

Quest® MessageStats® Report Pack for Lync®  
& Skype for Business Server 7.7

**User Guide**



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**Legend**

-  **WARNING:** A WARNING icon indicates a potential for property damage, personal injury, or death.
  
-  **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.
  
-  **IMPORTANT NOTE, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

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# Report Pack for Lync & Skype for Business Overview

- [About This Guide](#)
- [About Report Pack for Lync & Skype for Business Installations](#)
- [Report Pack Components](#)

## About This Guide

This guide can assist you in becoming familiar with MessageStats reporting for Lync and Skype for Business servers. The MessageStats Report Pack for Lync & Skype for Business Server is installed with the core MessageStats product and is not licensed separately.

## About Report Pack for Lync & Skype for Business Installations

The MessageStats Report Pack for Lync & Skype for Business extends the MessageStats core product by adding the ability to gather usage data from Microsoft Lync and Skype for Business Server deployments.

When the report pack is installed, a new node is added to the MessageStats Console. You collect information from from Lync Servers and Skype for Business Servers by using the gathering task templates that are added to the MessageStats gathering components library.

For reporting, additional folders are added to the MessageStats Reports. The MessageStats database is extended to include tables for Lync and Skype for Business server data.

## Report Pack Components

The report pack components extend the core MessageStats product:

- **MMC Console:** Extends the MessageStats MMC-based client console to include a node for Lync & Skype for Business Server. This report pack MMC component must be installed on the server on which the MessageStats MMC client is installed.
- **Task Processors:** The component runs gathering tasks on the Microsoft Skype for Business and Lync pools and stores statistical information in the MessageStats database. You install the report pack task processors on a Task Execution Server on which the core MessageStats task processors are installed.
  - For a pure Lync or Skype for Business Server installation, you can install the task processors on a different domain, if necessary.

- **Database:** Extends the MessageStats database to store Microsoft Skype for Business and Lync information. Install this component on the SQL server that houses the MessageStats database.
- **Reports:** Provide detailed information about the traffic on the Microsoft Skype for Business and Lync servers. The reports provide information about instant messages, file transfers, audio/video conferences, enterprise voice calls, and peer-to-peer sessions. Install this component on the IIS Server on which the MessageStats Reports are hosted.

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# Installing the Report Pack

- [Preparing for installation](#)
- [Verifying system requirements](#)
- [Required Rights and Permissions](#)
- [Configuring Lync Server 2010](#)
- [Configuring Lync Server 2013, Skype for Business 2015/2019](#)
- [Installing the Report Pack](#)

## Preparing for installation

Before you install the MessageStats Report Pack for Lync & Skype for Business, you must have MessageStats 7.7 installed. Ensure that the system requirements are met before you install.

### Database collocation is not recommended

MessageStats does not support the installation of the MessageStats database in the same SQL Server instance as the Archiving and CDR databases of Microsoft Lync or Skype for Business Server as this would impair server performance.

Also, it is not recommended that you install MessageStats database on the same SQL server as the Lync or Skype for Business Archiving or CDR database. This scenario can result in a performance impact in your Microsoft Lync Server or Skype for Business environment.

For performance and troubleshooting reasons, Microsoft does not recommend configurations in which the server that is hosting an Archiving and/or CDR database is used to host other SQL applications.

## Verifying system requirements

Before you install the report pack, verify that you meet the following minimum requirements:

- [Hardware requirements](#)
- [Software requirements](#)

Verify that the accounts used to install the report pack and to run gathering tasks to collect Lync or Skype for Business data have the required rights and permissions. For more information, see [Required Rights and Permissions](#) on page 9.

## Hardware requirements

The following table contains the hardware requirements for the report pack:

**Table 1. Minimum hardware requirements.**

Type	Minimum
Processor	Pentium 4, running at a minimum speed of 2.4 GHz
RAM	8 GB
Disk	20 MB of free disk space to install the application

## Software requirements

You install the report pack components on servers on which the core MessageStats components are already installed. You must meet the software requirements for MessageStats. See the *MessageStats Release Notes* for the software requirements for the different MessageStats components.

The following table contains any additional requirements for the report pack:

**Table 2. Minimum software requirements.**

Type	Minimum requirement
Reports	IIS 8.0 or later is required. Also certain IIS roles services must be enabled. See the <i>MessageStats Quick Start Guide</i> for more information.
.NET	Microsoft .NET Framework 4.7.2
Additional Software	<ul style="list-style-type: none"> <li>For the report pack installation, MessageStats 7.7 is required.</li> </ul> <p><b>On the server that hosts the MessageStats task processors (Task Execution Server):</b></p> <ul style="list-style-type: none"> <li>To gather from Microsoft Lync server or Skype for Business server, you must install PowerShell 2.0.</li> </ul>
Lync and Skype for Business Environment	<p>The Archiving and Monitoring (CDR) server roles or services must be enabled on your Skype for Business or Lync Server.</p> <p>For information about installing and enabling Monitoring and Archiving, see the appropriate section:</p> <ul style="list-style-type: none"> <li><a href="#">Configuring Lync Server 2010 on page 10</a></li> <li><a href="#">Configuring Lync Server 2013, Skype for Business 2015/2019 on page 13</a></li> </ul>

## Report pack component correlation to core MessageStats components

The following table lists the additional software requirements for the report pack components. If you intend to install two components on one server, that server must meet the requirements for both components.

**Table 3. Mapping report pack components to core MessageStats.**

Component	Minimum requirement
Report Pack Database	MessageStats database 7.7
Report Pack Reports	MessageStats reports 7.7
Report Pack Task Processor	MessageStats task processors 7.7 MessageStats scheduler service 7.7
Report Pack Client Console	MessageStats MMC client console 7.7



# Required Rights and Permissions

This section lists the rights and permissions that are required to install either the report pack or the stand-alone product. Operational rights are required to gather information and to render the reports.

## Installation Rights

The following rights are required to install the report pack and the stand-alone product:

- Be a member of the Administrators local group on the computer on which the report pack is to be installed.
- Be a member of the MessageStats Admin local group on the server that hosts the MessageStats database.

## Operational Rights

Operational rights are grouped by function in this section. However, you can assign more than one group of rights to a single account, such as the MessageStats service account.

The following rights are required to connect to the Lync or Skype for Business server databases and to gather information from the databases.

## Required by account that runs the MessageStats Console

The account that is running the MessageStats console must:

- Have the sysadmin role on the SQL server that hosts the MessageStats database. The sysadmin role is needed to add the Lync or Skype for Business Server Archiving and CDR database servers as *linked* database servers to the MessageStats database.
- In the MessageStats console, when you set up the initial connection to the Lync or Skype for Business Server Archiving and CDR SQL Server databases, you must also specify a SQL Authentication account and password.

The SQL account must have the following database role memberships in the Skype for Business and Lync CDR and Archiving databases:

- db\_datareader
- public

For more information see [To set SQL database roles for a user account](#) on page 18.

## Required by account that runs the gathering tasks

The account that is used to run the gathering tasks must meet the following requirements:

- Be a member of the MessageStats Admin local group on the SQL server that hosts the MessageStats database.
- Be able to use Windows Authentication to connect to the MessageStats database.
- Have local Administrator rights on the MessageStats task execution server
- For Lync Server, the account used to run the gathering tasks must be assigned the CsViewOnlyAdministrator role (be a member of the CS View-Only Administrators group in Active Directory).
- Optional: Have local Administrators rights on all Lync or Skype for Business servers and on the Lync or Skype for Business Backend SQL Server.

The local Administrators rights are needed to populate the following three fields in the Server Inventory report: IP Address, Lync or Skype for Business Server version, and Server OS. If local Administrator rights are not assigned, the fields will display as Not Available in the report.

## For the Database Management Functions

To use the Database Management features in a distributed installation, one of the following accounts must have the **sysadmin** fixed server role on the SQL server that hosts the MessageStats database:

- the MessageStats service account
- OR -
- the account currently logged into the MessageStats console

## Required by account used to view reports

An account that is used to render the reports must be a member of the MessageStats Web administrative group on the server that hosts the MessageStats database.

# Configuring Lync Server 2010

Microsoft Lync Server gathers statistical data through the Monitoring and Archiving roles and from Active Directory. To view data from Lync server in the MessageStats reports, you must install and enable the Monitoring and Archiving server roles on your Lync server.

The procedures are divided into the following parts:

1. [Adding the SQL Store for Monitoring](#)
2. [Installing the Monitoring and Archiving Roles](#)
3. [Enabling Call Detail Recording \(CDR\)](#)
4. [Enabling and Configuring Archiving \(Optional\)](#)
5. [Starting the Monitoring and Archiving Services](#)

## 1. Adding the SQL Store for Monitoring

As a prerequisite, you must have created a SQL instance which will be used to store the monitoring and archiving records. Then you can add your instance to the SQL store in Topology Builder.

### ***To add the SQL store used for monitoring and archiving***

- 1 In the Lync Topology Builder, select **SQL Store | New SQL Store**.
- 2 Enter the FQDN for the SQL Server and the SQL instance name (if you are not using the default instance).
- 3 Verify that the new store appears under the SQL stores folder.

## 2. Installing the Monitoring and Archiving Roles

After you extract the .iso file on the Lync server on which you want to install the monitoring and archiving server roles, you can run the appropriate .msi files to install the roles.

### ***To install the monitoring server role on the Lync server***

- 1 Navigate to the following file path:  
    \Setup\amd64\Setup\monitoringserver.msi
- 2 Double-click the **monitoringserver.msi** file.
- 3 Follow the steps in the wizard to complete the installation.

### ***To install the archiving server role on the Lync server***

- 1 Navigate to the following file path:  
    \Setup\amd64\Setup\archservice.msi
- 2 Double-click the **archservice.msi** file.
- 3 Follow the steps in the wizard to complete the installation.

## **3. Enabling Call Detail Recording (CDR)**

For your Lync server, you enable call detail recording (CDR) by setting the global properties for the associated forest. CDRs are logs of usage statistics from conferences, instant messaging, and phone sessions that take place across your Lync servers.

### ***To enable CDR on your Lync server***

- 1 In the Start menu, select **Lync Server Control Panel**.
- 2 Select **Monitoring and Archiving** in the list on the left side of the panel.
- 3 Click the **Call Detail Recording** tab.
- 4 Double-click **Global**.
- 5 Select the following check box:
  - **Enable monitoring of call detail recordings (CDRs)**

## **4. Enabling and Configuring Archiving (Optional)**

You can set the archiving policies that specify that size statistics must be kept. In the report pack, this information appears in the IM (instant messaging) reports in insertable columns.

### ***To set archiving policy on your Lync server***

- 1 In the Start menu, select **Lync Server Control Panel**.
- 2 Select **Monitoring and Archiving** in the list on the left side of the panel.
- 3 Click the **Archiving Policy** tab.
- 4 Double-click **Global**.
- 5 Select the following check boxes:
  - **Archive internal communications**
  - **Archive external communications**
- 6 In the main pane, select the **Archiving Configuration** tab.
- 7 Double-click **Global**.

- 8 Under Archiving setting, select **Archive IM sessions** from the list.

