Server Suite

License Management Administrator Guide

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Table of Contents

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About this Guide

This section describes how to install and use license management tools provided by Server Suite to add, remove, monitor, and generate reports about Server Suite licenses and license usage. The license management tools described here include the Server Suite Licensing Service and the Licensing Report wizard. The license management tools described here allow you to manage licenses for access control, privilege management, and auditing.

Intended Audience

This document is intended for administrators who are responsible for adding, removing, monitoring, and reporting on Server Suite licenses. Readers should have administrator privileges to use the Server Suite Licensing Service, the Licensing Report wizard, and the Access Manager and Audit Manager consoles.

How Delinea Licenses are Managed

Delinea licenses give you access to the following key features:

- Secure authentication and identity management
- Role-based access rights
- Delegation of authority
- Auditing of activity

These features can be used together or independently, depending on the type of licenses you purchase and the specific requirements of your organization.

Delinea License Management Tools

Delinea provides a set of tools that let you manage Delinea licenses and generate reports about the different types of Delinea licenses you have purchased.

The tool for adding and removing licenses, monitoring license usage, and configuring license usage notification is the *Delinea Licensing Service*. The licensing service works together with Server Suite components to monitor and report usage and activity for all types of Delinea licenses. For more information about using the licensing service, see Managing Licenses with the Licensing Service.

The tool for generating license reports is the *Delinea Licensing Report wizard*. The wizard generates a report summary and detailed system information about the computers where you have Delinea software deployed. Report information is formatted as comma-separated values (CSV) in a text file. The report is intended primarily for use by Delinea Support. If requested, you can send it to Delinea Support for analysis. You can also use the report for your own analysis. For more information about the Licensing Report wizard, see Creating Licensing Reports with the Licensing Report Wizard.

How Licensing Works

Delinea licensing is based on the number of servers and workstations you authorize for authentication and privilege elevation, and for audit and monitoring service. License validation and management are handled through the licensing service, the Access Manager console, and the Audit Manager console.

Delinea license management tools check for license keys when any of the following events occur:

- A manual or automatic refresh operation is performed through the licensing service.

- You start the Access Manager console.

- An agent-managed computer joins a zone.

- You start the Audit Manager console, the Audit Analyzer console, or the auditing session player; or when you rotate to a new auditing database using either PowerShell or the SDK.

Checking licenses for authentication and privilege elevation verifies that there are enough license keys installed for all UNIX and Windows computers with valid accounts in Active Directory.

Checking licenses for audit and monitoring service verifies that there are enough license keys installed for each computer that is connected to an audit and monitoring service collector.

If the number of licensed computers exceeds the total number of licenses you have purchased, a message is displayed with license usage details, and–if applicable–instructions to add license keys.

After you have installed enough license keys to cover all the configured UNIX, Linux, Mac OS X, or Windows computers, the applicable Delinea console will open at startup and allow you to perform all of the normal administrative tasks.

Understanding License Types

Licenses for authentication and privilege elevation (*also referred to as access control and privilege management*) are purchased and installed separately from licenses for *auditing*. You can use the licensing service to install and manage all types of licenses.

Licenses for access control and privilege management are issued based on how a computer is used. For example, a computer can be licensed as a UNIX or Windows workstation or as a standard UNIX or Windows server, or as an application server. The following types of licenses are available:

- **Workstation Licenses (UNIX or Windows)** permit a specific number of UNIX or Windows workstations to be available to Active Directory users. Workstation licenses are intended for computers that are used interactively by one or two concurrent users but that do not host applications accessed by multiple users. There are separate UNIX workstation and Windows workstation licenses.

- **Server Licenses (UNIX or Windows)** permit a specific number of servers to be available to Active Directory users accessing server-based applications. Server licenses are for computers that are accessed by multiple concurrent users and typically host a specific type of application. There are separate UNIX server and Windows server licenses.

Licenses for audit and monitoring service are issued for each computer that will be connected to an audit and monitoring service collector. Auditing licenses are issued separately for UNIX and Windows computers.

Understanding License Keys

Depending on whether you have purchased software licenses, your license keys might provide limited *evaluation* usage of the software for a specific number of days, or *permanent* access to features for a specific number of computers. If you initially install using an evaluation license key, you must eventually replace that evaluation key with one or more permanent license keys to continue using the software.

Your capacity for enabling access for standard UNIX services or applications is defined by the total of all of the licenses you purchase and install. For example, if you install three valid license keys that each enable 100 workstations for UNIX access, you have a total of 300 workstation login licenses available.

Each license you purchase has a 24-character registration key that specifies:

- The type of license granted by the key.

- The total number of computers that may be enabled under this key's license. If this is an evaluation key, the number of computers is unlimited, but the license count is displayed as zero (0) to indicate no computers are licensed under the evaluation key.

- The time limit for the key. If the license is a permanent license key, the time limit is not applicable. If the license is an evaluation key, the time is set to a duration that is defined in the license key.

Because each license key specifies a set number of computers, it is common to receive multiple license keys. You can provide these license keys when you install Delinea software on a Windows computer or after installation using the licensing service. For information about using the licensing service to add licenses, see Managing Licenses with the Licensing Service.

How License Usage is Counted

How license usage is counted depends on these factors:

- Whether the license is for authentication and privilege elevation (that is, access control and privilege management), or for audit and monitoring service.

- Whether the licensed computer uses the Windows or UNIX operation system.

- Whether the license is a permanent license or an evaluation license.

Using Delinea Licenses in FIPS Environments

Each recently issued Delinea license supports both FIPS compliant and non-FIPS compliant environments. The Licensing Service control panel **DC/DZ Deployment** tab and **DA Deployment** tab show the FIPS status of the selected licensing service host computer.

If you install the licensing service on multiple host computers in the forest (for example, for availability and redundancy reasons), it is highly recommended that all hosts have the same FIPS compliance setting. That is, licensing service hosts should all be FIPS compliant, or should all be non-FIPS compliant.

Installing License Management Tools

In most situations, Delinea license management tools are installed by default when you install Server Suite. However, some license management tools also have standalone installers so that you can perform a manual installation, or modify an existing license management tool installation.

Installing the Delinea Licensing Service

The Delinea Licensing Service is installed by default when you install Server Suite. The default installation location is:

C:\Program Files\Centrify\Licensing Service

For details about installing Server Suite, see the *Planning and Deployment Guide* and the *Administrator's Guide for Windows*.

You can choose not to install the licensing service during Server Suite installation by deselecting the **Delinea Licensing Service** check box in the list of components to install when the Delinea Management Services installation wizard executes. For example, if the licensing service is already installed on one computer in the forest and you do not need to install it on other computers, you can deselect it from the list of installed components. However, you should ensure that the licensing service is installed on at least one computer in the forest before deselecting it during installation.

If you do not install the licensing service when you install Server Suite, you can install it separately as described in Performing a Standalone Licensing Service installation.

Performing a Standalone Licensing Service Installation

You can install the Licensing Service separately from Server Suite using the standalone Licensing Service installer.

To perform a standalone installation of the Licensing Service:

1. Log on to the Windows computer and insert the CD or navigate to the directory where you downloaded Delinea files. If the Getting Started page is not automatically displayed, double click the autorun.exe file to start the installation of the Delinea software.

2. On the Getting Started page, click **Delinea Licensing Service**.

3. At the Welcome page, click **Next**.

4. Review the terms of the license agreement, click **I accept the terms in the License Agreement**, then click **Next**.

5. Specify a location for installing licensing service components and click **Next**.

6. Click **Install** to begin the installation.

7. When the installation finishes, click **Finish**.

   Note: You can also install the licensing service by executing the following installer, which resides in the Licensing Service folder in the Server Suite installation folder:

`Centrify_Licensing_Service-x.x.x-win64.msi`

After the licensing service is installed and running, you can use the licensing service control panel to manage Delinea licenses as described in Managing licenses with the Licensing Service.

Modifying a Delinea Licensing Service Installation

You can change, repair, or remove an existing licensing service installation by executing the standalone Delinea Licensing Service installer as described in Performing a Standalone Licensing Service Installation after the licensing service is already installed.

You can select one of the following options:

- **Change.** Select this option to change installation parameters of the current installation.t
- **Repair.** Select this option to remove backup files, re-copy the licensing service program files to the default installation location, and reset registry entries.
- **Remove.** Select this option to remove the licensing service from the computer.

Verifying that the Delinea Licensing Service is Running

To verify that the licensing service is running, open the Services administrative tool on the computer where the licensing service is installed. The "Delinea Licensing Service" entry should have a status of **Started**.

Assigning a License Container to a Zone through Access Manager

If you choose to use more than one license container in the forest, you can assign a specific license container to an individual zone. This option is useful if you want to manage zones independently with each zone using its own set of license keys rather than having all zones use a common pool of licenses. If you assign a specific license container to a zone, however, only the license keys installed in that container can be used for the computers in that zone.

