

# Citrix SCOM Management Pack 1.1 for License Server

Aug 14, 2017

Citrix SCOM Management Pack for License Server is an availability and performance management solution that extends end-to-end service monitoring capabilities of Microsoft System Center Operations Manager (**SCOM**) to include the Citrix Licensing infrastructure.

Citrix SCOM Management Pack for License Server allows you to:

- Improve Licensing infrastructure availability and health. Licensing availability is being checked with continuous TCP port probing and active license server services checks, as well as health checks of the Citrix vendor daemon process.
- Gain deeper insight into the license server performance and License usage information
- Know what the amount of product licenses is and the ratio of license usage. With Citrix SCOM Management Pack for License Server, you are notified when the license is about to expire or when the license usage is growing too fast. License server's critical processes are measured for high CPU usage and high memory consumption.

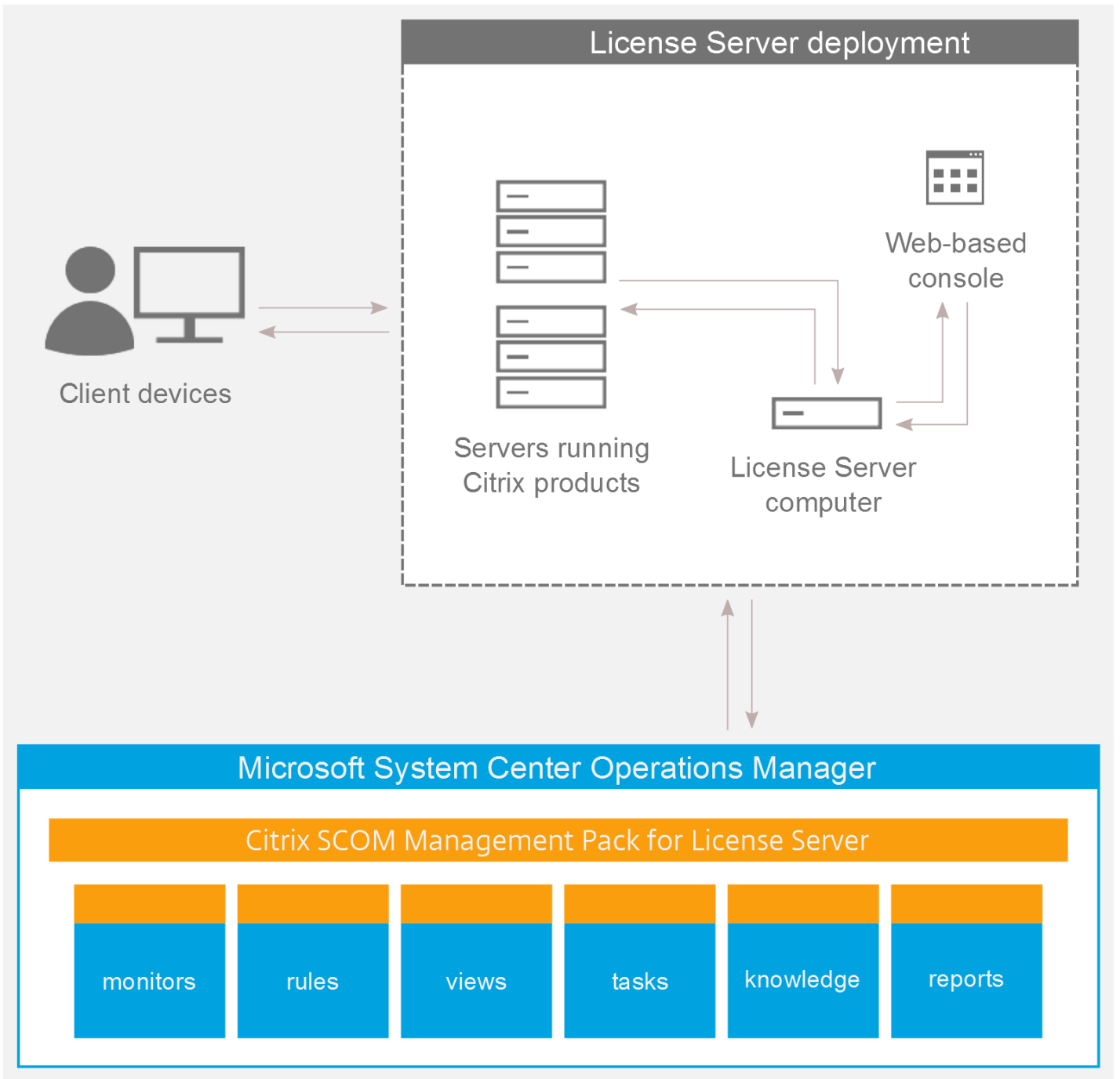
Citrix SCOM Management Pack for License Server introduces a couple of license usage reports. These provide you with an overview of product license usage over time. There are also trending reports that help you plan your licensing resources.

