|sites|units"/>

    <va-filter>

        <va-date-range-picker/>

        <va-dropdown name="sites" label="Facilities"
                    bind-name="Site_Clause"
                    table-name="cwfacility"
                    column-name="common_facility_id"
                    filter-data-source="cwfacilities"
                    header="All"
                    select-limit="10"
                    place-holder-text="Select Facilities"
                    multiple="true"/>

        <va-dropdown name="units" label="Units"
                    bind-name="Unit_Clause"
                    table-name="cwunit"
                    column-name="common_unit_id"
                    filter-data-source="cwunits"
                    filter-params="sites"
                    header="All"
                    select-limit="10"
                    place-holder-text="Select Units"
                    multiple="true"/>

    </va-filter>
```

```
</va-report>
```

The following table lists the custom control name and its description:

Custom Control Name	Description
va-report	Container of the whole report page.
va-filter	Container of filters used in the report template.
va-date-range-picker	Date range picker. It automatically creates the key *fromTime* and *toTime*.
va-dropdown	It is a drop-down control. It has the following parameters: • name: Name of the drop-down to be shown as a label. • bind-name: Parameter name in Crystal reports to which the value should map. • table-name: Table name to form the where clause. • column-name: Column Name to form the where clause. • filter-data-source: Relative path of rest api. The preceding forward slash is not required. • header: The value to be shown in the drop-down when nothing is selected. Specify it as "All." • select-limit: The maximum number of elements that can be used in the drop-down. • multiple: Set it to true if multi selection need to be enabled.
va-report-container	Container of the Crystal report frame. • rpt-file: Name of the rpt file. • filter-params: List of parameters separated by a pipe (|) that the report depends on. The parameters *fromTime* and *toTime* keys are automatically created when va-date-range-picker is included in the template.

Filters used for Rest APIs

The following table lists the rest API and its description.

Rest API	Description
/assets/test_resource/aboveBelow.json	Filters data in Speech dashboards based on recognized percentage that can be above or below a certain threshold.
/assets/test_resource/addressBookTypes.json	Filters data based on the address book type such as a person or a place.
/assets/test_resource/deviceType.json	Filters data by device types such as Android, Badge, or iOS.
/assets/test_resource/incomingCallTypes.json	Filters data based on incoming call type in Interruption dashboards.
/assets/test_resource/reasonsUnAnswered.json	Filters data based on the reasons unanswered in Interruption dashboards.
/assets/test_resource/reportTypes.json	Filters data by report type such as a dashboard or a report.
/cwfacilities	Filter data by facilities from crosswalk table.
/cwunits	Filters data by units from crosswalk table using facility as a parameter.
/deviceVersions	Filters data by device version.
/deviceVersionsByType	Filters data by device versions and using device type as a parameter.
/exceptionTypes	Filters data based on exception types that might come in package scheduler.
/interruptTypes	Filters data based on interrupt types such as alarms, alerts, calls, messages.
/locations	Filters data based on the location within a facility using facility as a parameter.
/priorities	Filters data by priority.
/searchGroups	Filters data by groups using facility and a search string as parameters.
/searchUsers	Filters data by users and takes facility, unit and a search string as parameters.
/sourceTypes	Filters data by interruption source using interrupt type as parameter.
/usersByUnits	Filters data by users using unit and a search string as parameters.
/vmiClients	Filters data based on VMI client.

Troubleshooting

This section provides general troubleshooting information that you may encounter using Vocera Analytics.

Sequence For Restarting Vocera Analytics After MariaDB Lock Wait Timeout

The MariaDB service must be restarted before starting any other service in case of a lock wait timeout by Engage Data Export adapter. This topic describes the sequence of steps to be followed to restart the services successfully.

The Engage Data Export adapter experiences lock wait timeout if there is a loss of network connectivity.

To resolve the lock wait timeout, the database service on Windows must be restarted prior to restarting the other services, or Engage Data Export adapter. Specifically, the MariaDB service must be restarted prior to Spark and Data Export Adapter. The Spark service has the Hikari Connection Pool that must be created again with the database in a normal state. The Data Export Adapter can be restarted earlier, however it will not be able to successfully resume operation until the database is reset and restarted.

