

WEB USER INTERFACE

SNOW LICENSE MANAGER 9.30

Document date 2023-06-07

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Snow License Manager is a Software Asset Management (SAM) tool. Software Asset Management enables you to manage and control your organization's software assets, and optimize their use.

The Snow License Manager web user interface is where all information on software installations, usage, users, computers, mobile devices, licenses, and agreements is managed.

1 CHANGELOG

1.1 9.30

Release date: 2023-06-07

Section	Change
Concepts, terminology, and features/Agreement	In the Agreement type table, a note has been added to the description of the Oracle agreement type, clarifying that Oracle agreements are handled in the Oracle overview section of the user interface.

1.2 9.29

Release date: 2023-05-17

Section	Change
Oracle overview	Since the Oracle verified data feature now supports Java SE in addition to Oracle Databases and Oracle Fusion Middleware, the Oracle verified data view and Oracle verified data tab – Reference pages have been updated accordingly
Oracle overview/ Manage Oracle verified data	New page.

1.3 9.28.0

Release date: 2023-05-03

Section	Change
Adobe Creative Cloud	Added description of the new Manage portals page.
Adobe Creative Cloud/Manage portals	New page.
Microsoft 365	Added description of the new Manage portals page.
Microsoft 365/Manage portals	New page.
Multiple versions/editions	Added a note to clarify the use.
Edit application	In License settings tab , added notes to clarify the use of simultaneous multiple versions and multiple editions.

1.4 9.27.1

Release date: 2023-04-05

Section	Change
My notifications	Added more information to the introduction.
Appendix A - Compliance examples/ Compliance example 4	In Compliance exclusions in reports section, added the missing Windows Server Assessment - 2022 or later licensing report.
Add agreement	In General tab , bullet 8: updated text and name of the checkbox Include in searches where license purchase date is outside of active period (previous name Selectable after expiration).
Add license purchase	In Purchase tab , bullet 6: updated with new search functionality and changed name of (agreement) checkbox.

1.5 9.27

Release date: 2023-03-15

Section	Change
-	No changes

1.6 9.26

Release date: 2023-02-01

Section	Change
Oracle overview/Oracle verified data tab	Since the Oracle verified data feature now supports Oracle Fusion Middleware in addition to Oracle Databases, the page has been updated accordingly.
Oracle overview/Oracle verified data tab/Oracle verified data tab - Reference	New page.
Oracle overview/Oracle Fusion Middleware details view	New page.
Concepts, terminology, and features/Oracle database products	The page has been renamed Oracle Management Option and the content has been updated.
Support and feedback	Updated the content to reflect how you can get support and send feedback.
Introduction	Added that the overview shows the data flow in the Snow License Manager platform.

1.7 9.25

Release date: 2022-11-30

Section	Change
Adobe Creative Cloud/Prerequisites	Added section.
Adobe Creative Cloud	Editorial updates. Moved some information to the Prerequisites section.
Microsoft 365/Prerequisites	Added section.
Microsoft 365	Added section on User activity . Editorial updates. Moved some information to the Prerequisites section.
SaaS overview/Prerequisites	Added section.
SaaS overview	Editorial updates. Moved some information to the Prerequisites section.
Run import	In Computer update settings , update description for the Delete option.
Register an Oracle purchase	Deleted the section Register the Support and Software Updates agreement and replaced it with a link to the topic Add agreement .
Application allowlist	Added information that the <code>ACTIVATE_APPLICATION_WHITELISTING</code> setting needs to be enabled in SnowMACC.

1.8 9.24

Release date: 2022-11-09

Section	Change
Adobe Creative Cloud/Manage user linking in Adobe Creative Cloud	Added description of manual user linking on the Link users page. Editorial updates.
Adobe Creative Cloud	Updated description of the user linking prerequisite. Editorial updates.

1.9 9.23

Release date: 2022-10-19

Section	Change
Adobe Creative Cloud	Added description of the new Users page.
Compliance example 2	In Decide on licensing , replaced two images and corrected the example.

Section	Change
Edit computer	General tab: Added information on Disable automatic quarantine management for members of auto-generated datacenters.
Custom compare value types	Added information on custom fields and a link to more information. Added information on the Custom compare value types page. Added more information on the Use a custom field value for compliance checkbox when adding or editing custom compare value types.
Export	Added a note describing how to replace the font family in the web.config file when an exported PDF file contains meaningless random characters.
Computers detail view	Added that applications with an orange background can for example be cloud applications.

1.10 9.22

Release date: 2022-06-15

Section	Change
Introduction	Updated the image and the descriptions of the components in the Platform overview.
Add license purchase/Purchase tab	Clarified that assignments must be made for metrics that require assignments.
Adobe Creative Cloud/Manage cost periods in Adobe Creative Cloud	Added step for selection of Adobe portal when adding license cost.

1.11 9.21

Release date: 2022-04-12

Section	Change
Import or update licenses	Added a link to Data Import Field Description.
Adobe Creative Cloud Adobe Creative Cloud/Manage user linking in Adobe Creative Cloud Adobe Creative Cloud/Manage cost periods in Adobe Creative Cloud	Reworked information and described new functionality.
Microsoft 365	Described updated activity-related charts and tables.

1.12 9.20

Release date: 2022-03-09

Section	Change
Oracle verified data view	New
Custom fields	Added information on what is required when you want to calculate the compliance for an application and include a custom field in the calculation.

1.13 9.19

Release date: 2022-02-09

Section	Change
Adobe Creative Cloud	Added description of the subscription filter functionality.
Oracle Java visibility	Clarified that the All Java installations report contains both Oracle and non-Oracle Java installations.
SaaS overview SaaS overview/Manage cost periods in SaaS overview	Editorial rework of content.
Microsoft 365 Microsoft 365/Manage user linking in Microsoft 365 Microsoft 365/Manage cost periods in Microsoft 365	Editorial rework of content.
The user interface/Remarks	Added remarks AL, DL, and UI

1.14 9.18

Release date: 2021-12-08

Section	Change
Adobe Creative Cloud	Added description of the multi-portal filter and capability.
Computers detail view	Clarified what kind of information is shown here. Added a note about Logical processors .

1.15 9.17

Release date: 2021-11-17

Section	Change
Action log	Moved the content of section Appendix B - Action log to section Action log .

1.16 9.16

Release date: 2021-09-16

Name	Change
Secondary use rights	Added support for Desktop - Desktop .
Show report	Added information describing date operators.

1.17 9.15

Release date: 2021-09-01

Section	Change
Oracle overview	Added information on Oracle Java to the Products tab .
Oracle Java visibility	Added a new section.
Microsoft 365	Added information on new chart filtering based on subscriptions and that subscription utilization is for subscriptions with user-based metric.

1.18 9.14

Release date: 2021-06-22

Section	Change
Assignment types	Added Users as a new available assignment type for metric Concurrent users .
User settings/Settings tab	Added new setting Auto allocate licenses
Assignment tab	Clarified that the setting for enabling auto allocation checkbox is configured in the User settings.

1.19 9.13

Release date: 2021-05-05

Section	Change
Microsoft 365/Link users	Added information about the Unlinked users tab.
Reports cache	Added a new section.
Show report	Added information about how to show cached reports.

Section	Change
Enable or disable caching	Added a new section.

1.20 9.12

Release date: 2021-03-17

Section	Change
Microsoft 365	<p>Changed name from Microsoft Office 365 to Microsoft 365.</p> <p>Updated name of Microsoft 365 connector.</p>
<p>Microsoft 365/Manage cost periods for Microsoft 365</p> <p>Microsoft 365/Overview</p> <p>Microsoft 365/Subscriptions</p> <p>Microsoft 365/Users</p> <p>Microsoft 365/Cost</p>	Added new sections.
<p>Cloud reports</p> <p>Agreement report</p> <p>License report</p> <p>User reports</p> <p>Computer and mobile device reports</p> <p>Application reports</p> <p>Manage subscription plans</p> <p>Add subscription plan</p> <p>Remove subscription plan</p> <p>Optimize Microsoft Office 365 subscription plans</p> <p>Find users that could switch from MS Office Plan E3 to E1</p> <p>Find users that are not using their subscription plan</p> <p>Analyze cost per subscription plan</p> <p>Analyze Microsoft 365 data.</p>	Removed sections

1.21 9.10

Release date: 2021-02-17

Section	Change
Auto assign Oracle licenses	Added information that hard partitioned environments (IBM LPAR) are now included in the auto assignment process, provided that no licenses have been manually assigned to the environment.
Archive computers	Added that saved details of archived computers can be found on Search for computers page. Removed sentence: "An archived computer cannot be restored."
Share a Snowboard	Added new section.
Invalid license assignments	Deleted the duplicated alerts No eligible application installed , Overassignment , and Invalid processor count .

1.22 9.9

Release date: 2020-12-09

Section	Change
Oracle database detail view	Added text to the description of the Options used tab in the table concerning the new feature showing details of why an option is marked as used or not.
User settings	Changed name of menu from Administration to Application.
Help and support	Updated the information to reflect the user interface.
Data Update Job	Removed sentence: "Snow License Manager 9.1 and later versions allow users to sign in at all times, regardless of whether Data Update Job is running or not." Added info about Data Update Job status .
Assignment type: Organization	Updated the information to reflect that auto allocation is now selected by default.
Invalid license assignments	Added all possible invalid license assignments, including descriptions.

1.23 9.8

Release date: 2020-10-21

Section	Change
Computer/Applications tab	Added a note about allowlist and denylist functionality.
Archiving and unarchiving licenses	Added new section.
Archiving and unarchiving agreements	Added new section.

Section	Change
License Reports Agreement Reports	Added Archived licenses and Archived agreements as examples of reports.
Edit Oracle orders	Added new section.
Delete Oracle orders	Added new section.
Unassign Oracle licenses	Changed the title of the section from Bulk-unassign Oracle licenses . Removed the word bulk from this section. Removed information about when this functionality was introduced.
Unassign licenses from one or more orders	Changed the procedure due to changed functionality.
Unassign licenses from one computer/datacenter/cluster	Clarified a step in the procedure.
Add or edit denylist criteria	Added steps describing new functionality for Comment and Organization.
Several sections	Changed the word blacklist to denylist and whitelist to allowlist.

1.24 9.7

Release date: 2020-06-17

Section	Change
Import data	Added section Import or update licenses . Removed section License import settings . Removed information concerning license import in section Preview of imported data .
Oracle overview	Changed name of tab Orders & Licenses to Entitlements . Added information about Agreements and Auto assignments in Entitlements tab.
Compliance summary view	Added information about the new feature Compliance trend .
Agreements	Added specific information about Oracle agreements. Corrected the name for Upgrade rights (previously Automatic license upgrades) checkbox.

1.25 9.6

Release date: 2020-02-12

Section	Change
License settings tab/ Metric	Updated the information to reflect that you now can change the default metric.
Multiple metrics	Updated the information.
Auto assign Oracle licenses	Updated the information to reflect changes in the user interface regarding the auto assign wizard.

1.26 9.5

Release date: 2019-11-06

Section	Change
Oracle overview	Updated the table with a description of the new Overview Products tab.
Order summary view	Added a new section in the section Oracle overview .
Compliance summary view	Added a new section in the section Oracle overview .
Auto assign Oracle licenses	Added a new section.
Manage lists	Updated the information to reflect that the functions List all applications and List all computers are no longer available.

1.27 9.4.1

Release date: 2019-09-25

Section	Change
-	No changes

1.28 9.33

Release date: 2019-09-03

Section	Change
Change password	Removed the "x" character from the list of symbols.
Reports	Updated the information to reflect the changes in the user interface.
Invalid license assignments	Updated the information to reflect how Snow License Manager works and how alerts are shown in the user interface.

Section	Change
Compare values tab Remove bundle licensing Restore bundle licensing Default metric compliance example 1 Other metric compliance example 1	Changed the information about recalculating compliance to reflect what happens in the user interface.
Oracle license compliance	Updated information about supported rule sets.

1.29 9.3

Release date: 2019-06-27

Section	Change
Remarks	Added remark LH.
License settings	Updated the information.
Application detail view Licenses tab Compliance tab License settings tab Purchase tab	Added information about multiple metrics.
Multiple metrics	Added a new section.
Multiple metrics	Added a new section.
Security tab	Corrected text about organization node.
Adobe Creative Cloud	Added information on limitations and constraints.

1.30 9.2

Release date: 2019-04-24

Section	Change
Oracle overview	Added new sections: Visibility: Products, Visibility: Orders, Oracle order list, Visibility: License assignments, Oracle license statuses, Oracle license compliance: Supported rule sets, Import Oracle orders , and Assign Oracle licenses .
Add Oracle order manually	Changed the title of the section from Add Oracle order .

Section	Change
Associate servers with Oracle orders	Updated the information.
Add datacenters and clusters/ General tab	Added information on new functionality to automatically populate Hypervisor technology and High availability for VMware Datacenter/Clusters.
Adobe Creative Cloud	Added a new section.
Link Snow License Manager users with Microsoft Office 365 users	Replaced "Snow Inventory 5" with "Active Directory user discovery".
Edit cost information	Added information on Adobe Creative Cloud.
Add new cost period for Microsoft Office 365 and SaaS	Changed the title of the section from Add new cost period .
Delete cost period for Microsoft Office 365 and SaaS	Changed the title of the section from Delete cost period .
Search for applications and computers	Added a new section.
Save searches for applications and computers	Added a new section.
Search for mobile devices, users, agreements, licenses, and objects	Changed the title of the section from Search . Added a note explaining that there are two different search functions.
Save searches for mobile devices, users, agreements, licenses, and objects	Changed the title of the section from Save searches . Added a note explaining that there are two different search functions.
Edit application Edit computer Archive computer Application blacklist Application whitelist IBM PVU licensing	Changed List all applications/computers to Search for applications/computers

1.31 9.1

Release date: 2019-03-28

Section	Change
Data Update Job	Added new section
Software enterprise agreement	Deleted the following sections: Software enterprise agreements , Add software enterprise agreement , Information tab , Purchase orders tab , and Distributions tab .

Section	Change
Agreement	Deleted row Software enterprise agreement from the table.

1.32 9.0

Release date: 2018-11-22

Section	Change
Oracle database detail view	In the table for tabs Options used and Management packs agreed , added information on a new feature to manually change values.
Oracle overview	Renamed Database editions tab to Products .
Oracle overview	Added line for tab Orders in the table.
Platform overview	Updated information regarding Snow Inventory and Data Update Job.

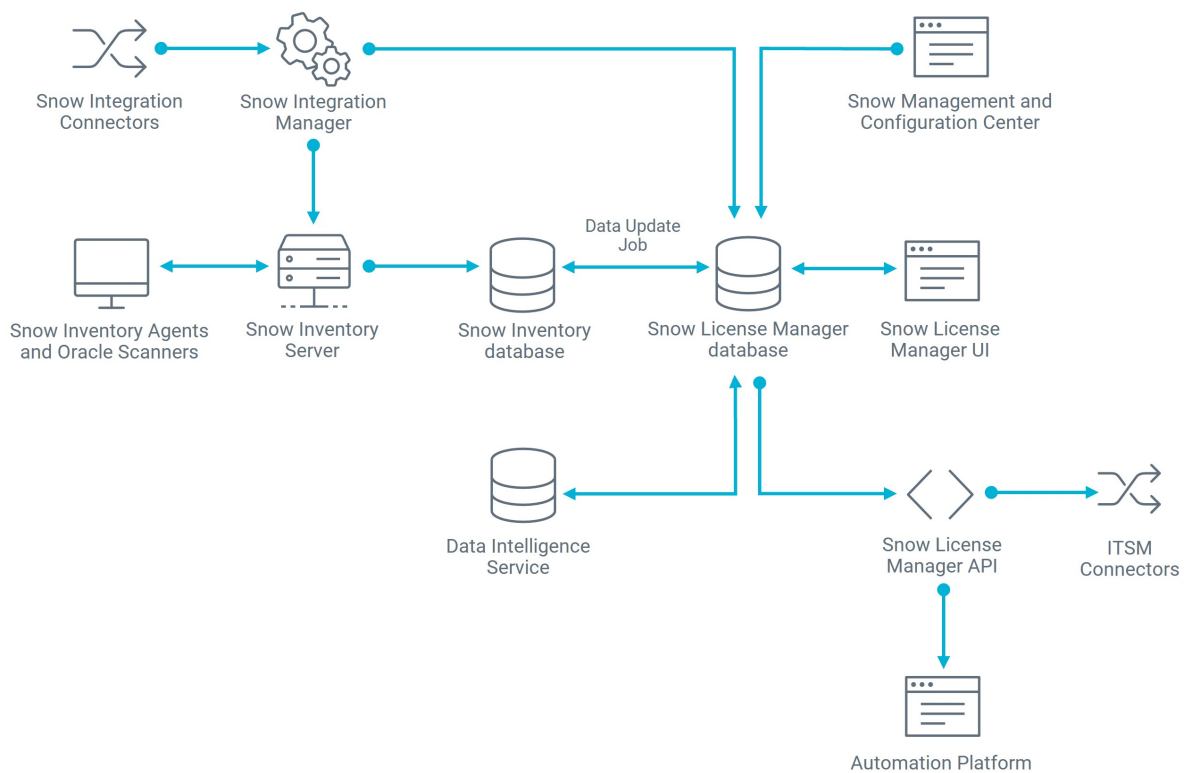
2 INTRODUCTION

This describes the user interface of Snow License Manager, a tool for Software Asset Management.

Software Asset Management (SAM) is the process of managing, controlling, and protecting software assets within an organization. SAM includes management of the entire life cycle of software, from need assessment, purchase, installation, and maintenance to removal.

2.1 PLATFORM OVERVIEW

The Snow License Manager platform includes a number of system components with dedicated functions. The overview shows the data flow in the Snow License Manager platform.



Component	Description
Snow Inventory Agents and Oracle Scanners	Computers and servers in the IT environment are inventoried by the Snow Inventory Agents and the Snow Inventory Oracle Scanners and the data is then sent to Snow Inventory Server for processing. For more information, see Snow Inventory .