For example, if you create a license container object named `ajax.org/Performix Licenses`, add a license key for 10 Workstation license to that container, and assigned that container to the `Performix Division` zone, those 10 workstation licenses are available specifically for the computers you add to the `PerformixD ivision` zone.

To assign a license container to a zone:

1. Open the Access Manager console.
2. If prompted to connect to a forest, specify a domain controller, and, if needed, the user credentials for connecting to the domain controller, then click **OK**.
3. In the console tree, select **Zones** to display the list of zones.
4. Select a zone and right-click, then click **Properties**.
5. On the General tab, select a specific Licenses container from the list of available **License containers** for the zone to use, then click **OK**.

Installing the Licensing Report Wizard

The Licensing Report wizard is installed by default when you install Server Suite. The default installation location is `C:\\Program Files\\Delinea\\Deployment Report`.

You can optionally reinstall the wizard manually by executing the Licensing Report wizard standalone installer:

`Centrify_Licensing_Report-x.x.x-win64.msi`

The standalone installer is located in the DirectManage folder in the Server Suite installation folder.

Modifying a Licensing Report Wizard Installation

You can change, repair, or remove an existing Licensing Report wizard installation by executing the standalone installer:

```
Centrify_Licensing_Report-x.x.x-win64.msi
```

The standalone installer is located in the DirectManage folder in the Server Suite installation folder.

You can select one of the following options when you execute the standalone installer in an environment where the wizard is already installed:

- **Change.** Select this option to change installation parameters of the current installation.

- **Repair.** Select this option to remove backup files, re-copy the Licensing Report wizard program files to the default installation location, and reset registry entries.

- **Remove.** Select this option to remove the Licensing Report wizard from the computer.

Managing Licenses with the Licensing Service

After the Server Suite Licensing Service is installed and running, you can use the Licensing Service control panel to manage Server Suite licenses in these ways:

- **Open the Licensing Service control panel.** For more information, see Opening the Licensing Service Control Panel.

- **Start and stop the Delinea Licensing Service, and manually refresh license count information.** For more information, see Starting, Stopping, and Refreshing the Licensing Service.

- **Create license containers for Delinea licenses.** For more information, see Creating License Containers and Adding License Keys.

- **Add and remove licenses for Delinea products.** For more information, see "Adding and Removing License Keys" on page 10.

- **Monitor license usage for each Delinea product.** For more information, see "Monitoring License Usage" on page 11

- **Manually refresh license usage information, and configure how often license usage information is refreshed automatically.** For more information, see Configuring Licensing Service Settings.

- **Configure license usage email notification.** You can configure the list of email recipients, the license usage percentage that triggers notification, whether certain environment details should be omitted from email notification, and outbound email sender details. For more information, see Configuring License Usage Email Notification.

- **View the current licensing service log and configure licensing service logging parameters.** For more information, see Configuring and Viewing Licensing Service Logs.

Opening the Licensing Service Control Panel

Use the Windows Start menu to open the Licensing Service control panel. If **Delinea Licensing Service Control Panel** is not pinned to the Start menu, use Start menu searching to locate and start the Delinea Licensing Service control panel.

The Licensing Service control panel contains the following tabs:

- **General.** Use this tab to monitor current licensing service status, start and stop the licensing service, and manually refresh license count information as described in Starting, Stopping, and Refreshing the Licensing Service.

  The Current Configuration area displays the name of the Active Directory forest that the licensing service manages, and the name of the computer where the licensing service is running.

  The Monitoring Details area displays the current status of license monitoring, the date of the last license usage update, and license status details. Current status can be one of the following:

  - **Idle.** The licensing service is running, and is available to perform a license usage update.

  - **Busy.** A license usage update is in progress, or the licensing service is starting.

  - **N/A.** The licensing service is not running or is otherwise unavailable.

    An additional field, **Service status**, displays whether the Licensing Service is running or stopped.

- **DC/DZ Deployment.** Use this tab to monitor usage details–including license counts–of authentication and privilege elevation (also known as *access control and privilege management*) licenses. For more information, see "Monitoring License Usage" on page 11.

- **DA Deployment.** Use this tab to monitor usage details–including license counts–of audit and monitoring service licenses. For more information, see "Monitoring License Usage" on page 11.

- **DC/DZ Licenses.** Use this tab to create license containers, and add or remove licenses for authentication and privilege elevation (also known as *access control and privilege management*). For more information, see "Creating License Containers and Adding License Keys" on the next page and "Adding and Removing License Keys" on page 10.

- **DA Licenses.** Use this tab to add or remove licenses for audit and monitoring service. For more information about using this tab, see "Adding and Removing License Keys" on page 10.

- **Settings.** Use this tab to configure how often license usage information is automatically refreshed, and license usage email notification details. Email notification details that you can configure include the list of recipients, SMTP server settings, whether some system information is hidden in notification email, and the license usage threshold that triggers email notification. See Configuring Licensing Service Settings and Configuring License Usage Email Notification for more information about using this tab.

- **Troubleshooting.** Use this tab to manually refresh license usage information and manage licensing service logging. Logging parameters that you can configure include trace level of logged events and log file location. You can also view and save the current log from this tab. For more information, see Configuring Licensing Service Settings and Configuring and Viewing Licensing Service Logs.

Starting, Stopping, and Refreshing the Licensing Service

Use the **General** tab in the Licensing Service control panel to start, stop, and restart the licensing service, and to refresh license count information manually.

To start and stop the licensing service:

1. Open the Licensing Service control panel **General** tab.

2. Click **Start**, or **Stop**, or **Restart**.

Whenever you start or restart the licensing service, license usage information is refreshed. For more information, see "Monitoring License Usage" on page 11.

Licensing service start and stop information can be logged in the licensing log file depending on the log trace level that is configured. See Configuring and Viewing Licensing Service Logs for information about viewing the licensing log and setting the log trace level.

Refreshing the License Count Manually

In some situations, you might want to refresh the license count information in the licensing service without refreshing all license usage information. When you refresh the license count information as described in this section, license keys are updated in the licensing service, but a complete license usage evaluation is not triggered.

For example, if you add or remove licenses through Access Manager or Audit Manager after the licensing service is installed, you should update the license count in the licensing service as described here so that the license changes that you made through Access Manager or Audit Manager are implemented immediately in the licensing service. If you do not update the license count as described here, license additions or removals that you perform through Access Manager or Audit Manager are not implemented until a regularly scheduled license update task executes.

If you need to refresh all license usage information, including license count, perform the procedure described in Refreshing license usage information.

To refresh the license count manually:

1. Open the Licensing Service control panel **General** tab.

2. Click **Refresh Now**.

Creating License Containers and Adding License Keys

Before you can add Delinea authentication and privilege elevation license keys, you must create a Licenses container object in Active Directory because you must have at least one Licenses container in the forest into which you install license keys. It is also possible to add more License containers to the forest and use those additional containers to control who can use which license keys. For example, you may want to create one license container for application servers and another for workstation licenses. You can then set permissions on the container objects to prevent the workstation administrators from installing the application server license keys and the application server administrators from installing the workstation license keys in their respective containers.

> **Note:** You can also use Access Manager to assign a specific license container to an individual zone as described in Assigning a License Container to a Zone through Access Manager.

Creating License Containers

To add a new license container object for authentication and privilege elevation licenses:

1. Open the Licensing Service control panel **DC/DZ Licenses** tab.

2. In the License container section, click **Add**.
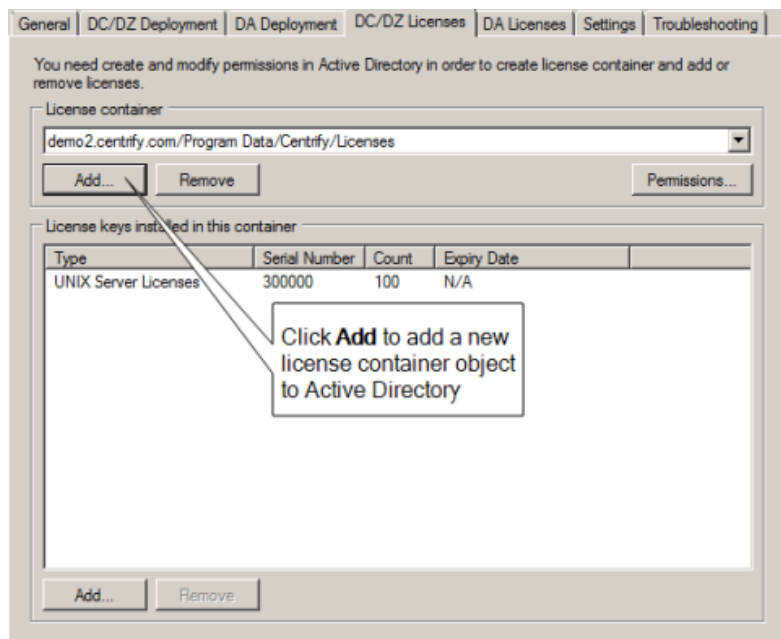
3. Browse to select a location for the new license container, then click **Create**. Select either container or organizational unit to indicate the type of object to create, and type a name for the new license container object and click **OK**.