Citrix SCOM Management Pack for License Server fully integrates the topology, health, and performance data into SCOM. It provides centralized monitoring in SCOM and covers the following key scenarios:

- Is the license server up and running?
- Is the Licensing infrastructure (that is, the Citrix Licensing, Citrix Web Services for Licensing, and other related Windows services) operational?
- Are the Citrix Licensing and Citrix Web Services for Licensing responsive for Citrix Products?
- Are the product licenses about to expire?
- Is the Subscription Advantage membership about to expire?
- Has license usage reached or exceeded the configured thresholds?
- Are there any events that indicate a problem with license server?
- How well the license server processes are performing?
- Have any performance thresholds been violated?

## Architecture

The following diagram shows how the Citrix SCOM Management Pack for License Server connects the SCOM management platform and the Licensing infrastructure. The following figure depicts a high-level view of the Citrix SCOM Management Pack for License Server architecture:



# What's new

Aug 14, 2017

Citrix SCOM Management Pack 1.1 for License Server introduces the following new or enhanced features:

- **Documentation in HTML format.** The documentation for the Citrix SCOM Management Pack 1.1 for License Server is available in HTML format.
- **Support for Microsoft System Center Operations Manager 2016.** Citrix SCOM Management Pack for License Server supports Microsoft System Center Operations Manager 2016.
- **Support for Citrix Licensing 11.14.1.** Citrix SCOM Management Pack for License Server supports Citrix Licensing Server version 11.14.1.

## Known issues

There are no known issues in this product version.

## Fixed issues

There are no fixed issues in this product version.

## Upgrading

**Note:** Earlier product versions were released under the name Comtrade Management Pack for Citrix License Server.

Upgrade is available for version 1.0. During the upgrade process, included management packs of the earlier product version are automatically upgraded; their prior removal is not required.

For upgrade instructions, see [Upgrading](#) in Install and Configure.

# System requirements

Aug 14, 2017

Before installing Citrix SCOM Management Pack for License Server, make sure that your environment meets the requirements listed in this section.

## Software requirements

Citrix SCOM Management Pack for License Server requires a supported version of the following products that it integrates with:

- Citrix Licensing
- Microsoft System Center Operations Manager

## Supported versions of Citrix Licensing

Citrix SCOM Management Pack for License Server is compatible with the following Citrix Licensing versions:

Product version	Supported
Citrix Licensing 11.14.1	✓
Citrix Licensing 11.14	✓
Citrix Licensing 11.13	✓
Citrix Licensing 11.12	✓
Citrix Licensing 11.11	✓
Citrix Licensing 11.10	✓
Citrix Licensing 11.9	✓
Citrix Licensing 11.6	✓
Citrix Licensing 11.5	✓

## Supported versions of SCOM

Citrix SCOM Management Pack for License Server is compatible with the following SCOM versions:

Microsoft System Center Operations Manager version	Supported
Microsoft System Center Operations Manager 2016	✓

Microsoft System Center Operations Manager 2012 R2	✓
Microsoft System Center Operations Manager 2012 <sup>1</sup>	✓

<sup>1</sup>This entry covers both the RTM version and the RTM version updated with Service Pack 1 (SP1).