The Archive IM sessions option is the maximum setting needed by the report pack. You can select the Archive IM and web conferencing sessions option if you need to archive additional information about web conferencing sessions for other purposes.

## 5. Starting the Monitoring and Archiving Services

After you have enabled and configured monitoring and archiving, you must start the monitoring and archiving services.

### *To start services on your Lync server*

- 1 In the Start menu, select **Lync Server Control Panel**.
- 2 Select **Topology** in the list on the left side of the panel.
- 3 Click the **Status** tab and select the appropriate Lync server.
- 4 Select **Action | Start all services**.

You can verify that the monitoring and archiving services have started using the Services MMC tool or using Services Manager.

# Configuring Lync Server 2013, Skype for Business 2015/2019

In Lync Server 2013 and Skype for Business 2015 and later, both the Monitoring role and the Archiving role no longer exist as separate roles. Both the monitoring and archiving services are collocated on each Front End server. The monitoring and archiving services can share the same SQL Server instance.

The procedures are divided into the following parts:

1. [Associating the Store with the Front End Pool](#)
2. [Updating the Lync/Skype for Business Server](#)
3. [Enabling and Configuring Monitoring and Archiving](#)
4. [Starting the Monitoring and Archiving Services](#)

## Prerequisite

As a prerequisite, you must have created a SQL instance which will be used to store the monitoring and archiving records. During configuration you will associate the SQL instance with the Front End Lync or Skype for Business server on which the monitoring, and if required, archiving services will run.

## 1. Associating the Store with the Front End Pool

You must associate a monitoring store (database) with the Front End pool. A single monitoring store can be associated with multiple pools.

The monitoring store is used to collect call detail recording (CDR). Call detail recording tracks the usage of the server activities such as Voice over IP (VoIP) phone calls; instant messaging (IM); file transfers; audio/video (A/V) conferencing; and application sharing sessions.

Optionally, if you want to include statistical size information in the IM reports, you can also associate an archiving store with the Front End pool.

Some steps in the procedures reference the Standard Edition Lync server. The same procedures are used for Enterprise Lync servers and for Skype for Business servers.

### ***To associate the store with the Front End pool and publish the topology***

- 1 Open the Lync/Skype for Business Topology Builder.
- 2 Select **Standard Edition Front End** and select the Lync or Skype for Business server.
- 3 Right-click and select **Edit Properties**.
- 4 Select the **Monitoring (CDR and QoE metrics)** check box and click **New**.
- 5 In the Define New SQL Server Store dialog, enter the FQDN for the SQL Server and the SQL instance name (if you are not using the default instance).
- 6 Click **OK**.
  - a Optionally, you can also select **Archiving** and specify the same SQL store as the Archiving database.
- 7 Review SQL server information for the Monitoring database, and if required, the Archiving database, and click **OK**.
- 8 Select the server, right-click and select **Topology**.

- 9 Select **Publish**.

## 2. Updating the Lync/Skype for Business Server

Now you must update the Lync or Skype for Business server to include the monitoring and archiving store information.

### *To update the server*

- 1 From the installation path or from your Lync or Skype for Business Server DVD, run the **Setup.exe** file.  
For a 64-bit server, the file path would be Setup | AMD64 | Setup.exe.
- 2 In the Deployment Wizard, select **Install or Update (Lync or Skype for Business) Server System**.  
The wizard now updates the front end server to include the changes that you made in the Topology Builder.

## 3. Enabling and Configuring Monitoring and Archiving

Now you can enable and configure monitoring (CDR) and, if required, archiving.

### *To enable monitoring and archiving on the Lync or Skype for Business server*

- 1 Open the Control Panel and select **Monitoring and Archiving** in the left panel.
- 2 In the Call Detail Recording tab, double-click the **Global** default policy and ensure that **Enable Monitoring of CDRs** is selected.
- 3 Click **Commit**.
- 4 If you are using archiving, click **Archiving Policy** tab.
- 5 Double-click **Global**.
- 6 Select the following check boxes:
  - **Archive internal communications**
  - **Archive external communications**
- 7 Click **Commit**.
- 8 Click the **Archiving Configuration** tab.
- 9 Double-click the **Global** default policy.
- 10 Under Archiving Setting, select **Enable archiving** and select **IM sessions**.
- 11 Click **Commit**.

## 4. Starting the Monitoring and Archiving Services

After you have enabled and configured monitoring and archiving, you must start the monitoring and archiving services.

### *To start services on your Lync or Skype for Business server*

- 1 In the Start menu, select **Control Panel**.

- 2 Select **Topology** in the list on the left side of the panel.
- 3 Click the **Status** tab and select the appropriate Lync or Skype for Business server.
- 4 Select **Action | Start all services**.

If the services are already running, stop and then start the services. You can verify that the monitoring and archiving services have started using the Services MMC tool or using Services Manager.

## Installing the Report Pack

There are two types of installation supported for the Lync & Skype for Business report pack, complete or distributed.

This section describes how to perform a complete installation and provides information about distributed installations:

- [Performing a Complete Installation](#)
- [About Distributed Installations](#)

## Performing a Complete Installation

You can install all components on one server (a complete installation).

### *To install the report pack*

- 1 Log on to your system using MessageStats service account.
- 2 Double-click the **autorun.exe** file and select the **Install** tab.
- 3 Select the **Lync & Skype for Business Server** link.
- 4 Read the license agreement and select the **I accept the terms in the license agreement** check box and click **Next**.
- 5 Select all the features and click **Next**.
- 6 Verify the folder in which the report pack is to be installed and click **Next**.
- 7 Verify the SQL instance (MessageStats database) on which you are installing the report pack database components and click **Next**.
- 8 Click **Next** to begin the installation.
- 9 When the installation is complete, click **Finish**.

## About Distributed Installations

MessageStats allows you to spread your gathering activity over various servers. When you install the MessageStats report pack, you must install the various components (such as the task processors, reports, and the MessageStats console) on the server that performs the corresponding role in MessageStats.

The most common scenario is to use a separate MessageStats Server and additional task processor servers.

Another common scenario is to install the database on one server and the MessageStats Server (the MessageStats MMC-based console, the MessageStats Scheduler Service, and the task processors) and MessageStats reports on a second server.

The MessageStats MMC-based console can be installed on a MessageStats administrator's workstation or laptop. The administrator can create tasks and view logs, but task scheduling and gathering are carried out at another location with more robust resources.

## Locating the Task Processors

You must install the report pack task processors on a Task Execution Server on which the core MessageStats task processors are installed.

For a pure Lync or Skype for Business Server installation, you can install the task processors on a different domain, if necessary.

In this type of installation, the local task processor gathers the data from the remote Lync or Skype for Business servers. The report-ready data is transferred to the MessageStats Database Server and is stored in the database.

The following table lists the report pack components in the order they are recommended to be installed on the computers with different roles.

**Table 4. Installation order for MessageStats and report pack components.**

<b>Role</b>	<b>Component</b>
MessageStats Database	MessageStats Database Report Pack for Lync & Skype for Business Database Schema
MessageStats Reports	MessageStats Reports Report Pack for Lync & Skype for Business Reports
MessageStats Task Processors	MessageStats Server components, including: <ul style="list-style-type: none"><li>• task processors</li><li>• Report Pack for Lync &amp; Skype for Business Task Processor</li></ul>
MessageStats MMC Client Console	MessageStats Server components, including: <ul style="list-style-type: none"><li>• MMC Client Console</li><li>• Report Pack for Lync &amp; Skype for Business MMC Client Console</li></ul>



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# Configuring MessageStats for Lync

- [Setting Up the Report Pack](#)
- [Connecting to a Pool](#)
- [Setting Properties for Voice Calls](#)
- [Mapping Voice Routes to Call Types](#)
- [Establishing Costs for Call Types](#)
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- [Excluding Specific Users from Reports](#)
- [Specifying Chargeback Costs for Sessions and Conferences](#)
- [Creating an Lync or Skype for Business Server Gathering Task](#)

## Setting Up the Report Pack

The report pack collects information from an Skype for Business or Lync server through gathering tasks. Before you create a gathering task to collect the data, you must set up a connection to each Skype for Business or Lync CDR (Call Detail Recording) database instance from which you want to gather information. There should be only one database connection defined per Skype for Business or Lync pool.

After you have created a connection to the CDR database and, optionally, the Archiving database, you can create gathering tasks to collect information from the databases.

## Connecting to a Pool

You must enter the Fully Qualified Domain Name (FQDN) of the Lync or Skype for Business pool, or the standard edition server, and set up a connection to the Archiving and CDR SQL database instances from which you want to retrieve data. You can also connect to a pool using one of its fully-qualified DNS aliases.

For Lync Server 2010, Microsoft has introduced different kinds of pools: front-end pools, A/V conferencing pools, mediation pools, and edge pools. When you are connecting to a Lync Server pool, the pool name refers to the name of the front-end pool.

## Prerequisite

When you set up the initial connection to the Archiving and CDR SQL Server databases, you must specify a SQL authentication account and password. The SQL account is required to perform gatherings from the CDR and Archiving databases and must have the following database role memberships in the CDR and Archiving databases:

- db\_datareader
- public

### **To set SQL database roles for a user account**

- 1 Using the SQL Server Management Studio, select **Security | Logins**.
- 2 Select a user account.
- 3 Right-click and select **Properties**.
- 4 Select **User Mapping** and select the Lync or Skype for Business database to be mapped (LcsCDR or LcsLog).
- 5 In the database role memberships list, select **db\_datareader** and **public**.

Once you have specified the appropriate rights for the SQL user account, you can open the MessageStats console and create the connection to your Lync or Skype for Business Server CDR or Archiving database.

### **To connect to the pool and the CDR SQL database**

- 1 Open the MessageStats Console.
- 2 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 3 Right-click and select **Connect to Pool**.
- 4 Enter the Skype for Business or Lync Pool Name.  
Enter either the Fully Qualified Domain Name (FQDN) or a fully-qualified DNS alias for the pool. Ensure that you specify the front-end pool.
  - a If you have configured a separate archiving database, select the Use Archive Database check box.
- 5 In the CDR Database Connection Details section, select the server from the Server Name list.  
- OR -  
Enter the server name for your Archiving and/or CDR SQL server.  
If the database is on an SQL instance other than the default instance such as for standard edition servers, you must specify the server name as server name/instance name.
- 6 Enter the SQL account name and password to be used to access the CDR database.  
SQL Authentication must be enabled on the server on which the report pack is installed and also on the Microsoft Skype for Business or Lync SQL server to which you are connecting.
- 7 Select the SQL database name for the CDR database from the list.
  - a You can also select a custom database that you set up when you enabled the Archiving and CDR Server Role.
- 8 If you have a separate archiving database, enter the appropriate server, database, and credential information in the Archive Database Connection Details section.
  - a To use the same server and credentials as for the CDR database connection, select **Use CDR Database Connection Details**.
- 9 Click **Apply**.
- 10 Click **OK**.

The pools to which you are connected are displayed in the treeview in the MessageStats console.