4. Click **OK** to close the Browse for Container dialog box.

5. When prompted to confirm the creation of the container object, click **Yes** to add the license container to Active Directory.

6. Click **Permissions** to assign Read License and Modify License permissions to specific users or groups. The users or groups that you give the Modify License permission to can then add license keys to the new license

container.
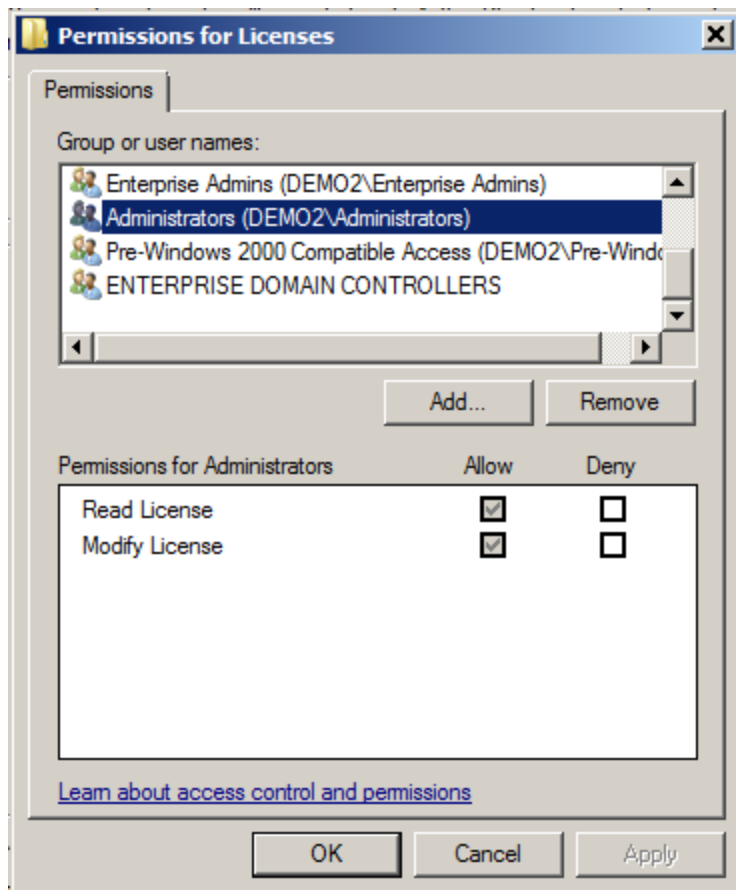
Adding and Removing License Keys

When you install Delinea software for authentication and privilege elevation, you must provide at least one licensing key that is specific to authentication and privilege elevation. Likewise, when you install audit and monitoring service, you must provide at least one license key that is specific to audit and monitoring service.

> **Note:** If you are using a valid evaluation license key for audit and monitoring service and install a permanent audit and monitoring service license key, the evaluation key is automatically removed from the audit and monitoring service installation. If you are using a valid permanent auditing license key and install an evaluation license key for audit and monitoring service, the evaluation key takes precedence as long as it has not expired.

To add license keys for authentication and privilege elevation:

1. Open the Licensing Service control panel **DC/DZ Licenses** tab.

2. In the **License container** section, select the appropriate License container from the list of available license containers.

3. At the bottom of the dialog box, in the **License keys installed in this container** section, click **Add**.

4. Type or paste the new license key string, then click **OK**.

5. Click **OK**.

To add license keys for audit and monitoring service:

1. Open the Licensing Service control panel **DA Licenses** tab.

2. In the **Installation** section, select the auditing installation for which you are adding a license.

3. Click **Add**.

4. Type or paste the new license key string, then click **OK**.

5. Click **OK**.

To delete a license key that you have previously installed:

1. Open the Licensing Service control panel **DC/DZ Licenses** tab or the **DA Licenses** tab.

2. In the **License keys installed in this container** section, highlight the license to delete, click **Remove**, and then click **OK**.

Monitoring License Usage

The Licensing Service control panel allows you to monitor how many Delinea licenses in the forest are in use, and how many are available. You can see usage information for access control and privilege management licenses, and for auditing licenses.

> **Note:** To generate a more comprehensive report of license usage, including detailed system information about the computers where you have Delinea software deployed, use the Licensing Report wizard. When you generate a license usage report with the wizard, information is formatted as comma-separated values (CSV) in a text file. See Creating Licensing Reports with the Licensing Report Wizard for more information.

To see usage information for authentication and privilege elevation licenses:

1. Open the Licensing Service control panel **DC/DZ Deployment** tab.

   The license usage information that is displayed when you first open the tab is from the last time you refreshed the information in the **DC/DZ Deployment** dialog box. If you restarted the Licensing Service or refreshed license usage information from the **Troubleshooting** tab, the latest license usage information is not displayed in the **DC/DZ Deployment** dialog box until you perform Step 2 and Step 3.

2. In the **Source** field, select the licensing service host computer for which to report license usage information.

   If you select **Last Updated Delinea Licensing Service**, the licensing service host computer containing the latest valid licensing information is selected.

3. Click **Refresh**.

   Information displayed in the dialog box is based on the most recent refreshing of license usage information, which is generated by a scheduled refresh, manual refresh, or starting the Licensing Service. That is, clicking **Refresh** here does not instruct the licensing service to check current license usage.

4. Optional: To display current license usage information:

a. Perform a manual refresh from the **Troubleshooting** tab as described in Configuring Licensing Service Settings.

b. Return to the **DC/DZ Deployment** tab and click **Refresh**.

To see usage information for audit and monitoring service licenses:

1. Open the Licensing Service control panel **DA Deployment** tab.

   The license usage information that is displayed is for all available audit and monitoring service installations (that is, global capacity and usage are shown).

2. In the **Source** field, select the licensing service host computer for which to report license usage information.

   If you select **Last Updated Delinea Licensing Service**, the licensing service host computer containing the latest valid licensing information is selected.

3. In the **Installation** field, select an audit and monitoring service installation whose licensing information you want to see.

4. Click **Refresh**.

   Information displayed in the dialog box is based on the most recent refreshing of license usage information, which is generated by a scheduled refresh, manual refresh, or starting the licensing service. That is, clicking **Refresh** here does not instruct the licensing service to check current license usage.

5. Optional: To display current license usage information:

   a. Perform a manual refresh from the **Troubleshooting** tab as described in Configuring Licensing Service Settings.

   b. Return to the **DA Deployment** tab and click **Refresh**.

Configuring Licensing Service Settings

Use the **Settings** tab in the Licensing Service control panel to refresh license usage information and configure licensing email notification details.

Refreshing license usage information

You can use the licensing service to refresh license usage information in these ways:

- Start or restart the licensing service as described in Starting, Stopping, and Refreshing the Licensing Service.

- Configure an automatic refresh interval as described in this section.

- Perform a manual refresh of license count and usage as described in this section.

To configure an automatic refresh interval:

1. Open the Licensing Service control panel **Settings** tab.

2. In the Update Schedule section, click **Configure**.

3. Specify a start time and recurrence pattern (interval), and click **OK**.

To manually refresh license count and usage information:

1. Open the Licensing Service control panel **Troubleshooting** tab.

2. Click **Refresh Now**.

   > **Note:** Manually refreshing license count and usage as described here updates both license count and license usage. If you want to update just the license count (for example, due to performance considerations), perform the procedure described in Refreshing the License Count Manually.

Configuring License Usage Email Notification

Email is sent to a list of recipients when a license is deployed. Routine notices are sent if license usage is below 90% (or a different threshold if you specify one). Warnings are sent if usage thresholds are exceeded. The default thresholds that trigger email warnings are 90%, 100%, and 120%.

Typical email notification appears as follows, and includes an attachment of the latest report generated by the Licensing Report wizard (not shown here):

`From: " Delinea Licensing Service" <licensingservice@domain.com>

To: "System Administrator" <sysadmin@domain.com>

Subject: Notice from Delinea: You are deploying 17% of your DirectControl/DirectAuthorize UNIX licenses, 20% of your DirectAuthorize Windows licenses, and 30% of your total DirectAudit licenses.

Date: Monday, October 31, 2016 12:00 AM

DirectControl/DirectAuthorize UNIX usage: 13 out of 75
DirectAuthorize Windows usage: 5 out of 25
Total DirectAudit usage: 15 out of 50

=== DirectControl/DirectAuthorize Usage Summary ===
UNIX Server: 5 used, 50 licensed
UNIX Workstation: 5 used, 25 licensed
UNIX without license type: 3 used
Windows Server: 2 used, 25 licensed
Windows Workstation: 3 used, 0 licensed
DirectControl/DirectAuthorize Evaluation: 0 licensed
DirectControl UNIX - Express: 0 used
Mac systems: 0 used
zLinux systems: 0 used

=== DirectAudit Usage Summary ===
UNIX Server: 5 used, 25 licensed
UNIX Workstation: 5 used, 0 licensed
UNIX without license type: 0 used
Windows Server: 2 used, 25 licensed
Windows Workstation: 3 used, 0 licensed
DirectAudit Evaluation: 0 licensed
zLinux systems: 0 used`

You can configure email notification details such as the list of recipients, SMTP server settings, whether to omit some system information from the report attached to the notification email, and one license usage threshold that replaces the default 90% threshold.