Perform the following sequence of steps for stopping and starting services:

1. Use the Stop All Services button to stop services that may be currently accessing the database.
2. Navigate to the Windows Services and Stop the MariaDB service.
   The MariaDB service is now stopped.
3. Restart the MariaDB Windows service.
4. Use the Start All Services button to start services for Vocera Analytics.
5. Restart any other processes such as Engage Data Export adapters.

Tomcat issues

This section describes the issues faced with Tomcat and its corresponding workarounds.

- In certain circumstances, the system may display a Tomcat error message when the user restarts the Windows Server that has Windows version 2016 running on it.
  Workaround: Ignore the error message.
- Reports may not work in Internet Explorer and Firefox when Tomcat is running with SSL.
  Workaround: Open a new tab in Internet Explorer or Firefox and enter `https:[Visualization Server IP Address]:8443`. Open another tab and enter `https:[Visualization Server IP Address]:9443`

  Note: Ensure that you open both the IP addresses in the same browser. In case, you have updated `application.conf` file of Visualization Server to use hostname instead of IP address, you must use the same hostname instead of IP addresses in the above URLs.

Database Schema Tables Overview

This section provides an overview of the tables of Vocera Analytics usage.

The following is a list of tables used in Vocera Analytics:

- Vocera Voice Server Dimension Tables
- Vocera Voice Server Fact Tables
- Summary Tables
- VMP Tables
- Engage Dimension and Fact Tables
- Engage Report Summary Tables
- CrossWalk Tables
- Database View Tables

The Vocera Analytics Schema Guide provides complete documentation on the list of tables included in the database schema. For more information, see **https://pubs.vocera.com/analytics/analytics_1.0.0/help/va_dbschema_help/index.html#topics/va_tbl_intro.html**

Glossary

The following table displays the glossary terms and its corresponding definition.

Term	Definition
Alarm Analytics	Detailed analytics on all alarm data available from medical devices. Analytics include alarms that are not prioritized or processed by middleware but may make "noise in the room."
Alarms	Alarm is an audible, vibratory, or visual signal that a potential or actual hazard exists. Alarms can be generated from a medical device or system such as patient monitor, ventilators, IV pumps.
Alerts	Alert an audible, vibratory, or visual signal that a potential or actual hazard exists. Alerts are generated nurse call, labs, orders and not from medical devices.
Chart	Charts are analytical data represented in graphical format and are located inside a widget and presents.
Chart Options	Chart use `JSON` formatted configuration information while building the chart. Configuration information such as argument axis configuration, value axis configuration, legends, series colors are also part of chart options.
Conversations	Conversations are aggregation or grouping of messages. Conversations can be unlimited in number. It could be ad-hoc, based on patient, call. It can also be aggregated based on an alarm or event.
Dashboard	An information management tool that is used to track KPIs, metrics and other key data points relevant to a business, department, or a specific process. The dashboard uses data visualizations and simplify complex data sets and provide users awareness of current performance at a glance. Dashboard consists of multiple widgets.
Event Priority	The event (alarm, alert, call) includes source interruption priorities that are available for analytics. Event Priority includes Call Priority (Urgent, Panic, Normal) or Alarm Priority (High, Medium, Low, Urgent).
Event Type	The Event Type (by Interruption Category) • Alert—Lab and Order • Alarm—Massimo and Patient Monitor • Call Interruption Types—Badge, Phone, Broadcast Call, Group Call, and Patient Call • Message Interruption Type—Email, Text, Broadcast message or notification, and Group message
Facility	Facility is an individual hospital site available within the organization.
Interrupt	Interrupts are notifications to staff within an enterprise through the Vocera System in the form of calls, messages, alarms, alerts, and so on.
Interrupt Types	Interrupts types are call, texts, notifications, alarms, alerts, and so on.
Interruptions	Interruptions are notifications that stop a person delivering care. Interruptions are alarms, alerts, phone calls, physical hallway conversations, text messages, and so on.
Interruption Analytics	Interruption Analytics are metrics or dashboard data that help with interruption fatigue as well as usage and adoption of technology.