### **To disconnect from a pool**

- 1 Right-click the Skype for Business or Lync pool name in the treeview from which you want to disconnect.
- 2 Click **Disconnect**.
- 3 Click **Yes** in the Are you sure you want to disconnect dialog box.

# Modifying Connection Pool Properties

If you want to change the connection information for an Skype for Business or Lync pool, you can access the information through the pool properties.

## **To modify connection information for a pool**

- 1 Right-click the Skype for Business or Lync Server pool name in the treeview and select **Properties**.
- 2 On the Pool Properties tab, make the changes that you want. For information about entering information for a pool connection, see [Connecting to a Pool](#) on page 17.
- 3 Click **Apply**.

# Setting Properties for Voice Calls

You can configure properties at a forest level that are used in the Enterprise Voice reports.

Using the Voice Properties pages, you can map voice routes to specific call types, specify the chargeback rates for different call types, and enter details for voice call routing.

Specifically you must set the parameters for the following information:

- [Mapping Voice Routes to Call Types](#)
- [Establishing Costs for Call Types](#)
- [Configuring Call Routing](#)

# Mapping Voice Routes to Call Types

Voice routes in Lync or Skype for Business Server are used as follows:

- to translate how each phone number pattern is routed through a target phone number
- to translate how each phone number pattern is routed to an appropriate media gateway
- to identify and apply phone usage authorization for the calling party

In the report pack, you use the Call Types property page to map voice routes to specific call types.

The report pack retrieves the voice routes from Active Directory and displays them according to the priority assigned in Lync or Skype for Business Server. For voice routes, you can map call types at the forest level. You retrieve and map the global voice routes.

Call types help you identify the types of calls such as internal, local, long-distance, international, and toll-free.

**i** | **IMPORTANT:** Ensure that all your connected numbers match to one of your voice routes in the Voice Properties - Call Types property page. Any number that is not mapped to one of the voice routes is treated as local phone number in the Enterprise Voice reports such as the Outgoing Calls report.

## **To map voice routes to call types**

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Voice Properties**.
- 3 Select **Call Types** and click **New**.
- 4 Click **New Voice Routes** and click **OK**.  
The global voice routes are retrieved from Active Directory and are listed according to priority.
- 5 For each voice route, select a call type.

- 6 If you want to save what you have defined and continue mapping voice routes to call types, click **Apply**.
- 7 When you are finished call type mapping, click **OK**.

## Retrieving Updated Information

If you have modified the voice routes on Lync or Skype for Business Server, you can click the Refresh link to retrieve the updated information.

### *To update call type mappings*

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Voice Properties**.
- 3 Select **Call Types** and select the tab for the table you want to update.
- 4 Click **Refresh**.  
The voice routes are retrieved. New voice routes are displayed with a blank call type.
- 5 For each new voice route that has been added, select a call type.
- 6 When you are finished call type mapping, click **OK**.

## Deleting a Call Type Table

In some situations, such as if you have migrated your users to a new pool, you can delete the call types table for the old pool using the Delete Table link.

### *To delete a call type table*

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Voice Properties**.
- 3 Select **Call Types** and select the tab for the table you want to remove.
- 4 Click **Delete Table** and click **OK**.

If you inadvertently delete a call types table, you can add the same Lync or Skype for Business server again. The new table is displayed with the previously assigned call types. You can make changes, if required, and click OK to save the table.

## Establishing Costs for Call Types

Once you have mapped the voice routes to specific call types in the report pack, you can define the chargeback rates for each call type. This information to reflect financial costs in the Voice Call Chargeback reports in the Enterprise Voice folder.

### *To establish costs of each call type*

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Voice Properties**.
- 3 Select **Financials**.
- 4 If necessary, select a different currency symbol for the chargeback rates. The default value is \$.
- 5 Enter a cost per minute for each call type and click **OK**.

# Configuring Call Routing

To configure call routing, you must create or select a gateway, and enter the number of digits that are needed to dial long-distance or internationally. You can configure to apply a default value for all long-distance and international calls in all gateways, or you can configure long-distance and international calls on a per gateway basis.

When you specify the number of digits, you are referring to codes, not the actual telephone number. For example, if you are dialing directly within North America from a PBX (private branch exchange), you might enter the number 5 for long-distance calls (9 to access an external line, 1 to dial direct, and 3 digits for the area code).

## ***To configure call routing***

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Voice Properties**.
- 3 Select **Call Routing**.
- 4 Select the appropriate number of digits for the following values:
  - Default number of long-distance digits
  - Default number of international digits
- 5 Click **Add** to add new information.  
- OR -  
Click **Edit** to edit existing information.
- 6 Select a gateway, and enter the number of long-distance and international digits required for the gateway.  
You do not need to perform steps 4 and 5 if you are applying the same number of digits to all gateways.
- 7 Click **OK**.

# Identifying Federated Domains

Typically, you want users in your federations to appear in the reports as internal or federated users. Federations are stored on the Skype for Business or Lync Edge server which is in the DMZ. If you want the federated domains to be automatically discovered, you must open certain ports in the firewall to allow the information be retrieved from the Edge server. For more information, see [Appendix A: Configuring RPC through a Firewall](#) on page 54.

If your security policies do not allow you to provide access to the Edge server, you can manually add your federated domains to the report pack so that users in these domains are correctly reported.

If federated domains cannot be auto-discovered, and you have not manually added the federated domains, federated users are reported as public or external users.

## ***To manually add federated domains***

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Federation Properties**.
- 3 Click **Add**.
- 4 Enter the fully qualified domain name (FQDN) for the federated domain that you want to identify.
- 5 Click **OK**.
- 6 Repeat [Step 3](#) to [Step 5](#) until you have identified all your federations.
- 7 Click **OK**.

# Excluding Specific Users from Reports

In some cases, you might want to exclude certain users from the Lync or Skype for Business Server reports. For example, you might want to exclude synthetic transactions from your reports. In Lync Server, synthetic transactions are scripts or commands that are used to simulate real users accessing a system.

Using the Exclude Users property page, you can select specific users, all users in a department, or all users in an office to exclude from reports. You can exclude users at the forest level.

Excluded users still appear in the Configuration | Lync & Skype for Business Enabled Users report. The excluded status of the user is indicated by the Excluded flag in the report.

## To exclude users from reports

- 1 Expand the console treeview and select the **Lync & Skype for Business Server** node.
- 2 Right-click and select **Exclude Users**.
- 3 Enter the criteria for the users you want to exclude:
  - Enter all or part of the user name and click **Find Users**.
  - Enter all or part of the department name and click **Find Departments**.
  - Enter all or part of the office name and click **Find Office**.



**TIP:** You can enter an asterisk (\*) as a wild card to find all names that contain, start, or end with a specific set of characters.

The following examples show how you can use wild cards to find results:

- Enter **Sales\*** to find all departments that start with the word Sales.
- Enter **\*HR** to find all departments that end with HR.
- Enter **Mi\*ce** to find all user names that start with Mi and end with ce.
- Enter **\*EURO\*** all office names that contain EURO.

The names that match your query are displayed in the Search Results column on the left.

- 4 In the left column, select the name of the user, department, or office that you want to exclude. Use SHIFT-click to select a range of names or CTRL-click to select several individual names.
- 5 Click the arrow to add the selected items to the Excluded List on the right.

- OR -

Drag the selected items to the Excluded List

- 6 When all the users you want to exclude are in the Excluded List, click **Apply** and **OK**.

Excluded users remain excluded even if their display name, department, or office changes. However, if the user's primary URI (Uniform Resource Identifier) is changed, you must add the user again to the excluded list.

For a list of the reports that do not show excluded users, see [Excluding users from reports](#) on page 34.

## To remove users from the exclusion list

- 1 Select the user, department, or office in the Excluded List on the right.
  - 2 Press the **Del** key.
- OR -
- Right-click and select **Delete** on the shortcut menu.

# Specifying Chargeback Costs for Sessions and Conferences

You can specify the costs at which various types of peer-to-peer sessions (such as audio, video, desktop sharing, and instant messaging) or conferences are charged. The calculated values appear on reports so you can determine the chargeback amounts for users or departments.

You specify the chargeback costs for sessions and conferences for a Skype for Business or Lync pool, unlike the Voice Enterprise chargeback costs which are applied at the forest level.

Use the Chargeback Rates property page to enter the rate per minute, or the rate by volume (MB) or number of items, for the chargeback costs that should appear in reports.

## **To specify chargeback costs for sessions and conferences**

- 1 Expand the treeview and select the Skype for Business or Lync pool for which you want to specify cost amounts.
- 2 Right-click and select **Properties**.
- 3 Click the **Chargeback Rates** tab.
- 4 If necessary, select a different currency symbol for the chargeback rates. The default value is \$.
- 5 Enter the applicable values that are charged:
  - For peer-to-peer outgoing sessions, you can enter the cost amounts per minute for each session type for internal and federated users.
  - For peer-to-peer sessions such as instant messaging and file transfers, you can specify whether you want to calculate chargeback amounts by volume or by the number of messages or transfers.
  - For audio/video conferences, you can enter the cost rate per minute.
- 6 Click **Apply**.

# Creating an Lync or Skype for Business Server Gathering Task

Tasks specify which information is gathered from the Skype for Business or Lync database instances and how often the gathering is repeated. To gather the data required for the reports, you must configure an report pack default gathering task.

You can create an Skype for Business or Lync gathering task only at the individual pool level. You cannot create a task that gathers Skype for Business or Lync data at the Exchange organization level.

Typically you schedule the report pack Default Lync & Skype for Business Server Gathering task to run every 24 hours. It is recommended that you run the task at off-peak times. The gathering queries the Skype for Business or Lync SQL database, and should be scheduled to run when your Lync or Skype for Business Server is not busy.

For the initial Default Lync & Skype for Business Server Gathering task, it is recommended you schedule the task to run on a weekend if your Lync or Skype for Business databases are large.

## **To create a report pack gathering task**

- 1 Expand the **Lync & Skype for Business Server** node, select a server pool in the treeview, and select **Create Task**.
- 2 Enter a unique name for the task and select the template for the type of information that you want to collect:
  - Default Lync & Skype for Business Server Gathering

- Lync & Skype for Business Conferencing Statistics
- Lync & Skype for Business Enterprise Voice
- Lync & Skype for Business Instant Messaging and File Transfer
- Lync & Skype for Business Server Uptime Performance
- Lync & Skype for Business Servers and Users
- Lync & Skype for Business Peer-to-Peer Audio Calls, Video Calls, and Desktop Sharing Sessions

The Default Lync & Skype for Business Server Gathering task contains the Servers and Users, Enterprise Voice, Conferencing Statistics, Instant Messaging and File Transfer, Server Uptime Performance, Peer-to-Peer Audio Calls, Video Calls, and Desktop Sharing Sessions tasks.