## Language support

Citrix SCOM Management Pack for License Server can be deployed and operates correctly in environments with the following languages and locale settings:

Language	Locale identifier	Supported
English	en	✓
Spanish	es	✓

# Install and configure

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This article contains instructions that you must follow to install and configure Citrix SCOM Management Pack for License Server. Perform all procedures in the documented order of precedence.

## Preparing for installation

Before installing Citrix SCOM Management Pack for License Server, make sure the following prerequisites are fulfilled:

- Your environment meets the software requirements. For software requirements, see [System Requirements](#).
- A SCOM management group is chosen for License Server monitoring. The computer that hosts the SCOM management server of this management group is referred to as SCOM management server.
- SCOM agent is installed on all the computers that host Licensing, and these computers are configured as agent-managed computers in the SCOM management group.
- The Citrix SCOM Management Pack for License Server files (files with the \*.mp file extension) are extracted from the installation archive. The archive file name is *Citrix\_SCOM\_Management\_Pack\_for\_LicenseServer\_<Version>.zip* (where <Version> is the current software version).

## Installing the product

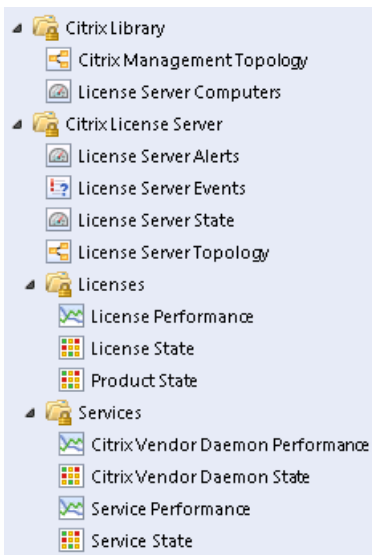
Installation of Citrix SCOM Management Pack for License Server consists of importing the included management packs into SCOM. To import the management packs, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).
3. In the Tasks pane, expand **Actions**, and then click **Import Management Packs**.
4. In the Import Management Packs dialog box, click **Add**, and then select **Add from disk**.
5. In the Online Catalog Connection, click **No**.
6. In the Select Management Packs to import dialog box, browse to the folder that contains the following management pack files, select those files, and then click **Open**.
  - *Comtrade.Citrix.Library.mp*
  - *ComTrade.Citrix.LicenseServer.mp*
  - *ComTrade.Citrix.LicenseServer.Reports.mp*
7. Click **Install**.

## Verifying the installation

To verify that the Citrix SCOM Management Pack for License Server installation is correct, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Monitoring** view, expand the items in the left pane until they match the following figure:



3. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).

4. Verify the following management pack versions are listed in the results pane:

Citrix Management Pack for License Server	1.1.20944.0
Citrix Management Pack for License Server Reports	1.1.20944.0
Citrix Management Pack Library	1.0.7.0

### Configuring SCOM agent to act as proxy on Licensing computers

SCOM agent on each computer where Licensing is installed must be configured to act as a proxy agent. This configuration enables the agent to relay or forward information from or about other computers and network devices to the SCOM management server.

To configure the SCOM agent instances to act as proxy agents, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Device Management**, and then click **Agent Managed**.
3. For each License Server, follow the steps:
  1. Right-click the host name, and select **Properties**.
  2. Click the **Security** tab.
  3. Select the **Allow this agent to act as proxy and discover managed objects on other computers** option.
  4. Click **OK**.

## Uninstalling the product

This section contains instructions that you must follow to effectively uninstall Citrix SCOM Management Pack for License Server. Perform all procedures in the documented order of precedence.

### Removing dependent management packs (customizations)

**Important:** Perform this procedure only if you have customized the management packs included in the product.

To remove the customizations that you made to the management packs included in Citrix SCOM Management Pack for License Server, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).
3. In the results pane, locate the management packs that depend on the management packs included in Citrix SCOM Management Pack for License Server.
4. For each such dependent management pack:
  1. Right-click it and then click **Delete**.
  2. On the message stating that deleting the management pack might affect the scoping of some user roles, click **Yes**.