To configure license usage email notification:

1. Open the Licensing Service control panel **Settings** tab.

2. In the Notification section, click **Configure**.

3. To add or remove a user on the email recipient list:

   - To remove the user from the list of recipients, highlight the user name and click **Remove**.

   - To add a user to the list of recipients, click **Add** in the Recipients section. Type the email address and display name for the user and click **OK**.

4. To configure SMTP server settings:

   - Type the display name and email address of the user who is the email sender.

   - Type the host name or IP address of the outbound email server and specify a port number.

   - If the outbound email server requires secured password authentication for login, select **This server requires authentication** and type the name and password of a user with login permission. If the outbound email server does not require secured password authentication for login, leave this check box unchecked.

   - To optionally test the SMTP configuration, click **Test** and specify a recipient for the test email message.

5. To specify that a warning is sent when license usage exceeds a threshold other than 90%, select **Warn when the usage reached** and specify a threshold value from 1% to 89%. The threshold that you specify is used instead of the default 90% threshold.

6. The license usage report generated by the Licensing Report wizard is included as an attachment in email notification. To omit host, zone, and installation names from the attachment, select **Hide host, zone and installation names from the attached licensing report**.

7. Click **OK**.

   Note: Depending on how a recipient's email filters are configured, notification email might be redirected to a recipient's junk or spam folder. If a recipient is not receiving email as expected, check the recipient's junk or spam folder. If necessary, modify the recipient's email filters so that notification email is not directed to the junk or spam folder.

   Note: By default, if the license usage report is 10 MB or larger, the service sends the report as a .zip file instead of a plain text attachment. You can add the following registry setting to configure the size for which the service attaches the report as .zip file: HKLM\SOFTWARE\Centrify\Licensing Service\ReportNotificationCompressionThreshold as a DWORD registry setting. Enter the value as the number of MB for the file size threshold. For example, a value of 3 will make sure that licensing reports that are 3 MB or larger are sent as zip files.

Configuring and Viewing Licensing Service Logs

Detailed licensing service log files are created while the licensing service is running, and are saved in the following default location:

`C:\\Program Files\\Common Files\\Centrify Shared\\Logs`

In addition to viewing the current log file, you can edit the current file, configure which events are stored in log files (that is, the logging level) and specify the location where log files are stored.

To view and edit the current log file:

1. Open the Licensing Service control panel **Troubleshooting** tab.

2. To save the current log file without first opening it for viewing, click **Save As**, navigate to a folder location, specify a name for the log file, and click **Save**.

3. To open the log file for viewing and editing, click **View Log**. While the file is open for viewing, use the **File** and **Edit** menus to save the file to a name and location of your choice, select parts of the file for copying, or clear the file.

4. To save a zipped version of the log file to a location of your choice, click **Export Diagnostics Data**, specify a folder location, and click **OK**.

To configure licensing service event logging level:

1. Open the Licensing Service control panel **Troubleshooting** tab.

2. Click **Options**.

3. In the Log Settings dialog box, select one of the following categories of events to log:

   - No log messages

   - Error messages

   - Warning messages

   - Informational messages

   - All messages

4. Click **Apply**, then click **OK**.

To specify a different licensing service log file folder:

1. Open the Licensing Service control panel **Troubleshooting** tab.

2. Click **Options**.

3. In the **Log folder path** field, specify or browse to the folder where you want to store licensing service log files.

4. Click **OK**.

Creating Licensing Reports with the Licensing Report Wizard

The Licensing Report wizard collects information about the Delinea software you have deployed, including how many licenses you have installed, where they are used, where they are inactive, and the number of licenses that remain available in the forest. Information is reported for audit and monitoring service, authentication and privilege elevation licenses.

The wizard is installed by default when you install Server Suite on a Windows computer. You can also download and install the wizard separately using a standalone setup program as described in Installing the Licensing Report Wizard.

> **Note:** Depending on the version of your installed Delinea software, the following nomenclature caveats could apply:

- Licenses for authentication and privilege elevation might be shown as *DirectControl and DirectAuthorize* licenses in examples and command output.

- Licenses for audit and monitoring service might be shown as *DirectAudit* licenses in examples and command output.

Permissions Required to Generate a Licensing Report

You must have the following privileges to generate a licensing report:

For this Delinea software	You must have
Delinea Server Suite Express for UNIX/Linux	A user account in a domain that is trusted by other domains in the forest, or an account that can search and read information from all of the domains in the forest.
Authentication & Privilege	A user account in a domain that is trusted by other domains in the forest, or an account that can search and read information from all of the domains in the forest.
Audit & Monitor	A user account with the permissions required for Authentication & Privilege plus the "Manage License" or "View" permission for the audit and monitoring service installation.

You can specify different user accounts when you run the wizard, if needed. For example, you might need to use different accounts to collect information about one or more audit and monitoring service installations.

Information Required to Produce the Licensing Report

Before you run the wizard, verify that you have the following information available:

What you need	Here's why
Folder location	The Licensing Report wizard can be installed with Server Suite or downloaded and installed as a separate executable file. If you download the file from the Delinea website, it is saved by default in your Downloads folder. This folder is usually located on the drive where Windows is installed in a folder with your user name. For example, the path to the file might be similar to this: `C:\Users\your_name\Downloads`
Domain controller	Delinea products are licensed for the entire forest. Therefore, the wizard must be able to connect to a domain controller that can access Active Directory information for the entire forest. You are prompted to specify the domain controller and credentials for connecting to the domain when you start the wizard. Alternatively, you can specify the name of a domain that is trusted to access other domains in the forest.

What you need	Here's why
User credentials for authentication and privilege elevation (*DirectControl and DirectAuthorize*)	The wizard must be able to read license and deployment information from the domain controller that has access to all domains in the forest. By default, your logon account credentials are used to connect to the domain controller. If your logon account does not have the List Objects permission to access the domain controller, you can specify a different user name and password when prompted to specify the account credentials for connecting to the domain.
User credentials for audit and monitoring service (*DirectAudit*)	The licensing report wizard attempts to retrieve usage information from Active Directory before attempting to retrieve information from audit store databases. The wizard attempts to connect to audit store databases only if the information is not found in Active Directory. If the wizard needs to connect to an audit store database, user credentials and the "Manage License" or "View" permission for each installation are required. By default, the same user credentials are used to get all deployment information. However, if the user account does not have the "Manage License" or "View" permission, you can specify a different user name and password for audit installations when prompted.
Report output configuration	You need to specify the file name and folder location for the licensing report generated by the wizard. You must also decide whether the report output should show or hide information about the computers where you have deployed Delinea software. If you choose to hide zone, computer, and installation names, the information will be replaced with a one-way hash of the text to prevent the computers from being identified in the report. If you choose this option, you will not be able to review and validate license information for specific computers. The report output is saved as comma-separated values (CSV) in a text file.

Preparing to run the Licensing Report wizard

To keep the report output concise, Delinea recommends that you check for and remove orphaned computer accounts and decommissioned computers before generating a licensing report.

To check for and remove orphaned and decommissioned computers:

1. Open Active Directory Users and Computers and delete the computer objects associated with the decommissioned computers.
2. Open Access Manager.
3. Right-click **Access Manager** in the navigation pane, then select **Analyze**.
4. Select **Orphan zone data objects and invalid data links**, then click **Next**.
5. Click **Finish**.
6. Select Analysis Results to check whether any orphan information was found.

   If there are deleted computer objects with an orphan zone profile listed in the Analysis Results, select the issue, right-click, then select **Remove orphan profile**.

Running the Licensing Report Wizard

After you have installed the Licensing Report wizard as part of Server Suite or as a separate standalone installation package, you can run the wizard to generate a licensing report. You can start the wizard from within Access Manager or by navigating to it from the Start menu.

To run the wizard from within Access Manager:

1. Open Access Manager.

2. Right-click **Access Manager**, then select either **Delinea Licensing Report (DirectControl)** or **Delinea Licensing Report (DirectControl & DirectAudit)**.

   If you select DirectControl, the licensing report utility automatically checks the current forest for authentication and privilege elevation information using your current account credentials. If you need to specify different credentials or check audit and monitoring service licenses, select **Delinea Licensing Report (DirectControl & DirectAudit)** or from the Start menu select **Delinea Licensing Report**.

3. Click **Next** to accept the default domain controller and your current credentials to retrieve deployment information.

   If necessary, you can specify a different domain controller and select the option to specify a different user if your current account does not have permissions to retrieve deployment information, then click **Next**.