Component	Description
Snow Integration Manager	The Snow Integration Connectors integrate with third-party inventory solutions and virtualization technologies to collect inventory data. The data is then gathered in Snow Integration Manager and sent to Snow Inventory Server for processing. Data from the SaaS connectors is sent directly from Snow Integration Manager to the Snow License Manager database. For more information, see Snow Integration Manager
Snow Inventory Server	Snow Inventory Server receives data from the inventory sources. After processing, the inventory data is stored in the Snow Inventory database. For more information, see Snow Inventory Server .
Data Update Job	Data Update Job is a daily recurring SQL job, which processes the information in the Snow Inventory database into a more usable format for software asset management. For more information, see Data Update Job .
Snow License Manager database	Data Update Job re-populates the Snow License Manager database with new and updated inventory information, applies software recognition rules, and calculates usage, and alerts.
Data Intelligence Service	Any unrecognized software is automatically sent to the Data Intelligence Service team for analysis. When an application has been identified, the team creates new software filtering rules and updates the central Software Recognition Service database. Snow License Manager retrieves updates from the Software Recognition Service database on a daily basis using Snow Update Service. For more information, see Data Intelligence Service .
Snow Management and Configuration Center	Snow Management and Configuration Center is used to manage the technical and administrative parts of Snow License Manager. For more information, see Snow Management and Configuration Center .
Snow License Manager user interface	All information on software installations, usage, users, computers, mobile devices, licenses, and agreements is managed in the user interface of Snow License Manager.
Snow License Manager API	The Snow License Manager API enables information to be retrieved from the Snow License Manager system.
Automation Platform	Automation Platform is used for the automation of processes, for example, software requests and re-harvesting based on usage or subscriptions. Information on available software, related settings, and license availability is synchronized via the Snow License Manager API. For more information, see Automation Platform .
ITSM Connectors	The ITSM connectors update third-party configuration management databases (CMDB) with normalized data, to enhance data quality, by pulling data from the Snow License Manager API and sending it to the CMDB. For more information, see ITSM Connectors .
Snow Update Service	Snow Update Service updates installed Snow software by downloading update files from Snow's central update server. Snow Update Service is not illustrated in the Platform overview. For more information, see Snow Update Service .

2.2 RESPONSIBILITY OF THE USER

Snow License Manager is designed to efficiently manage large volumes of data and to provide competent tools for license compliance analysis, resource planning, cost administration, and much more. A lot of the information, such as inventory data and software recognition rules, is automatically fed into the system.

However, Snow License Manager also heavily relies on information not available through the inventory, in particular information on licenses. If the information entered by the user is incorrect or incomplete, the output will not be accurate.

Understanding the central concepts described in [Concepts, terminology, and features](#) is vital in order to achieve reliable results when working with the tool.

3 CONCEPTS, TERMINOLOGY, AND FEATURES

The following chapter explains concepts, terms, functions, and features that are vital to understand when using the SLM Web UI, in order to achieve correct results from Snow License Manager.

3.1 SOFTWARE ASSET MANAGEMENT (SAM)

Software Asset Management, or SAM, is defined by ISO as “effective management, control, and protection of software assets within an organization”.

A **global SAM owner** is an individual at a central organization wide level who is in charge of Software Asset Management. A **local SAM owner** is an individual in charge of SAM for a defined node or section of an organization. Local SAM owners are sub-ordinated to the global SAM owner.

3.2 COMPLIANCE

The term **compliance** is used to indicate that an organization is legally and correctly licensed, meaning that the organization has the amount of licenses that is required to cover its usage of applications.

Snow License Manager regularly establishes a compliance statement for the IT environment. This means that the installed applications are matched with the stock of purchased licenses.

If all applications that require a license are covered, the organization is compliant. An organization that is over-licensed is still compliant, while an organization with too few licenses is non-compliant. Obviously there are applications that are free to use without any license. These applications have no effect on compliance.

3.2.1 LICENSE REQUIREMENT

License requirement states the number of licenses that is required to ensure compliance for an application with the selected metric. For example, for applications with the default metric **Installations**, the license requirement is the number of installations of the application that require a license.

The license requirement states the number of required stand-alone licenses. Applications installed as part of a bundle are not included, since they require a suite license.

License requirement for an application is indicated by the graphics in the **Application details view**, see [Application](#).

3.2.2 LICENSE TRACKING

The License tracking functionality in Snow License Manager provides the administrator with detailed information on the entitlement state of each application. The entitlement state describes to what extent a consumer (computer, user, or device) is covered by the available entitlement. The administrator gets an overview of what license and what

agreement covers which consumer, which limits the risk of licensing the same consumer twice. This information is available both in the application details, and in the computer, user, and device details.

3.3 SOFTWARE RECOGNITION SERVICE (SRS)

Software Recognition Service (SRS) is a service developed by Snow Software, which automatically identifies software in an IT environment. The SRS basically consists of a central database and an automated process for identification of unrecognized software.

All subscribers of the SRS service have access to the central database, which includes rules for recognition of hundreds of thousands of software applications, ranging from commonly used commercial applications to freeware, games, file sharing clients, and poker clients. The number is steadily increasing as new applications constantly show up on the global market.

Based on the information from the SRS database, the local Snow License Manager is capable of identifying inventoried applications by name, manufacturer, version, and edition. Also, the database allows Snow License Manager to detect if the application was installed as part of a product suite and identify any upgrade and downgrade possibilities.

Any unrecognized software is automatically sent to the Software Recognition Service Desk. The experienced members of the SRS team analyze and identify the application and update the SRS database with the new information. Up-to-date filtering rules for software identification are sent to all subscribers of the Software Recognition Service and the information is automatically stored in the local Snow License Manager.

3.4 APPLICATION

In Snow License Manager, an **application** is defined as software installed or run on a computer or device. Each application is associated with filtering rules, which are used to identify programs installed on the inventoried computers.

Applications are normally created by the SRS team and distributed to all subscribers of the Software Recognition Service. As a complement, there may also be customized applications, created locally in Snow Management and Configuration Center (Snow MACC).

3.4.1 APPLICATION BUNDLE

Some applications can be installed both as a stand-alone product and as part of a product suite. Normally, different licenses are required depending on the type of installation. For example, even though Photoshop is included in the Adobe Creative Suite, a stand-alone installation of Photoshop cannot be covered by a license applicable to the Adobe Creative Suite.

For a correct compliance calculation, Snow License Manager needs to be able to determine if an identified application is a stand-alone or product suite installation. The mechanism used to identify installations that are part of a product suite is called an *application bundle*. Application bundles are administered via the Software Recognition Service.

3.4.1.1 LICENSE BUNDLE COMPONENTS INDIVIDUALLY

In some cases it may be allowed to use the installation media of a product suite to install single components, for example components included in the Adobe Creative Suite.

These stand-alone installations are then licensed individually instead of via the application bundle.

In Snow License Manager this is achieved by manually removing the application bundle from the computer. All installed bundle components will be regarded as stand-alone installations when compliance is calculated. For more information, see [Bundle options](#).

3.4.2 APPLICATION FAMILY

Upgrade and downgrade refer to the extended right to use a license also for the preceding and/or subsequent versions. For more information, see [Upgrade and downgrade](#).

The way to manage upgrade/downgrade rights is referred to as **application family**. An application family contains all products from the same product family. Application families are administered via the Software Recognition Service.

3.4.3 APPLICATION TYPE

An **application type** is a classification based on function, according to the United Nations Standard Products and Services Code (UNSPSC). This enables listing of for example all virus applications in the IT environment, without having to know the manufacturer or the application name. The application types are administered via the Software Recognition Service.

3.4.4 APPLICATION CATEGORY

Application categories are created in Snow MACC for a set of applications that have something in common. Application categories can for example be used to specify the standard applications that, according to the IT policy of the organization, should be installed on all computers and laptops.

The report **Computers that do not comply to application categories** lists all computers/laptops that are missing the applications specified by the application category.

3.4.5 APPLICATION USE RIGHTS

Application use rights can be assigned to applications, for example in order to monitor and ensure correct usage of expensive applications. Users without use rights of the application are high-lighted. Application use rights are managed in the SLM Web UI.

3.4.6 STOCK-KEEPING UNIT (SKU)

Stock-keeping unit, or SKU, is a code used to identify and track products, and most manufacturers assign SKUs to their applications. A unique SKU is assigned to each variant of the application, such as different versions, bundles, metric, etc. This means that an application can have one or several SKUs. In Snow License Manager, licenses can be identified by the SKU of the application it applies to. There is also SKU intelligence when registering a license purchase and when importing licenses.

3.5 LICENSE

A license is something you purchase to have the right to use a software application. Suppliers of software can issue licenses in many different variants, resulting in a

large variety of licensing conditions. An application may also be offered with several different license options. The simplest form of license is one that permits one installation of a specified version of an application. More advanced licenses may permit several installations or multiple users, as well as the right to upgrade to a later version of the application.

The alert and report functionality in Snow License Manager helps the administrators identifying licenses that are not used correctly. This provides a possibility to make corrections to better utilize existing licenses and obtain maximum license usage.

3.5.1 METRIC

The metric describes the licensing conditions and is the unit of measure for applications and licenses.

The **metric for the application**, or the default metric, is identified by the Software Recognition Service (SRS). However, the default metric can be changed in Snow License Manager. The default metric is set per application, meaning that an application can have only one default metric.

Available **metrics for the license** depend on the metric of the application. While there can only be one metric per application, it is possible to register license purchases with different metrics. In Snow License Manager, metric is set and any additional information related to the license can be entered when a license purchase is registered.

Snow License Manager supports the metrics described in the following table. For information on how to configure metering periods, see [License settings tab](#).

Default metric	Description	Available metrics for the license
No license required	This metric is used for applications that do not require a license.	-
Installations	The number of licenses is compared to the number of installations of the application.	Installations Number of processor cores Number of processors CAL (Client Access License)
Custom compare values	This special metric allows definition of custom values to be used as basis for compliance calculations. The number of licenses is compared to the quantities of the custom compare value defined for the application.	The defined custom compare values types

Default metric	Description	Available metrics for the license
Number of processors	The number of licenses is compared to the number of processors on a computer.	Installations Number of processor cores Number of processors CAL (Client Access License)
Number of processor cores	The number of licenses is compared to the number of processor cores on a computer.	Installations Number of processor cores Number of processors CAL (Client Access License)
Users	The number of licenses is compared to the total number of inventoried users utilizing the application, regardless of number of installations. The total user metric setting will determine the number of users that require a license.	Users
Devices	The number of licenses is compared to the total number of inventoried devices utilizing the application, regardless of number of installations. The default metering period is set to current month but can be changed to a rolling period of days by editing the application in Snow License Manager. This metric is often used for Terminal server or Citrix environments	Devices
Concurrent users	The number of licenses is compared to the highest total number of users utilizing the application simultaneously in the one hour period with the most usage. The default metering period is set to current month but can be changed to a rolling period of days by editing the application in Snow License Manager. This metric is often used for Terminal server or Citrix environments.	Concurrent users

Default metric	Description	Available metrics for the license
Concurrent devices	<p>The number of licenses is compared to the highest total number of devices utilizing the application simultaneously in the one hour period with the most usage. The default metering period is set to current month but can be changed to a rolling period of days by editing the application in Snow License Manager.</p> <p>This metric is often used for Terminal server or Citrix environments.</p>	Concurrent devices
PVU	Based on the IBM PVU (Processor Value Unit) values of the computers.	PVU
CAL (Client Access License)	Permits a client (computer, device, or user) to connect to server software. The CAL metric is only a registration of number of licenses. No compliance is calculated based on this metric.	Installations Number of processor cores Number of processors CAL (Client Access License)

3.5.1.1 ASSIGNMENT TYPES

The license is assigned to a specified organization, site, computer/datacenter or user. The available assignment types of a license depend on the metric and is described in the following table.

Metric for the license	Available assignment types
Installations	Organization Site Computer/datacenter User
Custom compare values	Organization
Number of processor cores	Computer/datacenter
Number of processors	Computer/datacenter
Users	Organization Users
Devices	Organization
Concurrent users	Organization Users
Concurrent devices	Organization

Metric for the license	Available assignment types
PVU	Organization
CAL (Client Access License)	Organization

The assignment types are described in the following table.

Assignment type	Description
Organization	The license is assigned to organization nodes.
Computer/datacenter	The license is assigned to specified computers/datacenters.
User	The license is assigned to specified users.
Site	The license is assigned to a specified organization node.

3.5.2 ORACLE SPECIFIC LICENSE TYPES

The license type for an Oracle product is the unit of measurement for the Oracle license. To see details about an Oracle product in Snow License Manager the Oracle Management Option needs to be installed.

Snow License Manager supports the following Oracle specific license types:

License type	Description
Full use	License limit is based on any application and interaction with third party procurement (3PP) and unrestricted development rights.
Application specific full use	The license is application specific for a single independent software vendor (ISV) application and has restricted development rights and no interaction with a 3PP.
Application specific	The license is application specific for a single independent software vendor (ISV) application and has limited development rights and no 3PP usage is allowed.
Embedded	This license type is used when Oracle is embedded in the independent software vendor's application. It is impossible for end customers to detect underlying data schema or tables.
Runtime	License with restricted usage in conjunction with the specific independent software vendor's application with no modification rights.
Limited Use Other	This license type is used when end customers have an agreement with provisions not covered under any of the other supported Oracle specific license types. What this actually means varies between customers.

3.5.3 UPGRADE AND DOWNGRADE

Upgrade and downgrade refer to the extended right to use a license not only for the application it was purchased for, but also for one or several of the preceding and/or subsequent versions. The upgrade/downgrade path specifies which versions the application can be upgraded or downgraded to, and in what sequence – and still be covered by the same license. The paths also make it easy to track the original license

for upgraded licenses, regardless of whether the manufacturer or application has changed names.

A common example of upgrade rights is automatic upgrade agreements, which entitle you to stay current with all new releases of the application, without any license renewal.

Also licenses with downgrade rights offer flexibility, as illustrated by the following example.

EXAMPLE

You have purchased 100 licenses for Application 10, which also include the two previous versions. You can use these licenses to cover in total 100 installations of Application 10, 9 and/or 8. Should any of the users of Application 9 or Application 8 choose to upgrade to Application 10, they are still covered by the same license.

3.5.3.1 AUTOMATED HANDLING OF UPGRADES AND DOWNGRADES

Snow License Manager offers full support for automated handling of upgrades and downgrades. Upgrade/downgrade rights are part of the Software Recognition Service analysis and the results reside in Snow License Manager.

To enable the computerized intelligence, you need to ensure that the correct agreement, license, and application settings are made:

- **Upgrade rights**
Upgrade rights can be enabled for the agreement or for each license purchase. Upgrade entitlement will be applied to the highest version, as stipulated by the entered license/agreement.
- **Downgrade rights**
Downgrade rights must be enabled for the application, and for each license purchase. Optionally, you can manually define the downgrade path, by adding or removing application versions and changing the order. Manual path definitions override cross edition rights and downgrade paths identified by the Software Recognition Service.

3.5.3.2 RELEASE DATE

For licenses that are attached to an agreement with automatic upgrade enabled, the release date of the application is of major importance. These licenses permit you to use the latest version of the application that is available over the active contractual period – also after the end date of the agreement. In other words, if a new version of an application is released while you have an active agreement, you can upgrade to this very version also when the agreement has expired, at no additional cost.

The release date for each application is collected from the Software Recognition Service and is presented in Snow License Manager. You can use the information to see if there is a possibility to upgrade users to later versions without having to pay for it. The information is also used by the system when compliance is calculated, to optimize the allocation of licenses.

3.5.4 ALLOCATION

When a license purchase is registered, you specify the legal organization owning the license. Also, you have the option to enable automatic allocation, or to manually allocate licenses to non-legal organizations.

For optimal utilization of the license ownership, it is recommended to use the automatic allocation feature instead of manual allocation. Automatic allocation is enabled when registering a license, see [Add license purchase](#).

3.5.4.1 AUTOMATIC ALLOCATION

With the automatic allocation functionality enabled, purchased licenses are automatically distributed to nodes in the organization hierarchy, based on the licensing requirements for each node. Licenses that are purchased on a central level of the organization will then automatically be distributed to underlying organization units based on actual installations. All licenses with automatic allocation enabled will be re-allocated each time compliance is calculated.

Automatic allocation is especially important to take into account for licenses with downgrade rights enabled. When both automatic allocation and downgrade rights are activated, licenses are compared to installations of the same and the specified prior versions of an application, on all sub-levels of the legal organization owning the license.

If automatic allocation is deactivated and no manual allocation has been made, the licenses for the specific purchase will only be compared to installations on the same organization level as the purchase is registered at. If downgrade is activated, installations of prior versions on the same organization level will be taken into account.

3.5.4.2 MANUAL ALLOCATION

It is also possible to manually specify how licenses should be allocated. Manually allocated licenses will not be included in the automated allocation. When compliance is calculated, manually allocated licenses will only be used to cover applications within the organization node that these licenses have been allocated to.

3.5.5 CROSS EDITION RIGHTS

Some software suppliers offer licensing rights where a license could cover other installations within the application family, with the same and/or lower edition. In Snow License Manager this is called Cross edition rights.

Cross edition rights are included in licenses with the following metrics and assignment types:

Metric	Assignment type
Installations	Computer/datacenter Organization
Number of processors	Computer/datacenter
Number of processor cores	Computer/datacenter

Also, cross edition rights can interact with upgrade and downgrade rights.

EXAMPLE

A license for Microsoft Windows Server 2012 Datacenter with cross edition rights could cover Microsoft Windows Server 2012 Standard, as well (same version, lower edition).

A license for Microsoft Windows Server 2012 Datacenter with upgrade rights and cross edition rights could cover Microsoft Windows Server 2012 R2 Standard, as well (higher version, lower edition).

NOTE

A manually defined downgrade path will override the cross edition rights.

3.5.6 CROSS PLATFORM RIGHTS

There are applications with licensing conditions that permit installation on more than one type of operating system. In Snow License Manager this is called Cross platform rights.

Just as cross edition rights, cross platform rights can interact with upgrade and downgrade rights.

EXAMPLE

A license for Adobe Acrobat 8 Professional with cross platform rights could cover installations of Adobe Acrobat 8 Professional on both Windows and Mac operating systems (same version, same edition).

A license for Adobe Acrobat 8 Professional with upgrade rights and cross platform rights could cover installations of Adobe Acrobat X Pro as well (higher version, same edition), on both Windows and Mac operating systems.

3.5.7 MULTIPLE VERSIONS/EDITIONS

Licensing conditions for some applications permit you to install and run several versions of the application at the same time. A subset of these rights is that multiple editions are allowed as well. This means that one license is enough to cover installations of more than one version/edition of the application.

NOTE

With this type of licensing, you can only cover a simultaneously installed **lower version** and/or **lower edition** of the same application. Higher versions and/or higher editions cannot be covered.

When compliance is calculated, multiple version/edition is only considered if the appropriate setting for the application has been made in the SLM Web UI, see [License settings tab](#).

3.5.8 SECONDARY USE RIGHTS

Some software suppliers offer licensing features for "Home PC – Work PC", "Desktop – Laptop", or "Desktop - Desktop", also referred to as Secondary use rights. With this type of feature, one single license covers two installations of the same application on two separate computers, for instance, one desktop and one laptop.

To manage this feature from a compliance perspective, secondary use rights must be enabled for the application and a connection must be established between the two sibling computers in Snow License Manager. Sibling computers can be specified either manually or by using an automated function that establishes connections based on identified

primary users of computers within the same organization. For automated handling of sibling computers, contact Snow Software for implementation in your environment.

Snow License Manager also supports Secondary use rights for TS environments, with locally installed software on rich clients.

3.5.9 VM USE RIGHTS

Certain licensing rules allow for covering not only the physical host but also associated virtual machines. With VM use rights, each licensed installation entitles the use of a fixed or an unlimited number of virtual instances of the application.