- 3 Click **Next**.
- 4 Ensure that the task execution server that appears is the server on which the report pack task processor is installed and click **Next**.
- 5 Specify a schedule for the gathering task and click **Next**.  
 MessageStats provides two types of schedules: schedules that run once (at a specific time such as December 31 or Now), and schedules that repeat for a defined period (such as daily, weekly, or monthly).
- 6 Verify the logging level for the task logs and click **Next**.  
 Normally you leave logging set to the default logging level. If you contact Support for assistance, Support might request that you change your task logging level to troubleshoot technical issues.
- 7 Specify the account under which the gathering task is to run and click **Next**.  
 You can accept the defaults for task execution server, task schedule, task logging, and task account, or clear the Use Default Credentials to enter new values.
- 8 Click **Finish** to save the gathering task.

#### ***To change the properties of an existing task***

- 1 Browse the tasks in the Tasks Summary View.
- 2 Right-click the task you want to configure and select **Properties**.
- 3 Step through the wizard to change the settings.

## Gathering Task Dependencies

You can create an Lync or Skype for Business gathering task only at the individual pool level. You cannot create an Lync or Skype for Business task at the Exchange organization level. The following table lists the dependencies for the report pack gathering tasks:



Table 5. Gathering task descriptions and dependencies.

Gathering Task Name	Part of Default?	Description	Dependent on
Default Lync & Skype for Business Server Gathering	N/A	<p>A composite task that includes the following gathering tasks:</p> <ul style="list-style-type: none"> <li>• Servers and Users</li> <li>• Enterprise Voice</li> <li>• Conferencing Statistics</li> <li>• Instant Messaging and File Transfer</li> <li>• Server Uptime Performance</li> <li>• Peer-to-Peer Audio Calls, Video Calls, and Desktop Sharing Sessions</li> </ul> <p>Typically, the Default Lync &amp; Skype for Business Server Gathering task is run daily to ensure that the MessageStats database is updated with the most recent report data.</p>	<p>No dependencies.</p> <p>To include the insertable mailbox attributes in reports, a MessageStats Mailbox gathering must have run successfully.</p>
Lync & Skype for Business Servers and Users	Yes	Gathers configuration details for the Lync or Skype for Business servers and about enabled users and their configuration settings.	No dependencies.
Lync & Skype for Business Enterprise Voice	Yes	Gathers the enterprise voice call statistics for your Lync or Skype for Business environment.	<p>No dependencies.</p> <p><b>NOTE:</b> The Voice Properties in the MessageStats console must be configured.</p> <p>For chargeback data, the Chargeback Rates property page must be configured</p>
Lync & Skype for Business Conferencing Statistics	Yes	Gathers conference information about different types of conferences including chat, audio/video, data sharing, and application sharing from your Lync or Skype for Business Server environment.	<p>Lync &amp; Skype for Business Servers and Users</p> <p><b>NOTE:</b> To populate insertable fields in reports that contain user mailbox attributes, run the MessageStats Exchange Mailbox gathering for the Exchange organization.</p> <p><b>NOTE:</b> For chargeback data, the Chargeback Rates property page must be configured.</p>
Lync & Skype for Business Instant Messaging and File Transfer	Yes	<p>Collects data about instant messages, both internal and internet, and about the senders and receivers of messages.</p> <p>Collects statistics about file transfers, including internal and federated users who initiated transfers.</p>	<p>No dependencies.</p> <p><b>NOTE:</b> For chargeback data, the Chargeback Rates property page must be configured</p>

**Table 5. Gathering task descriptions and dependencies.**

<b>Gathering Task Name</b>	<b>Part of Default?</b>	<b>Description</b>	<b>Dependent on</b>
Lync & Skype for Business Server Uptime Performance	Yes	Collects the uptime information from the System Up Time performance counter (perfmon) for each source server in the task.	No dependencies.
Lync & Skype for Business Peer-to-Peer Audio Calls, Video Calls, and Desktop Sharing Sessions	Yes	<p>Gathers statistics related to peer-to-peer audio calls, video calls and desktop sharing sessions from your Lync or Skype for Business environment.</p> <p>Sessions are categorized by the most dominant of the three media used during the session:</p> <ol style="list-style-type: none"> <li>1. Desktop Sharing</li> <li>2. Video</li> <li>3. Audio</li> </ol> <p>For example, a session with both audio and desktop sharing is categorized as a desktop sharing session and is reported only in the desktop sharing session reports. The session is not included in the peer-to-peer audio reports even though the session had audio usage.</p> <p><b>NOTE:</b> Peer-to-Peer Audio Calls are also known as PC-to-PC calls or Lync or Skype for Business calls.</p>	<p>No dependencies.</p> <p><b>NOTE:</b> For chargeback data, the Chargeback Rates property page must be configured.</p>

Though the Lync or Skype for Business Server gatherings are not dependent on the MessageStats Mailbox gathering task, to include mailbox attributes in the reports, a MessageStats Mailbox gathering task must have run successfully.

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# Managing your Database

- [About Database Management](#)
- [Configuring an Aging Task](#)
- [Maintaining your Database](#)
- [Deleting Lync or Skype for Business Report and Object Data](#)

## About Database Management

During the installation of the report pack, additional tables are added to the MessageStats database to store the Skype for Business and Lync data. The database management feature allows you to manage the storage of statistical report information and object data to prevent excessively rapid growth of the MessageStats database.

In MessageStats, database management functionality is extended to include database management functions specific to Skype for Business and Lync Server data. Using Database Management, you can delete obsolete information and fine-tune your database.

Before you modify your database, ensure that no MessageStats Consoles or task processors are currently writing information to the database. If you use Database Management while a MessageStats Console is writing to the database, you risk corrupting your database.

### ***To access the Database Management tool***

- Select **Database Management** from the treeview in the MessageStats console.

The Database Management tool provides the following functionality:

- Database Aging. Use this to delete historical data.
- Database Maintenance. Use this to defragment your database and reindex database tables.
- Delete Data. Use this to delete object and report data.

## Configuring an Aging Task

You can use the Data Aging function to delete the historical data from the Lync or Skype for Business tables in the MessageStats database. Use the Lync & Skype for Business Server Configuration option under the Data Aging node to define the aging task.

### ***To define a data aging task***

- 1 Select **Database Management | Data Aging | Lync & Skype for Business Server Configuration** nodes in the treeview.
- 2 Select **Delete aged data**.
- 3 Select **Age Statistics (days)** check box.
- 4 Enter the number of days you want to retain statistical data in your database.

- 5 Click **Configure Job**.
- 6 Select the **Schedule** tab.
- 7 Select **Daily**, **Weekly**, or **Monthly** to indicate how often you want to delete the data older than your retention definitions.  
Depending on the schedule type that you select, the bottom box changes to an appropriate interval selector.
- 8 Enter the Start Date and Start Time information.
- 9 Click to select the **Limit Job Execution Time** box if you want to limit the time duration for an aging job, and enter an end time.
- 10 Enter an appropriate recurrence interval:
  - Enter the number of days between jobs for Daily schedules
  - Enter the day of the week for Weekly schedules.
  - Enter the day of the month for Monthly schedules.
- 11 Click **Deploy**.

## Data Aging Job History

After you create a job, the interface changes to a three-tab format:

- The Schedule tab contains the same content as the Create Job tab contained before a job was created.
- The Properties tab describes the properties associated with the aging job, and is updated as new information becomes available.
- The History tab contains a log of past aging jobs.

## Logging the Aging Process

Because the aging process is performed by a service, progress is recorded in the log journal for all database management activities.

For more information about Database Aging, refer to the *MessageStats Administrator Guide*.

# Maintaining your Database

The Database Maintenance node of the navigation tree contains the functionality for defragmenting a database and reindexing the individual database tables.

Using these functions can increase performance in the following ways:

- Decrease the amount of time it takes the task processors to write information into the database.
- Decrease the amount of time it takes reports to read information from the database to render your reports.

For more information about defragmenting or reindexing the MessageStats database, refer to the *MessageStats Administrator Guide*.

## Defragmenting the Database

MessageStats provides functionality to defragment your MessageStats database. You can increase performance by decreasing the amount of time it takes the MessageStats task processors to write information to the database.

# Reindexing the Database Tables

MessageStats provides functionality to reindex the MessageStats database tables. You can increase performance by decreasing the amount of time it takes the MessageStats task processors to write information to the database.

The Reindex option completely reindexes each table in the database. The Defragment option simply defragments the indexes. If you run the Reindex option, you do not need to run the Defragment option since there is nothing to defragment if all the indexes are new.

# Deleting Lync or Skype for Business Report and Object Data

This branch of the navigation tree provides the functions that delete object data and report data from your MessageStats database.

Use this functionality to do the following:

- Clear the MessageStats database
- Delete Exchange object data
- Delete Exchange report data
- Delete Skype for Business or Lync object data
- Delete statistical report data relating to Skype for Business or Lync.

The Lync & Skype for Business Object Data option allows you to delete entire Skype for Business or Lync server pools and users. The selected object and associated data will be deleted.

The Lync & Skype for Business Report Data option allows you to delete statistical data for Lync & Skype for Business pools and users. However, the objects themselves are not deleted.

# Deleting Skype for Business or Lync Object Data

The Object Data option allows you to delete entire Skype for Business or Lync pools, servers, and users. The selected object and associated data will be deleted.

## ***To delete Skype for Business or Lync object data from the database***

- 1 Select **Database Management | Delete Data** node in the treeview.
- 2 Select the **Lync & Skype for Business Server Object Data** node.
- 3 Select the check box and select one of the following objects:
  - Lync & Skype for Business Pools
  - Lync & Skype for Business Servers
  - Lync & Skype for Business Users
- 4 Select the specific pools or users that you want to delete.
- 5 Click **Get Range** to view the date range for the actual data.
- 6 Click **Delete Object**.
- 7 Verify that you want to delete the object information.

# Deleting Skype for Business or Lync Statistical Data

The Report Data option allows you to delete statistical data for the Skype for Business or Lync server pools, servers, and users. However, the objects themselves are not deleted.

## ***To delete Skype for Business or Lync report data from the database***

- 1 Select **Database Management | Delete Data** node in the treeview.
- 2 Select the **Lync & Skype for Business Server Report Data** node.
- 3 Select the check box and select one of the following objects:
  - Lync & Skype for Business Pools
  - Lync & Skype for Business Servers
  - Lync & Skype for Business Users
- 4 Select the specific pools, servers, or users that you want to delete.
- 5 Click **Get Range** to view the date range for the actual data.
- 6 Click **Delete Object**.
- 7 Verify that you want to delete the object information.

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# Using the Lync and Skype for Business Reports

- [Introducing the Reports](#)
- [Viewing the Lync or Skype for Business Reports](#)
- [Types of Lync and Skype for Business Reports](#)
- [Introducing the Lync & Skype for Business Server At A Glance Report](#)
- [Organizational Summaries Reports](#)
- [Configuration Reports](#)
- [Instant Messages Reports](#)
- [Enterprise Voice Reports](#)
- [Conferences Reports](#)
- [Peer-to-Peer Reports](#)
- [Peer-to-Peer Audio Call Reports](#)
- [Peer-to-Peer Video Call Reports](#)
- [Peer-to-Peer Desktop Sharing Session Reports](#)
- [Comparing MessageStats Reports to the Microsoft Native Reports](#)

## Introducing the Reports

The Lync and Skype for Business Server reports are a collection of reports that you access through the MessageStats reports web site. The Lync or Skype for Business data is stored in separate tables in the MessageStats database.