4. If the Audit Management service is not running, or if DirectManage Audit version 2015.1 or earlier is installed, or if you do not have the necessary audit and monitoring service permissions, you are prompted to specify credentials to retrieve audit installation information.

   If you see this prompt, click **Next** to use your current credentials to retrieve audit installation information.

   If necessary, you can select the option to specify a different user, then specify a different user name and password if your current account does not have the "Manage Licenses" or "View" permission for the audit Installation, then click **Next**.

   If you do not see this prompt, go to Step 6 and continue from there.

5. If the Audit Management service is not running, or if DirectManage Audit version 2015.1 or earlier is installed, or if you do not have the necessary audit permissions, you are prompted to specify whether your current credentials can be used to retrieve audit and monitoring service installation information.

   If you see this prompt, click **Next** if the credentials specified in Step 4 can retrieve information for all of the audit installations listed.

   If necessary, you can select an audit and monitoring service installation and click **Change Credentials** to specify a different user name and password for connecting to a specific installation, then click **Next**.

   If you do not see this prompt, go to Step 6 and continue from there.

6. Specify the name and folder location for the licensing report and whether to hide host, zone, and installation names in the report output, then click **Next**.

   - By default, the licensing report output is located in your Documents folder with a name in the format of Centrify_Licensing_Report_yyyymmdd.txt, where yyyymmdd is the year, month, and date indicating when you are generating the report. If a report of the same name already exists in that location, a version number

suffix is added to the default report name.

- Select the option to **Hide host, zone, and installation names from the report** to keep this information private. The wizard will generate random strings to replace host, zone, and installation names in the report output. Note that selecting this option does not obfuscate the Active Directory forest name. The forest name is required to send the report output to Delinea. All other names included in the report can be replaced with random strings.

7. Review the output location and file name, then click **Next** to generate the report.

8. To preview the report before saving it or sending it to Delinea, click **Preview Report**.

   To open the report for editing or to save it as a different file name, leave the **Open the output report** option selected and click **Exit**.

   To send the report output directly to the Delineay Support portal, click ***Send to Delinea**.

9. Click **OK** to acknowledge that the report will be sent and continue.

   You will be given a reference number for communicating with support about the report and prompted to log in using your Delinea account user name and password. After logging in, click **Continue** to display details about your report.

Running the utility as a separate package

You can access the shortcut for the licensing report executable directly from the Start menu. If **Licensing Report** is not pinned to the Start menu, use Start menu searching to locate and start the licensing report utility. After you open the utility, the steps for generating the report are the same as the steps in the previous section. Follow the instructions in the wizard to generate the report output.

Running the utility from the command line

As an alternative to running the licensing report utility as a wizard, you can use the command-line interface to run the wizard in a Command Prompt window. To use the command-line interface for the utility, navigate to the directory where the CentrifyDeploymentReport.exe file is located (the default location is C:\Program Files\Centrify\Deployment Report). Open a Command Prompt window, and execute the command using the following syntax:

```
CentrifyDeploymentReport.exe [/standardmode] [/server=server] [/plaindata] [/silent
/output=filepath [/force]] [/help] [/?]
```

You can use the following options with the utility:

Use this option	To do this
/standardmode	Run `CentrifyDeploymentReport.exe` with standard edition support only.
/server=server	Specify the name of a domain controller in the forest for which you want to run the report.
/plaindata	Include host, zone, and installation names in the report. By default, host, zone, and installation names are not included in the report.

Use this option	To do this
/silent	Run `CentrifyDeploymentReport.exe` in silent mode. You can use this option when generating the report for Server Suite standard edition using the `/standardmode` option, or without the `/standardmode` option to generate an report that includes audit and monitoring service information.
/output=filepath	Specify output file path and file name of the licensing report. You can use this option only when you are using the `/silent` option.
/force	Force the generation of a new licensing report even if the output file specified already exists. You can use this option only when you are using the `/silent` option.
/help, /?	Display command syntax and usage information.

Reviewing the Licensing Report Output

The Licensing Report wizard generates a report formatted as a set of comma separated values (CSV) in a text file. The report contains two main sections:

- The first section contains summary information about the counted computers where you have Delinea software deployed.

- The second section contains detailed information about the computers where you have Delinea software deployed, including separate areas for counted and uncounted computers. If a computer is uncounted, a comment explains the reason why it is uncounted.

  > Note: See How Computers are Counted for Licensing Reports for more information about which computers in the forest are counted, and how their licenses count against the total number of available licenses.

The first and second report sections are separated from each other as follows:

Section 1: Summary information about counted computers

===== END OF REPORT SUMMARY. DO NOT MODIFY ANYTHING ABOVE THIS LINE =====

Section 2: Detailed information about counted and uncounted computers

Just before the end of Section 1, a checksum is included to validate the authenticity of the report. For example:

```
Checksum,1,"frACfHOSRjhEDxPFU5ZAbfoZ5ISMKm1ZFqssWG79V4Wr3QC4Fp1wneQG03U26C+lU0608J5PdrV2vuH0
nMJLxcdi6cV4nerrZPhmhlIf7MU="
```

Editing the checksum or any other part of Section 1 invalidates the report. If you make any changes in this section, you will need to generate a new report.

You should also note that the last lines in the report are a report identifier string and the version number of the Licensing Report wizard that generated the report. For example, you might see lines similar to this at the end of the report:

```
Report ID,"8OY5i6pOLZtePMYTAgOPqcImIZA="
Version,"5.4.0.118"
```

You should not modify or delete the report identifier or the version number.

How Computers are Counted for Licensing Reports

To generate a report, the licensing report software first determines which computers in the forest are validly using Delinea software. These "valid usage" computers are considered "counted" computers. Licenses for counted computers are subtracted from the total number of available permanent workstation or server licenses, and their licensing summary information is reported in Section 1 of the licensing report.

Counted Computer Scenarios

A computer is counted if the following scenarios are true:

- The computer's zone status is **Auto Zone** or **Zoned**. This scenario applies only to computers where authentication and privilege elevation features are installed.
- The computer has a status of **Active**.

Uncounted Computer Scenarios

Uncounted computers are included (together with counted computers) in Section 2 of the licensing report, but are not shown in Section 1 because their licenses are not subtracted from the total number of available licenses.

A computer is uncounted if any one of the following scenarios is true:

- The computer's zone status is **Express** or **Zoneless**. This scenario applies only to computers where authentication and privilege elevation features are installed.
- The computer is using an authentication and privilege elevation license, and is joined to the **Null Zone**. Note that computers using audit and monitoring service licenses are counted even if they are joined to the null zone.
- The computer has a status of **Inactive**.
- The computer is using an authentication and privilege elevation license, and is **Orphaned** (the computer profile exists in the zone but the corresponding Active Directory computer object has been removed). Note that computers using audit and monitoring service licenses are counted even if they are orphaned.
- The computer has a **Duplicated** audit and monitoring service license (the audit and monitoring service agent was migrated from one installation to another, and the time stamp of the agent from the earlier installation has not expired).
- The computer has an **Unknown logon time** (the computer has never joined the domain).

License Type Information for Managed and Audited Computers

If you have authentication and privilege elevation features or audit and monitoring service features deployed, the summary in report Section 1 includes information about the type of Delinea license in use on each computer.

License type can be one of the following values:

- **Server**
- **Workstation**
- **None** (The license type cannot be determined from the Active Directory object, as is the case when the computer is orphaned, or the agent is from a release earlier than 2015.1.)

See "Understanding License Types" on page 2 for more information about license types.

Zone information for managed computers

If you have authentication and privilege elevation features deployed, report Section 1 includes zone mode information in the "DirectControl/DirectAuthorize Agent Type" string shown in Example 2: Zone Mode and Number of Agents.

> **Note:** Zone mode applies only to computers where authentication and privilege elevation features are installed. Zone mode does not apply to computers using audit and monitoring service licenses.

Depending on the nature of your deployment, the zone mode information displays one of the following values:

- **Auto Zone** if the computer is in a Delinea Auto Zone.

  You cannot use Delinea rights and roles on computers joined to an Auto Zone.

  If the Zone mode for a computer is Auto Zone, the computer is included in the authentication service (DirectControl) license count.

- **Zoned** if the computer is in a standard Delinea zone.

  All authentication and privilege elevation features are supported for computers in Delinea zones on most platforms. However, the Centrify Agent for Mac OS does not support Delinea rights and roles.

  If the Zone mode for a computer is Zoned, the computer is included in the authentication service (DirectControl) license count.

- **Express** if the computer has a Delinea Server Suite Express agent installed.

  Computers with a Delinea Server Suite Express agent have limited functionality. For example, you cannot apply group policies or use Delinea rights and roles on computers with the Delinea Server Suite Express agent.

  If the Zone mode for a computer is Express, the computer is not included in the authentication service (DirectControl) license count.

- **Zoneless** if a computer has the Delinea Agent installed but is not connected to a zone.

  This agent type is primarily for computers that use Delinea MFA for Windows login authentication.