VM use rights are registered when adding a license purchase and can only be registered for licenses with assignment type Computer/datacenter. Note that VM use rights will only be applied to associated virtual machines if the physical host is fully compliant.

Snow License Manager 9.2 introduces a feature that takes Microsoft Windows Server licensing rules into account: when a Windows Server license is added, the VM use rights are fixed, that is, automatically applied in accordance with Microsoft licensing rules.

If Windows Server Standard is used, the fixed VM use right is two VMs per each fully licensed host.

If Windows Server Datacenter is used, the fixed VM use right is an unlimited number of VMs per each fully licensed host.

EXAMPLE

A computer is assigned four licenses. VM use rights allow each assigned license to be used on three virtual instances. This means that the four assigned licenses can cover 12 virtual machines.

EXAMPLE

From one license purchase, Server A is assigned eight licenses and Server B is assigned four licenses. VM use rights allow each assigned license to be used on one virtual instance per server.

Server A has 16 associated virtual machines. The VM use rights for Server A are changed so that eight specific virtual machines are assigned a license each. The remaining ones need to be covered by another license purchase. The changed VM use rights for Server A overrides the original VM use rights.

The VM use rights for Server B are not changed and will continue to be dynamically assigned as needed. The four assigned licenses are still allowed to be used on four virtual instances.

3.5.10 EXTENDED COVERAGE

Extended coverage means that one single license covers two installations of the same application on two separate computers or datacenters/clusters. Extended coverage is used for passive cluster nodes, disaster recovery test/development environments, and/or for a customer specific reason i.e. a customer specific agreement with extended user rights of the product.

You need to specify the computer or datacenter/cluster the coverage should be extended to, for which application, and for what reason, see [Edit computer](#) (Computers) and [Add datacenter and cluster](#) (Datacenters and clusters).

3.5.11 SUBSCRIPTION LICENSE

Instead of purchasing a license, you can subscribe to the right to use an application. A subscription license is only valid for a specified period. Once the period has past, the license will no longer be included in the compliance calculation. However, subscription licenses attached to a subscription agreement will have their period overridden by the agreement period. For more information, see [Subscription agreement](#).

In Snow License Manager, information on expired subscription licenses can be found here:

- In **Application details** and on the **Compliance** tab, information is shown on number of **Expired subscription licenses**.

3.5.12 LICENSE REGISTRATION POLICY

All processes and routines are dependent on all participants learning, understanding, and following instructions and policies. Snow License Manager allows you to facilitate registration of licenses and help the users to enter the correct information. You can make fields mandatory, add lists with pre-defined options, and add descriptions that clearly state the intended purpose of a specific field.

Correct registrations of license purchases will reduce the overall administration and prove a better foundation for your software asset management. The License registration policy is managed in the SLM Web UI, see [Custom compare value types](#) and [Ensure correct license registrations](#).

3.5.13 INCOMPLETE LICENSES

The Incomplete licenses functionality makes it possible to import and/or register license purchases even though all required information is not available for the purchase to be used as a valid entitlement. You can for example import licenses from a file with incomplete data and then add the required information at a later stage.

License purchases with missing data are marked as incomplete and will not be included when compliance is calculated. Examples of data that will make the license purchase incomplete, if missing, are application name and quantity.

The Incomplete licenses functionality is activated by a setting in Snow MACC.

NOTE

Fields that are indicated as Required in the License Policy must be entered during license registration or the license cannot be saved, not even as incomplete.

3.5.14 UNASSIGNED LICENSES

A license is regarded as unassigned when a license purchase has been registered with an assignment type and a quantity, but no assignments have been made, or assignments have only been made for a part of the license quantity.

In Snow License Manager, information on unassigned licenses can be found here:

- In **Application details** and on the **Compliance** tab, see information on number of **Unassigned** licenses.
- In the report **All licenses**, add the column **Unassigned licenses** from the Column selector.
- In the alert report **Unassigned licenses**.

For assignment type Computer/datacenter:

- In **License details** and on the **Assignment** tab, information is shown on number of **Total licenses**, number of **Total assigned** licenses, and number of **Total remaining** licenses to be assigned.

3.5.15 INVALID LICENSE ASSIGNMENTS

A license assignment becomes invalid when a mismatch occurs between the type or quantities of the purchased license compared with the device or user the license is assigned to. For example, a previously valid license assignment can become invalid if:

- The number of licenses assigned to a computer/datacenter exceeds the number required from a compliance perspective.
- The application or family covered by the license is no longer installed on the computer/datacenter the license is assigned to.
- The user the license is assigned to has not used the application nor any application in the family covered by the license within the specified metering period.
- The processor count of the computer the license is assigned to exceeds the number covered by the license.

To prevent you from creating invalid licenses during assignment, an error will flag when you attempt to assign more licenses to a computer, datacenter, or user than you have purchased. This precaution will help prevent some invalid assignments, over time, changes in your environment will cause mismatches. To help you identify these mismatches alert messages show on the **License details** view and standard **Reports** provide a complete overview of invalid license assignments.

Alerts identifying potential mismatches include:

- **No eligible application installed** – indicates that the application covered by the license purchase is not installed on the machine you have assigned the license to.
- **Overassignment** – indicates that you have assigned more licenses to the user or machine than is required for compliance.
- **Missing primary user** – indicates that the license was assigned to a user for an application that is not installed on any of the computers which the user is a primary user of.
- **Missing installation for user** – indicates that the license is assigned to a user, but the user has never used the application.
- **No usage within metering period** – indicates that the application metric has a metering period, but the application was not used by the user within this period of time.

- **Invalid processor count** – indicates that the machine you have assigned the license to has more processors than which are covered by the license. This alert is only applicable for WindowsServer applications.
- **Missing computer, Inactive computer, Missing users, Missing datacenter, Invalid metric** (metric equals 0), **Invalid quantity** (quantity less than, or equal to, 0), **Invalid metric group** (assigned metric is not supported by the application) - indicates invalid or missing data.

To gain an overview of invalid license assignments in your system, use the **Invalid license assignments** report, or add the **Invalid assignments** column to the **All licenses** report.

NOTE

Invalid license assignment can only occur for licenses that can be assigned to a **Computer/datacenter**, or a **User**. Licenses that are assigned automatically to an **Organization** or **Site** do not become invalid.

When computers or users are deleted, licenses assigned to them are automatically unassigned, removing any invalid license assignments.

3.6 ORGANIZATION

An organization structure enables analysis of software and hardware assets based on cost center or department. The organization structure is created in Snow Management and Configuration Center (Snow MACC).

The top-level of the company is normally registered as the legal organization; that is, the legal entity that owns software and hardware assets. If the organization has multiple legal entities, there can be multiple legal organization nodes. Nodes that are not legal, typically nodes further down in the organization hierarchy, are referred to as non-legal organization nodes.

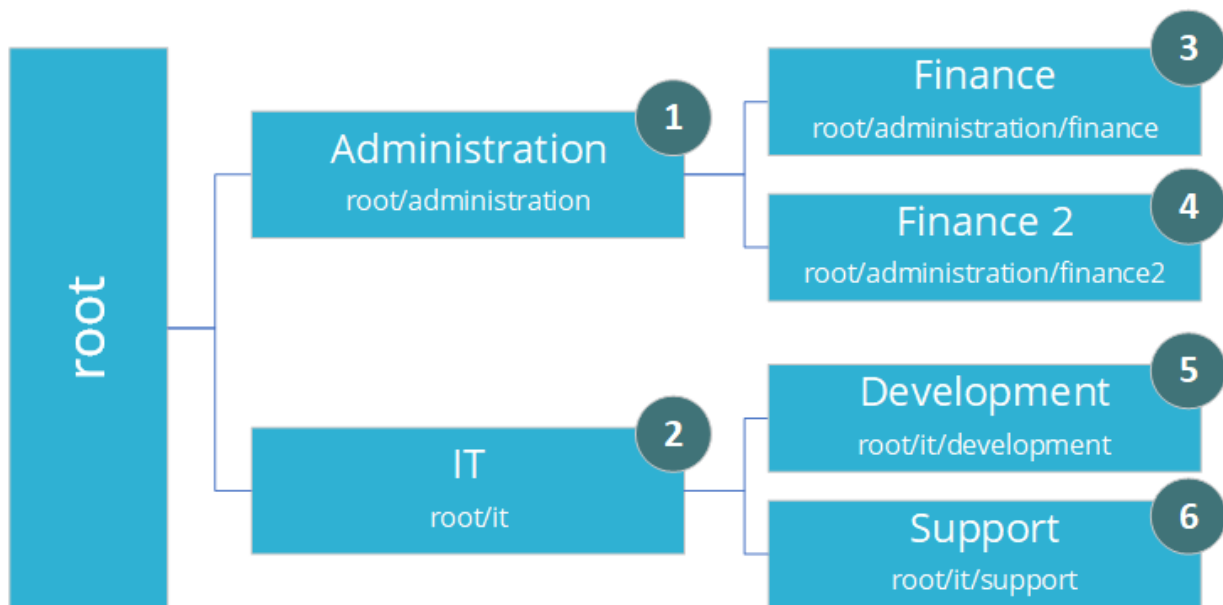
All computers, devices, and users in Snow License Manager are attached to a node in the organization hierarchy. Licenses are always registered for a legal organization node, but can be allocated to the non-legal organization nodes.

3.6.1 AUTO CONNECT RULES

Auto connect rules facilitates management of the organization by automatically assigning computers, devices, and users to the right place in the organization structure. This is achieved by defining one or several filters (rules), based on for example host name, IP address, or user name. Auto connect rules allows you to set up your organization structure once, with no need for further management. Auto connect rules are created in Snow MACC.

Auto connect rules are processed in falling sequence per node level. All nodes on one level will be processed first, then the nearest sub-node level will be processed.

The numbers indicate the order in which the Auto connect rules are applied.



3.7 AGREEMENT

Snow License Manager supports six agreement types, described in the following table. It is also possible to create custom agreement types, intended for agreements that do not match any of the pre-defined agreement types.

Agreement type	Description
Software agreement	The only agreement type that allows attachment of licenses.
Maintenance agreement	Hardware maintenance only.
Support agreement	Hardware support agreements only.
Purchase agreement	Hardware purchase agreements only.
Custom agreements	A general agreement type that can be used for any agreement.
Oracle agreement	<p>Oracle agreements only, such as Oracle Support and Software Updates Agreement or an Oracle ULA (Unlimited License Agreement).</p> <p>NOTE Oracle agreements are registered, managed, and viewed in the Enterprise > Oracle overview section of the user interface, see Oracle overview.</p>

3.7.1 MASTER AGREEMENT

A master agreement is an agreement that controls the terms, conditions, and dates of subordinate agreements or tasks. Master agreements can also carry licenses or other objects in the system.

3.7.2 SUB-AGREEMENT

A sub-agreement is an agreement signed within another agreement, a master agreement.

3.7.3 SUBSCRIPTION AGREEMENT

A subscription agreement is only valid for a specified period. Licenses that are part of a subscription agreement are only valid over the validity period of the agreement. Subscription licenses attached to a subscription agreement will have their period overridden by the agreement period. For example if a subscription license's specified period expires after the subscription agreement's specified period, the subscription license will not be considered in compliance once the subscription agreement period has expired.

In practice, there are two different ways to manage subscriptions depending on how expiration is handled by the product use rights:

- If all of your licenses within an agreement expire when the agreement does, you should create the agreement as a subscription agreement and you will not need to add periods to each license you attach.
- If you have licenses within your agreement that expire at different times, or will expire after the agreement is renewed, you should not add the agreement as a subscription agreement, and should instead add the subscription periods when adding each license purchase.

3.8 SOFTWARE STORE OPTION

Snow's Software Store Option enables organizations to provide a self-service portal for software requests that empowers their end users while giving greater control to the SAM team. By accessing an automated online software catalog that is populated and controlled by Snow License Manager, users can select for themselves what software they need.

Applications that should be available to the users must have the **Available in Software Store** option enabled in Snow License Manager. All changes in application availability are written to the Action log in Snow License Manager, and the report **Applications in Software Store** gives an overview of currently available applications.

3.9 ORACLE MANAGEMENT OPTION

Oracle licensing is complex, with intricate rules and dependencies. To determine if you are correctly licensed, you need to know which Oracle products are installed and used in your IT environment. In addition, you need to know the hardware configuration of the servers running Oracle, as well as have full control over all Oracle agreements and orders.

The Oracle Management Option (OMO) enables asset management of your Oracle products. It provides visibility of your Oracle Databases, Fusion Middleware, and Oracle Java products, as well as license requirements and license assignments for the Oracle Databases plus their Options and Management packs, and for the WebLogic Server as part of the Fusion Middleware portfolio. The information is shown on the [Oracle overview](#) page in Snow License Manager.

While the information from the inventoried Oracle environments, gathered by the Oracle scanners, is supplied automatically to Snow License Manager with OMO included, all Oracle agreements must be registered manually. Oracle orders (entitlements) can be added

either manually one by one or through a [bulk order file import](#). You must also associate the Oracle orders with the Oracle servers, which you can do either [manually](#) or by using the [Oracle auto-assignment functionality](#) in Snow License Manager.

Snow License Manager supports the compliance analysis process with dedicated reports and recommendations for Oracle servers not covered by a license. You can also generate and export reports in the format required when submitting a declaration to Oracle, for example, the Oracle Product Compliance report.

With the [Oracle verified data](#) feature enabled, you can download a ZIP file with Oracle Database and Oracle Fusion Middleware data that Oracle accepts as an alternative to installing Oracle tooling.

3.10 WINDOWS VDA LICENSING FOR VDI ENVIRONMENTS

Virtual Desktop Infrastructure (VDI) technologies enable users to access their work desktops from almost any device.

Every device connecting to a Windows VDI will require virtual desktop access rights. If the accessing device is a computer covered by a Windows license with valid Software Assurance, the virtual desktop access rights are included. For other devices, a Windows Virtual Desktop Access (VDA) license is required. For the Windows VDA licenses, 90-day reassignment rights apply, which means that a license cannot be reassigned to another device within 90 days of the last assignment.

Snow License Manager identifies all devices that have been connected to a VDI. The device may, for example, be a home PC, a smartphone, or a thin client, but it could also be an inventoried computer. Snow License Manager then adds the application Windows Virtual Desktop Access to all of these devices.

3.10.1 LICENSE REQUIREMENTS

When Snow License Manager calculates the license requirement for the Windows Virtual Desktop Access, the following rules apply:

- If the device is an inventoried computer and if the computer is covered by a Windows license with valid Software Assurance, no Windows VDA license is required.
- If the device is an inventoried computer with a Windows license without Software Assurance, a Windows VDA license is required.
- If the device is an inventoried computer not covered by a Windows license, a Windows VDA license is required.
- If the device is not an inventoried computer, a Windows VDA license is required.
- A Windows VDA license can be reassigned after 90-days.

The Windows operating systems on the Virtual Desktops (VDI) do not require a Windows client license and are automatically removed from the license requirements for the Windows operating system they run, this is illustrated by the VDI remark on the computer as well as under license requirements when looking at the information details.

The management of Windows VDA licensing in Snow License Manager is automated. However, to ensure correct license allocation, all purchases of Windows licenses with Software Assurance must be registered with upgrade rights enabled.

Licensing is also required for the server and management infrastructure of the VDI solution. As a support in the licensing of the VDI structure (Microsoft or other supplier), Snow License Manager provides dedicated stock reports:

- All devices that have accessed a VDI
- All users that have accessed a VDI

3.11 MICROSOFT CIDC REPORT

The Microsoft WorkSpace is a web-based analysis program designed for Microsoft Partners to manage their SAM engagements. Microsoft Partners upload inventory data to the WorkSpace using an input template called Clean Inventory Data Contract (CIDC), an Excel spreadsheet containing detailed inventory information.

Snow License Manager can export inventory data directly into the CIDC format. For detailed instructions on how to generate a CIDC report, see [Generate a Microsoft CIDC](#).

3.12 CORE FACTORS

For some software, manufacturers like Microsoft and Oracle use core factors for licensing on particular hardware configurations. The core factor is a numerical value that is associated with a specific physical processor type, and is multiplied with the actual number of processor cores to calculate the license requirement.

Software that can be licensed based on a core factor is automatically defined in Snow License Manager, and information can be found here:

- In **Application details**:
 - On the **Information** tab, see if the application can be **Licensed based on core factors** (Yes/No).
 - On the **Licenses** tab, click **Tracking** to see a list of all license consumers. Click the arrow in the **Required** column to see if a core factor has been used in the license requirements calculation.
 - On the **Compliance** tab, see information on any **Core factor adjustment** in the **Required licenses** section.
- In the **All applications** report, add the column **Licensed based on core factors**.

3.12.1 MICROSOFT

With the release of SQL Server 2012, Microsoft introduced a new model for licensing of server software based on computing power. In this licensing model, physical processor cores are used as metric instead of, as previously, physical processors. This Per Core model can be used for installations of SQL Server and BizTalk Server.

For more information on the Per Core model and the current Microsoft Core Factor Table, refer to documentation from Microsoft.

3.12.1.1 LICENSABLE CORES

Snow License Manager uses the **Microsoft Core factor table** to calculate the number of **Licensable cores** for a particular hardware configuration (and a physical processor type) where:

Licensable cores = Processors cores x Core factor

In Snow License Manager, the number of licensable cores are automatically calculated for all physical computers running server operating systems. In this way the customers are able to get an indication of the license requirement for a core-based application prior to a deployment. The licensable cores figure is only applied when there is a product to be covered.

In Snow License Manager, information for the computer can be found here:

- In **Computerdetails** and on the **Information** tab, see information on **Microsoft Core Factor** and number of **Licensable Cores**
- In the **Applications per computer** report, add the columns **Core factor**, **Core factor table**, and **Licensable cores** from the column selector. For comparison, add also the columns **Processors** and **Processor cores**.

3.12.2 ORACLE

Snow License Manager uses the Oracle Processor Core Factor Table to show the current Core Processor Licensing Factor for a particular physical hardware configuration where Oracle software is installed. In Snow License Manager, information on this licensing factor can be found here:

- In **Computer details** and on the **Information** tab, see information on the current **Oracle Processor Core Factor**.
- In the column **Core factor** of the reports **All Oracle database servers**, **All Oracle databases per server**, and **Unused Oracle options per server**.

For more information on the Core Processor Licensing Factor, refer to documentation from Oracle.

3.13 IBM PVU LICENSING

Processor Value Unit (PVU) is a unit of measure by which an IBM software can be licensed. The number of required PVU entitlements is based on the processor model and by the number of processors made available to the software. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip (socket). A dual-core processor chip, for example, has two processor cores.

In Snow License Manager, IBM PVU licensing is managed by the metric PVU, which is defined to use the PVU values of the computers as basis for the compliance calculation.

The IBM License Metric Tool (ILMT) automatically determines the required PVU for each computer, as part of the inventory of the machine. This information can be automatically integrated with Snow License Manager to define which PVU value to use for each installation. Integration of ILMT data is done via the Snow Integration Manager (SIM).