The following features are included in MessageStats reports:

- The Web Report Wizard that allows you to configure and generate reports, and provides report parts that you can add to and arrange on reports.
- The Graph Wizard allows you to create custom graphs from the data sources that you select.
- Predefined role-based security settings allow you to control who can view reports and create custom reports.
- A subscription service allows you to deliver reports through email, web sites, file shares, or ftp (file transfer protocol) site.

Using the console, you can perform the following tasks:

- Group, insert, append, remove, and sort fields on reports. Quick Filters allow you to change report parameters quickly and easily to focus your report.
- Display report data in bar graphs, line graphs, and pie charts.

- Export or email entire reports in Microsoft Excel, text (as either comma-separated values or tab-separated values), XML, as a Word file, in HTML, or MHTML.
- Select portions of reports, such as columns or rows, and export the selections or send by email. You can also select a graph or chart to export it or send it by email.

# Viewing the Lync or Skype for Business Reports

On gathering completion, you can view reports based on the gathered information using the web-based MessageStats Reports.

## To access Lync or Skype for Business reports

- 1 Click **Start** and select **Programs | Quest | MessageStats | MessageStats Reports**.  
- OR -  
Enter the following in your web browser:  
`http://<MessageStatsReportsservername>/MessageStatsReports`
- 2 In the reports treeview, select **Report Packs | Lync & Skype for Business Server**.
- 3 Select the report that you want to view.
- 4 Select report filters, if necessary, and click **Apply Filter** to view the report.

For descriptions of the reports, see [Types of Lync and Skype for Business Reports](#) on page 33.

The report pack provides two types of reports:

- Reports that retrieve the Lync and Skype for Business server data from the MessageStats database. The data in the database is collected by the report pack gathering tasks. The MessageStats database also contains the Exchange data that is collected by the core MessageStats gathering tasks.
- “Real-time” reports that directly retrieve current data from an Skype for Business or Lync database instance. Since real-time reports require scanning an entire Skype for Business or Lync server database, they take longer to render.

The data from real-time reports is not available for custom reports.

When you render a real-time report, the report performance is directly affected by the speed of your network links and network performance. You can set up subscriptions for real-time reports which allows you to schedule them during less busy times.

**i** | **TIP:** Due to performance considerations, it is recommended that you use the Pool filter to limit the results for real-time reports to include only one or two pools and select a date range of not more than 7 days.

## Viewing Presence Information in Reports






Reports that contain information about individual users can also show icons that provide the presence status for the user.

To see the Microsoft presence status in reports, the person that is viewing the reports on the web site must have Skype for Business or Lync, and Outlook installed and running on their local computer.

Users can see presence information for all mailbox owners if the global properties of the Skype for Business or Lync server are configured to allow this.



Table 6. Presence status icons.

Icon	Status
	Online
	Busy—Similar presence statuses such as In a meeting, or Do Not Disturb also appear as a Busy status.
	Do Not Disturb—Displayed when a user has set the status to Do Not Disturb.
	Away—Similar presence statuses such as Be Right Back also appear as an Away status.
	Offline

If you right-click a status icon, you can communicate with the user. If the mailbox owner has Outlook and Lync or Skype for Business installed and running, you can send an email or reply with an instant message.

If you and the mailbox owner are both set up to send and receive telephone calls over the Internet through your computer, options for making a call can also appear on the menu when you right-click the icon.

## Types of Lync and Skype for Business Reports

When you click When you click Lync & Skype for Business Server folder in the report treeview, the Communications Server at a Glance report is displayed. This report provides a high-level view of usage in your Lync or Skype for Business environment. For more information, see [Introducing the Lync & Skype for Business Server At A Glance Report](#) on page 35.

The Lync and Skype for Business reports are grouped into the following folders:

- [Organizational Summaries Reports](#)
- [Configuration Reports](#)
- [Instant Messages Reports](#)
- [File Transfers Reports](#)
- [Enterprise Voice Reports](#)
- [Conferences Reports](#)
- [Peer-to-Peer Reports](#)
- [Peer-to-Peer Audio Call Reports](#)
- [Peer-to-Peer Video Call Reports](#)
- [Peer-to-Peer Desktop Sharing Session Reports](#)

## Inserting additional information in reports

For many reports, you can insert additional information. For example, for user reports, such as User Activity, you can insert additional user information (mailbox attributes) such as the mobile telephone number or manager. To include the mailbox attribute information in reports, you must have successfully run a MessageStats Mailbox gathering task.

### **To insert additional information in a report**

- 1 When viewing a report, right-click a column heading and select **Insert Field**.
- 2 Select a field from the list of additional fields that are available.

## **Excluding users from reports**

Lync Server has numerous test cmdlets that allow Lync administrators to validate certain functions. Often, administrators will configure specific user accounts to be used with synthetic transactions.

You can exclude these user accounts from appearing in various user activity reports using the Exclude Users property page. For details about how to exclude a user, see [Excluding Specific Users from Reports](#) on page 22.

Users that are flagged as “excluded” do not appear in the following reports:

### **Organizational Summaries**

- User Activity
- Chargeback by User
- Top Usage by User

### **Instant Messages**

- Top Internal Senders and Receivers by Messages
- Chargeback by User

### **File Transfers**

- Top Internal Users by File Transfers
- Chargeback by User

### **Enterprise Voice**

- Top Calls by User
- Chargeback by User
- Outgoing Calls
- Incoming Calls

### **Conferences**

- Chargeback by Organizer

### **Peer-to-Peer**

- Chargeback by Initiator

### **Peer-to-Peer Audio Calls**

- Top Internal Users by Incoming Audio Calls
- Top Internal Users by Outgoing Audio Calls

### **Peer-to-Peer Video Calls**

- Top Internal Users by Incoming Video Calls
- Top Internal Users by Outgoing Video Calls

## Peer-to-Peer Desktop Sharing Calls

- Top Internal Users by Incoming Desktop Sharing Sessions
- Top Internal Users by Outgoing Desktop Sharing Sessions

Reports that contain multiple internal user details, such as the Conference Details by Organizer and the Peer-to-Peer Session Details reports, are not affected by excluded users.

# Introducing the Lync & Skype for Business Server At A Glance Report

When you click Lync & Skype for Business Server folder in the report treeview, the Lync & Skype for Business Server At A Glance page appears as the default home page.

This page delivers a single view that provides an enterprise-level view of your Skype for Business or Lync Server environment. You can use this page to quickly view high-level information without navigating through the reports tree.

The Lync & Skype for Business Server At A Glance page includes the following metrics:

- The total Lync or Skype for Business usage for the organization shows the total number of instant messages, peer-to-peer sessions (and minutes), voice calls, and conferences (and conference minutes) handled by your Lync or Skype for Business servers.

The conferences total includes all conference types: chat, audio/video, and application sharing.

- A graph that shows the number of instant messages handled by the Lync or Skype for Business servers in your organization for the past three months.
- A graph that shows all the other usage (peer-to-peer sessions, enterprise voice calls, conferences, and file transfers) handled by your Lync or Skype for Business servers for the past three months.
- A bar chart that shows the top 25 departmental totals of the number of instant messages sent and received by internal users with federated and public users, and sent to other internal users. A second bar chart shows the other departmental Lync or Skype for Business usage by internal users for the past three months.

Other Lync or Skype for Business usage includes peer-to-peer sessions initiated, voice calls made, file transfers initiated, and conferences organized by users in the department.

- A table that provides the calculated chargeback costs for different types of Lync or Skype for Business usage for the organization.
- The User Inventory Summary table that shows the number of Skype for Business-enabled or Lync-enabled users in the organization, not including system users. The table provides information about the number of users that have specific settings enabled in their user configuration.
- A graph that shows the number of Skype for Business-enabled or Lync-enabled users (excluding system users) over the past three months, and the number of users with specific settings enabled.

## Organizational Summaries Reports

Organizational summary reports provide an overview of server and user activity for your Lync and Skype for Business installations.

The following table describes the reports found in the Organizational Summaries folder.

Table 7. Organizational Summary reports.

Report	Description	Filters
User Activity	Provides a summary of the Lync or Skype for Business activity for an individual user. The report includes summary information about the instant messages sent and received, enterprise voice calls, conferences organized by the user, and peer-to-peer sessions. Using the Insert Field option, you can insert details such as the types of voice calls or the types of peer-to-peer (audio, video, desktop sharing) sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Server Activity	Provides an overview of the types of traffic handled by each Lync or Skype for Business Server including total instant messages, file transfers, enterprise voice calls, conferences, and peer-to-peer sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>
Lync & Skype for Business Server Uptime	Indicates how long the Skype for Business and the Lync Servers have been running.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>
Chargeback by Department	Shows the total cost of all user activity, calculated by the department to which a user belongs, with separate cost totals for instant messages, file transfers, conferences, enterprise voice calls, and peer-to-peer (audio, video, and desktop sharing) sessions.  <b>NOTE:</b> Chargeback costs must have been specified. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Pool</a></li> </ul>
Chargeback by User	Shows the total cost of all user activity, calculated for each user, with separate cost totals for instant messages, file transfers, conferences, enterprise voice calls, and Skype for Business or Lync peer-to-peer (audio, video, and desktop sharing) sessions.  <b>NOTE:</b> Chargeback costs must have been specified. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>

**Table 7. Organizational Summary reports.**

Report	Description	Filters
Top Usage by User	<p>Shows the users that have the highest usage for instant messaging, file transfers, peer-to-peer sessions, enterprise voice calls, and conferences.</p> <ul style="list-style-type: none"> <li>For instant messaging, usage is based on all traffic involving the user, regardless of direction.</li> <li>For file transfers, usage is based on the file transfers that occurred in sessions initiated by the user.</li> <li>For peer-to-peer sessions, usage is based on all peer-to-peer sessions in which the user participated.</li> <li>For conferences, usage includes only conferences organized by the user.</li> </ul> <p><b>NOTE:</b> To display accurate data in the report, you must have configured the Voice Property pages.</p>	<ul style="list-style-type: none"> <li>Date</li> <li>Select Top</li> <li>Display Name</li> <li>Department</li> <li>Office</li> <li>Pool</li> </ul>
Departmental Activity Summary	<p>Provides statistics about Lync or Skype for Business user activity, including instant messaging, file transfers, voice calls, conferences, and peer-to-peer sessions, for users in a specific department. You can determine which departments have the most activity.</p>	<ul style="list-style-type: none"> <li>Date</li> <li>Detail Level</li> <li>Department</li> <li>Pool</li> </ul>

Volume counts are displayed in the User and Server Activity reports if content archiving is enabled on the Lync or Skype for Business Server. For more information, see [Configuring Lync Server 2010](#) on page 10 or [Configuring Lync Server 2013, Skype for Business 2015/2019](#) on page 13.

To report chargeback costs by volume (MB), you must also have an Lync or Skype for Business Archiving database installed.

## Configuration Reports

The following table describes the reports found in Configuration folder. These reports provide basic inventory information about your Lync or Skype for Business servers and about the Lync or Skype for Business enabled users in your environment:

Table 8. Configuration Inventory reports.