  If the Zone mode for a computer is Zoneless, the computer is not included in the authentication service (DirectControl) license count.

- **Null Zone** if a computer is joined to the null zone.

  If the Zone mode for a computer is Null Zone, the computer is not included in the authentication service (DirectControl) license count.

See Example 2: Zone Mode and Number of Agents for details about how zone mode information is displayed in the report.

Status information for managed and audited computers

If you have authentication and privilege elevation features or audit and monitoring service features deployed, the counted/uncounted information in report Section 2 indicates the status of the computer as **Active** or **Inactive**:

- **Active** if the computer has been used for authentication and privilege elevation, or for audit and monitoring service, within 45 days prior to the date that the report was run.

  Computers with an active status are included in the license count.

  For authentication and privilege elevation licenses, the time stamp of the managed computer logon to the domain controller is monitored if the functional level of the domain controller is Windows Server 2003 or later. The licensing report uses the time stamp of the LastLogonTimestamp attribute to determine whether there has been logon activity within 45 days prior to the date that the report was run.

  For audit and monitoring service licenses, the licensing report uses the most recent time that the managed computer has communicated with a collector to determine whether there has been auditing activity within 45 days prior to the date that the report was run.

- **Inactive** if the computer has not been used for authentication and privilege elevation, or for audit and monitoring service, within 45 days prior to the date that the report was run.

  Inactive computers are not included in the license count.

See Example 6: Counted Identity and Privilege Elevation Computers for an example of computer status information.

Remarks for Managed and Audited Computers

If you have authentication and privilege elevation features or audit and monitoring service features deployed, the counted/uncounted information in report Section 2 includes remarks about the following computers:

- Uncounted computers with authentication and privilege elevation licenses.
- Counted and uncounted computers with audit and monitoring service licenses.

Remarks provide additional information about why a computer is uncounted, and other significant information to be aware of. See Example 7: Counted Audit and Monitoring Service Computers and Example 8: Uncounted Computers of All License Types for examples of remarks strings.

The Remarks string can have the following values:

- **Duplicated** if an audit and monitoring service agent was migrated from one installation to another (such as during an upgrade), and the time stamp of the agent from the earlier installation has not expired.

  Computers with duplicated licenses are not counted. That is, the license is only counted once.

- **Excluded due to null zone** if the computer was not counted because it is joined to the null zone.

  Computers with authentication and privilege elevation features (DirectControl and DirectAuthorize licenses) are not counted if they are joined to the null zone.

  Computers with audit and monitoring service features (DirectAudit licenses) are included in the auditing license count even if they are joined to the null zone.

- **Excluded due to zoneless mode** if the computer has a zone mode of Zoneless (that is, the computer has the Delinea Agent installed but is not connected to a zone).

- **Excluded due to express mode** if the computer has a Delinea Server Suite Express agent installed.

- **Inactive** if the computer has a status of Inactive as described in <u>Status Information for Managed and Audited Computers</u>.

- **None** if no additional information is required.

- **Orphaned** if the computer profile exists in the zone but the corresponding Active Directory computer object has been removed.

  Orphaned computers with authentication and privilege elevation features (DirectControl and DirectAuthorize licenses) are not included in the license count. You can use Access Manager to delete orphan profiles as described in Preparing to run the Licensing Report wizard.

  Orphaned computers with audit and monitoring service features (DirectAudit licenses) are included in the auditing license count if the computer has communicated with a collector within 45 days prior to the date that the report was run.

- **Unknown logon time** if the computer has never joined the domain. This situation typically occurs when you use Access Manager to prepare a UNIX computer prior to joining the computer to the domain. Computers with an unknown logon time are not included in the license count.

- **Vault-based systems** are your Windows, UNIX, and/or network devices that are managed by and audited by the Server Suite.

Evaluation Licenses for Managed and Audited Computers

If a computer has a valid evaluation license, the detailed section of the licensing report (Section 2) indicates the licensing status as Evaluation (Valid). In the case of valid evaluation licenses, the summary section of the report (Section 1) might show the "Available" licenses as a negative number. You can ignore negative available licenses if you have valid unlimited evaluation licenses. However, if the licensing status indicates an expired evaluation license, you should remove the expired evaluation license key.

Status Information for Zoneless Computers

If a computer has the Delinea Agent installed but is not connected to a zone, its agent type is listed as *Zoneless* in the licensing report. This agent type is primarily for computers that use Delinea MFA for Windows login authentication.

Examples

This section contains examples of a hypothetical licensing report.

Depending on the version of your installed Delinea software, the following nomenclature caveats could apply:

- Licenses for authentication and privilege elevation are shown as *DirectControl and DirectAuthorize* licenses.

- Licenses for audit and monitoring service are shown as *DirectAudit* licenses.

  📝 **Note:** "Join Time" is the point in time when the computer joined to the zone. Because Join Time is a feature introduced in Release 2020, if the agent is older than Release 2020, the Join Time displays as "Unknown."

Example 1: Agent, License Type and Count

The following example shows the first portion of report Section 1, containing summary system information. Colored lines indicate how entries in each section relate to each other. Different line colors are for readability only.

Note that this example shows the agent (DirectControl, DirectAudit, and/or DirectAuthorize), the license type (UNIX, Windows, or combined UNIX and Windows), licenses found, licenses used, and licenses available.

Depending on what types of Delinea licenses you have in your environment, your own licensing report could contain fewer entries than the example shown here.

```
Forest Name,"forest.name"
Time Created,"dd MMM yyyy HH:mm:ss zzz"
Notes
Issue,Description
"N/A","No issues encountered"

Deployment Summary
DirectControl Agent Type,Licenses Found,Agents in Active
Use,Licenses Available
DirectControl Server - UNIX,10,50,-40
DirectControl Server - Windows,5,5,0
DirectControl Server - ALL (summary),15,55,-40
DirectControl Workstation - UNIX,50,40,10
DirectControl Workstation - Windows,20,10,10
DirectControl Workstation - ALL (summary),70,50,20

DirectAudit Agent Type,Licenses Found,Agents in Active
Use,Licenses Available
DirectAudit Server - UNIX,60,46,14
DirectAudit Server - Windows,5,5,0
DirectAudit Server - ALL (summary),65,51,14
DirectAudit Workstation - UNIX,50,40,10
DirectAudit Workstation - Windows,25,20,5
DirectAudit Workstation - ALL (summary),75,60,15

Agent Type,Licensed,Used,Available
DirectControl/DirectAuthorize - Evaluation(Valid),0,0,0
DirectControl/DirectAuthorize UNIX Server,10,5,5
DirectControl/DirectAuthorize UNIX Workstation,50,40,10
DirectControl/DirectAuthorize UNIX,0,45,-45
DirectAuthorize Windows Server,5,5,0
DirectAuthorize Windows Workstation,20,10,10
DirectAuthorize Windows - Unmanaged,0,3,0
DirectControl UNIX - Express,0,5,0
DirectAudit UNIX Server,5,3,2
DirectAudit UNIX Workstation,50,40,10
DirectAudit UNIX,55,43,12
DirectAudit Windows Server,5,5,0
DirectAudit Windows Workstation,25,20,5
DirectAudit UNIX V1,0,0,0
```

Example 2: Zone Mode and Number of Agents

The following example shows the next portion of report Section 1, displaying the deployment quantities for each type of DirectControl/DirectAuthorize agent based on zone mode. This example shows the layout of this section rather than example data. Depending on what types of Delinea licenses you have in your environment, your own licensing report might not use all of the layout entries shown here.

DirectControl/DirectAuthorize Agent Type,Deployed Agents
"Zoned Server Windows",#
"Zoned Server Mac",#
"Zoned Server zLinux",#
"Zoned Workstation",#
"Zoned Workstation Windows",#
"Zoned Workstation Mac",#
"Zoned Workstation zLinux",#
"Zoned (Workstation or Server)",#
"Zoned Mac (Workstation or Server)",#
"Zoned zLinux (Workstation or Server)",#
"Auto Zone Server",#
"Auto Zone Server Mac",#
"Auto Zone Server zLinux",#
"Auto Zone Workstation",#
"Auto Zone Workstation Mac",#
"Auto Zone Workstation zLinux",#
"Auto Zone (Workstation or Server)",#
"Auto Zone Mac (Workstation or Server)",#
"Auto Zone zLinux (Workstation or Server)",#
"Null Zone Server",#
"Null Zone Server Mac",#
"Null Zone Server zLinux",#
"Null Zone Workstation",#

DirectControl/DirectAuthorize Agent Type,Deployed Agents
"Null Zone Workstation Mac",#
"Null Zone Workstation zLinux",#
"Null Zone (Workstation or Server)",#
"Null Zone Mac (Workstation or Server)",#
"Null Zone zLinux (Workstation or Server)",#
"Zoneless Server Windows",#
"Zoneless Workstation Windows",#
"Express",#
"Express Mac",#
"Express zLinux",#

Example 3: Zone Names and Deployment Details

The following example shows the next portion of report Section 1. Information for DirectControl/DirectAuthorize deployments is sorted by zone. Information for DirectAudit deployments is sorted by agent type and by installation. This example shows the layout of this section rather than example data. Depending on what types of Delinea licenses you have in your environment, your own licensing report might not use all of the layout entries shown here.