In Snow License Manager, information on PVU values can be found here:

- In the **Search for computers** view, add the column **PVU per core** from the column selector
- In **Computer details** and on the **Information** tab, see information on **PVU per core**

Also, the administrator will be alerted on any licenses for IBM software that are registered with other metrics than PVU:

- The alert **There is [number] licenses with incompatible metrics for PVU licensed IBM applications** in **Licenses overview**

3.13.1 FULL CAPACITY AND SUB CAPACITY

Some software products from IBM, that are licensed based on the metric PVU and can be deployed in a virtualized server environment, can be licensed according to *Full capacity* or *Sub capacity* (virtualization capacity).

- **Full capacity**
Number of required PVU licenses is based on the physical core capacity of the server (every physical, activated processor core) where the IBM software is installed.
- **Sub capacity**
Number of required PVU licenses is based on the virtual core capacity of a partition or a virtual machine available to the IBM software.

The sum of all sub capacity requirements for the virtual machines cannot exceed the full capacity of the physical server hosting the virtual machines. Information on installations that are eligible for sub capacity licensing is gathered by ILMT and can be integrated in Snow License Manager via Snow Integration Manager (SIM).

NOTE

In order to be eligible for sub capacity licensing, all virtual machines of a host must be recognized by ILMT. Otherwise, the host needs to be licensed through full capacity licensing.

Snow License Manager will alert the SAM administrator on computers that are running IBM applications with the metric PVU, but for which ILMT is lacking information:

- In the alert **There are [number] of computers with IBM PVU-based products installed without data from ILMT** in **Computers overview**
- In the report **Computers with IBM PVU based products without data from ILMT**

For information on software products, virtualization technologies, and processor technologies that are eligible for sub capacity licensing, refer to documentation from IBM.

3.14 SAP INFORMATION

The Snow Optimizer for SAP Software analyses transactional and individual usage data, identifies duplicate SAP users and unused licenses, giving the customers an opportunity to reduce costs and liabilities. Also, the solution can automatically recommend “best-fit” metrics based on current behavior of the users.

Information from Snow Optimizer for SAP Software can be integrated into Snow License Manager using automated or manual file imports. When imported, the information is available on the **SAP overview** page as well as in the report **All SAP user accounts**.

3.15 SOFTWARE USAGE METERING

Software usage, for example information about who is using an application and when the application was last used, is shown in Snow License Manager web user interface. The following software usage metering data is shown for applications with a registered usage:

- **Name:** The name of the user that was using the application.
- **Last used:** The date and time of the last known usage of the application. The date and time settings, for example time zone, of the local computer is used.
- **Run:** How many times the application has been started. For more information, see the User Guide for Snow Inventory Agent for Windows.
- **Total time (days:hh:mm):** The total duration that the application has been run. The total time does not include time when the screen is locked, in sleep mode, or hibernated. Multiple instances of the same application are disregarded. For example, if a user has ten Microsoft Word documents open for an hour, the total time is one hour and not ten hours.
- **Per run (hh:mm):** The average time per run. For example, the average time per run is 44 min if the total time is 22 hours and the application has been run 30 times.

4 GENERIC FUNCTIONALITY

The following chapter describes information and functions that are the same throughout the Web User Interface of Snow License Manager.

4.1 LOGIN

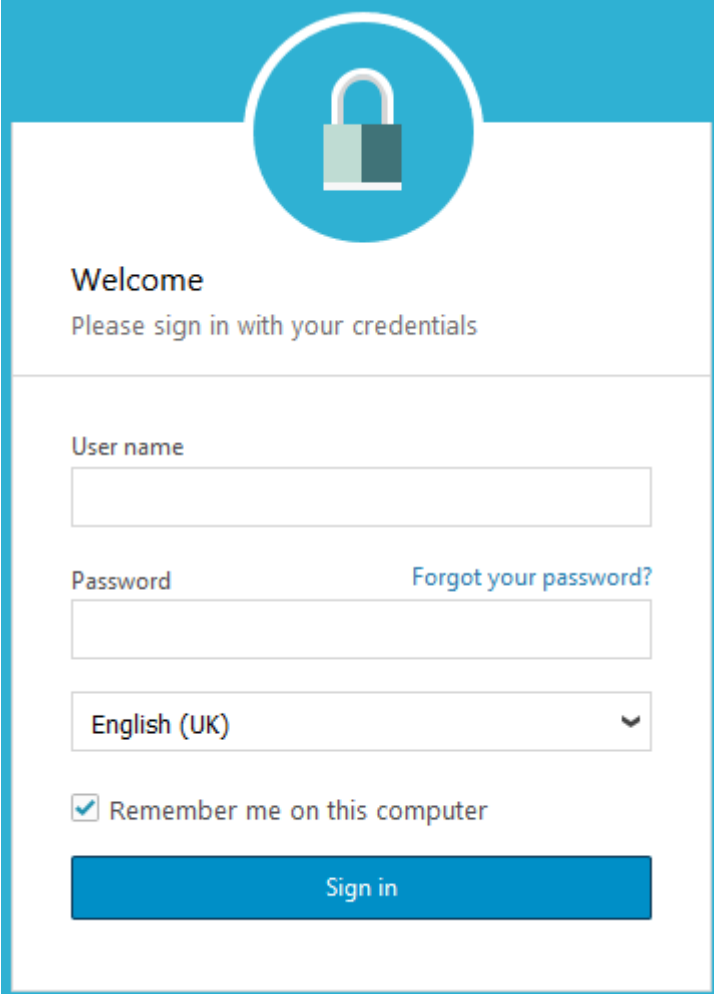
Type user name and password, and click **Sign in** or press **Enter**.

4.1.1 MORE OPTIONS

Select the **Remember me on this computer** check box to more easily log on to the SLM Web UI. Login credentials are encrypted and saved in a cookie on the computer.

Select language from the **Language** list to store the setting in the user profile. The selected language will apply by default.

Click **Forgot your password**, type your email address, and then click **Send** to request a new password.



Welcome
Please sign in with your credentials

User name


Password [Forgot your password?](#)

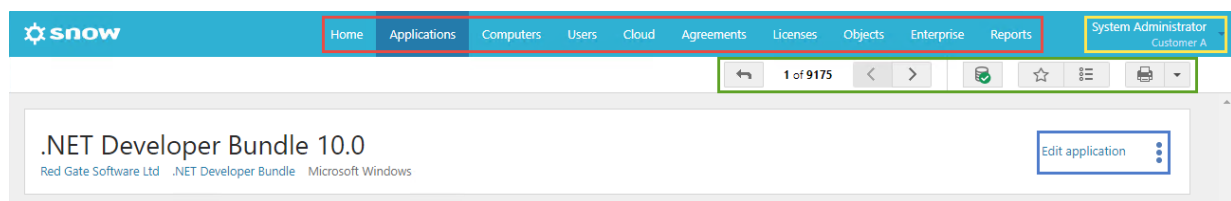
English (UK) ▾

Remember me on this computer

4.2 THE USER INTERFACE

There are four major types of navigation in the SLM Web UI (indicated by colored lines in the following screenshot):




- **Category navigation** (in red)
Is used to select category and the available menu items for the selected category.
- The menu in the upper right corner (in yellow)
Is used to select for example the menu items Help and Settings.
- **Tool bar** (in green)
Is specific for the current page and is used to select commands for the specific page.
- **Context menu** (in blue)
Is specific for the current page and is used to select commands for the specific page.
Click the **Menu** icon  to show more options.



4.2.1 TOOL BAR

The tool bar is specific for the current page.

Click the navigation buttons on the tool bar to navigate between different detail views.


Navigation button	Description
	Go back to the list view
	Go to the previous detail view
	Go to the next detail view

4.2.1.1 FAVORITES



Save your most frequently used views as favorites, such as lists, detail views, or reports, and access them with one click.

On the tool bar, click the  button to view the **Favorites list**.

To add a page to your navigation favorites:

1. Navigate to the view.
2. On the tool bar, click the  button.
3. Use the proposed name or type a new.
4. Click **Save**.

To remove a favorite:

1. On the tool bar, click the  button, and then click the favorite to be removed.
2. On the tool bar, click the  button, and then click **Remove favorite**.

4.2.1.2 PRINT

Click the **Print this page** button to print information from the current view via the standard print dialog. If a detail view contains more than one tab, only information on the selected tab will be printed. To print information from more than one tab, click the **Print selection** button and select what to include.

4.2.2 CONTEXT MENU

The context menu is specific for the current page. However, some commands are the same and these commands are listed in the following table. For category specific commands, refer to the corresponding category section.

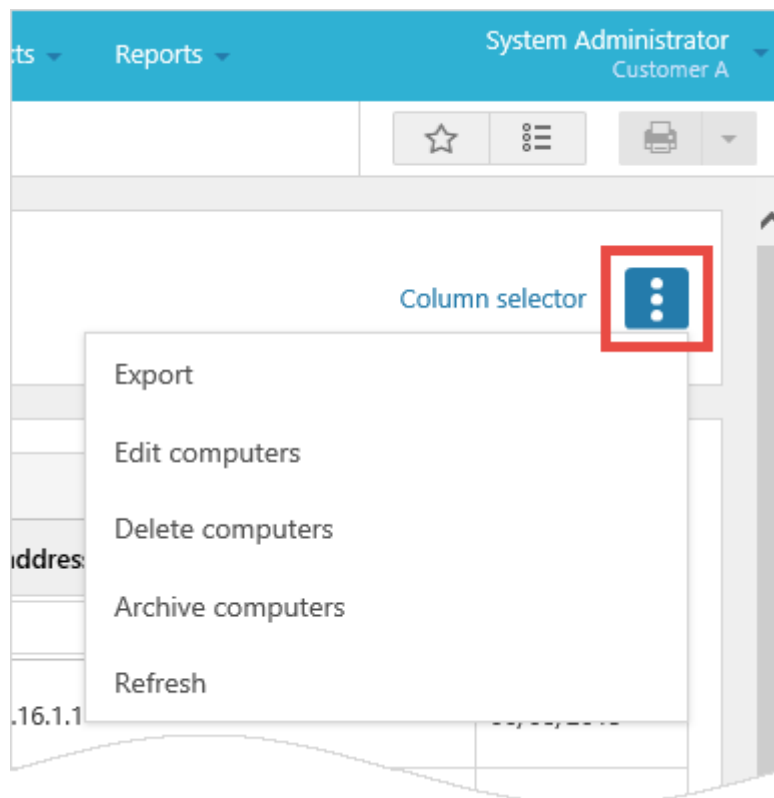


Table 1. Commands that are the same for several context menus.






Option	Description
Column selector	Add/remove columns to the list. For more information, see Column selector .

Option	Description
Export	Export the current list or search result to a file in one of the following formats: <ul style="list-style-type: none"> ▪ CSV (Comma separated text) ▪ PDF (Portable Document Format) ▪ XLS/XLSX (Microsoft Excel) ▪ XML (Extensible Markup Language) <p>The exported file will be available as a downloaded file in the web browser.</p>
Refresh	Reload/renew the contents of the page.

4.2.3 NAVIGATION






Use the navigation buttons at the bottom of the page to navigate between list and search result pages:





Navigation button	Description
	Go to previous page
	Go to next page
	Indicates current page number
	Click to show all items (no paging)
	Go to the page indicated by the number

4.2.4 ICONS

The following generic icons may appear in the category views. For category specific icons, refer to the corresponding category section.

Generic icon	Description
	Download a report
	Edit the item
	Expand/show more information
	Collapse/show less information
	Search for an item

Generic icon	Description
	Remove the item
	Remove the item

4.2.5 REMARKS





In category tabs with a **Remark** column, the following remarks may appear:

Remark	Title	Description
A	Virtual application	This is a virtual application.
AL	Allowlisted	This application is allowlisted
B	Installation included in software bundle	This application is installed via a software bundle.
C	License assigned to this computer	This installation is covered by a license assigned to this computer.
D	Covered by license for datacenter/cluster	This installation is covered by a named datacenter and cluster license.
DL	Denylist	This application is denylisted
E	Covered by extended coverage	This installation is covered by a license with extended coverage.
EXC	Excluded from compliance calculations	This installation is manually excluded from compliance calculations.
G	Granted user	This installation is covered by a license assigned to the user. The remark is used when an application is licensed with the metric Installation and the assignment type User , and a license is assigned to a user.
LH	Virtual machine is licensed by its host	This machine is covered by the license of its host. This remark is for hosts that run Windows Server.
M	Deducted simultaneous versions	This installation is covered by a license with multiple version/edition use rights.
N	Covered by license for named user	This installation is covered by a named user license. The remark is used when an application is licensed with the metric User and the assignment type User , and a license is assigned specifically to a named user.
O	Outside metric criteria	The usage of this application is outside the metering period.
S	Coverage by site license	This installation is covered by a site license.
U	Covered by secondary use rights	This installation is covered by a license with secondary use rights.

Remark	Title	Description
UB	Individual licensing of included programs	Applications have previously been installed via software bundle but can now be licensed individually. See Bundle options for more information.
UI	Uninstalled	This application is uninstalled.
V	Virtual machine on licensed physical server	This installation is covered by a license with VM use rights. This is not applicable for machines that run Windows Server.
VDI	Part of Virtual Desktop Infrastructure	This installation is covered within a VDI infrastructure.
W	Web application	This application is a web application.





4.2.6 INFORMATION TYPES

The following information types are used in the **Information** tabs:

Information icon	Title	Description
	Information	Used for general information.
	Custom fields	Used for custom field information
	Inventory	Used for information supplied by Snow Inventory
	Agreement	Used for agreements.

4.2.7 ALERTS

The **Alert list** shows all alerts for all categories, while the **Category** overviews show all alerts related to the selected category. Click an alert text to show detailed information. Some of the alerts require attention from the user.

Alert icon	Name	Description
	Critical Level	Requires immediate attention.
	Warning	Can be left without taking further steps, but will require attention at some point.
	OK	No attention needed (information only).
	Information	Shows information not related to an alert, such as system information.

Alerts of the same type are grouped. Click the arrow to the left to collapse or expand the group.

×

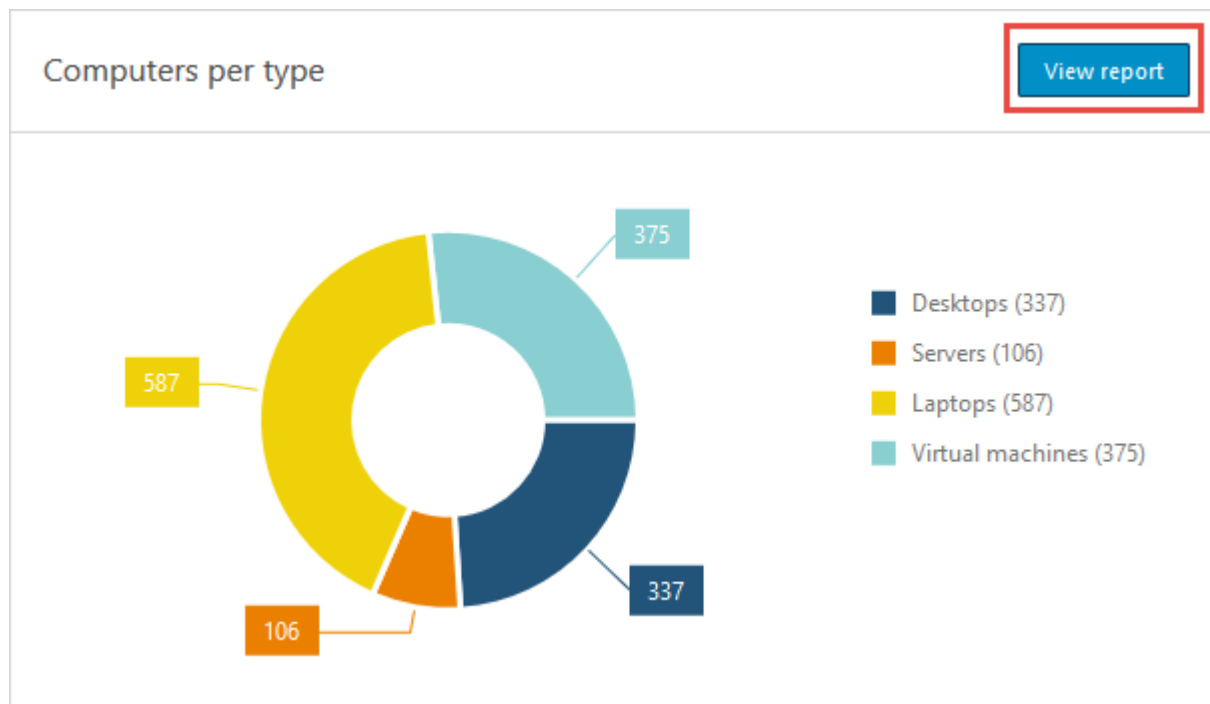
7 agreements have expired

The agreement [**Adobe CLP 5.0 2010-2012**] has expired

The agreement [**Adobe CLP 4.5 2008-2010**] has expired

4.2.8 PIE CHARTS

The **Start** and **Category** overviews show pie charts that provide a quick overview.



Click **View report** to view the report that the pie chart is based on.

To modify the report that the pie chart is based on:

1. Click **View report**.
2. In the report view, modify the search criteria, and then click **Set default**.

For more information, see [Change report criteria](#). To indicate that a pie chart has been modified, **[Filtered]** is displayed after the name of the chart.

4.3 MANAGE LISTS

Lists are easy ways to manage and search for information in the everyday use of the SLM Web UI. There are three different types of lists;

List type	Description
List all	This type of list is available for mobile devices, users, agreements, and licenses . It displays all rows with selected information within the specific category. You can then sort and filter the information further.

List type	Description
Search	<p>All search results are displayed using lists. Search results can be saved for later use.</p> <p>For mobile devices, users, agreements, and licenses, the Search view is empty until you apply one or more search criteria.</p> <p>For applications and computers, the Search view displays all rows with selected information within the specific category. You can then filter the information by applying one or more search criteria.</p>
Reports	For more advanced reporting purposes pre-configured stock reports are available in the Report section. These reports can be filtered and scheduled for automatic delivery.

In lists, all rows are clickable and lead to the detail view of the selected computer, user, etc. When you return to the list, it will appear the same way as you left it, with any grouping and/or filtering applied.

All lists use paging by default, and they are cache-enabled which stores the initially loaded data. To reload/renew list contents, select **Refresh** on the context menu.

4.3.1 FILTERING

List contents can be modified directly using filters:

- Type the filter criterion in the box below the column header (no wildcard character is required) and wait a second while the list is reloaded. Only rows that match the filter are displayed.