Reports	Description	Filters
Lync & Skype for Business Server Inventory	<p>Provides the configuration statistics for the Lync or Skype for Business servers.</p> <p><b>NOTE:</b> The IP address, operating system, and Skype for Business or Lync server version information columns display as “Not Available” if:</p> <ul style="list-style-type: none"> <li>the server is offline.</li> <li>the service account that is used to run the gathering task does not have Local Administrator rights on the Skype for Business or Lync server.</li> <li>the server does not require the Skype for Business or Lync server software to be installed (for example, a Back-End server).</li> <li>the server is an Skype for Business or Lync Edge server and certain ports are not open. For steps to connect to an Edge server through a firewall, see Appendix A in the User Guide.</li> </ul>	<ul style="list-style-type: none"> <li>Server</li> <li>Server Role</li> <li>Pool</li> </ul>
Lync & Skype for Business Enabled Users	<p>Provides a list of Skype for Business-enabled or Lync-enabled users and their configuration settings.</p> <p>To see if a user has been excluded from the user activity reports, you can insert the Excluded Users column.</p> <p><b>To insert a column</b></p> <ol style="list-style-type: none"> <li>Select a column heading.</li> <li>Right-click and select <b>Insert Field</b>.</li> <li>Select the field name from the list.</li> </ol> <p><b>NOTE:</b> For more information about excluded users, see <a href="#">Excluding users from reports</a> on page 34.</p>	<ul style="list-style-type: none"> <li>Display Name</li> <li>Department</li> <li>Office</li> <li>Pool</li> </ul>

## Instant Messages Reports

The following table describes the reports found in the Instant Messages folder.

Table 9. Instant Messaging reports.

Report	Description	Filters
Instant Message Usage	<p>Presents the number of instant messaging handled by the Lync or Skype for Business servers. Message counts are broken down to show the distribution of internal messages and messages to and from public and federated users.</p> <p>The totals shown in this report include system messages.</p>	<ul style="list-style-type: none"> <li>Date</li> <li>Detail Level</li> <li>Display Options</li> <li>Trend and Forecast Options</li> <li>Date/Time Display</li> <li>Server</li> <li>Pool</li> </ul>

**Table 9. Instant Messaging reports.**

Report	Description	Filters
Top Internet Domains	Shows which domains, including internal, federated, and public domains, generate the most instant messaging traffic.  The totals shown in this report include system messages.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Domain</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Internal Senders and Receivers by Messages	Provides a list of top internal senders and receivers of instant messages (IM). The totals shown in this report include system messages.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Senders/Receivers</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top External Senders and Receivers by Messages	Provides a list of top external senders/receivers of instant messages (IM).  The totals shown in this report include system messages.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Senders/Receivers</a></li> <li>• <a href="#">Display Name</a></li> </ul>
Instant Messages Chargeback by Department	Shows the total cost and volume of instant messages sent by internal users within each department to other internal, federated, and public users.  <b>Prerequisites:</b> Volume counts are available only if Lync or Skype for Business Content Archiving is enabled.  Chargeback costs must also be specified for file transfer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Pool</a></li> </ul>
Instant Messages Chargeback by User	Shows the total cost and volume of instant messages sent by internal users to other internal, federated, and public users.  <b>Prerequisites:</b> Volume counts are available only if Lync or Skype for Business Content Archiving is enabled.  Chargeback costs must also be specified for file transfer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>

Volume counts are displayed in the Instant Messaging reports if content archiving is enabled on the Skype for Business or Lync Server. For more information, see [Configuring Lync Server 2010](#) on page 10 or [Configuring Lync Server 2013, Skype for Business 2015/2019](#) on page 13.

To report chargeback costs by volume (MB), you must also have an Lync or Skype for Business Archiving database installed.

## File Transfers Reports

The following table describes the reports found in the File Transfers folder.

Table 10. File Transfer reports.

Report	Description	Filters
File Transfer Usage	Shows the total number of file transfers handled by the Lync or Skype for Business servers. File counts are broken down to show the distribution of file transfers with internal and federated users.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Detail Level</li> <li>• Display Options</li> <li>• Trend and Forecast Options</li> <li>• Date/Time Display</li> <li>• Server</li> <li>• Pool</li> </ul>
Top Internal Users by File Transfers	Provides a list of the internal users who initiated the sessions in which the most file transfers occurred, showing the distribution of file transfers with internal and federated users.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Select Top</li> <li>• Display Options</li> <li>• Display Name</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>
Top External Users by File Transfers	Provides a list of the federated users who initiated the sessions in which the most file transfers occurred.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Select Top</li> <li>• Display Options</li> <li>• Display Name</li> </ul>
File Transfers Chargeback by Department	<p>Shows the total cost and volume of file transfers in sessions initiated by internal users within each department with other internal and federated users.</p> <p>Chargeback costs are calculated for all file transfers that occurred in sessions initiated by a user in the department.</p> <p><b>Prerequisites:</b> Volume counts are available only if Lync or Skype for Business Content Archiving is enabled.</p> <p>Chargeback costs must also be specified for file transfer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• Date</li> <li>• Department</li> <li>• Pool</li> </ul>
File Transfers Chargeback by User	<p>Shows the total cost and volume of file transfers in sessions initiated by internal users with other internal and federated users.</p> <p>Chargeback costs are calculated for all file transfers that occurred in sessions initiated by the user.</p> <p><b>Prerequisites:</b> Volume counts are available only if Lync or Skype for Business Content Archiving is enabled.</p> <p>Chargeback costs must also be specified for file transfer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• Date</li> <li>• Display Name</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>

Volume counts are displayed in the File Transfer reports if content archiving is enabled on the Skype for Business or Lync Server. For more information, see [Configuring Lync Server 2010](#) on page 10 or [Configuring Lync Server 2013, Skype for Business 2015/2019](#) on page 13.



To report chargeback costs by volume (MB), you must also have an Lync or Skype for Business Archiving database installed.

## Enterprise Voice Reports

You can configure properties that are used in the Enterprise Voice reports at a forest level using the Voice Properties pages. Specifically you can map the voice routes to specific call types, you can specify the chargeback rates for different call types, and you can enter details for call routing. For more information, see [Setting Properties for Voice Calls](#) on page 19.

Ensure that each of your connected numbers is matched to a voice route in the Voice Properties - Call Types property page. Any number that is not mapped to a voice route is treated as local phone number in the Enterprise Voice reports such as the Outgoing Calls report.

## How Voice Calls are Recorded

Voice calls are recorded against the day and hour they start. However, if a call is in progress while MessageStats is gathering information, or if the call ends after midnight (UTC), the call does not appear in that day's gathering. For example, a call that started on Monday and ended on Tuesday will not appear in the Enterprise Voice reports for Monday until after the Wednesday gathering has run.

For Enterprise Voice reports, the time values are always rounded up to the nearest minute. For example, if a call lasted 25.21 minutes, it is stored in the database as 26 minutes.

Reports include data only for successful enterprise voice calls. If the end date of the call is null, MessageStats does not include the call.

## Voice Call Types

Call types are categorized in relation to whether the call goes to or comes from a PSTN (public switched telephone network) and according to the chargeback rate defined for the call type.

Table 11. Voice call type descriptions.

Call Type	Description
Internal	Calls between Skype for Business or Lync users that do not use the PSTN.
Incoming	Incoming calls from the PSTN.
Local	Outgoing calls to the PSTN that are charged the local chargeback rate.
Long Distance	Outgoing calls to the PSTN that are charged the long distance chargeback rate.
Toll-Free	Outgoing calls to the PSTN that are charged the toll-free chargeback rate.
International	Outgoing calls to the PSTN that are charged the international chargeback rate.

## Calculating Enterprise Voice Chargeback Costs

In addition to the Enterprise Voice reports, enterprise voice calls also appear in the Peer-to-Peer Session Details report and Peer-to-Peer audio reports. If you have specified the chargeback costs for each enterprise voice call type (Voice Properties | Financials), you may notice that the same session is counted in both the Total Voice Call Cost column and the Total Peer-to-Peer Session Cost column in the chargeback reports at the organization level. Though it may appear that the session has been double-counted, the columns provide different information.

An enterprise voice call is comprised of two parts:

- internal network (up to the gateway) that charged for the bandwidth used

- traffic on PSTN that is charged by telecom service provider.

The Total Peer-to-Peer Session Cost shows the bandwidth charge, while Total Voice Call Cost (for call types such as local, long distance, or international) shows the charge from the telecom service provider. So the Total Cost column will contain the entire chargeback cost for the enterprise voice call.

The chargeback reports in Peer-to-Peer report folder contain the chargeback for bandwidth used only, and the chargeback reports in Enterprise Voice report folder contain the chargeback for service provider only.

The following table describes the reports found in the Enterprise Voice folder:

**Table 12. Enterprise Voice reports.**

Report	Description	Filters
Enterprise Voice Usage	Shows the quantity of voice calls handled by the Lync or Skype for Business servers. Voice call counts are broken down to show the distribution of internal, local, long-distance, toll-free, international, and incoming calls. <b>NOTE:</b> You must have the Voice Properties pages correctly configured to display accurate data in this report.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>
Voice Call Routing	Can be used to verify that calls are being made through the appropriate gateways to reduce long-distance charges. Shows voice routes for Lync and Skype for Business Server. The totals shown in this report include only long-distance and international calls.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Source City</a></li> <li>• <a href="#">Destination Number</a></li> <li>• <a href="#">Gateway</a></li> <li>• <a href="#">O</a></li> </ul>
Voice Calls by Office	Shows a summary of the quantity and duration of all calls to and from an office. <b>NOTE:</b> The Voice Properties pages must be correctly configured.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Office</a></li> </ul>
Voice Calls by Department	Shows a summary of the quantity and duration of all calls to and from a department. <b>NOTE:</b> The Voice Properties pages must be correctly configured.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Department</a></li> </ul>
Voice Calls by Destination	Shows a summary of the quantity and duration of all calls to a destination area code. <b>NOTE:</b> You must have the Voice Properties pages correctly configured to display accurate data in this report. The totals shown in this report include only long-distance and international calls.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Destination</a></li> </ul>

Table 12. Enterprise Voice reports.