### Removing included management packs

To remove the management packs included in Citrix SCOM Management Pack for License Server, do the following

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).
3. In the results pane, right-click **Citrix Management Pack for License Server Reports**, and then select **Delete**.
4. On the message stating that deleting the management pack might affect the scoping of some user roles, click **Yes**.
5. Repeat steps 3 and 4 with Citrix Management Pack for License Server.
6. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, repeat steps 3 and 4 with **Citrix Management Pack Library**.

## Upgrading

To upgrade Citrix SCOM Management Pack for License Server from the earlier version, do the following:

1. Prepare your environment for installation of the new product version. For instructions, see [Prepare for installation](#).
2. Install the product. For instructions, see [Install and Configure](#).
3. Verify the installation. For instructions, see [Verifying the installation](#).



# Optimize

Sep 03, 2017

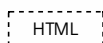
## Monitoring overview

### Monitoring License Server components

The following table lists the object types that Citrix SCOM Management Pack for License Server discovers in the monitored environment.

Object type	Description
Citrix vendor daemon	A process that is responsible for core operations of Citrix License Server.
License	A Citrix license file, which can be of one of the following types: User/Device, Concurrent user, Concurrent system, Named user license.
License Server	A system that allows licenses to be shared across the network. It stores and manages Citrix license files.
License server TCP Probe	TCP ports on the license server host: vendor daemon port, license server manager port, and console web server port.
Product	A group of license files for a Citrix product, such as XenDesktop or XenApp.
Service	A Windows service that is part of Citrix License Server.
License Server Computer	A computer hosting the License Server. There are no monitors associated with this object. The State "Not Monitored" is expected.

### Key monitoring scenarios



### [Citrix SCOM Management Pack for License Server Reference Guide](#)

A complete list of monitors and rules available in Citrix SCOM Management Pack for License Server.

### Product license usage

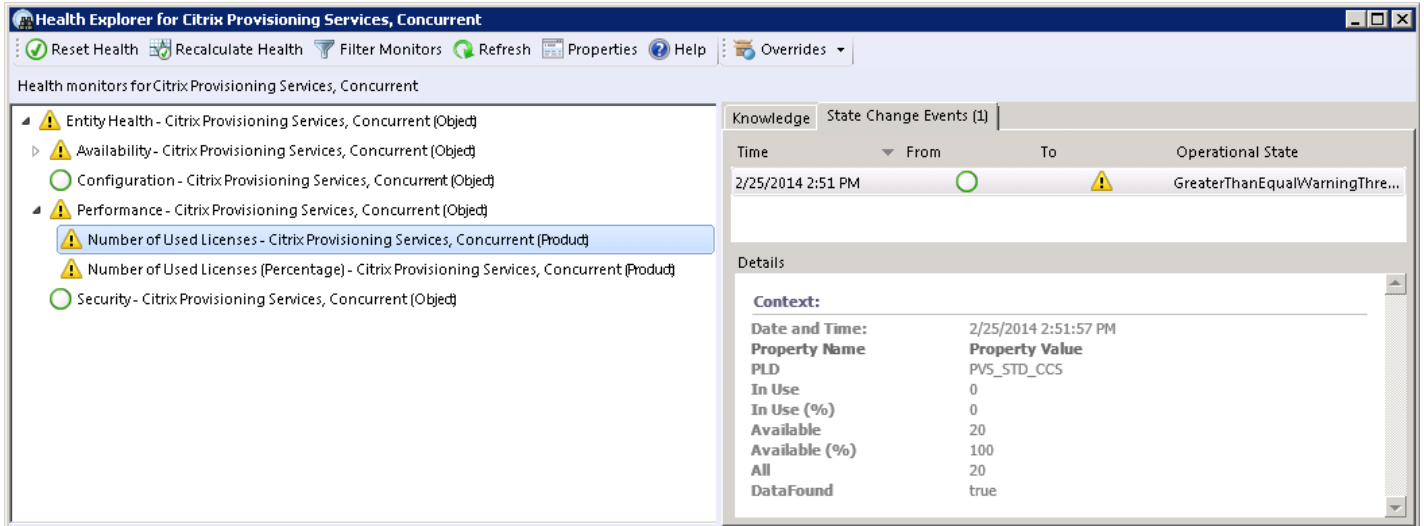
After a user connects to a computer running a Citrix product, the product requests a license from the license server and license gets checked out. License can be checked out to a user, device, session, server, or appliance, depending on the licensing model for a particular product.