Number of Zones,#
DirectControl/DirectAuthorize Zone,Deployed Agents,Location
"Whi8ewrOe/",#,"Z0QApzH7++"
"4eS3i2Cccq",#,"cWepjBPNZ5"
...

DirectAudit Agent Type,Deployed Agents
"Server UNIX/Linux",#
"Server zLinux",#
"Server Windows",#

DirectAudit Agent Type,Deployed Agents
"Workstation UNIX/Linux",#
"Workstation zLinux",#
"Workstation Windows",#
"UNIX/Linux (Workstation or Server)",#
"AuditedMachine",#

DirectAudit Installation,Version,Status,Deployed Agents
"kiXnFshYnq","2.0 or later","OK",#
"Nt+njcALLE","2.0 or later","OK",#
"2y8grBYVHP","1.3 or earlier","OK",#
...

Example 4: License Detail Summaries

The following example shows the final portion of report Section 1. It displays a summary for authentication and privilege elevation (DirectControl/DirectAuthorize) licenses, and a summary for audit and monitoring service (DirectAudit) licenses.

The Count string in this section is especially useful to check the total number of installed licenses. Other details include license keys, serial numbers, and expiration dates.

If the Shared string displays Yes, the license key is being shared by more than one audit and monitoring service installation.

At the end of Section 1 is a checksum that validates the authenticity of the report. Do not edit the checksum or any other content preceding it before sending the report to Delinea for analysis. This example shows the layout of this section rather than example data. Depending on what types of Delinea licenses you have in your environment, your own licensing report might have more or fewer entries than the layout shown here.

License Report for DirectControl/DirectAuthorizeAgent
Type,License Key,Count,Serial Number,Expiry Date
Evaluation (Valid),XXXXXXXX-XXXXXXXX-XXXXXXX,#,None,"d MM yyyy"
UNIX Server,XXXXXXXX-XXXXXXXX-XXXXXXX,#,######,"None"

License Report for DirectControl/DirectAuthorizeAgent
UNIX Workstation,XXXXXXXX-XXXXXXXX-XXXXXXX,#,######,"None"
...

License Report for DirectAudit
Agent Type,License Key,Count,Serial Number,Expiry Date,DirectAudit Installation,Shared
Evaluation (Valid),XXXXXXXXXXXXXXXXXXXXXXXXX,#,0,"d MM yyyy","GmZ9u0po4M",No
UNIX Server,XXXXXXXXXXXXXXXXXXXXXXXXX,#,######,"None","g/qJ26pGdk",No
...
Checksum,1,"frACfH0SRjhEDxPFU5ZAbfoZ5ISMKm1ZFqssWG79V4Wr3QC4Fp1wneQG03U26C+IU0608J5P drV2vuH0nMJLxcdi6cV4nerrZPhmhIlf7MU="
==== END OF REPORT SUMMARY. DO NOT MODIFY ANYTHING ABOVE THIS LINE =====

Example 5: Counted and Uncounted Computers

The following example shows the first portion of report Section 2, containing information about whether a computer is or is not counted in usage calculations. The counted summary section is a copy of the summary from Section 1 for reference.

Counted Usage Summary

===== END OF REPORT SUMMARY. DO NOT MODIFY ANYTHING ABOVE THIS LINE =====
Counted Usage Summary
Agent Type,Licenses Found,Counted Usage,Licenses Available
DirectControl/DirectAuthorize Server - UNIX,#,#,#
DirectControl/DirectAuthorize Server - Windows,#,#,#
DirectControl/DirectAuthorize Workstation - UNIX,#,#,#

===== END OF REPORT SUMMARY. DO NOT MODIFY ANYTHING ABOVE THIS LINE =====
DirectControl/DirectAuthorize Workstation - Windows,#,#,#
DirectControl/DirectAuthorize Server - ALL (summary),#,#,#
DirectControl/DirectAuthorize Workstation - ALL (summary),#,#,#
DirectAudit Server - UNIX,#,#,#
DirectAudit Server - Windows,#,#,#
DirectAudit Workstation - UNIX,#,#,#
DirectAudit Workstation - Windows,#,#,#
DirectAudit Server - ALL (summary),#,#,#
DirectAudit Workstation - ALL (summary),#,#,#

Uncounted Usage Summary
Uncounted DirectControl/DirectAuthorize Usage,#
Uncounted DirectAudit Usage,#

Example 6: Counted Identity and Privilege Elevation Computers

The following example shows the next portion of report Section 2, containing information about counted computers where authentication and privilege elevation (DirectControl and DirectAuthorize) features are used. Information includes the system name, the timestamp of the most recent Active Directory update, OS and agent versions, zone mode (see Zone Information for Managed Computers), status (see Status Information for Managed and Audited Computers), current zone, and license type (see License Type Information for Managed and Audited Computers.

Information about these counted computers is collected and reported in Section 1 of the report, as shown in Example 1: Agent, License Type and Count through Example 4: License Detail Summaries.

This example shows the layout of this section and example data. Depending on what types of Delinea licenses you have in your environment, your own licensing report might not use all of the layout entries shown here.

System Report of Counted Usage for DirectControl/DirectAuthorize	
Number of Systems - Counted DirectControl/DirectAuthorize Server - ALL (summary),#	
Number of Systems - Counted DirectControl/DirectAuthorize Workstation - ALL (summary),#	

System Report of Counted Usage for DirectControl/DirectAuthorize	
Number of Systems - Counted DirectControl/DirectAuthorize - Grand Total,#	
System,Last Computer AD Timestamp,OS,OS Version,Agent Version,Zone Mode,Status,Current Zone,License Type,Join Time,Postal Address	
"gqxYNiU4cB","dd MMM yyyy HH:mm:ss zzz","CentOS","6.2","5.3.1-394","Zoned,Active,"28eQ86egjQ"",Server,"dd MMM yyyy HH:mm:ss zzz","JoinTime:xxxxxxxxxx;Key:value"	
"ob6eV5JqUa","dd MMM yyyy HH:mm:ss zzz","Windows 7 Enterprise","6.1 (7601)","3.3.0-161","Zoned",Active,"dkXp8d1Bhp",Workstation,"dd MMM yyyy HH:mm:ss zzz","JoinTime:xxxxxxxxxx;Key:value"	
"8m3DWH/ixr","dd MMM yyyy HH:mm:ss zzz","Red Hat Enterprise Linux","7.2","5.3.1-339","Zoned",Active,"KiWfCdeOIm",Server,"dd MMM yyyy HH:mm:ss zzz","JoinTime:xxxxxxxxxx;Key:value"	
"CGAeslRVqB","dd MMM yyyy HH:mm:ss zzz","Scientific Linux","6.0","5.3.1-382","Auto Zoned",Active,"nQ+FzJZiGI",Workstation,"dd MMM yyyy HH:mm:ss zzz","JoinTime:xxxxxxxxxx;Key:value"	
...	

Example 7: Counted Audit and Monitoring Service Computers

The following example shows the next portion of report Section 2, containing information about counted computers where audit and monitoring service (DirectAudit) features are used. Information includes the system name, the timestamp of the most recent communication with a collector, OS and agent versions, status (see Status Information for Managed and Audited Computers), license type (see License Type Information for Managed and Audited Computers), and remarks (see Remarks for Managed and Audited Computers).

Vault-based systems are your Windows, UNIX, and/or network devices that are managed by and audited by the Server Suite.

Note that the remarks string for one computer states "Orphaned," but the computer is still counted because audited computers are counted even when they are orphaned (unlike DirectControl/DirectAuthorize computers).

Information about these counted computers is collected and reported in Section 1 of the report, as shown in Example 1: Agent, License Type and Count through Example 4: License Detail Summaries.