Report	Description	Filters
Voice Calls by Gateway	Shows a summary of the quantity and duration of all calls through a gateway. <b>NOTE:</b> You must have the Voice Properties page correctly configured to display accurate data in this report.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Detail Level</li> <li>• Display Options</li> <li>• Trend and Forecast Options</li> <li>• Date/Time Display</li> <li>• Gateway</li> </ul>
Top Voice Calls by User	Shows the users with the top voice call usage. <b>NOTE:</b> The Voice property page must be correctly configured.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Select Top</li> <li>• Display Options</li> <li>• Display Name</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>
Voice Call Chargeback by Department	Provides the chargeback totals for voice calls per department based on minutes used. Totals are broken down by call type, such as internal, local, long-distance, toll-free, and international. <b>NOTE:</b> The Voice property page must be correctly configured.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Department</li> <li>• Pool</li> </ul>
Voice Call Chargeback by User	Provides the chargeback totals for voice call usage per user based on minutes used. Totals are broken down by call type, such as internal, local, long-distance, toll-free, and international. <b>NOTE:</b> The Voice property page must be correctly configured.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Display Name</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>
Outgoing Voice Call Details	Provides details about individual outgoing voice calls, including the call duration, the user who initiated the call, the number that was called, and the calculated chargeback for the call. <b>NOTE:</b> The Voice property page must be correctly configured.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Date/Time Display</li> <li>• Call Initiator</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>
Incoming Voice Call Details	Provides details about individual incoming voice calls, including the call duration, the user who received the call, the telephone number that originated the call, and the calculated chargeback for the call. <b>NOTE:</b> The Voice property page must be correctly configured.	<ul style="list-style-type: none"> <li>• Date</li> <li>• Date/Time Display</li> <li>• Answered By</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>

## Conferences Reports

Conferencing can be defined as a session that has three or more participants. The conference can be chat, audio-video, data sharing, application sharing, or any combination of these.

A participant is identified by a unique User Uniform Resource Identifier (URI) entry or the display name. Each participant can take several roles during a conference and can have multiple entries. For example, the Presenter role is assigned when a user is communicating and the Attendee role is assigned when a user is silent.

The Conference type can also change for a participant during a conference. If a participant uses Lync or Skype for Business instant messaging, the Conference Type is shown as chat. If video is enabled during the conference, then the Conference type changes to audio-video.

## How Conferences are Recorded

Conferences are recorded against the day and hour they start. However, if a conference is in progress while MessageStats gathers information, or if it ends after midnight (UTC), the conference does not appear in that day's gathering. For example, a conference that started on Monday and ended on Tuesday will not appear in the reported conferences for Monday until after the Wednesday gathering has run.

For conference reports, the time values are always rounded up to the nearest minute. For example, if a conference lasted 25.21 minutes, it is stored in the database as 26 minutes.

Reports include data only for successful conferences. If the end date of the conference is null, MessageStats does not include the conference.

## How Conference Media Types Are Reported

If more than one medium is used during a conference, the conference is categorized by the dominant media type. For example, if you have a conference with chat and then you initiate audio-video, the conference is counted as an audio-video session.

Conference types are based on the media used and are determined using the following order of media types:

- 1 Application Sharing
- 2 Audio-Video
- 3 Data Sharing
- 4 Chat

The following table describes the reports found in the Conferences folder:

**Table 13. Conference reports.**

Report	Description	Filters
Audio/Video Conference Usage	Shows the number of audio/video conferences that were handled by the Lync or Skype for Business server. The report provides the number of conference minutes (aggregated hourly). To view the details and graph for the number of participants, set the Detail Level filter to Hourly. <b>NOTE:</b> To see cost information in the report, you must have configured the Financial property page.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>
All Conferences <b>NOTE:</b> It is recommended that you limit the results for real-time reports to include only one or two pools and select a date range of not more than 7 days.	This is a real-time report that retrieves information directly from the Lync or Skype for Business databases. The report provides information about the different types of conference sessions including chat, audio/video, and application-sharing. It includes meeting lengths, conference organizer, and the number of participants for each conference. To view the conference details such as participants, click the View Details link.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Pool</a></li> </ul>

Table 13. Conference reports.

Report	Description	Filters
Conference Details by Organizer	<p>This report is similar to the All Conferences report but the data for it is gathered and stored in the MessageStats database. It shows information about different types of conferences, grouped by organizer, and shows details about each participant in the conference.</p> <p>Conferences can include chat, audio-video, data sharing, or application sharing sessions.</p> <p><b>NOTE:</b> Unlike the All Conferences report, this report does not show data for ongoing conferences, only for completed conferences.</p>	<ul style="list-style-type: none"> <li>• Date</li> <li>• Date/Time Display</li> <li>• Organizer</li> <li>• Participant</li> <li>• Organizer Department</li> <li>• Participant Department</li> <li>• Organizer Office</li> <li>• Participant Office</li> <li>• Conference Type</li> <li>• Pool</li> </ul>
Conferences Chargeback by Department	<p>Shows the total cost for conferences grouped by the department to which an organizer belongs. It includes the cost totals for audio-video conferences.</p> <p><b>NOTE:</b> Chargeback costs must first be specified for conferences. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• Date</li> <li>• Department</li> <li>• Pool</li> </ul>
Conferences Chargeback by Organizer	<p>Shows the total cost for conferences calculated per organizer, including separate cost totals for Lync/Skype for Business audio-video conferences.</p> <p><b>Prerequisite:</b> Chargeback costs must first be specified for conferences. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• Date</li> <li>• Date/Time Display</li> <li>• Department</li> <li>• Office</li> <li>• Pool</li> </ul>

## Peer-to-Peer Reports

The Peer-to-Peer reports contain information about Lync-initiated audio-only, video, and desktop sharing sessions. These reports also provide the chargeback information for the combined audio (including enterprise voice calls), video, and desktop sharing sessions.

## How Peer-to-Peer Session Types Are Reported

The report pack provides detailed reports about peer-to-peer audio, video, and desktop sharing sessions. The sessions are categorized by session type.

Reports include data only for successful peer-to-peer sessions. If the end date of the session is null, MessageStats does not include the session. To see summary details for the combined audio, video, and desktop sharing sessions, see the reports in the Peer-to-Peer folder:

For information about how chargeback costs for enterprise voice calls are reported in the peer-to-peer reports, see [Calculating Enterprise Voice Chargeback Costs](#) on page 41.

## Reporting Media Types for Lync and Skype for Business

For Lync and Skype for Business, MessageStats counts the same session for each media type that is used, the same as in the Microsoft native reports. The same session is counted in different media reports when multiple media were used. For example, if there was a session in which both audio and desktop sharing were used. the Microsoft native reports count the session in both the audio session report and the desktop sharing session report.

The exception is when audio and video are used in the same session. The Microsoft native reports will show two different sessions but the MessageStats reports count the session as a video session and show the media used as audio-video.

The following table provides descriptions of the peer-to-peer session reports.

**Table 14. Peer-to-Peer Session reports.**

Report	Description	Filters
Peer-to-Peer Session Details	<p>This report provides details about Skype for Business or Lync peer-to-peer sessions such as audio (including enterprise voice calls), video, and desktop sharing sessions. For each session, the report shows session duration, who initiated the session, which media were used, the session participant, and the calculated chargeback cost for the session.</p> <p>MessageStats counts the same session for each media type if multiple media were used. The exception is when audio and video are used. The session is counted as a video session only and the media used is shown as Audio, Video.</p> <p><b>Prerequisites:</b> Chargeback costs must first be specified for the peer-to-peer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Session Initiator</a></li> <li>• <a href="#">Session Participant</a></li> <li>• <a href="#">Initiator Department</a></li> <li>• <a href="#">Participant Department</a></li> <li>• <a href="#">Initiator Office</a></li> <li>• <a href="#">Participant Office</a></li> <li>• <a href="#">Session Type</a></li> <li>• <a href="#">Pool</a></li> </ul>
Chargeback by Department	<p>This report shows the total cost for Skype for Business or Lync peer-to-peer sessions, grouped by the department to which the session initiator belongs. The report provides cost totals for audio calls (including enterprise voice calls), video calls, and desktop sharing sessions including public sessions.</p> <p><b>Prerequisites:</b> Chargeback costs must first be specified for the peer-to-peer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Pool</a></li> </ul>
Chargeback by Initiator	<p>This report shows the total cost for Skype for Business or Lync peer-to-peer sessions, calculated for each session initiator, with separate cost totals for audio, video, and desktop sharing sessions, including public sessions.</p> <p><b>Prerequisites:</b> Chargeback costs must first be specified for the peer-to-peer sessions. For details, see <a href="#">Specifying Chargeback Costs for Sessions and Conferences</a> on page 23.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>

## Peer-to-Peer Audio Call Reports

Reports include data only for successful peer-to-peer audio calls. If the end date of the call is null, MessageStats does not include the call.

The following table describes the reports found in the Peer-to-Peer Audio folder:

**Table 15. Peer-to-Peer Audio-Only reports.**

Report	Description	Filters
Audio Call Usage	Shows the number of peer-to-peer audio (including enterprise voice calls) sessions established by the Lync or Skype for Business server. Sessions are broken down into internal, federated, and public sessions, and provides the total number of minutes for each session type.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Internal Users by Incoming Audio Calls	Shows the internal users who received the most peer-to-peer audio calls (including enterprise voice calls) from other internal users, from federated users, and from public users. You can click on a user name to display the details of the individual sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Internal Users by Outgoing Audio Calls	Shows the internal users who initiated the most peer-to-peer audio calls (including enterprise voice calls) with other internal users, with federated users, and with public users. You can click on a user name to display the details of the individual sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Federated Participants by Audio Calls	Shows the federated users who participated in the most incoming and outgoing peer-to-peer audio calls (including enterprise voice calls) with internal users. Provides the number of minutes for the audio sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> </ul>

## Peer-to-Peer Video Call Reports

Peer-to-peer video calls can also be referred to as Skype for Business or Lync video calls. Reports include data only for successful peer-to-peer video calls. If the end date of the call is null, MessageStats does not include the call.

The following table describes the reports found in the Peer-to-Peer Video folder:

**Table 16. Peer-to-Peer Video Call reports.**

Report	Description	Filters
Video Call Usage	Shows the number of Skype for Business or Lync peer-to-peer video sessions established by the Lync or Skype for Business server. Sessions are broken down into internal, federated, and public sessions, and provides the total number of minutes for each session type.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>

**Table 16. Peer-to-Peer Video Call reports.**

Report	Description	Filters
Top Internal Users by Incoming Video Calls	Shows the internal users who received the most Skype for Business or Lync peer-to-peer video calls from other internal users, from federated users, and from public users. You can click on a user name to display the details of the individual sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Internal Users by Outgoing Video Calls	Shows the internal users who initiated the most Skype for Business or Lync peer-to-peer video calls with other internal users, with federated users, and with public users. You can click on a user name to display the details of the individual sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Federated Participants by Video Calls	Shows the federated users who participated in the most incoming and outgoing peer-to-peer video calls with internal users. Provides the total number of minutes for the video sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> </ul>

## Peer-to-Peer Desktop Sharing Session Reports

Peer-to-peer desktop sharing sessions can also be referred to as Skype for Business or Lync desktop sharing. Reports include data only for successful peer-to-peer desktop sharing sessions. If the end date of the session is null, MessageStats does not include the session.

The following table describes the reports found in the Peer-to-Peer Desktop Sharing folder:

**Table 17. Peer-to-Peer Desktop Sharing reports.**

Report	Description	Filters
Desktop Sharing Session Usage	Shows the number of Skype for Business or Lync peer-to-peer desktop sharing sessions established by the Lync or Skype for Business server. Sessions are broken down into sessions with internal users and with federated users. The report provides the total number of minutes for each session type.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Detail Level</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Trend and Forecast Options</a></li> <li>• <a href="#">Date/Time Display</a></li> <li>• <a href="#">Server</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Internal Users by Incoming Desktop Sharing Sessions	Shows the internal users who accepted and participated in the most Skype for Business or Lync peer-to-peer desktop sharing sessions with internal users and with federated users. You can click on a user name to display the details of the individual sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>



Table 17. Peer-to-Peer Desktop Sharing reports.