Users can eventually run out of available licenses. Citrix SCOM Management Pack for License Server handles this situation in various ways.

### Monitors

- *Number of used licenses*: This monitor checks if the number of used licenses has exceeded the threshold value. The Warning and Critical thresholds can be configured.
- *Number of used licenses (Percentage)*: This monitor checks whether the percentage of used licenses has exceeded the

threshold value. The Warning and Critical thresholds can be configured.



### Performance collection rules

Citrix SCOM Management Pack for License Server provides the following rules that collect metrics for a license:

- *Number of All Licenses Performance DB DW*: This rule collects the number of all licenses for a Citrix product.
- *Number of Used Licenses Performance DB DW*: This rule collects the number of used licenses for a Citrix product.
- *Number of Used Licenses (Percentage) Performance DB DW*: This rule collects the percentage of used licenses
- *Number of Available Licenses Performance DB DW*: This rule collects the number of available licenses.

Values are displayed in the License Performance view.

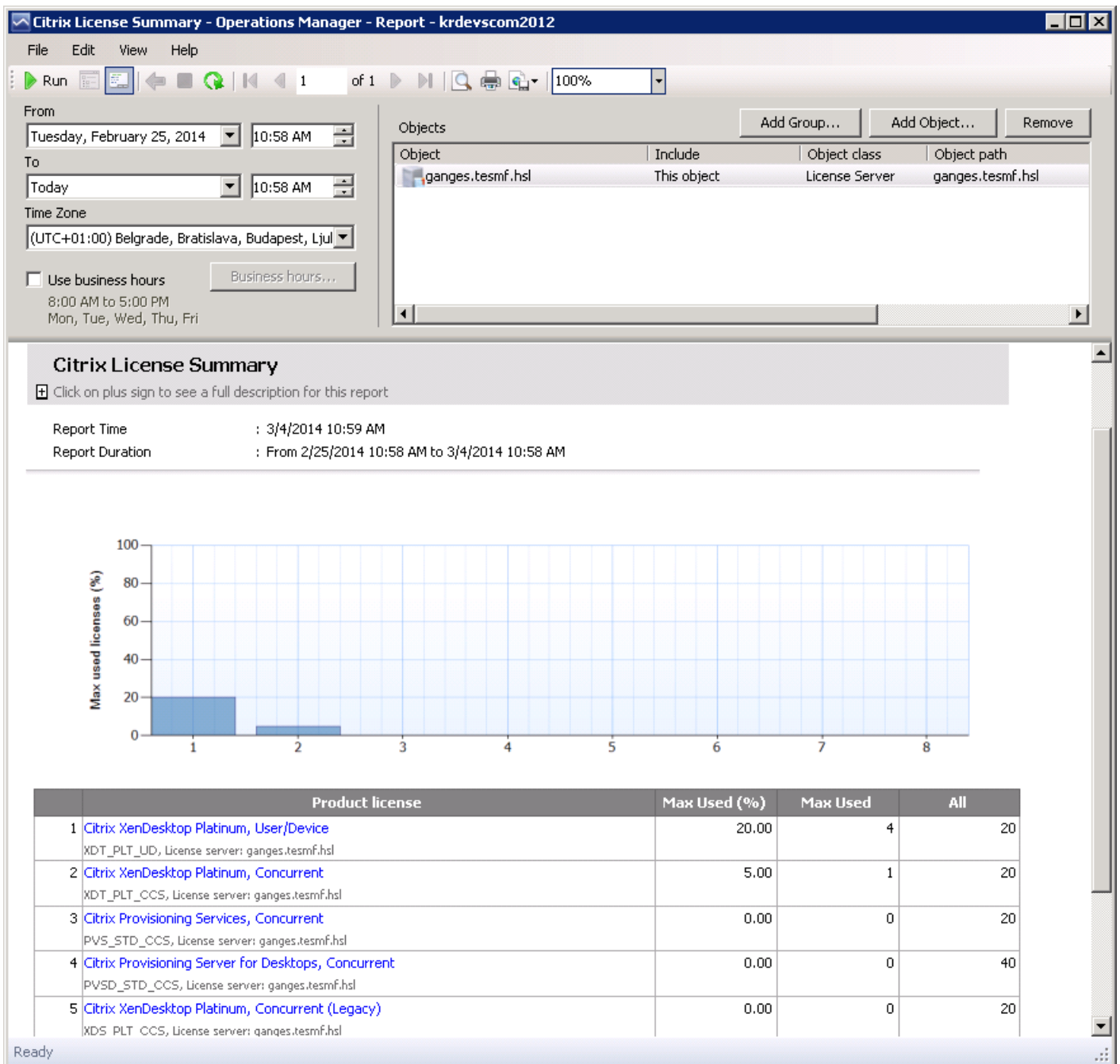
### Reports

With the Citrix SCOM Management Pack for License Server reports, administrators have an overview of license usage on Citrix license servers. Reports show summarized data as well as details for the amount of licenses and the license usage for each Citrix product.

Citrix SCOM Management Pack for License Server provides the following reports:

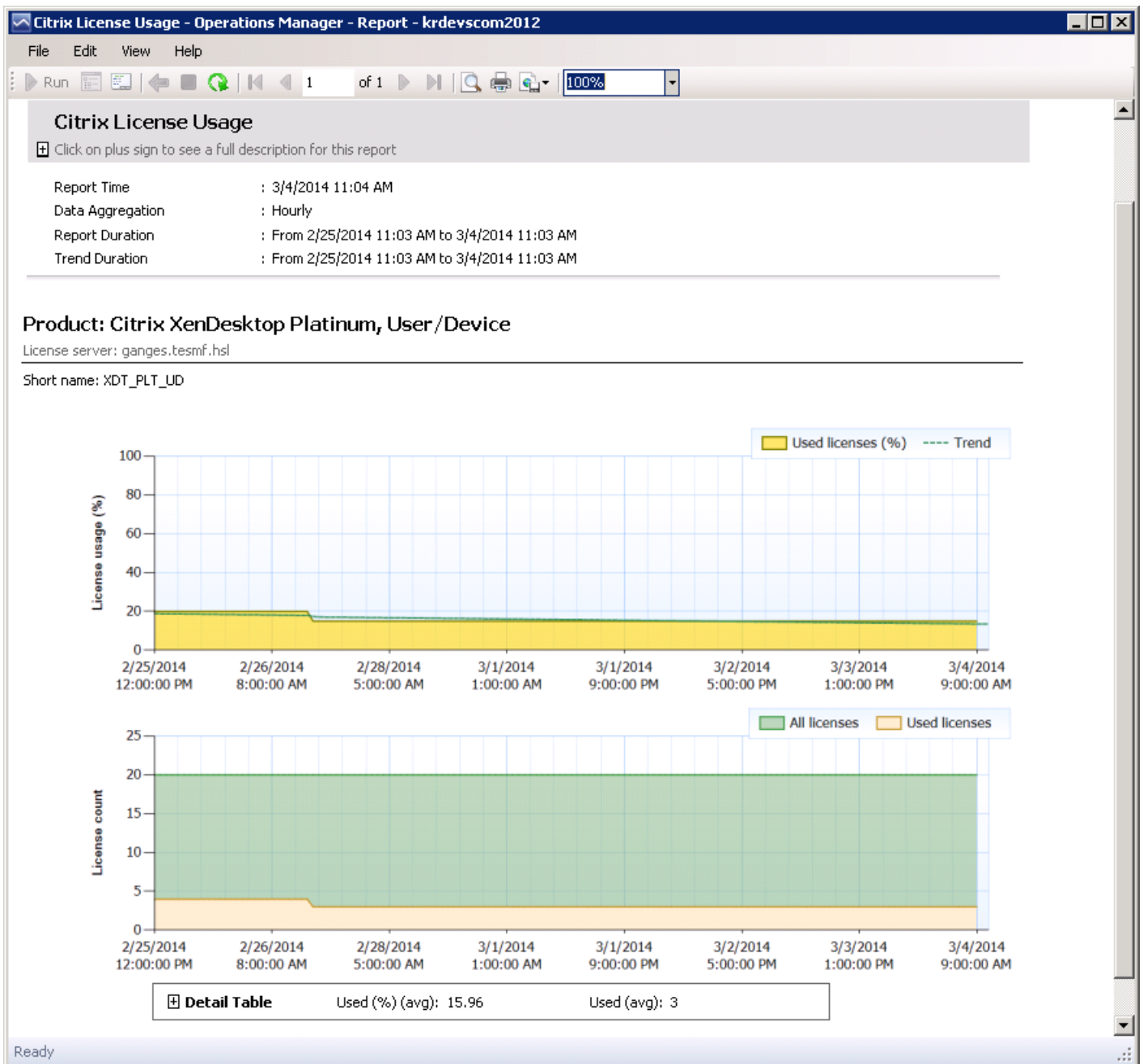
- *Citrix License Summary*: This report shows product license usage summary for the selected time range. The following values are displayed:
  - Percentage of used licenses (maximum value)
  - Number of used licenses (maximum value)
  - Number of all licenses