Drag a column header here to group by that column					
<input type="checkbox"/>	Application name	Manufacturer	Installations	Users	License required
		<input type="text" value="adobe"/>			
<input type="checkbox"/>	ExtendScript Toolkit CS6	Adobe Systems Inc.	10	0	<input type="checkbox"/>
<input type="checkbox"/>	ExtendScript Toolkit CS5.5	Adobe Systems Inc.	4	0	<input type="checkbox"/>
<input type="checkbox"/>		Adobe Systems Inc.	2	0	<input type="checkbox"/>

4.3.2 SORTING

The list is by default sorted based on the first column, but can be sorted by another column.

- To sort the list by another column than the first column, click the column header.
- To reverse the sorting order, click the same column header once again.

A selected sort order is indicated by an arrow in the column header.

Drag a column header here to group by that column

<input type="checkbox"/>	Application name	Manufacturer	Installations	<input type="checkbox"/>	Users	License required
<input type="checkbox"/>	Microsoft Visual C++ 2008 Redistributable	Microsoft Corporation	832	0	<input type="checkbox"/>	
<input type="checkbox"/>	Microsoft Silverlight 5.1	Microsoft Corporation	635	0	<input type="checkbox"/>	
<input type="checkbox"/>	Microsoft Office 365 ProPlus	Microsoft Corporation	580	0	<input type="checkbox"/>	

4.3.3 GROUPING

To group list contents:


- Drag column headers to the grouping area above the list. The list contents can be grouped in several levels, by dragging two or more column headers to the grouping area.

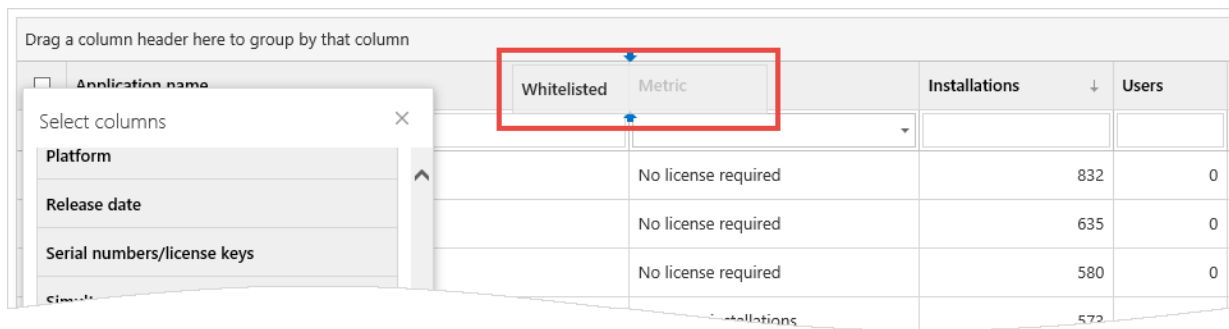
Details of the group are hidden by default. To expand the group, click the arrow to the left.

Bundle		Metric		Application name	Installations	Users	License required
<input type="checkbox"/>							
⊖	Bundle: Unchecked						
<input checked="" type="checkbox"/>	Bundle: Checked						
⊖	Metric: Based on concurrent users						
<input type="checkbox"/>	Microsoft Office 365 ProPlus	133	130	<input checked="" type="checkbox"/>			
⊖	Metric: Based on installations						
⊖	Metric: Based on total processor cores						
⊖	Metric: Based on total...						

4.3.4 COLUMN SELECTOR

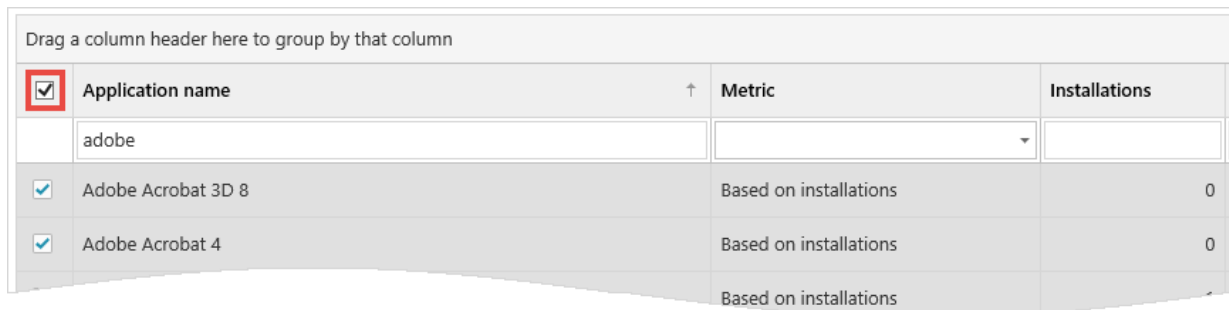
Use the **Column selector** function to add columns that are not displayed by default, or to remove unnecessary columns.


- On the context menu, click **Column selector**. The **Select columns** dialog box appears.
- To add a column to the list, drag and drop the column to the list header.
- To remove a header from the list, drag it back and drop it in the **Select columns** dialog box.
- To close the **Column selector** dialog box, click  in the top right corner.



4.3.5 SELECT ALL ITEMS

If the **Select all** check box at the top of a list is selected, only the items visible on the current page are selected.



To select all items in a list with multiple pages, click the **Show all pages**  icon and then select the **Select all** check box.

4.4 SEARCH FOR APPLICATIONS AND COMPUTERS


NOTE

This section describes the search function for the **Applications** and **Computers** categories. For a description of the search function for other categories, see [Search for Mobile devices, Users, Agreements, Licenses, and Objects](#).

The **Search** view displays a list containing all rows with selected information within the category. You can add columns with more information to the list by using the [column selector](#) function.

You can search the list either by using the [filtering](#) function directly on one or more columns in the list, or by using the **Apply filters** function.

To search the list by using the Apply filters function:

1. Select the **Filter**  button to the left of the list. The **Apply filters** pane appears.
2. Optionally, select a subset of the organisation tree from the **Organisation** box. The filter will be applied to the subset.
3. To add a search criterion, select the filter target from the **Choose filter** drop down list box.

The search criterion is added below the Choose filter box.

4. For the added search criterion, select an operator type and select a search value or enter a search string. Use % as a wildcard character for the search string.
5. Optionally, add more search criteria.
6. Select **Search**.
The list is filtered by the search criteria. Each search criterion is displayed as a tag above the filtered list.

TIP


Remove a search criterion from the search you just made by selecting the ✕ on the search criterion tag. The filtered list is updated immediately.

4.4.1 SAVE SEARCHES FOR APPLICATIONS AND COMPUTERS

Filters and groupings that have been made in a search can be saved for easy access and reuse. Searches are saved per user.

To save a search:

1. Select **Save current search** above the search result list.
The **Save search** dialog box appears.
2. Name the search in one of the following ways:
 - To update a previously saved search, select a search name from the drop-down list box.
 - To save a new search, enter a name for the search in the **Name** box.
3. Select **Save**.
The search name is displayed as a tag above the filtered list.

Select the **Searches**  button to the left of the list to access the list of saved searches. When a saved search is used, it will be applied on the current information in the database.


4.5 SEARCH FOR MOBILE DEVICES, USERS, AGREEMENTS, LICENSES, AND OBJECTS

NOTE

This section describes the search function for the **Mobile devices**, **Users**, **Agreements**, **Licenses**, and **Objects** categories. For a description of the search function for other categories, see [Search for Applications and Computers](#).

The search functionality is based on the standard lists, but has filtering applied from start. Searches do not include all available columns within the specific category by default.

To start a search:

1. Select type of operator and type the search string. Use % as a wildcard character.
2. To add a new search criterion, select type from the bottom list and click  .
Selected type is added to the list above.

3. Click **Search**.

Search is not activated until valid search strings and conditions have been entered.

4.5.1 SAVE SEARCHES FOR MOBILE DEVICES, USERS, AGREEMENTS, LICENSES, AND OBJECTS

Filters and groupings that have been made in a search, regardless of category, can be saved for easy access and reuse later on. Searches are saved per user.

- Select **Save search** from the context menu and type a name for the search.

Searches that have been saved can be selected from the **Saved searches** list. When a saved search is used, it will be applied on the current information in the database.

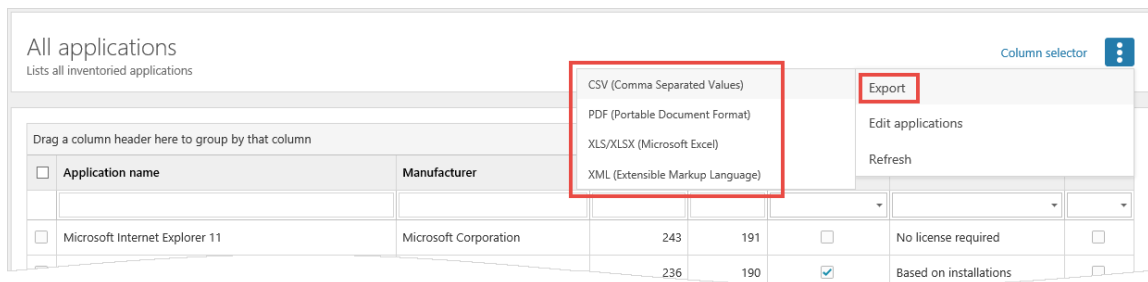
4.6 EXPORT

Snow License Manager offers several export capabilities. Lists can be exported to the formats CSV, PDF, XLS/XLSX, XML. To export a list:

- In a detail view, right-click a list on a detail tab, and then click format.

Purchase date	License information
=	allic
24/06/2015	Number of processor co
22/03/2013	CAL (Client Access Licens
06/10/2013	License) with upgrade and downgrade rights

- On the context menu of a list view or a search result, point to **Export**, and then click format.



The exported file will be available as a downloaded file in the web browser.

For more information, see [Export report to file \(system save\)](#).

NOTE

The PDF file format does not support all font formats. If the exported PDF file contains meaningless random characters, replace the font family in the web.config file:

1. On your Snow License Manager application server, open **C:\Program Files\Snow Software\Snow License Manager\Web\web.config**.
2. Replace the font family in the **<settings.fontfamily>** section for the applicable language. The following table shows examples of configurations in the **<settings.fontfamily>** section.

Language	Configuration
Chinese	<add key="zh-CN" value="Microsoft YaHei UI Light" />
Chinese (Hong Kong)	<add key="zh-HK" value="微軟正黑體 Light" />
Japanese	<add key="ja-JP" value="MS UI Gothic" />

4.7 CATEGORY VIEWS

The information in Snow License Manager is sorted in categories, for example in **Applications**, **Computers** and **Users**.

- Use **Category overview** to show a quick summary of the category displayed in pie charts, and to find alerts related to the category.
- Use **Search for** to find a specific category item.
- Use **List all** to navigate through all the category items.

This chapter gives an overview of the information found in the category detail views and how to edit and delete category items.

4.7.1 DETAIL VIEWS

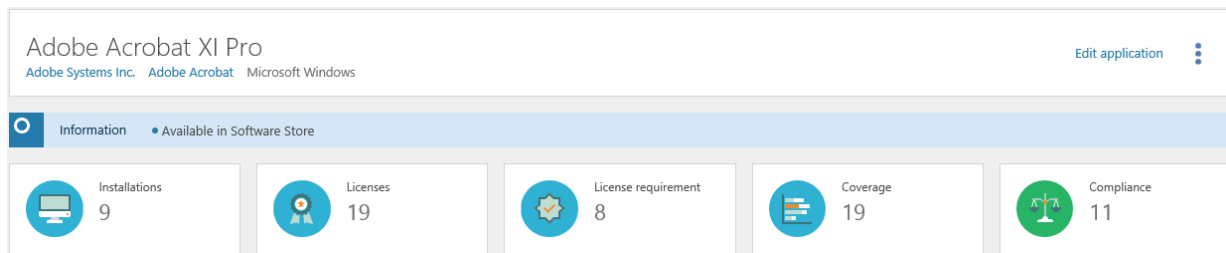
To show detailed information on a specific item:

- Click the item in a list of category items.

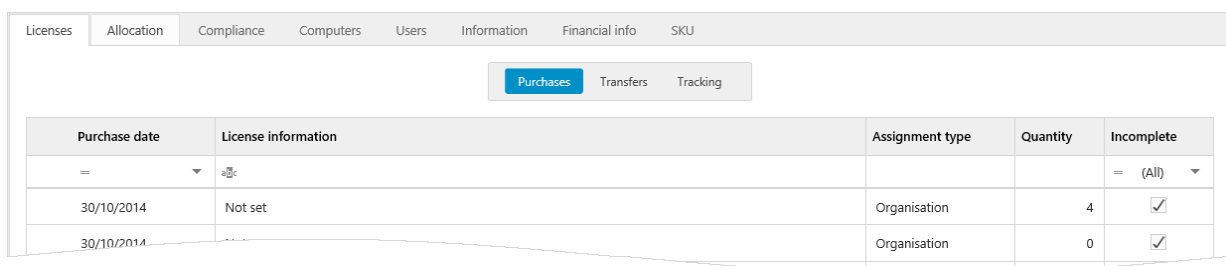
Note that the detail views are different depending on category.

The **top section** of the detail view contains general information on the category item, messages and a summary in information boxes. Some information is clickable and links to

other views. In the following figure, there are links to the manufacturer (Adobe Systems Inc.) and to the application family (Adobe Acrobat).



The **bottom section** of the detail view shows detailed information organized in tabs and tables.

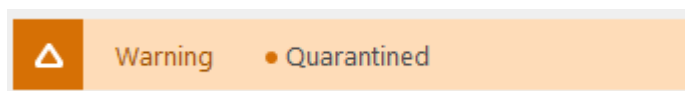


Purchase date	License information	Assignment type	Quantity	Incomplete
=	⌘			= (All) ▾
30/10/2014	Not set	Organisation	4	<input checked="" type="checkbox"/>
30/10/2014		Organisation	0	<input checked="" type="checkbox"/>

4.7.1.1 MESSAGES

Messages are only displayed when there are messages. The message types are:

- Information
- Warning
- Critical



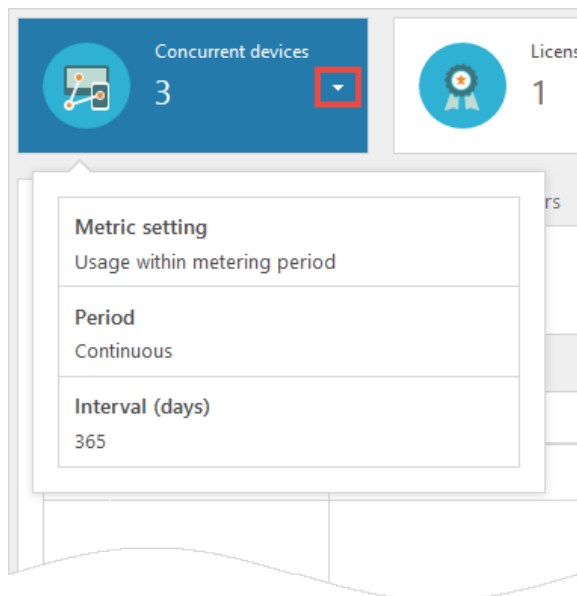
4.7.1.2 INFORMATION BOXES

Depending on the category, the summary in the information boxes shows for example:

- Licensing information for an application.
- The number of installed applications on a computer.
- The number of applications a user is utilizing.

A blue arrow in the information box indicates that there is more information related to the data.

- Click the information box to show more information.



4.7.2 EDIT CATEGORY ITEMS

There are two ways of editing category items: either by editing a single item at a time, or by editing multiple items at the same time. Not all category items allow for multiple editing.

To edit single category items:

1. Navigate to the category item.
2. On the context menu, click **Edit <category item>**.
3. Edit the details for the category item.
4. Click **Save**.

To edit multiple category items (this function is available for some categories, but not all):

1. On the **Category** menu, click **List all <category items>** or **Search for <category items>** and find the category items to be edited.
2. Click the check boxes to the left to select the category items.
3. On the context menu, click **Edit <category items>**.
4. Edit the details for the selected category items.
All changes will apply to all selected category items. Fields left unchanged will keep their original content.
5. Click **Save**.

Note that the instruction for editing multiple category items can also be used to edit a single item.

4.7.3 DELETE CATEGORY ITEMS

When a category item is deleted, the item is removed from the system and all associated details are deleted. All attachments to other category items are released.

NOTE

A deleted category item cannot be restored.

There are two ways of deleting category items: either by deleting a single item at a time, or by deleting multiple items at the same time. Not all category items allow for multiple deletion.

To delete single category items:

1. Navigate to the category item.
2. On the context menu, click **Edit** <category item>.
3. Click **Delete**, and then confirm the deletion.

To delete multiple category items (this function is available for some categories, but not all):




1. On the **Category** menu, click **List all** <category items> or **Search for** <category items> and find the category items to be deleted.
2. Click the check boxes to the left to select the category items.
3. On the context menu, click **Delete** <category items> and then confirm the deletion.

Note that the instruction for deleting multiple category items can also be used to delete a single item.

4.8 MANAGE DOCUMENTS AND LINKS

For all categories, documents and links related to the category can be uploaded. Note that document file size must be less than 500 MB. Uploaded documents and links are displayed on the *Documents* tab of the detail views.

Documents and links can be added or removed in the edit views:

1. Navigate to the edit detail view of a category item.
2. On the **Documents** tab, click **Add document**.
3. Select to **Upload** a document or add a **Link**.
4. Click **Browse** to select the file, or type the **Link**.
5. Type a **Title** and a **Description** for the document (or link).
6. Click **Save**.
The document (or link) is added to the list.
7. Click the icons to show , edit , or remove  the document or link.

4.9 DATA UPDATE JOB

Data Update Job is a daily recurring Microsoft SQL Server batch job that is used for transferring, transforming, and normalizing new and updated Snow Inventory data to Snow License Manager. By default, Data Update Job starts at 09:00 PM.

While Data Update Job runs, users are able to access and work with inventory assets, for example, computers and users. If a specific page or area is momentarily being processed

by Data Update Job, it will temporarily be unavailable. Users who try to access such a page or area will see a page informing them that their data is temporarily unavailable.

The main reason for restricting access to a page or area is to prevent inconsistent data from being presented and to prevent users from making critical business decisions based on incomplete data.

Data Update Job keeps track of what is being processed, and will both lock and unlock areas of Snow License Manager when they are unavailable and available, respectively. When Data Update Job runs, reports can be the most locked-down part of Snow License Manager due to the fact that report data is often collated from many different parts of Snow License Manager.

To show the status for the Data Update Job:

- Select **Data Update Job status** on the Tool bar.
The **Data Update Job status** window appears.

NOTE

A user account with adequate permissions to access Snow Management and Configuration Console can change the time when Data Update Job automatically runs. For more information on this, see the document *User Guide: Snow Management and Configuration Center for Snow License Manager 9*.

5 ADMINISTRATIVE TASKS

The following chapter describes how to customize the Web User Interface of Snow License Manager and how to perform administrative tasks.

When logging in to Snow License Manager, the main start page shows one of the following:

- An **Alert list** (named Overview)
- A **Snowboard**

The preferred start page is selected in **Settings**, see [User settings](#)

5.1 ALERT LIST

The **Alert list** shows a summarized list of active alerts for all categories, and pie charts for **Inventory status** and **Compliance**.