Interruption Category	Interruption Categories are Alarm, Alerts, Messages, and Calls.
Interruption Priority	Interruption Priorities are Urgent, High, Medium, Low, and Normal.
KPI	KPI (Key Performance Indicators) is a mechanism to track performance at an individual, organization or industry level. These indicators are a set of quantifiable measures used to compare performance over a specific period.
Messages	Messages refer to text message received by the users.
Near Real-Time	Typically referred to waveforms and is usually between 5-15 seconds where clinicians expect current information to make clinical decisions.

Term	Definition
Notifications	A one-way message received by users and to which users are unable to respond. Notifications are typically delivered to clinicians in bulk to communicate an event such as Code Silver (active shooter).
Receiver	The target of the interrupt. In case of calls, it is the call receiver (user/group), and similarly for messages, it is message receiver (user or group). In case of alarms, it is the staff or staff group that gets the alarm.
Sender	The source of the interrupt. In case of calls, it is the caller. In case of messages, it is the sender. In case of alarms, it is the patient monitor or nurse call (data source).
Widget	A container of one or more charts. Multiple charts are presented in multiple tabs inside a widget.

Appendix

This appendix describes the following topics:

Command Line Syntax Conventions

This topic describes the convention used to indicate command line syntax.

Use the command line to directly communicate with the Vocera Analytics system. The following table lists the conventions used in command line.

Convention	Description
Text without brackets or braces	Represents items that you must type as shown.
<Text inside angle brackets>	Represents a placeholder for which you must provide a value.
[Text inside square brackets]	Represents items that are optional.
{Text inside braces}	Represents set of items that are required. You must select one value.
Vertical bar (|)	Represents separator for mutually exclusive items. You must select one value.
Ellipsis (…)	Represents items that can be repeated.

backup

Performs a backup that matches the operation mode specified at runtime.

Syntax

```
vacli backup [-FS] [-m=OPTION] CONFIG
```

Parameters

The following table lists the parameters:

Parameter	Description
CONFIG	HOCON file that describes the backup specifications.
-m	Specifies the mode of operation. The options are *DATA*, *CONF*, and*ALL*.
-F	Forces a full backup even if a full backup already exists.
-S	Uses archives secured and compressed by a third-party tool with credentials from the configuration file.
-e	Creates an archive with backups that match the operation mode.

The *DATA* operation mode performs an incremental backup of the database server relative to the most recent backup. If no backup exists to use as a reference, the operation performs a full backup of the database server.

The *CONF* operation mode performs a backup of the various Vocera Analytics configuration files.

The *ALL* operation mode performs both *DATA*and *CONF* backup. If no operation mode is specified at runtime, the default option, *ALL*, will be used.

The export *-e* option creates an archive that contains existing backups matching the current operation mode. The archive can be restored using the appropriate operation mode.

restore

Performs a restore that matches the operation mode specified at runtime.

Syntax

```
vacli restore [-S] [-a=ARCHIVE_FILE] [-m=OPTION] CONFIG
```

Parameter	Description
CONFIG	HOCON file that describes the backup specifications.
-m	Specifies the mode of operation. The options are *DATA*, *CONF*, and *ALL*.
-a	Restores a specific backup from an archive.
-U	Restores the contents of the data directory prior to the last executed restore operation.
-S	Uses archives secured and compressed by a third-party tool with credentials from the configuration file.

The *DATA* operation mode attempts to restore and prepare all available backups to the MariaDB database server. You may specify a specific archive to restore.

The *CONF* operation mode finds the named configuration file archive at the storage location for archives specified by the configuration file. The *DATA* operation mode finds the named database archive at the storage location for archives specified by the configuration file. If you specify the name of the last full data backup archive, only that data will be restored.

The *ALL* operation mode performs both a *DATA* and *CONF* restore. If no operation mode is specified at runtime, the default mode, *ALL*, will be used. Using the *-a* option with the *ALL* operation mode specifies a combined database and configuration file archive created using the *-e* export option.

The *-U* (undo) option uses the last internal backup to restore the contents of the data directory. An internal backup will be attempted prior to each restore based on the contents of the data directory at the time just prior to the restore. An internal backup will not be attempted if the database server process is not running.