**Figure:** Citrix License Summary report



- **Citrix License Usage:** This report shows license usage for each installed Citrix product for the selected time range. The following values are displayed:
  - Percentage of used licenses (maximum value in aggregation period) with a trend line
  - Number of used licenses (maximum value in aggregation period)
  - Number of all licenses

**Figure:** Citrix License Usage report



## License and Citrix Subscription Advantage membership expiration

### License expiration monitoring

Citrix licenses can have a limited lifetime. After a license expires, it can no longer be checked out and users are unable to use the product. Citrix SCOM Management Pack for License Server provides a monitor that alerts administrators if a license is about to expire soon or if it has already expired.

### Citrix Subscription Advantage membership expiration monitoring

When purchasing a new Citrix product, your purchase includes a one-year membership in a Citrix Subscription Advantage. This membership entitles you to, among other benefits, any product updates, including major and minor releases, released during your membership period.

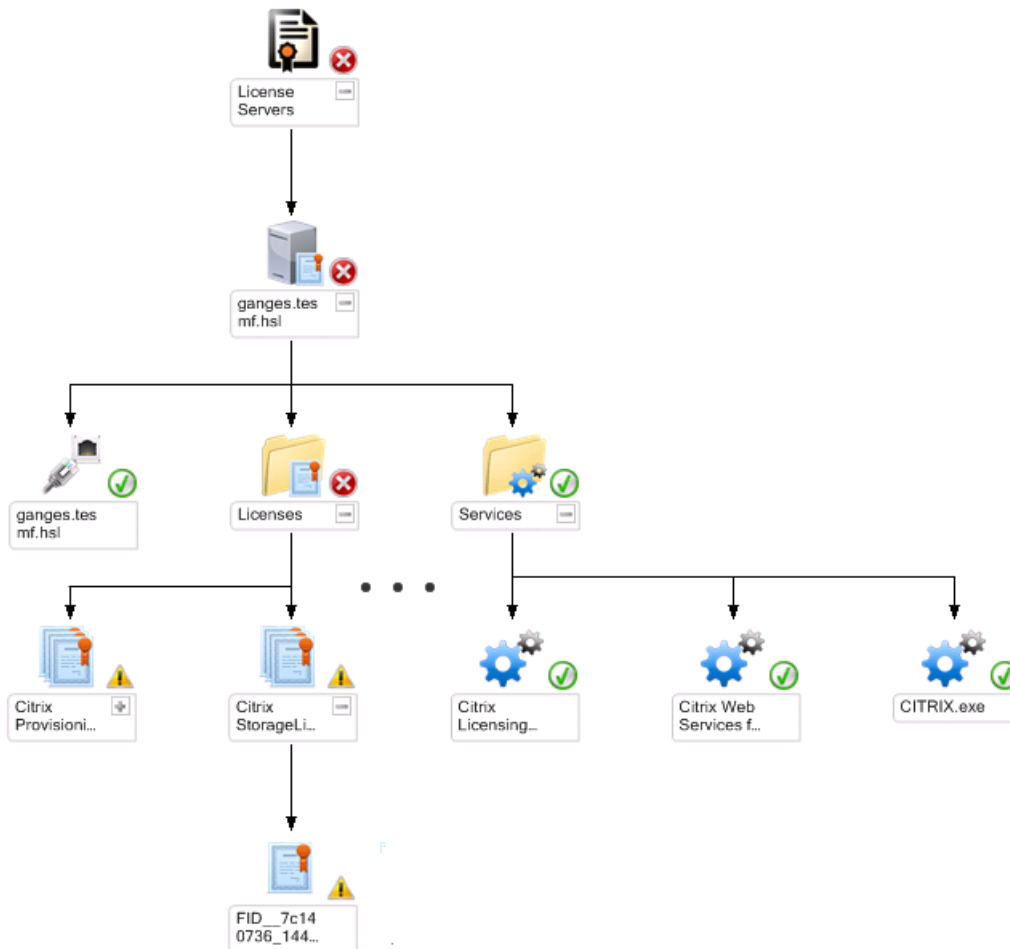
Citrix SCOM Management Pack for License Server provides a monitor that alerts administrators if Subscription Advantage