By default, all active alerts are displayed in the view.

- To narrow down the alert categories, click **Filter** in the top right corner and then click to select the categories.

5.2 SNOWBOARD

The **Snowboard** shows a quick overview of status and alerts. The overview is provided using widgets, that is, small objects with tools and content of various nature. There are two types of Snowboards:

- The **Default Snowboard** is accessible to all users. It can neither be edited nor deleted.
- A **customized Snowboard** is only accessible to the user who created it. A user can create several Snowboards, and switch between them on the **Snowboard** menu.

By default, all Snowboards are presented in view mode. To be able to change the appearance or content of a Snowboard, it must be set in edit mode which is done on the **Snowboard** menu.

5.2.1 CREATE A NEW SNOWBOARD

A new Snowboard can be created either from scratch or by using an existing Snowboard as basis.

1. On the context menu, click **Create Snowboard**.
The **Create Snowboard** dialog box appears.
2. Type a name for the new Snowboard.
3. To use another Snowboard as basis, select the **Copy from an existing Snowboard** check box and select the Snowboard from the **Select Snowboard** list.

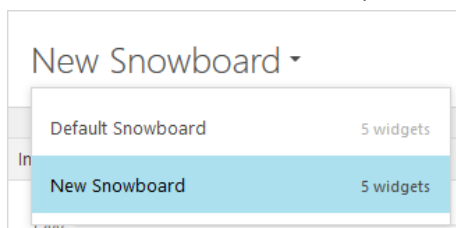
- Click **Save**.
The new Snowboard is created.

When the Snowboard is created from scratch, an empty Snowboard will be displayed. However, if an existing is used as basis, the new Snowboard will be populated with the widgets of that selected Snowboard.

5.2.2 EDIT A SNOWBOARD

To add, move, resize, edit or remove widgets, the Snowboard must first be set in edit mode:

- On the **Snowboard** menu, click the Snowboard to be edited.



- On the context menu, click **Edit current Snowboard**.
The **Snowboard** is set to edit mode.

NOTE

If navigating to another page in Snow License Manager while the Snowboard is in edit mode, the Snowboard will return to view mode, and changes made to the Snowboard will not be saved.

5.2.2.1 ADD WIDGETS

- Click **Add widget**.
The **Add widget** dialog box appears.
- In the **Type** step, click to select a widget type.
- In the **Widget** step, click to select a widget.
- In the **Settings** step:
 - Optionally configure the selected widget. Available properties depend on the selected widget type. The content of the widget will be adjusted to the selected **Size**.
 - Optionally type a **filter criterion** to filter the data the widget is based on. Use % as a wildcard character.

NOTE

Widget settings can be changed later on, as well.

- To return to a previous tab, click **Type** or **Widget**.
- To add the selected widget, click **Add widget to Snowboard**. The widget is added to the Snowboard.
- Repeat the steps to add more widgets.


8. Click **Save** to save the changes and return to view mode.

5.2.2.2 MOVE WIDGETS


To move a widget within a **Snowboard**:

1. Drag the widget to the new place.
2. Click **Save** to save the changes and return to view mode.


5.2.2.3 RESIZE WIDGETS

1. Point to the icon in the top left corner of the widget , and then select a new size.
2. Click **Save** to save the changes and return to view mode.

5.2.2.4 EDIT WIDGET

1. Point to the icon in the top left corner of the widget , and then click **Edit widget**. The **Edit widget** dialog box appears.
2. Configure the settings.
3. Click **Apply changes**.
4. Click **Save** to save the changes and return to view mode.

5.2.2.5 REMOVE WIDGETS

1. Point to the icon in the top left corner of the widget , and then click **Remove widget**.
2. Click **Save** to save the changes and return to view mode.

5.2.3 SHARE A SNOWBOARD

Snowboards can be shared with other users or partner customers to facilitate for example introduction of new users or customers. All Snowboards, except the **Default Snowboard**, can be shared.



To share a Snowboard means that you create a copy of the Snowboard and the copy is then added to the selected user's **Snowboard** menu. The copy and the original Snowboard are not connected. Neither changes to the original Snowboard nor changes to the copy will affect one another.

1. On the context menu, click **Share Snowboard**. The **Share Snowboard** dialog box appears.
2. Keep the original name or enter a new name in the **Name** box.
3. Select the users that you want to share the Snowboard with.
4. Click **Share**. The shared Snowboard appears on the **Snowboard** menu for the selected users.

5.2.4 VIEW DATA

To show the data the widget is based on, click **View data**.

If the data is filtered, then the filter criterion is shown above the list of data:

- If a wildcard was used when filtering the data, that is, the data *contains* the filter criterion, the symbol  is shown together with the filter criterion.
- If no wildcard was used when filtering the data, that is, the data is *equal to* the filter criterion, the symbol  is shown together with the filter criterion.

5.2.5 DELETE A SNOWBOARD

To delete a Snowboard, the Snowboard must be set in edit mode.

1. On the **Snowboard** menu, click the Snowboard to be deleted.
2. On the context menu, click **Edit current Snowboard**.
The **Snowboard** is set to edit mode.
3. Click **Delete Snowboard**, and then confirm the deletion.

5.3 ADMINISTRATION OVERVIEW

The **Administration** overview on the **Home** menu gives access to a number of administrative tasks, which can be performed directly in the SLM Web UI. The administrative tasks are described in the following sections.

5.3.1 CLEAR TEMPORARY CACHE MEMORY

All reports, lists, alerts, detail views, and graphs are stored in a temporary cache memory.

To clear the cache memory:

- In the **Administration** overview and on the context menu, click **Clear temporary cache memory**.

Information that has been registered and saved will neither be removed nor changed.

5.3.2 ACTION LOG

The **Action log** view shows information on changes in the system, for example added or removed licenses, deleted items, or other critical changes.

The following table shows examples of changes that are logged. The changes are grouped by category in the table. Note that the table does not show all changes that are logged.

Category	Logged change
Agreements	<p>Agreement or sub-agreement was deleted.</p> <p>Deletion of an agreement or sub-agreement failed.</p> <p>Agreement was added through an MLS import.</p> <p>Agreement was deleted, added, or updated, or failed to be deleted through an MLS import.</p> <p>Agreement was attached to master agreement.</p> <p>Agreement was detached from master agreement.</p>
Applications	<p>Denylist criteria was added or deleted.</p> <p>Allowlist criteria was added or deleted.</p> <p>Allowlist automation rule for installations was changed or inactivated.</p> <p>Allowlist automation rule for users was changed or inactivated.</p> <p>Allowlist automation rule for licensed applications was activated or inactivated.</p> <p>Allowlist automation rule for automatically denylisting non-allowlisted applications was activated or inactivated.</p>
Clean Inventory Data Contract (CIDC)	<p>CIDC was added, changed or deleted.</p> <p>CIDC period was deleted or manually activated.</p> <p>All data for a CIDC was deleted.</p> <p>All data for a CIDC was deleted in Snow Inventory.</p> <p>All data for a CIDC was preserved for X days.</p> <p>All data for a CIDC was restored.</p>
Computers	<p>Computer could be archived.</p> <p>Computer failed to be archived.</p> <p>Computer was deleted from archive.</p> <p>Computer was set to inactive.</p> <p>Datacenter/cluster was deleted.</p> <p>Computer metadata was imported.</p>
Custom fields	<p>Custom field for compare value was deleted.</p> <p>Custom field was deleted.</p> <p>Custom field value was deleted.</p>
Devices	<p>Device was deleted.</p> <p>Multiple devices were deleted.</p>

Category	Logged change
Documents, licenses, and objects	<p>Document was deleted.</p> <p>License was moved.</p> <p>Notification was deleted.</p> <p>Object property or type was deleted.</p> <p>Oracle order was added or deleted.</p>
Users and settings	<p>Organization import was completed.</p> <p>System setting was set to default, changed, or changed from default.</p> <p>All system settings were set to default.</p>

5.3.3 APPLICATION DENYLIST

Applications that are not approved for installation and usage in the IT environment can be specified in the **Application denylist** view. Unwanted software, for example, game and poker applications, can be monitored with the denylist functionality.

The **Application denylist** view consists of two tabs according to the following table.

Tab	Description
Criteria	Used for specifying criteria that result in a denylist of unwanted applications. A denylist criteria applies to an application name or an application type.
Applications (result)	Displays all applications affected by the denylist criteria.

Unwanted applications are automatically identified based on added criteria (application name or application type). Also, applications can be manually added to the denylist.

Installation or usage of a denylisted application will result in an alert. Denylisted applications are also displayed with red background in the **Computer details** and **User details** views.

To list all applications that have been denylisted:

- Use the stock report **All applications**, and add the report criteria **Denylisted**.
- In the view **Search for applications**, add the column **Denylisted** (Yes/No) from the Column selector to facilitate filtering.
- Use the stock reports **Denylisted applications per computer** or **Denylisted applications per user**.

5.3.3.1 ADD OR EDIT DENYLIST CRITERIA

1. On the **Criteria** tab, perform one of the following:
 - To add a denylist criterion, click **Add criteria**. The **Add criteria** dialog box appears.


- To edit a denylist criterion, click the criteria row.
The **Edit criteria** dialog box appears.
2. Select **Criteria type** from the list.
 3. Type the **Criteria**. Use % as a wildcard character to include several applications with common names or types.
 - Example: %poker%
 4. Optionally, type a **Comment** to describe why the criterion is denylisted.
 5. Optionally, select the specific **organization** nodes that the denylist criterion applies to.

NOTE

If no specific organization node is selected, then the criterion applies to the whole organization.

6. Click **Save**.

5.3.3.2 DELETE DENYLIST CRITERIA

1. On the **Criteria** tab, and on the criteria row, click the **Delete**  icon.
The **Delete criteria** dialog box appears.
2. Click **OK** to confirm.

5.3.3.3 VIEW DENYLIST APPLICATIONS

All applications that are affected by the denylist criteria are displayed on the **Applications (result)** tab, regardless if they are installed in the current IT environment or not. The columns **Installations** and **Users** show the number of installations and users in the current IT environment.

5.3.4 APPLICATION ALLOWLIST

Applications that are approved for installation and usage in the IT environment can be specified in the **Application allowlist** view. To use this feature, you must enable the basic setting **ACTIVATE_APPLICATION_WHITELISTING** in Snow Management and Configuration Center, see [Basic Settings](#).

The **Application allowlist** view consists of two tabs according to the following table.

Tab	Description
Criteria	Used for specifying criteria and automation rules that result in an allowlist of approved applications. An allowlist criteria applies to an application name, application type, or application manufacturer.
Applications (result)	Displays all applications that are affected by the allowlist criteria.

Approved applications are automatically identified based on added criteria. Also, applications can be manually added to the allowlist.

Installation or usage of an application that is not on the allowlist will result in an alert. Non-approved applications are also displayed with grey background in the **Computer details** and **User details** views.

To list all applications that have been allowlisted:

- Use the stock report **All applications**, and add the report criteria **Allowlisted**.
- In the **Search for applications** view, add the column **Allowlisted** (Yes/No) from the Column selector to facilitate filtering.


NOTE

Denylist overrides allowlist. If an approved application is denylisted, it will be removed from the allowlist.

5.3.4.1 ADD OR EDIT ALLOWLIST CRITERIA

1. On the **Criteria tab**, perform one of the following:
 - To add an allowlist criterion, click **Add criteria**. The **Add criteria** dialog box appears.
 - To edit an allowlist criterion, click the allowlist criteria row. The **Edit criteria** tab appears.
2. Select **Criteria type** from the list.
3. Type the **Criteria**. Use % as a wildcard character to include several applications with common names or types.
 - Example: %ftp%
4. Click **Save**.

5.3.4.2 DELETE ALLOWLIST CRITERIA

1. On the **Criteria** tab, and on the criteria row, click the **Delete**  icon. The **Delete criteria** dialog box appears.
2. Click **OK** to confirm.

5.3.4.3 SET ALLOWLIST AUTOMATION RULES

1. On the **Criteria** tab, and in the **Allowlist automation rules** section, click **Edit**.
2. To set a rule, select the check box of the rule. If needed, change the quantities in the **installations** and **users** boxes.
3. To apply the allowlist automation rules, click **Apply rules**.

5.3.4.4 VIEW ALLOWLIST OF APPROVED APPLICATIONS

All applications that are affected by the allowlist criteria are displayed on the **Applications (result)** tab, whether they are installed or not. The columns **Installations** and **Users** show the number of installations and users in the current IT environment.

5.3.5 COMPLIANCE EXCLUSIONS

While many license requirements require all available applications to be included in the compliance calculation, there are instances where applications should be excluded from

computers for compliance calculations. For example, one rule could state that if Windows Server is installed on a host, and its only enabled role is Hyper-V, the host is not required to be counted for compliance purposes.

Use the **Compliance exclusions** view to create rules for applications that will be excluded from compliance, for selected computers.

The **Compliance exclusions** view consists of two tabs according to the following table.

Tab	Description
Rules	The name of the rules
Results	The results of applying existing and active rules; all applications and computers that are hit by the rules are displayed here

5.3.5.1 ADD OR EDIT COMPLIANCE EXCEPTION RULE

To add a compliance exclusion rule, select **Add exclusion**.

To edit a compliance exclusion rule, select the rule that you want to edit from the **Rules** tab.

The **Add exclusion** view consists of a step-by-step sidebar with four steps according to the following table.

Step	Description
Exclusion details	Define a rule name and the reason for the exclusion
Applications	Select one or multiple applications to exclude
Computers	Select one or multiple computers for which applications will be excluded
Summary	Display a comprehensive view of the computers and applications that will be excluded

To activate a rule, all steps, except for **Summary**, must be configured. Then, turn on the **Activate exclusion** button.

EXCLUSION DETAILS

The **Exclusion details** step consists of two text fields according to the following table.

Title	Description
Rule name	Define a rule name
Reason	Define a reason for why the rule exists

APPLICATIONS

The **Applications** step consists of two tabs according to the following table.

Name	Description
Automatic filter	<p>This tab allows the use of criteria to filter applications</p> <p>Automatic filters exclude affected applications, both now and in the future, for as long as they are active</p> <p>If applications have been selected in this tab, the Manual selection tab is unavailable. To enable Manual selection, select Clear criteria filter</p>
Manual selection	<p>This tab allows the use of filters and check boxes to manually select applications</p> <p>Manual filters exclude only applications that are affected by the filter at the time of its creation and activation</p> <p>If applications have been selected in this tab, the Automatic filter tab is unavailable. To enable Automatic filter, select Clear list</p>

COMPUTERS

The **Computers** step consists of two tabs according to the following table.

Name	Description
Automatic filter	<p>This tab allows the use of criteria to filter computers</p> <p>Automatic filters exclude affected computers, both now and in the future, for as long as they are active</p> <p>If computers have been selected in this tab, the Manual selection tab is unavailable. To enable Manual selection, select Clear criteria filter</p>
Manual selection	<p>This tab allows the use of filters and check boxes to manually select computers</p> <p>Manual filters exclude only computers that are affected by the filter at the time of its creation and activation</p> <p>If computers have been selected in this tab, the Automatic filter tab is unavailable. To enable Automatic filter, select Clear list</p>

SUMMARY

The **Summary** step displays the matching results of the current selection and/or criteria.

5.3.5.2 INCOMPLETE RULE

When a compliance exclusion rule is created without either selecting applications or computers, it will be marked as incomplete.

Incomplete compliance exclusion rules can be saved, and will not affect compliance calculations as they will not be saved as active.

5.3.6 COMPUTER STANDARDS

Snow License Manager can be used as a tool for budget calculations of computer hardware. In the **Computer standards** view, minimum requirements and the price for hardware components can be defined.

The **Computer standards** view consists of two tabs according to the following table.

Tab	Description
Computer standards	Define minimum requirements for the computer standards.
Price information	Define price for hardware components related to a specific manufacturer and/or computer model. Define standard prices for hardware components of computers that are not specified in the Price information tab.

The report **Substandard computers** is based on the information entered in the **Computer standards** detail view and includes the computers that do not meet the defined minimum requirements.

- In the **Price information** column you can see if the hardware component costs for the computer are based on what you have entered in the **Price information** tab. If the box is blank, standard prices are used instead, as specified in the **Standard price** tab.
- **Upgrade cost** is the cost to complement the hardware components of the computer to meet the minimum requirements. The cost is based on the difference between the minimum requirements and the current hardware components of the computer.
- **Replacement cost** is the cost to replace the hardware components of the computer with new hardware components according to minimum requirements.


5.3.6.1 ADD OR EDIT COMPUTER STANDARD

1. On the **Computer standards** tab, perform one of the following:
 - To add a computer standard, click **Add computer standard**. The **Add computer standard** dialog box appears.
 - To edit a computer standard, click the computer standard row. The **Edit computer standard** dialog box appears.
2. Type a **Name** for the new computer standard.
3. Type minimum requirements for the hardware components in the **Processor speed**, **Memory**, and **Total disk space** boxes.
4. Click **Save**.

As an alternative, an existing computer can be used as basis when creating a new computer standard:

1. Navigate to the selected computer.
2. On the context menu, click **Use as computer standard**.
3. Type a **Name** for the new computer standard.
4. **Processor speed**, **Memory**, and **Total disk space** requirements will be set automatically based on the selected computer, but the values may be changed.
5. Click **Save**.


5.3.6.2 DELETE COMPUTER STANDARD

1. On the computer standard row, click the **Delete**  icon. The **Delete computer standard** dialog box appears.
2. Click **OK** to confirm.

5.3.6.3 ADD OR EDIT PRICE INFORMATION

1. On the **Price Information** tab, perform one of the following:
 - To add price information, click **Add price information**. The **Add price information** dialog box appears.
 - To edit price information, click the price information row. The **Add price information** dialog box appears.
2. Type **Manufacturer** and computer **Model** names. Use % as a wildcard character.
3. Select currency and type replacement costs for **Processor**, **Memory**, and **Disk space**.
4. Click **Save**.

5.3.6.4 DELETE PRICE INFORMATION

1. On the **Price information** tab, and on the price information row, click the **Delete**  icon. The **Delete price information** dialog box appears.
2. Click **OK** to confirm.

5.3.6.5 EDIT STANDARD PRICE

1. On the **Price information** tab, and in the **Standard price** section, click **Edit**.
2. Type standard replacement costs for **Processor**, **Memory**, and **Disk space** and select currencies.
3. Click **Save**.

5.3.7 CUSTOM COMPARE VALUE TYPES

A custom compare value type is a customized metric intended for licenses where the pre-defined metrics in Snow License Manager are not applicable. Custom compare value types are used to solve complex situations when data needs to come from other sources than Snow Inventory agents. The custom compare value type is available for the metric **Custom compare values** for applications.

A custom field can be used as the basis for compliance calculations when using a custom compare value type as the metric. For more information, see [Custom fields](#).