Report	Description	Filters
Top Internal Users by Outgoing Desktop Sharing Sessions	Shows the internal users who initiated the most Skype for Business or Lync peer-to-peer desktop sharing sessions. You can click on a user name to display the details of the individual sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> <li>• <a href="#">Department</a></li> <li>• <a href="#">Office</a></li> <li>• <a href="#">Pool</a></li> </ul>
Top Federated Participants by Desktop Sharing Sessions	Shows the federated users who initiated, accepted, and participated in the most Skype for Business or Lync peer-to-peer desktop sharing sessions with internal users. Provides the total number of minutes for the desktop sharing sessions.	<ul style="list-style-type: none"> <li>• <a href="#">Date</a></li> <li>• <a href="#">Select Top</a></li> <li>• <a href="#">Display Options</a></li> <li>• <a href="#">Display Name</a></li> </ul>

## Comparing MessageStats Reports to the Microsoft Native Reports

If you compare information from the MessageStats report to the native Microsoft Lync or Skype for Business reports, you will see some important differences.

MessageStats reports include only successful sessions or messages. Native reports include all sessions and messages, including those which failed.

In the Microsoft native reports, the session count is based on the session starting time. In the MessageStats reports, the session count is based on the session end time. For example, if a session started on Jan 1 and ended on Jan 2, the native reports show the session on Jan 1, but the MessageStats reports will count the session on Jan 2. For ongoing sessions that cross the date boundary, the sessions are counted after the session is completed and has a session end time. A session is not counted if the session end time is blank.

## Reporting the Media Types Used in Sessions

MessageStats counts the same session for different media types if multiple media were used. The Microsoft native reports also count the same session in different media reports. For example, if there was a session in which both audio and desktop sharing were used, the Microsoft native reports and the MessageStats reports count the session in the audio session report and the desktop sharing session report.

The exception is when audio and video are used in the same session. The Microsoft native reports will show two different sessions but the MessageStats reports count the session as a video session and show the media used as audio-video.

## About the Session Details Reports

In addition to appearing in the Enterprise Voice reports, enterprise voice calls are included in the peer-to-peer session details reports along with audio, video, and desktop-sharing sessions. However, the IM (instant messaging) and file transfer sessions only appear in the separate IM and File Transfer reports and are not included in the peer-to-peer session reports.

For more information about how chargeback for enterprise voice calls are calculated see [Calculating Enterprise Voice Chargeback Costs](#) on page 41.

The native Microsoft Lync peer-to-peer activity reports include enterprise voice, IM, and file transfer sessions in addition to the peer-to-peer audio, video and desktop sharing sessions.

## Reporting Public Sessions

The MessageStats Peer-to-Peer Audio Call Usage, Peer-to-Peer Video Call Usage, and Peer-to-Peer Audio Desktop Sharing Session Usage reports now include public sessions, so they can be compared to the Microsoft native reports. You can also use the Peer-to-Peer Session Details report and set the appropriate Session Type filter to compare MessageStats results to the native reports.

---

# Report Filter Definitions

## A

### Answered By

Restricts report content using the display name of the user who received the call.

## C

### Call Initiator

Restricts report content using the display name of the user who initiated the call.

### Conference Type

Restricts the report content to conferences that have the selected MCU type.

## D

### Date

Restricts the report content to the date range that you specify.

### Date/Time Display

Determines whether you want date and time data in the report to appear in UTC or local server time.

### Department

Restricts the report content to the business department that you specify.

### Destination

Restricts the report content to the destination Exchange organization that you specify.

### Destination Number

Restricts the report content to the destination number that you specify.

### Detail Level

Restricts the report content to the detail that you select:

**Summary** indicates that you want to include only aggregated data.

**Daily** indicates that you want detailed records grouped by day.

**Hourly** indicates that you want detailed records grouped by the hour.

### Display Name

The “friendly” name that is used to identify the user in Lync or Skype for Business. Restricts the report content to the Display Name that you specify.

### Display Options

Display Options define the components you want to include on the report:

**Data and Graph** presents a graph at the top of the report followed by a corresponding data table.

**Data Only** presents data table and suppresses the graph view.

**Graph Only** presents a graph and suppresses the corresponding data table.

**Domain**

Restricts the report to the domain that you specify.

**G****Gateway**

Restricts the report content to the gateway that you specify.

**I****Initiator Department**

Restricts report content to the department of the user who initiated the peer-to-peer or conference session.

**Initiator Office**

Restricts report content to the office location for the user who initiated the peer-to-peer sessions.

**L****Location**

Restricts the report to the office location or set of locations that you specify.

**O****Office**

Restricts the report content to the office location that you specify.

**Organizer**

Restricts report content to include conference data for the organizer.

**Organizer Department**

Restricts report content to include conference data for the department to which the organizer belongs.

**Organizer Office**

Restricts report content to include conference data for the office to which the organizer belongs.

**P****Participant**

Restricts report content to include conference data for the selected participant.

**Participant Department**

Restricts report content to the department of the user who was a participant in the peer-to-peer or conference session.

**Participant Office**

Restricts report content to the office of the user who was a participant in the peer-to-peer or conference session.

**Pool**

Restricts the report content to the Skype for Business or Lync Server pool that you specified.

**S****Select Top**

Restricts the report content to the number of records that you specify.

**Note:** When you select a number greater than 50, MessageStats Reports displays a maximum of 50 records in a graph, but displays unlimited records in a table.

**Senders/Receivers**

Restricts the report content to the senders and/or receivers that you specify.

**Server**

Restricts the report content to the servers you specify.

**Server Role**

Restricts the report contents to the server roles you specify.

**Session Initiator**

Restricts report content to the selected user who initiated the peer-to-peer session.

**Session Participant**

Restricts report content to the selected user who was a participant in the peer-to-peer session.

**Session Type**

Restricts the report to include only the peer-to-peer sessions with the specified MCU type.

**Source City**

Restricts the report to the city from where the call is originating.

**T****Trend and Forecast Options**

Indicate your graph display preference for the report.

**Display Neither** suppresses both trend lines and forecasts.

**Trend Only** includes trend lines, but not forecasts.

**Trend and Forecast** includes both trend lines and forecasts.

**U****User**

Restricts the report content to the user account that you specify.

**User Name**

Restricts the report content to the user name that you specify.

**V****Voice Route**

Restricts the report content to the Lync Server voice routes that you specify.

---

# Appendix A: Configuring RPC through a Firewall

This appendix provides a procedure that you can use to configure Remote Procedure Call (RPC) on your Edge server through a firewall. The procedure assumes that you are using a Microsoft ISA Server as your firewall software. If you are using another firewall solution, the concepts behind the procedure are still valid.

Federations are stored on the Skype for Business or Lync Edge server which is in the DMZ. If you want the federated domains to be automatically discovered, you must open certain ports in the firewall to allow the information be retrieved from the Edge server.

If your security policies do not allow you to provide access to the Edge server, you can manually add your federated domains to the report pack so that users in these domains are correctly reported. For information about manually adding federated domains, see [Identifying Federated Domains](#) on page 21.

There are three parts to the process:

- [Creating Credentials on the Edge Server](#)
- [Configuring RPC on the Lync or Skype for Business Edge Server](#)
- [Configuring the ISA Server](#)

**i** **IMPORTANT:** This procedure requires that you manually edit the contents of the Windows registry. Serious problems can occur if you modify the registry incorrectly using Registry Editor or using another method. These problems might require that you reinstall the operating system. Quest cannot guarantee that problems can be solved. Modify the registry at your own risk.

Be sure to back up the registry before you modify it. Ensure that you know how to restore the registry if a problem occurs. For information about how to back up, restore, and modify the registry, see the Microsoft knowledgebase.

## Creating Credentials on the Edge Server

To gather from the Skype for Business or Lync Edge server, you must create another account on the Edge server that has the same credentials (same user name and password) as the service account used to run the report pack gathering tasks such as the Default Lync & Skype for Business or the Lync & Skype for Business Servers and Users gathering task.

## Configuring RPC on the Lync or Skype for Business Edge Server

In a default Windows installation, the RPC program is configured to randomly assign server ports to any port above 1024. It is unwise to open every port over 1024.

The recommended procedure is to configure RPC to use a specific range of ports. Microsoft recommends using ports 5000 and up. Port numbers below 5000 may already be in use by other applications and could cause conflicts with your DCOM applications.

Microsoft also recommends that a minimum of 100 ports be opened. This example shows how to configure RPC on the Edge server to use ports 5000 to 5100.

**Example: To configure RPC to use ports 5000 to 5100**

- 1 Create the following registry key:  
HKEY\_LOCAL\_MACHINE\Software\Microsoft\Rpc\Internet
- 2 Under the Internet key, add the following values:
  - Ports (MULTI\_SZ)
  - PortsInternetAvailable (REG\_SZ)
  - UseInternetPorts (REG\_SZ)
- 3 Set the new values as follows:

**Table 18. Settings for the values under the Internet key.**

NAME	TYPE	VALUE
Ports	MULTI_SZ	5000-5100
PortsInternetAvailable	REG_SZ	Y
UseInternetPorts	REG_SZ	Y

- 4 Reboot the Lync or Skype for Business Edge server.

## Configuring the ISA Server

Once you have configured RPC to use a specific set of ports on the Edge server, you make those ports available to the MessageStats server by opening the required ports on the firewall.

In addition to opening the dynamically-assigned ports, you also must open port 135. Port 135 provides access to the RPC Endpoint Mapper. The port must be available for proper operation of RPC.

**To open the proper ports on an ISA server**

- 1 Open the ISA Server Management console and select the **Firewall Policy** node for your Lync or Skype for Business server.
- 2 Click **Action** and select **New/Access Rule**.
- 3 Enter a name for your access rule (for example, MessageStats RPC) and click **Next**.
- 4 Select **Allow** and click **Next**.
- 5 On the Protocols page, add the RPC (all interfaces) protocol.  
Be sure you do not add the RPC Server (all interfaces) protocol.
- 6 Create a new protocol for the range of RPC ports to be used. Set the protocol properties as follows:
  - Protocol Type - TCP
  - Direction - Outbound
  - Port Range - 5000 to 5100
- 7 Add the newly created protocol type and click **Next**.
- 8 In the Access Rule Sources page, add the Internal network.  
- OR -  
Define the MessageStats server as a network identity and add it.
- 9 Click **Next**.

10 In the Access Rule Destinations page, add the Lync or Skype for Business server.

- OR -

Add Local Host if the ISA Server software is installed on the Lync or Skype for Business server.

11 Click **Next**.

12 On the User Sets page, click **Next**.

13 Click **Finish** to close the wizard and create the access rule.

14 Click **Apply** to apply your changes.



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## Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request.
- View Knowledge Base articles.
- Sign up for product notifications.
- Download software and technical documentation.
- View how-to-videos.
- Engage in community discussions.
- Chat with support engineers online.
- View services to assist you with your product.

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