Copying Jar Files for Voice Server 5.3.1

This section describes the steps to copy the jar files for Voice Server 5.3.1.

To use Voice Server 5.3.1 as a source in Vocera Analytics 1.1.0, perform the following steps:

1. Go to **<VoiceServer_Install_Directory>\vocera\server\lib** folder.
2. Copy the **signaling-adapter-api-5.3.1-SNAPSHOT.jar** file to the following folders for flume agent and dimension loading utility to work as expected:
   - **<VA_INSTALL_Directory>\VoceraAnalytics\DimensionLoading**
   - **<VA_INSTALL_Directory>\VoceraAnalytics\Agent\Flume\lib**

Note: For Voice Server cluster, you must perform these steps on both nodes.

Limitations of Instant Conference

This section describes the limitations of Instant Conference:

The following limitations are applicable when a user is part of an instant conference group and the instant conference is in progress:

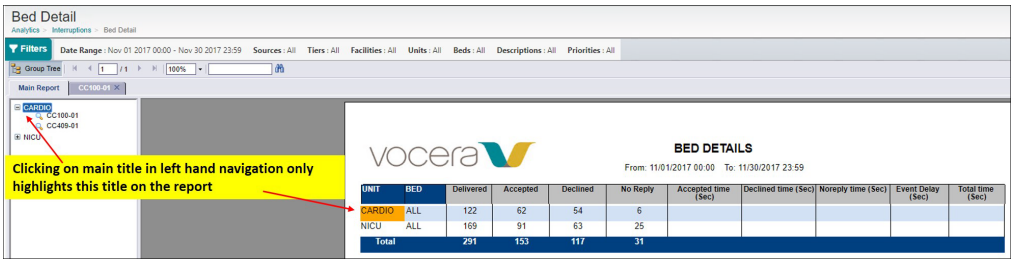
- When the user is in Do Not Disturb (DND) mode while an instant conference was initiated, then Vocera Analytics cannot generate an interrupt / call entry.
- When the user exits DND mode while the instant conference is still in progress, then Vocera Analytics cannot generate an interrupt / call entry.
- When an instant conference is in progress and the user logs in then Vocera Analytics cannot generate an interrupt / call entry.
- When all users of a conference group are not online or are in DND mode, Vocera Analytics cannot generate an interrupt / call entry.

Navigating Sub-Reports in Interruptions Folder

This section describes how you can navigate to sub-reports in the Interruptions folder.

You cannot navigate to a sub-report within the reports in the Interruptions folder using the left-hand navigation. To navigate to the first sub-report, you must click the main report directly.

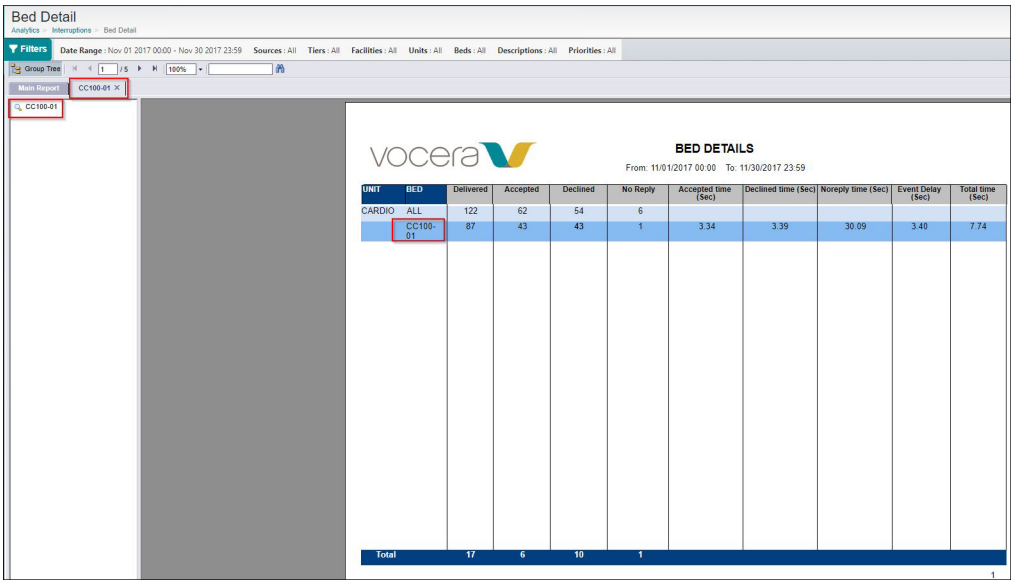
In this example, let us consider the Bed Details report. The main report page is displayed as shown in the following screenshot.