This example shows the layout of this section and example data. Depending on what types of Delinea licenses you have in your environment, your own licensing report might not use all of the layout entries shown here:

System Report of Counted Usage for DirectAudit
Number of Systems - Counted DirectAudit Server - ALL (summary),#
Number of Systems - Counted DirectAudit Workstation - ALL (summary),#
Number of Systems - Counted DirectAudit - Grand Total,#
System,Last Connection,OS,Agent Version,Status,DirectAudit Installation,License Type,Join Time,Remarks,Postal Address,Audit Type,Advanced Monitoring,Role Based Audit,Session Reviews,Deployment Type
"ORiVwQ8knZ","dd MMM yyyy HH:mm:ss zzz","Windows",3.3.1-391,Active,"Rc6xacwgT4",Workstation,"dd MMM yyyy HH:mm:ss zzz","None","JoinTime:xxxxxxxxxx;Key:value","Agent Based","Enabled","Unknown","No","Local"
"vRGdi5XdYd","dd MMM yyyy HH:mm:ss zzz","UNIX/Linux",3.3.0-161,Active,"xiAKQayRc0",None,"dd MMM yyyy HH:mm:ss zzz","Orphaned","JoinTime:xxxxxxxxxx;Key:value","Agent Based","Enabled","Unknown","No","Local"
"DzFls6sbyG","dd MMM yyyy HH:mm:ss zzz","UNIX/Linux",3.3.0-161,Active,"zP0V7QsMEG",Workstation,"dd MMM yyyy HH:mm:ss zzz","None","JoinTime:xxxxxxxxxx;Key:value","Agent Based","Disabled","Unknown","Yes","Local"
"o3oXhLNF8Q","dd MMM yyyy HH:mm:ss zzz","UNIX/Linux",Unknown (2.0 or later),Active,"0Z9opN8afT",None,"dd MMM yyyy HH:mm:ss zzz","Vault-based system","JoinTime:xxxxxxxxxx;Key:value","Gateway Based","Enabled","Unknown","No","Cloud"
"LNFVToyG16","dd MMM yyyy HH:mm:ss zzz","Windows",Unknown (2.0 or later),Active,"MOYdPMpxJk",Server,"dd MMM yyyy HH:mm:ss zzz","Vault-based system","JoinTime:xxxxxxxxxx;Key:value","Gateway Based","Enabled","Unknown","Yes","Cloud"
"xnSXEWuUPM","dd MMM yyyy HH:mm:ss zzz","UNIX/Linux",Unknown (1.3 or earlier),Active,"qZ3cKtElMz",None,"dd MMM yyyy HH:mm:ss zzz","None","JoinTime:xxxxxxxxxx;Key:value","Agent Based","Enabled","Unknown","No","Local"
...

Example 8: Uncounted computers of all license types

The following example shows the last portion of report Section 2, containing information about uncounted computers (considered "invalid usage" computers) where authentication and privilege elevation (DirectControl,

DirectAuthorize) features, and audit and monitoring service (DirectAudit) features might be deployed.

DirectControl and DirectAuthorize information includes the system name, the timestamp of the most recent Active Directory update, OS and agent versions, zone mode (see Zone Information for Managed Computers), current zone, license type (see License Type Information for Managed and Audited Computers), and remarks (see Remarks for Managed and Audited Computers).

Note that the Remarks string shows that DirectControl and DirectAuthorize computers were not counted because the were inactive, had an unknown logon time, were orphaned, or were joined to the null zone.

DirectAudit information includes the system name, the timestamp of the most recent Active Directory update, OS and agent versions, license type (see License Type Information for Managed and Audited Computers), and remarks (see Remarks for Managed and Audited Computers).

Note that the Remarks string shows that DirectAudit computers were not counted because they were inactive or duplicated.

> **Note:** The Active Directory attribute of postalAddress is repurposed to store the agent join date as well as additional information for UNIX/Linux systems. The postalAddress field does not store data such as zip codes. Because postalAddress is a multi-value string, the format displayed in the report is like "JoinTime:xxxxx;LicenseType:xxxx".

This example shows the layout of this section and example data. Depending on what types of Delinea licenses you have in your environment, your own licensing report might not use all of the layout entries shown here:

System report of uncounted usage for DC/DZ

System Report of Uncounted Usage for DirectControl/DirectAuthorize
Number of Systems - Uncounted DirectControl/DirectAuthorize Usage,#
System,Last Computer AD Timestamp,OS,OS Version,Agent Version,Zone Mode,Current Zone,License Type,Join Time,Remarks,Postal Address
"jWSNWAVqSE","dd MMM yyyy HH:mm:ss zzz","Red Hat Enterprise Linux","6.2","5.3.0-127","Zoned","7TKshsizX+",Workstation,"dd MMM yyyy HH:mm:ss zzz","Inactive","JoinTime:xxxxxxxxxx;Key:value"
"BQ74st+6DY","dd MMM yyyy HH:mm:ss zzz","Windows Server 2012 Standard","6.2 (9200)","3.3.0-161","Zoned","IXcmEK0/GA",Server,"dd MMM yyyy HH:mm:ss zzz","Inactive","JoinTime:xxxxxxxxxx;Key:value"
"iRuAXmdP8R","None","Unknown","Unknown","None","Zoned","DcXp7iwKdT",None,"dd MMM yyyy HH:mm:ss zzz","Unknown logon time","JoinTime:xxxxxxxxxx;Key:value"

System Report of Uncounted Usage for DirectControl/DirectAuthorize
"a52fpZViDQ","None","Unknown","Unknown","None","Unknown","MWbqK6NgEg",None,"Orphaned","JoinTime: xxxxxxxxxx;Key:value"
"didvGnjncv","dd MMM yyyy HH:mm:ss zzz","Red Hat Enterprise Linux","6.4","5.2.2-186","Null","Wrhxp83dy6",None,"dd MMM yyyy HH:mm:ss zzz","Excluded due to null zone","JoinTime:xxxxxxxxxx;Key:value"
"vvoJLHbwEz","dd MMM yyyy HH:mm:ss zzz","Windows 7 Enterprise","6.1 (7601)","3.4.0-100","Zoneless","None",None,"dd MMM yyyy HH:mm:ss zzz","Excluded due to zoneless mode","JoinTime:xxxxxxxxxx;Key:value"
"qNi04XTWUH","dd MMM yyyy HH:mm:ss zzz","SUSE Linux","12.0","5.3.1-369","Express","None",None,"dd MMM yyyy HH:mm:ss zzz","Excluded due to express mode","JoinTime:xxxxxxxxxx;Key:value"

System Report of Uncounted Usage for DirectAudit
Number of Systems - Uncounted DirectAudit Usage,#
System,Last Connection,OS,Agent Version,DirectAudit Installation,License Type,Join Time,Remarks,Postal Address,Audit Type,Advanced Monitoring,Role Based Audit,Session Reviews,Deployment Type
"Fw/yiZD26M","dd MMM yyyy HH:mm:ss zzz","Windows",3.3.0-129,"JLcHyjSGTO",Workstation,"dd MMM yyyy HH:mm:ss zzz","Inactive","JoinTime:xxxxxxxxxx;Key:value","Agent Based","Enabled","Unknown","No","Local"
"ouS7+ZC6qt","dd MMM yyyy HH:mm:ss zzz","UNIX/Linux",3.2.2-246,"hcZs4xQ80F",None,"dd MMM yyyy HH:mm:ss zzz","Inactive","JoinTime:xxxxxxxxxx;Key:value","Agent Based","Disabled","Unknown","No","GP"
"vsJgzxtg6A","dd MMM yyyy HH:mm:ss zzz","UNIX/Linux",3.3.0-161,"FjuO9D63g2",Workstation,"dd MMM yyyy HH:mm:ss zzz","Duplicated","JoinTime:xxxxxxxxxx;Key:value","Gateway Based","None","Unknown","Yes","Cloud"
...

Example 9: List of Zones and Special Profiles

The following examples show the additional sections of the report that show detailed information about zones and special user profiles.

The Zone report lists detailed information about each zone. Below is a sample.

Zone Report
CN,Type,Parent Zone,Tenant ID,Tenant URL,Is ZPA provisiong,Is agentless client supported,Number of user profiles,Number of group profiles,Number of local user profiles,Number of local group profiles,Number of local Windows user profiles,Number of local Windows group profiles,Number of cross domain users,Number of cross forest users,Number of NIS maps,Number of roles,Number of PAM rights,Number of Command rights,Number of Windows Desktop rights,Number of Windows Application rights,Number of Windows Network Access rights,Number of role assignments,Number of computer roles,Number of roles with "MFA required",Number of roles with "audit if possible",Number of roles with "audit required",Number of roles with "audit not required"
keJg5xag6R,$CimsZoneVersion7,FbiyaZP2IT,AAQ0527,http://xxxxxxxxxxxx,
Yes,No,#
...

In the next section of the licensing report lists the Special AD User Profiles Defined Report. This report lists out any special user profiles (SCP) that have been defined; profiles are detected based on pattern matching such as "oracle", "hadoop", "hdfs", "hive", and so forth.

You can configure the pattern match my modifying the registry value (value name: "SpecialUserProfilePattern"; type: multi string). Each row stands for a defined name pattern (from all zones).

If there is no name pattern configured, this section is not displayed in the report.

Special AD User Profiles defined Report
"oracle": #
"hadoop": #
"hdfs": #
"hiv$": #
...

The next section of the licensing report is the Special Local User Profiles Defined Report, which is very similar to the previous section. This report lists out any special local user profiles (SCP) that have been defined; profiles are detected based on pattern matching, such as "oracle", "hadoop", "hdfs", "hive", and so forth.

You can configure the pattern match my modifying the registry value (value name: "SpecialUserProfilePattern"; type: multi string). Each row stands for a defined name pattern (from all zones).

If there is no name pattern configured, this section is not displayed in the report.

Special Local User Profiles defined Report
"oracle": #
"hadoop": #
"hdfs": #
"hiv$": #
...