The **Custom compare value types** page shows a list of the added custom compare value types. The page has four columns: **Name**, **Description**, **Use a custom field value for compliance**, and **A custom field value is used for compliance**.

- The checkboxes in the column **Use a custom field value for compliance** show if a custom field is used as the basis for compliance calculations for this custom compare

value type. Note that you cannot select these checkboxes in the **Custom compare value types** page.

- The checkboxes in the column **A custom field value is used for compliance** show if a custom compare value has been added as the metric for an application. Note that you cannot select these checkboxes in the **Custom compare value types** page.

5.3.7.1 ADD OR EDIT CUSTOM COMPARE VALUE TYPE

1. Perform one of the following:
 - To add a custom compare value type, click **Add**. The **Add custom compare value type** dialog box appears.
 - To edit a custom compare value type, click the custom compare value type row. The **Edit custom compare value type** dialog box appears.
2. In the **Name** box, type a name for the custom compare value type.
3. In the **Description** box, optionally type a name for the custom compare value type.
4. To use a custom field value as the basis for compliance calculations, select the **Use a custom field value for compliance** check box, and then select the custom field from the list.

NOTE


To use a custom field value as the basis for compliance calculations, the custom field must have the following properties:

- Category: Computer/Mobile device
- Type: Digit

The **Use a custom field value for compliance** checkbox will not show if there is no custom field with these properties.

5. Click **Save**.

5.3.7.2 DELETE CUSTOM COMPARE VALUE TYPE

1. On the custom compare value type row, click the **Delete**  icon. The **Delete custom compare value type** dialog box appears.
2. Click **OK** to confirm.

5.3.8 CUSTOM FIELDS

Custom fields are used for information or data that needs to be managed but do not have a pre-defined entry in Snow License Manager. An unlimited number of custom fields can be created for the agreement, application, computer/mobile device, license, and user categories.

A custom field can be **Mandatory**, and must in that case have a defined **Default value**. The default value will automatically be added to new items within the category, as well as existing items without a value in the custom field. Information in a custom field of an


existing item will not be overwritten. New items cannot be saved unless there is a value in all mandatory custom fields.

If you want to calculate the compliance for an application and include a custom field in the calculation, then the application must be installed and recognized on the computer with the custom field added. The custom field must also have these properties:


- Category: Computer/Mobile device
- Type: Digit

A list of all created custom fields is displayed in the **Custom fields** view.

5.3.8.1 ADD OR EDIT CUSTOM FIELD

1. Perform one of the following:
 - To add a custom field, click **Add custom field**. The **Add custom field** dialog box appears.
 - To edit a custom field, click the custom field row. The **Edit Custom field** dialog box appears.
2. In the **Name** box, type a name for the custom field. The name will be displayed in the detail view of the computer/mobile device, license, and user categories. Choose a name so it will be easy to understand what kind of information is supposed to be entered.
3. In the **Category** list, select for which category this custom field should be available.
4. In the **Type** list, select type of content that can be entered in the field. The different types have built-in value validation.
5. In the **Description** box, optionally type a description for the custom field.
6. To create a list with pre-defined values for digit and text fields, type the value in the **Multi select** box and then click the **Add**  icon for each value.
7. To make the custom field mandatory for the selected category, select the **Mandatory** check box, and then type a default value in the **Default value** box.
8. Click **Save**.

5.3.8.2 DELETE CUSTOM FIELD

1. On the custom field row, click the **Delete**  icon. The **Delete custom field** dialog box appears.
2. Click **OK** to confirm.

5.3.8.3 ENTER CUSTOM FIELD INFORMATION

The **Custom information** tab is part of the add/edit views of the categories and is used to enter information in custom fields.

To add a custom field and value:

1. In the **Custom fields** list, select the custom field to be added and then click **Add** or click **Add all** to add all available custom fields. The selected custom fields are added to the view.

2. Enter information in the **Value** box. Depending on selected custom field, values can be typed, or selected from lists or calendar views.

5.3.9 INVENTORY SOURCES

The **Inventory sources** view shows the inventory sources that are configured for your platform. The inventory sources are configured in **Snow Management and Configuration Center**. For more information about inventory sources and how to configure the inventory sources, see the *User guide for Snow Management and Configuration Center*.

If the inventory sources are configured to gather data from more than one database or twice from the same database, then warning messages with instructions on how to solve the issues will be displayed.

5.3.10 LICENSE ASSIGNMENT TRACKING

If tracking is activated, the **License assignment tracking** view shows a log of license assignments. The view shows who assigned a license, when the assignment was made, and a comment on why the assignment was made. The assignments are given an identity in a consecutive order.

The tracking can be activated and deactivated on the **License assignment tracking** view:

- Click **Activate tracking** to log license assignments.
- Click **Deactivate tracking** to stop logging assignments.
The log of license assignments will remain but no new license assignments will be logged if the tracking is deactivated.

If a license is configured to be auto allocated, then this configuration will be logged, but the individual auto allocated assignments will not be logged.

If the tracking is activated, then the **Add assignment tracking** dialog box appears when a license has been assigned and saved. Review the information, make changes if needed, and then click **OK**.

5.3.11 LICENSE POLICY

The license registration process can be managed and adjusted in order to ensure correct license registrations. Fields can be made mandatory and lists with pre-defined options can be added, as well as descriptions that clearly state the intended purpose of a specific field.

The **License policy** view shows a list of all fields related to a license registration.

- To add a description, make the field mandatory, and/or add a multi-selection list, click the license policy row.

NOTE

Fields that are indicated as Required in the License policy must be entered during license registration. If the information is not entered, then the license cannot be saved, not even as incomplete.

5.3.12 MANUFACTURERS AND VENDORS

The **Manufacturer and vendors** view shows the contents of your manufacturer/vendor database. The information in the database can be used to facilitate the process of adding/editing agreements.

New manufacturers, vendors, and contractors are added to the database via the **Import data** wizard.

5.3.13 MY NOTIFICATIONS

The notifications enable you to monitor alerts and system events in Snow License Manager, such as added licenses, deleted computers, updated agreements, or agreements nearing their expiration dates.

Your configured email notifications are sent per category and action. This means that if you have one notification for added agreements and one for updated agreements, you will receive one email listing all of the added agreements and one listing all of the updated agreements. Depending on the activity in your system, you might also receive multiple notifications per day for each category and action.

The notifications will be sent only once so make sure to take appropriate action, when needed.

NOTE


SMTP settings must be activated in Snow MACC to enable sending of e-mails.

5.3.13.1 ADD OR EDIT NOTIFICATION

1. Perform one of the following
 - To add a notification, click **Add notification**. The **Add notification** dialog box appears.
 - To edit a notification, click the notification row. The **Edit notification** dialog box appears.
2. On the **Details** tab:
 - a. To activate the notification, select the **Active** box. If left cleared, no notifications will be generated.
 - b. Type a **Name** for the notification.
 - c. In the **Send to** box, type the e-mail address of the recipients that the notification is intended for. Use comma as separator.
 - d. In the **Category** list, select the category that the notification applies to.
 - e. In the **When** list, select for which action a notification should be sent. Available options depend on the selected category.
3. Optionally, on the **Criteria** tab:
 - To make the notification more precise, add more criteria. Use multiple criteria and groups in order to create advanced filters. For each criteria, select an operator which tells the system how to compare the values. Use % as a wildcard character for values.

4. Click **Save**.

5.3.13.2 DELETE NOTIFICATION

1. On the notification row, click the **Delete**  icon.
The **Delete notification** dialog box appears.
2. Click **OK** to confirm.

5.3.14 ORACLE COMPUTER MODEL MAPPING

An important criteria for determining Oracle licensing is the physical capacity of the server. One such detail is the number of processor sockets of the physical server, information that cannot be obtained by the inventory scan.

The **Oracle computer model mapping** view is used to manually specify the number of processor sockets for each unique computer model. The specified socket count value will be used as default for all servers of that model, but the value can be changed for a specific computer, if needed. The list includes all inventoried computer models with Oracle databases installed.

The Oracle Server Worksheet (OSW) requires information on the physical socket count and this report will be populated using the information supplied via the **Oracle computer model mapping**.

To specify the number of processor sockets of the physical server:

1. Click the computer model row.
The **Oracle computer model mapping** dialog box appears.
2. Type the physical socket capacity in the **Number of sockets** box.
3. Click **Save**.

5.3.15 REPORTS CACHE

Some reports can take a long time to run. Use the cache reports functionality to run the reports from a cache instead of from the live database. This will enable you to run reports faster.

1. On the **Administration** menu, select **Reports cache**.
2. Select the reports that you want to run from the cache.
3. Select **Save**.

To configure the cache reports functionality, see [Improve report performance](#).

5.3.16 WEB APPLICATIONS

It is possible to collect and measure usage of cloud/web based applications. Regardless of what type of binary being used (regular application, browser, etc.), the Snow web metering solution measures the HTTP/HTTPS traffic for the hosts that have been configured. The result is presented in Snow License Manager as regular applications, with most regular application features available.

Configuration of which cloud/web applications to monitor is done in the **Web applications** task.

When a web application is added and activated, software recognition rules are created automatically. This means that any usage of cloud/web applications that matches the entered patterns will be identified and presented in Snow License Manager.


5.3.16.1 ADD OR EDIT WEB APPLICATION

1. Perform one of the following:
 - To add a web application, click **Add web application**. The **Add web application** dialog box appears.
 - To edit a web application, click the web application row. The **Edit web application** dialog box appears.
2. Select **Client site name** and **Client configuration** from the lists.
3. Type the **Name** for the web application. This is the name that will be used by Snow License Manager.
4. In the **Patterns** box, type the domain name of the web application (no wildcard characters are allowed). Use domain names and not URLs. Several domain names can be entered, but only one per row.
 - Example: portal.microsoftonline.com
5. To activate the web application, select the **Active** check box. If left cleared, Snow License Manager will not measure usage of the web application.
6. Click **Save**.

NOTE

An added web application will only apply to a specified site and configuration. If several sites and configurations are to be measured, create one web application for each site and configuration combination.

5.3.16.2 DELETE WEB APPLICATION

1. On the web application row, click the **Delete**  icon. The **Delete web application** dialog box appears.
2. Click **OK** to confirm,

5.4 ABOUT YOUR SLM AGREEMENT

To view details about your customer and license agreements for Snow License Manager:

- On the menu in the upper right corner, click **About**.

5.5 SUPPORT AND FEEDBACK

To send support requests or to search the knowledge base, go to **Snow Support Portal** on Snow's community **Snow Globe** at <https://community.snowsoftware.com/>.

5.5.1 GIVE FEEDBACK

To give feedback or provide Snow with your ideas on future functionality:

1. In **Snow License Manager**, and on the menu in the upper right corner, select **Help**.
2. Select **Feedback**.
3. Enter your feedback, and then select **Send**.

5.6 USER SETTINGS

A user can change settings for their user account, for example, language, currency, and alerts:

1. On the menu in the upper right corner, click **Settings**.
2. Change the settings according to the following sections, and then click **Save**.

5.6.1 CHANGE PASSWORD

- In the **Settings** view, click **Change password on the tool bar**.

The password must at least:

- Be eight characters long
- Contain one uppercase letter (A-Z)
- Contain one lowercase letter (a-z)
- Contain one number (0-9)
- Contain one of the following symbols: ! @ # \$ % ^ & ? =

5.6.2 SETTINGS TAB

The **Settings** tab shows user interface and reporting/export settings.

Table 2. Settings for the **User interface**.

Setting	Description
Language	Select the preferred language from the list.
Default size for lists	Select Default for adjustment to a 1024 wide screen resolution. The Fullsize option is intended for users with higher resolution, where the lists are expanded to fit the entire screen, enabling the users to see more information.
Currency	Select the default currency in views and reports. The selected currency will be displayed as default for all financial values throughout SLM Web UI. Available currencies are defined in Snow MACC. Note that purchases can be registered in all available currencies, regardless of this setting.
Days to show updated remark on alerts	Select for how many days an alert will be indicated as updated in the alert lists.

Setting	Description
Show start page as	Select the preferred start page; Snowboard or Alert list .
Auto select sub levels in organization selectors	<p>Select this check box to automatically select sub-levels when selecting organization nodes in search and report criteria. This can be useful if you have several nodes with multiple sub-nodes and wish to filter content on a specific node including all of its sub-nodes.</p> <p>If this option is disabled, you will have to check each organization node manually, including sub-nodes, if you want to include them.</p>
In computer and user details, show only applications that require a license	When selected, only applications that require a license will be displayed in the detail view for computers, mobile devices, and users. All other applications are hidden but will be available in lists, reports, and searches depending on how you choose to filter them.
Expand alert groups automatically	Alerts of the same type are grouped. Details of the alert group are hidden by default, but can be expanded by clicking an icon. Select this box to automatically expand alert group details.

Table 3. Settings for **Reporting and Exports**.

Setting	Description
Page orientation for PDF exports	<p>Select page orientation for PDF exports from the list. If Default is selected, the export will use the pre-defined settings for each list.</p> <p>Note that list content is adapted to fit the page. Therefore, page orientation will affect font size of the content.</p>
Format handling for export to Excel from lists	<p>The Excel 2003 format contains a 65 000 row limit. Select Use format for Excel 2007/2010 (no row limit) to avoid the limitation. Files exported in the Excel 2007/2010 format cannot be opened in earlier versions of Excel.</p> <p>Native Microsoft Excel 2007 and 2010 formats (xlsx) are supported which radically decreases file size when exporting reports and lists.</p>

Table 4. Settings for **Imports**.

Setting	Description
Import	Type the Organization separator (delimiter) used in the import files between levels in the organization structure. For example, type "/" if the organization information is in the format: "ROOT/IT/Support".

Table 5. Settings for **License allocation**

Setting	Description
Auto allocate licenses	Select to enable that when adding a license purchase for a metric that has the auto allocate function, the Auto allocate check box will be enabled by default.

5.6.3 ALERTS TAB

The **Alerts** tab shows all available alerts.

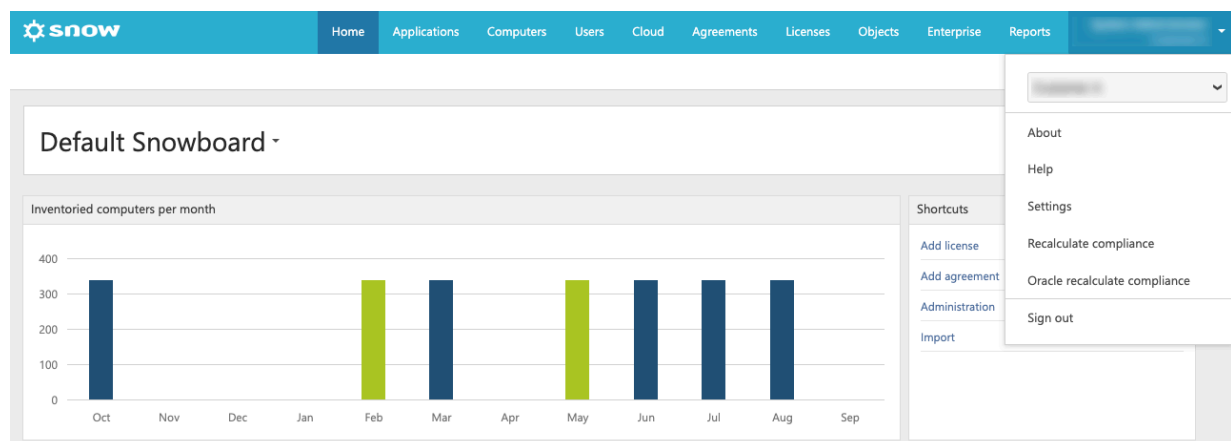
- Click the checkboxes to select alerts to be displayed in the category overviews.
- Click the **Alert** checkbox in the top left corner to select/deselect all alerts.

5.7 RECALCULATE COMPLIANCE

The compliance position for an application can change, for example, following the registration of new license purchases, the addition of downgrade or cross-edition rights to a license, or the conversion of metrics. The system does not automatically know when editing is complete, so to determine the effect of changes to compliance, you need to manually recalculate compliance.

To do this:

1. On the menu in the upper right corner, select **Recalculate compliance**.
2. Refresh the web-browser page.



6 APPLICATIONS

The **Applications** category gives complete information on all inventoried applications, such as:





- Application details
- Application manufacturers
- SAP utilization

Here, applications can be viewed and managed, and application usage can be monitored.

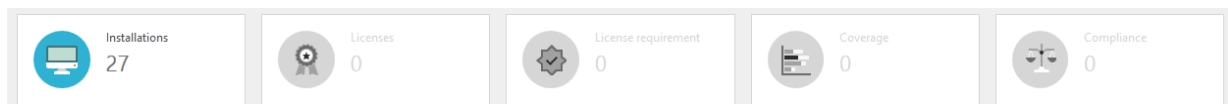
6.1 APPLICATION DETAIL VIEW

To show detailed information on a specific application, click the item in a list of applications.

The information boxes in the **Application** detail view show licensing information according to the following table.

Instances	Licenses	License requirement	Coverage	Compliance
Icon depends on type of instance				
Number of instances. The type of instance, depends on the metric used to calculate compliance for the application.	Number of available licenses.	Number of licenses required to ensure compliance with the selected metric.	Number of instances covered by available licenses	The calculated difference between Coverage and License requirement . Compliant: green icon Non-compliant: red icon

For an application that requires no license (the metric is set to "No license required"), only the information box **Installations** is used.



The bottom section of the detail view contains detailed information on the application presented in tabs according to the following table.


NOTE

Available tabs in the application detail view depend on the metric and if the application is installed on a computer or on a mobile device.

