

Installing and Configuring the Healthcare Listener

Technical Paper
Casper Suite v9.98 or Later
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Jamf has made all efforts to ensure that this guide is accurate.

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Introduction

What's in This Guide

This guide explains how to install a Jamf Infrastructure Manager instance that hosts a Healthcare Listener and configure the Healthcare Listener to automatically send remote commands to mobile devices with the Jamf Software Server (JSS) v9.98 or later.

Additional Resources

- [*Casper Suite Administrator's Guide*](#)
Find more information about the Jamf Infrastructure Manager and mobile device management with the Casper Suite.
- [*Jamf Infrastructure Manager Installation Guide*](#)
Find more information about how to install the Jamf Infrastructure Manager.

Overview

The Healthcare Listener is a secure service that receives ADT messages from a healthcare management system. It allows traffic to pass securely from the healthcare management system to the Jamf Software Server (JSS). The Healthcare Listener is hosted by the Infrastructure Manager, a service that is managed by the JSS.

To use the Healthcare Listener, you must install an Infrastructure Manager instance. When you install an instance of the Jamf Infrastructure Manager, the JSS allows you to enable and configure the Healthcare Listener.

After the Healthcare Listener is enabled and configured, it can receive ADT messages. If the Healthcare Listener has received an ADT message, the JSS automatically sends a remote command to mobile devices. (For more information about the communication process of the Healthcare Listener, see the [Healthcare Listener Communication](#) Knowledge Base article.)

After a remote command is sent to a mobile device, you can view the date/time of the remote command for a specific mobile device in the device's inventory information.

General Requirements

To configure the Healthcare Listener and take full advantage of its latest features and enhancements, you must install the latest version of the JAMF Infrastructure Manager that hosts a Healthcare Listener. Contact Jamf Support for the installer.

Mobile devices must be enrolled with the JSS v9.98 or later to ensure the following:

- Remote commands can be sent to mobile devices automatically
- Email notifications can be sent when a remote command fails to send or remains in a pending state

In addition, you need to ensure that your healthcare management system is compliant with Health Level Seven (HL7) messaging. For more information about HL7 messaging, see www.hl7.org.

Install a Jamf Infrastructure Manager Instance that Hosts a Healthcare Listener

Jamf Infrastructure Manager instances can be installed on Linux and Windows. When you install an Infrastructure Manager instance, it is enrolled with the JSS. You can install as many instances as your organization requires.

Note: You can only install one Infrastructure Manager instance per computer.

After an Infrastructure Manager instance is installed, you can edit the settings and view inventory information. For more information, see [Jamf Infrastructure Manager Instances](#) in the *Casper Suite Administrator's Guide*.

Requirements

The Jamf Infrastructure Manager Installer requires a computer with the following:

- One of the following operating systems:
 - Ubuntu 14.04 LTS Server (64-bit) or Ubuntu 16.04 LTS Server (64-bit)
 - Red Hat Enterprise Linux (RHEL) 7.0, 7.1, or 7.2
 - Windows Server 2008 R2 (64-bit), Windows Server 2012 (64-bit), or Windows Server 2012 R2 (64-bit)
- A 64-bit capable Intel processor
- 2 GB of RAM
- 300 MB of disk space available
- Java 1.8 (For more information, see the [Installing Java and MySQL](#) Knowledge Base article.)

On the JSS, the built-in CA or a trusted third-party CA must be configured.

Installing a Jamf Infrastructure Manager Instance on Ubuntu

1. Copy the Infrastructure Manager Installer for Linux (`jamf-im.deb`) to the computer on which you plan to install it.
Contact Jamf Support for the installer.
2. Log in to the server as a user with superuser privileges.
3. Initiate the installer by executing a command similar to the following:

```
sudo dpkg --install /path/to/jamf-im.deb
```

4. When prompted, enter the JSS URL. For example, "https://jss.mycompany.com:8443/".
5. When prompted, enter credentials for a JSS user account with the "Infrastructure Manager" privilege.
6. When prompted, enter the JSS password.
7. When prompted, enter the hostname of the computer on which the Infrastructure Manager is installed. For example, "computername.mycompany.com".
Note: The hostname must be entered as a fully qualified domain name.
8. Follow the onscreen instructions to complete the installation.