Membership is about to expire soon or has already expired.

### License Server infrastructure health

Citrix SCOM Management Pack for License Server allows you to monitor the crucial services and processes of a Citrix License Server instance and analyze the CPU performance and memory consumption on its host system.

Figure: License Server topology



The following Windows services of License Server are monitored:

- Citrix Licensing
- Citrix Licensing Config Service (the service is present only in specific Citrix Licensing versions)
- Citrix Licensing Support Service
- Citrix Licensing WMI
- Citrix Web Services for Licensing

Besides service monitoring, Citrix SCOM Management Pack for License Server checks the health of the Citrix vendor daemon process. Citrix vendor daemon is responsible for the core operations of License Server, such as tracking how many licenses are checked out and who uses them. The vendor daemon can manage all of your Citrix license files and is fully backward compatible with any license files you have.

### License Server TCP port probing

The Citrix License Server installation configures communication channels through several ports:

- Console Web server port: Web server uses the HTTP or HTTPS TCP/IP port for communication with clients connecting to the License Administration Console.
- License server manager port: This port is used by the license server manager, which handles the initial communication between the products, starts the vendor daemon, and relays check out and check in requests to the vendor daemon.
- Vendor daemon port: This port is used by the Citrix vendor daemon, which is responsible for the core operations of the license server, including license allocation.

Citrix SCOM Management Pack for License Server executes TCP port probes on license server from SCOM server perspective for each configured TCP port. Monitors alert the following states:

- Connection Refused
- Connection Timeout
- DNS Resolution Failure
- Host Unreachable

### Optional configuration

Some monitors and rules have default thresholds that might need additional tuning to suit your environment. You should evaluate monitors and rules to determine whether the default thresholds are appropriate for your environment. If a default threshold is not appropriate for your environment, you should baseline the relevant performance counters, and then adjust the threshold by overriding them.

For a complete list of monitors and rules, see the *Citrix SCOM Management Pack for License Server Reference Guide*, which you can find in the [Key Monitoring Scenarios](#) section.

### Customizing sealed management packs

#### **Tuning thresholds for performance monitors and rules**

Similar to customizing the default SCOM management pack, you can customize the sealed management packs that Citrix SCOM Management Pack for License Server provides. For details, see the Microsoft TechNet website:

- For general information about customization of management packs, see the [Customizing Management Packs](#) webpage.
- For instructions on how to customize a management pack, see the [Create a New Management Pack for Customizations](#) webpage.