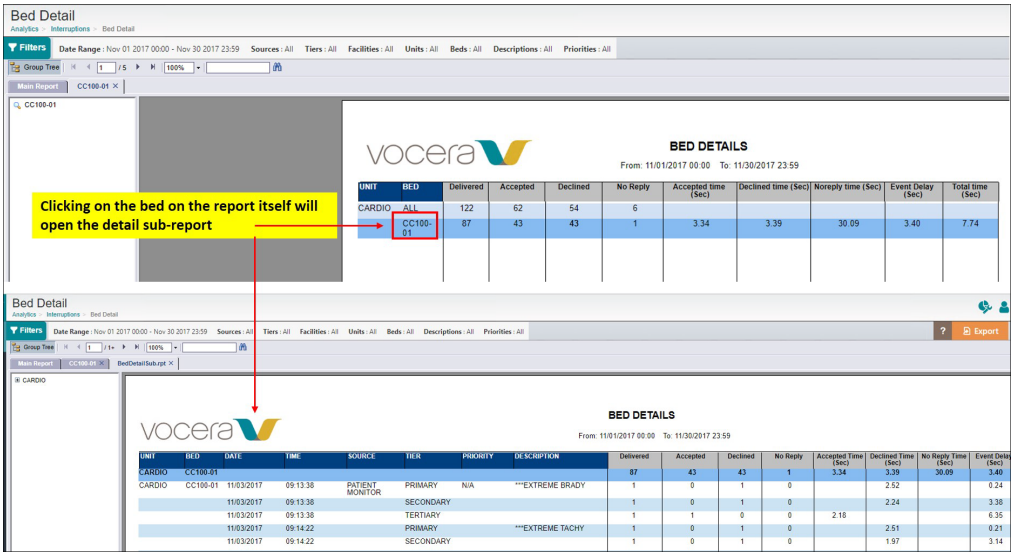
On the main report, the left hand navigation displays Units. Clicking on a unit will only highlight the unit on the report. It does not open the unit sub-report.

Click the plus (**+**) sign next to the main title to expand the left hand navigation.

Click on one of the expanded selections to open the relevant sub-report at the summary level as shown in the following example.



To navigate to the detail level sub-report, interact with the main report screen. Click the respective bed name on the summary level sub-report to open the detail level sub-report as shown in the below example.



UNIT	BED	Delivered	Accepted	Declined	No Reply	Accepted time (Sec)	Declined time (Sec)	Noreply time (Sec)	Event Delay (Sec)	Total time (Sec)
CARDIO	ALL	122	62	54	6					
	CC100-01	87	43	43	1	3.34	3.39	30.09	3.40	7.74

UNIT	BED	DATE	TIME	SOURCE	TIER	PRIORITY	DESCRIPTION	Delivered	Accepted	Declined	No Reply	Accepted Time (Sec)	Declined Time (Sec)	No Reply Time (Sec)	Event Delay (Sec)
CARDIO	CC100-01							87	43	43	1	3.34	3.39	30.09	3.40
CARDIO	CC100-01	11/03/2017	09:13:38	PATIENT MONITOR	PRIMARY	N/A	***EXTREME BRADY	1	0	1	0		2.52		0.24
		11/03/2017	09:13:38		SECONDARY			1	0	1	0		2.24		3.38
		11/03/2017	09:13:38		TERTIARY			1	1	0	0	2.18			6.35
		11/03/2017	09:14:22		PRIMARY		***EXTREME TACHY	1	0	1	0		2.51		0.21
		11/03/2017	09:14:22		SECONDARY			1	0	1	0		1.97		3.14