When the Infrastructure Manager instance installation is complete, the JSS allows you to enable the Healthcare Listener.

Installing a Jamf Infrastructure Manager Instance on Red Hat Enterprise Linux

1. Copy the Infrastructure Manager Installer for Linux (jamf-im.rpm) to the computer on which you plan to install it.
Contact Jamf Support for the installer.
2. Log in to the server as a user with superuser privileges.
3. Initiate the installer by executing a command similar to the following:

```
sudo rpm -i /path/to/jamf-im-1.1.0-1.noarch.rpm
```

4. When prompted, execute the following command:

```
sudo jamf-im enroll
```

5. When prompted, enter the JSS URL. For example, "https://jss.mycompany.com:8443/".
6. When prompted, enter credentials for a JSS user account with the "Infrastructure Manager" privilege.
7. When prompted, enter the JSS password.
8. When prompted, enter the hostname of the computer on which the Infrastructure Manager is installed. For example, "computername.mycompany.com".
Note: The hostname must be entered as a fully qualified domain name.
9. Follow the onscreen instructions to complete the installation.

When the Infrastructure Manager instance installation is complete, the JSS allows you to enable the Healthcare Listener.

Installing a Jamf Infrastructure Manager Instance on Windows

1. Copy the Infrastructure Manager Installer for Windows (Jamf-Infrastructure-Manager-version.msi) to the computer on which you plan to install it.
Contact Jamf Support for the installer.
Note: "Version" is the version of the Infrastructure Manager you are using. For example, "Jamf-Infrastructure-Manager-1.1.0.msi".
2. Run the installer.
Note: The installer must be run as an administrator.
3. When prompted, select setup type.
4. When prompted, enter the JSS URL. For example, "https://jss.mycompany.com:8443/".
5. When prompted, enter credentials for a JSS user account with the "Infrastructure Manager" privilege.
6. When prompted, enter the JSS password.
7. When prompted, enter the hostname of the computer on which the Infrastructure Manager is installed. For example, "computername.mycompany.com".
Note: The hostname must be entered as a fully qualified domain name.
8. Follow the onscreen instructions to complete the installation.

When the Infrastructure Manager instance installation is complete, the JSS allows you to enable the Healthcare Listener.

Configure the Healthcare Listener

After you install a Jamf Infrastructure Manager instance, the JSS allows you to enable and configure the Healthcare Listener on the Infrastructure Manager instance.

When you configure the Healthcare Listener, you must do the following:

- Specify IP addresses or a range of IP addresses to accept incoming ADT messages from
Note: The Healthcare Listener is compatible with IPv4 and IPv6 connection methods.
- Specify a port number
Note: The default port value is 8080. This should be changed to the port number of your healthcare management system.
- Choose which ADT messages the Healthcare Listener can receive. These messages allow the JSS to automatically send remote commands to mobile devices. (For more information, see [ADT Message Types](#).)
- Choose an attribute from user and location information in mobile device inventory to use to map a mobile device to a bed number in the healthcare management system. (For more information, see [Mobile Device Inventory Field Mapping](#).)
Note: The value returned from the healthcare management system is "bed number".

In addition, email notifications can be sent from the JSS when a remote command fails to send or remains in a pending state. (For more information, see [Notifications](#).)

ADT Message Types

For the JSS to automatically send remote commands to mobile devices, the Healthcare Listener must receive an ADT message. The JSS allows you to choose the following ADT message types that the Healthcare Listener can receive:

- Patient Transfer (ADT-A02)
- Patient Discharge (ADT-A03)

Note: The remote command that is automatically sent to a mobile device is the Wipe Device remote command. This command applies to all ADT messages that are selected. The Wipe Device command is automatically sent for all ADT messages that the Healthcare Listener receives. If a mobile device has Activation Lock enabled, the Activation Lock is cleared when the device is wiped.

Mobile Device Inventory Field Mapping

When configuring the Healthcare Listener, you must choose an attribute from user and location information in mobile device inventory to use to map a mobile device to a bed number. The attribute you choose is automatically mapped to the value for the bed number in the healthcare management system.

In addition, you can create an extension attribute for a specific inventory attribute that fits your environment. After you create the extension attribute, it is available as an inventory field option. (For more information about creating an extension attribute for a mobile device, see [Mobile Device Extension Attributes](#) in the *Casper Suite Administrator's Guide*.)

Notifications

Email notifications can be sent from the JSS to specified users for the following events:

- A remote command fails to send.
- A remote command is in a pending state after a specified amount of time.

Before you configure the notifications, make sure you have the email addresses of the recipients you want to send the notification to.

To enable email notifications, you need an SMTP sever set up in the JSS. (For more information, see [Integrating with an SMTP Server](#) in the *Casper Suite Administrator's Guide*.)

Requirements

To configure the Healthcare Listener, you need to have a Jamf Infrastructure Manager instance installed and configured. (For more information, see [Install a Jamf Infrastructure Manager Instance that Hosts a Healthcare Listener](#).)

Configuring the Healthcare Listener


1. Log in to the JSS with a web browser.
2. In the top-right corner of the page, click **Settings**.
3. Click **Server Infrastructure**.
4. Click **Infrastructure Manager Instances**.
5. Click the Infrastructure Manager instance with the Healthcare Listener that you want to configure.
6. Click **Edit**.
7. Click the **General** tab, and select the **Enable Healthcare Listener** checkbox.
8. Enter a display name for the Healthcare Listener.
This is the name that is displayed for the Healthcare Listener on the Infrastructure Manager. (For more information about viewing the services that are installed on an Infrastructure Manager instance, see [Jamf Infrastructure Manager Instances](#) in the *Casper Suite Administrator's Guide*.)

9. To specify the IP addresses to accept incoming ADT messages from, do one of the following:
 - Select **All IP Addresses** to accept incoming ADT messages from any IP address. The JSS automatically sends a remote command to mobile devices if the Healthcare Listener receives an ADT message from any IP address.
 - Select **Single IP Address or Range of IP Addresses** to specify the IP addresses to accept incoming ADT messages from, and do the following:
 - a. To specify a single IP address, click the **(+) Add** button for Single, and enter the IP address.
 - b. To specify a range of IP addresses, click the **(+) Add** button for Range, and enter the starting and ending IP addresses.
10. Specify which ADT messages the Healthcare Listener can receive. (For more information, see [ADT Message Types](#).)
11. Choose a mobile device inventory field to use to map a mobile device to the bed number in the healthcare management system. (For more information, see [Mobile Device Inventory Field Mapping](#).) The inventory field is automatically mapped to the bed number in the healthcare management system.
12. (Optional) To enable email notifications, click the **Notifications** tab and do the following:
 - a. Select the **Enable Email Notifications** checkbox.
 - b. Enter an email address or multiple email addresses separated by a line break or a comma.
 - c. Use the **Email Delay** pop-up menu to choose how many minutes to wait when a remote command is pending before sending an email to specified email addresses.
13. Click **Save**.

When the Healthcare Listener receives an ADT message, the JSS automatically sends a remote command to mobile devices. You can view the date/time of when the remote command was sent to a specific mobile device in the device's inventory information. (For more information, see [View when a Mobile Device Receives a Remote Command](#).)

View when a Mobile Device Receives a Remote Command

The audit logs in the JSS allow you to view the date and time that a remote command was automatically sent to a mobile device. "Healthcare Listener" is displayed as the value in the Username column for the remote command. For more information about other events that can be viewed in the audit logs, see "Viewing Audit Logs for a Mobile Device" on the [Viewing the History for a Mobile Device](#) page of the *Casper Suite Administrator's Guide*.

1. Log in to the JSS with a web browser.
2. Click **Mobile Devices** at the top of the page.
3. Perform a simple or advanced mobile device search.
For more information, see [Simple Mobile Device Searches](#) or [Advanced Mobile Device Searches](#) in the *Casper Suite Administrator's Guide*.
4. Click the mobile device you want to view audit logs for.
If you performed a simple search for an item other than mobile devices, you must click **Expand**  next to an item to view the mobile devices related to that item.
5. Click the **History** tab, and then click the **Audit Logs** category.
Audit logs for the mobile device are displayed.