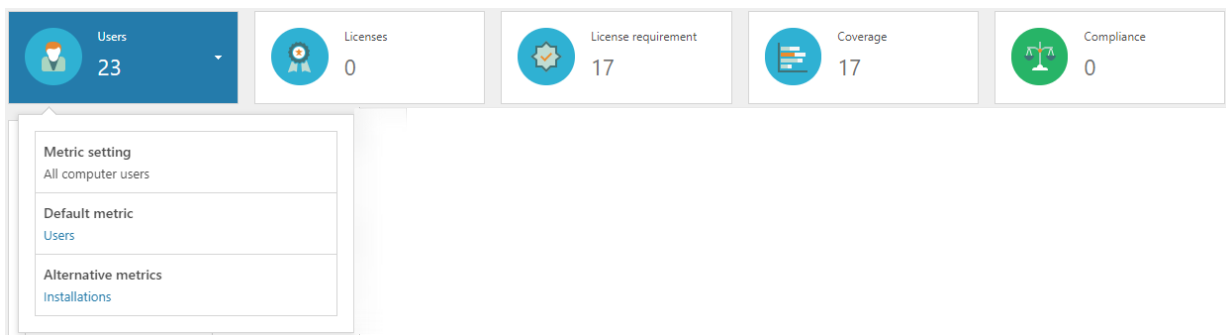
Tab	Description
Licenses	<p>Purchases: All registered license purchases for the selected application.</p> <p>Transfers: All received or transferred licenses from/to other application versions via upgrade or downgrade rights.</p> <p>Tracking: A summary of license requirement and entitlement state for each consumer.</p> <p>For more information, see Licenses tab.</p>
Allocation	<p>Shows allocation of licenses and installations.</p> <ul style="list-style-type: none"> ▪ The License requirement column shows how many licenses are required for each organization node (i.e. number of licensable installations of the application in question) and includes installed applications without registered usage. ▪ The Coverage column shows the number of instances covered by available licenses. ▪ The Compliance column shows the calculated difference between Coverage and License requirement.
Compliance	<p>Details: A presentation of how the values displayed in the information boxes of the Application detail view have been calculated.</p> <p>History: A graph of the highest and lowest compliance values each month over a period of time for the application. The period is selected with the range selector under the graph.</p> <p>Trend: Graphs of the requirement, coverage, compliance and compliance trend of an application over a period of time. The period is selected with the range selector below the graph. Click the Requirement, Coverage, Compliance and/or Compliance trend labels to hide or show the graphs.</p> <p>For more information, see Compliance tab.</p>
Computers	<p>Installations: All computers with an installation of the selected application.</p> <p>History: A graph of the number of installations of the application per month over a period of time. The period is selected with the range selector below the graph.</p>
Mobile device	<p>All mobile devices with an installation of the selected application.</p> <p>Only available for mobile devices.</p>
Users	<p>User: All users that have used the application, and the last time they used it.</p> <p>Concurrent usage: A graph of the maximum number of concurrent users per month over a period of time. The period is selected with the range selector below the graph.</p> <p>Only displayed for applications with metric Concurrent users.</p> <p>History: A graph of the number of users of the application per month over a period of time. The period is selected with the range selector below the graph.</p>

Tab	Description
Devices	<p>Devices: The devices that have used the application.</p> <p>Available for applications that can be accessed remotely or via a virtual desktop connection.</p> <p>Concurrent usage: A graph of the maximum number of concurrent devices per month over a period of time. The period is selected with the range selector below the graph.</p> <p>Only displayed for applications with metric Concurrent devices and if the application is installed on a device.</p> <p>History: A graph of the number of devices using the application per month over a period of time. The period is selected with the range selector below the graph.</p>
Bundle content	<p>The names of all applications within the bundle. Also, the number of installations via bundles is compared to the total number of installations, and the difference constitutes the number of stand-alone installations.</p> <p>Only available for application bundles, such as Adobe Creative Cloud or Microsoft 365.</p>
Information	<p>General information on the application grouped by information type.</p>
Financial info	<p>The financial information that has been entered for the application. All values are shown in the currency set by the user.</p> <p>For more information, see Financial info tab.</p>
SKU	<p>The Stock-keeping unit (SKU) information for the application.</p> <ul style="list-style-type: none"> ▪ The column Product description shows application details supplied by the manufacturer. ▪ The columns UPG and DWN show the product use rights; upgrade and downgrade.


6.1.1 MULTIPLE METRICS

If the **Multiple metrics**  symbol is displayed next to the application name at the top of the Application detail view, more than one metric can be used in the license assignment, reporting, and compliance calculations for the application. You can add metrics to an application in the **Metrics** section on the [License settings tab](#).

When multiple metrics are included for an application, you can select metric from the pop-up list in the **Instance** box.



The information boxes will change to show licensing information for the selected metric.

The selected metric is listed next to the application name together with the **Multiple metrics** symbol .


The **Licenses** and **Allocation** tabs display information about the selected metric, and the **Compliance** tab displays information for all metrics added to the application.

6.1.2 LICENSES TAB

The **Licenses** tab contains the views **Purchases**, **Transfers**, and **Tracking**.

Purchases

The **Purchases** view shows information on all license purchases that have been registered for the application. The **Incomplete** check box is used for indication of any incomplete licenses.

Click the arrow  next to the purchase date to open a separate window presenting the current license allocation.

Click a purchase in the list to be directed to the details of that license registration.

Transfers

If any licenses have been received or given via upgrade rights or downgrade rights, a list of these transfers can be found in the **Transfers** view. Information is shown on involved applications, transfer type, metric of the license, and number of transferred licenses.

Click an application in the list to be directed to the details of that application.

Tracking

The **Tracking** view shows a list of all consumers that require a license for the application.

If multiple metrics are available for the application, the type of consumer and related information depends on the selected metric.

- The **Used** column indicates if the installation is used or not.
- The **Required** column shows the number of licenses that is required for coverage. Click the arrow next to the quantity to see information on any license adjustments that have been made to the initial license requirement.

- The **Entitlement state** column shows to what extent the consumer is covered. Click the arrow next to the state to see more information, and to be directed via a link to any license purchase that is used for coverage.

Click a consumer in the list to be directed to the details of that consumer.

6.1.3 COMPLIANCE TAB

The **Details** view on the **Compliance** tab shows in-depth information on how licenses, requirement, and coverage on the **Application** detail view have been calculated.

The top section shows calculations based on the metric of the application. If any licenses have been registered with other metrics than the application’s metric, additional sections with calculations will follow.

If multiple metrics are available for the application, select **Show additional metrics** to see the calculations for all available metrics.

Tab	Description
Initial requirement	<p>The initial license requirement before any adjustments have been made. The number is expressed in the metric of the application or, for licenses with another metric, translated into the corresponding quantity of that metric.</p> <p>EXAMPLE</p> <p>The metric is set to Number of processors. There are 10 servers with in total 14 processors where this application is detected. The initial requirement will in this case be 14 processors. If a license purchase is registered with the metric Installations the initial requirement will correspond to 10 installations.</p> <p>For more information, refer to the Compliance examples in the Appendix.</p>
Licenses	<p>Information on available licenses that can be used to cover this application.</p> <p>Number of registered purchased licenses are shown as well as any license adjustments that have been made, for example:</p> <ul style="list-style-type: none"> ▪ transfers of licenses via upgrade or downgrade rights (+/-) ▪ incomplete or unassigned licenses (-) ▪ subscription licenses for which the subscriptions have expired (-).

Tab	Description
Required licenses	<p>Information on number of licenses that are required.</p> <p>Number of initially required licenses are shown as well as any license adjustments that have been made, for example:</p> <ul style="list-style-type: none"> ▪ extended coverage or secondary use rights (-) ▪ application bundling (-) ▪ usage outside the metering period (-) ▪ VDI (-) ▪ manual compliance exclusions (-) ▪ Core factors (+/-). <p>These details are only shown in the section for the metric of the application.</p>
Coverage	<p>Information on to what extent the application is covered.</p> <p>Number of available licenses are shown as well as any license adjustments that have been made, for example:</p> <ul style="list-style-type: none"> ▪ covered by other metrics (+) Select the figure to see a pop-up window with additional information. ▪ licensing other metrics (-) ▪ site licenses (+) ▪ VM use rights (+) ▪ Covered by subscription plan (+) <p>NOTE To automatically detect license coverage of applications included in Microsoft 365, Snow License Manager users must be linked with Microsoft 365 users. Also, the Snow Integration Connector for Microsoft 365 must be setup.</p> <ul style="list-style-type: none"> ▪ Double licensed (-) <p>NOTE A double licensed application is an application that is both covered by a license and a subscription plan.</p> <p>The normal license auto allocation does not take into account which users have a subscription plan that is covering the application. This will result in both the normal license, and the subscription plan covering the same user.</p> <p>We recommend that you use the Snow Integration Connector for Microsoft 365 and user linking to provide coverage for applications included in your Microsoft 365 subscription plans. If you need to add coverage for an application using a normal license, make sure to assign it to the specific user or device you want covered, rather than using auto allocate.</p>

Tab	Description
Compliance	A summary that shows whether the application is compliant or not: Compliance = Coverage – Required licenses

6.1.4 FINANCIAL INFO TAB

The **Financial info** tab shows costs and financial risks related to the application.

Type	Description
Total application cost	This cost is calculated as: Application cost per <i>metric</i> × License requirement
Application cost per <metric>	This cost is set manually in the Edit application view.
Total license cost	This cost is calculated as: Total license purchase + Total maintenance cost + Total support cost <ul style="list-style-type: none"> ▪ Total license purchase = sum of Purchase price for all licenses registered for the application ▪ Total maintenance cost and total support cost are based on all periods and for all licenses registered for the application.
Average cost per license (metric)	This cost is based on the metric of the application: Total license cost / Total number of licenses NOTE This cost is only calculated for license purchases with the same metric as the application.
Risk	Shows the compliance discrepancy in cost for the application. Risk can be negative or positive depending on if the compliance is negative or positive. The risk is calculated as: Average cost per license (<i>metric</i>) × Compliance If no licenses are purchased for the application or if the registered licenses have different metrics than the metric of the application, then the risk is calculated as: Application cost per <i>metric</i> × Compliance

Type	Description
Risk (unused software)	<p>Shows the cost for unused software.</p> <p>If licenses are purchased for the application AND the licenses have the same metric as the application:</p> <p>Average cost per license (<i>metric</i>) × Number of unused installations</p> <p>If no licenses are purchased for the application OR the licenses have different metrics than the application:</p> <p>Application cost per <i>metric</i> × Number of unused installations</p> <p>The risk also shows to what extent the application is used, displayed in percentage:</p> <p>(Number of unused installations / Total number of installations) × 100</p>

6.2 EDIT APPLICATION

1. On the **Applications** menu, click **Search for applications** and find one or more applications to be edited.
2. To edit one application:
 - a. Click the application row.
The **Application detail view** appears.
 - b. On the context menu, click **Edit application**.
3. To edit several applications at the same time:
 - a. Select the applications.
 - b. Click **Edit applications** on the context menu.
The **Multiple application editing view** appears.
4. Edit the information in the fields on the tabs according to the following sections.
5. Click **Save**.

6.2.1 GENERAL INFO TAB

To edit additional information about the application, edit the settings on the **General info** tab:

1. Type a **Description** of the application.
2. Type **Serial numbers/license keys** for easy access during installation/reinstallation.
3. In the **Media** box, type information on storage location of the installation media.
4. In the **System owner** boxes, type information on whom to get in contact with in case of any questions or issues with this specific application.

6.2.2 LICENSE SETTINGS TAB

To select and enter license related information, edit the settings on the **License settings** tab.

6.2.2.1 GENERAL

The following general information for the application can be added:

- **License requirement**
Select the **No license required** check box if no license is required for the application.
- **Additional settings**
 - **Enable secondary use rights**
To enable secondary use rights for this application, select the check box.
 - **Allow simultaneous multiple versions**
To set that only one license is required for a computer with multiple versions of the application installed, select the check box.

NOTE

You can only cover a simultaneously installed **lower version** of the same application. A higher version cannot be covered.

Despite being selected, the feature is enabled only when there is a license that covers the local installations. Before a license is added, both versions will be displayed as requiring a license on the computer. This is done because the right of running multiple simultaneous versions on one computer is covered by the license, not by the application.

- **Allow simultaneous multiple editions**
To set that only one license is required for a computer with multiple editions of the application, select the check box.

NOTE

You can only cover a simultaneously installed **lower edition** of the same application. A higher edition cannot be covered.


- **Compliance settings**
 - **Apply metrics to upgrade/downgrade**
To apply all added metrics to the applications from upgrade/downgrade path, select the check box.
 - **Apply metrics to cross edition**
To apply all added metrics to the applications from cross edition path, select the check box.
- **Release date**
The Software Recognition Service provides the General Availability Date for each application. To override this global release date, enter a **Release date**.

6.2.2.2 DOWNGRADE RIGHTS PATH

Select the number of previous versions a downgrade can be made to from the list in this section.

6.2.2.3 METRICS

The left side of the **Metrics** section displays all metrics that have been added to the application.

To add a metric to the application, select a metric from the list below the added metrics, and then select the **Add**  button.


Delete a metric by selecting the trashcan icon next to the metric.

NOTE

A metric cannot be deleted in the following cases:

- When the metric is the default metric.
- When the metric is connected to a license purchase registration.
The license must be deleted before the metric can be deleted.

In these cases, no trashcan is available for the metric.

The default metric is marked with the default metric  icon. To make another metric the default metric, select the metric and then select **Set as default metric**.

NOTE

The default metric cannot be changed for a Windows Server application.

Select one of the added metrics to view information related to the selected metric on the right side of the **Metrics** section. Edit the information related to the selected metric according to the following description:

- **Metric setting**
Metric: Users
Select a metric setting from the list.

Metric setting	Description
Usage within metering period	All users that have used the application within the specified metering period (see below).
All primary users	The primary user (most frequent user based on logon information) of a computer that has the application installed, whether or not the user has actually used the application in question.
All computer users	All users that have logged on to a computer that has the application installed, whether or not the users have actually used the application in question.

- **Minimum number of licenses**
Metric: Number of processors, Number of processor cores
Define the minimum number of licenses per computer that is required for the application according to the license agreement. Enter the quantity in the **Minimum number of licenses** box.
- **Period**
Metric: Users, Devices, Concurrent users, Concurrent devices.

NOTE

For the metric **Users** the Period list is only available if metric setting **Usage within metering period** is selected.

Select a metering period from the list.

Period	Description	Example
Use system default	System default is Current month and is determined by the Basic setting NI_COMPARE_PERIOD in Snow MACC. NOTE Since the Data Update Job runs only once a day (by default at 9:00 PM) the usage for the "current date" will not be reported until the next day. Hence, when the current date is the first of the month, usage of the previous month will be used in the calculations instead.	<u>Example 1:</u> Current date = 24th of September Metering period = 1st of September to 24th of September <u>Example 2:</u> Current date = 1st of September Metering period: 1st of August to 31st of August
Continuou s	Data for current date and X number of days back in time, where X is defined in the Interval (days) box.	Current date = 24th of September X = 60 days Metering period = 27th of July to 24th of September
Periodical incl. current month	Data for the last day of the previous month and X number of days back in time, where X is defined in the Interval (days) box, <u>plus</u> data for the current month.	Current date = 24th of September X = 60 days Metering period = 3rd of July to 24th of September (24 + 60 = 84 days)

- **Custom compare value type**

Metric: Custom compare values

Select a custom compare value type from the list.

- **Application cost**

PVU

CAL (Client Access License)

All metrics

Enter an estimated cost for each license in the box. The value is used for creating cost estimations of over- and under-licensing and total cost for installations, devices, users etc.

Select **Currency**. The currency does not have to be the same as the currency selected in your user settings.

NOTE

You need to [recalculate compliance](#) to update the cost estimations after entering new cost information for the Application cost or License cost.

6.2.3 OTHER SETTINGS TAB

To select how alerts should be used, edit the settings on the **Other settings** tab.

When an alert is excluded, potential over-licensing or under-licensing will be displayed in the **Applications details** view, but it will not be shown as an alert.


6.2.4 DOWNGRADE PATHS TAB

Use the fields on the **Downgrade paths** tab to manually add versions within the application family that this application is valid to downgrade to. The application versions can be listed in relative order to define the downgrade path.



NOTE

A manual downgrade path will override cross edition rights and downgrade paths identified by the Software Recognition Service.


Add application:

1. In the **Available applications** list, select the application to be added.
2. Click the **Add**  icon.
The application is moved to the **The application is valid for downgrade to** list.

Change downgrade order:

1. In the **The application is valid for downgrade to** list, select the application to be moved.
2. Click the **Up**  or **Down**  icons to move the application up or down in the list.

Remove application:

1. In **The application is valid for downgrade to** list, select the application to be removed.
2. Click the **Remove**  icon.
The application is moved to the **Available applications** list.

6.2.5 PROGRAM FILES TAB

The information on the **Program files** tab shows all identified inventoried program files and registry keys that are linked to the application. No changes can be made on this tab.

6.2.6 CUSTOM INFORMATION TAB

Use the **Custom information**, to add custom fields and change the values in the custom fields. Only custom fields that are created for the **Application** category are available.


For more information, see [Enter custom field information](#).

6.2.7 COMPARE VALUES TAB

The **Compare values** tab is available for the metric **Custom compare values**, and if this metric is not connected to a custom field.

Use the **Compare values** tab to specify the quantity per organization of the custom compare value type selected in the **License settings** tab.

To edit the settings on the **Compare values** tab:

1. To add organization node and quantity:
 - a. In the list, click the check boxes to select the organization nodes to be added, and then click **OK**.
 - b. Click **Add**.
The selected organization nodes are added to the view.
 - c. Type a custom compare value for the organization node in the **Quantity** box.
2. To change quantity, type a new custom compare value for the selected organization node in the **Quantity** box.
3. To remove organization node, click the **Remove**  icon to the right of the organization node to be removed.

EXAMPLE

Monitor compliance for Exchange email accounts

The license requirement for Client access licenses (CALs) for Microsoft Exchange Server 2010 cannot be discovered by Snow Inventory agents. A metric called **Exchange CAL** is therefore defined to monitor the compliance for **Exchange email accounts**.

The following steps are performed to monitor the compliance for the application **Microsoft Exchange Server 2010 Standard User CAL**:

1. Create a new custom compare value called **Exchange CAL** according to [Custom compare value types](#).
2. Navigate to the application details view for **Microsoft Exchange Server 2010 Standard User CAL**.
3. Click **Edit application**.
4. On the **License settings** tab, set the **Metric** to **Custom compare values**, and set the **Custom compare value type** to **Exchange CAL**.
5. On the **Compare values** tab, specify the number of Exchange email accounts for each organization node and for this application.
6. Click **Save**.
7. On the context menu, click **Add application license**.
The **Add license** view appears.
8. In the **Quantity** box, type the number of CALs purchased.
9. Click **Save** and then select **Recalculate compliance** from the dropdown menu under your username.
10. On the **Allocation** tab, analyze the compliance for the application.

6.2.8 STORE TAB

Use the **Store** tab to specify whether this application should be available for order in Software Store or not. Available software is indicated by the information message **Available in Software Store** in the application details view.

NOTE

The Store tab is only available if the setting SOFTWARE_STORE_OPTION_ACTIVE has been enabled, and if the logged in user has the required permissions to administer applications in the Software Store. Settings and permissions are managed in Snow MACC.

To make an application available and to define how it will be displayed in the Software Store:

1. Select the **Available in Software Store** check box.
Input fields are enabled.
2. In the **Name** box, optionally change the application name. This name will be displayed in the Software Store.
3. Type a **Description** of the application which will be displayed in the Software Store.
4. Click **Browse** to upload an application **Image**.
5. Type a **Cost** and a **Rental cost** for the application.
Note that these costs are set using the base currency of Snow License Manager.
6. If orders of this application needs approval from a Group Manager, select the **Require organizational approval** check box.
7. If orders of this application needs approval from the application owner, select the **Require application owner approval** check box. Type the **Application owner's AD username** in the box that is displayed.
8. Select how this application will be provisioned from the **Provisioning type** list, and type the related **Identifier (AD group)**.
9. From the **Publish level** list, select the actions that will be available for this application in the Software Store.
10. For additional **Uninstall options**, click **Change** (the button is only enabled when **Publish level** is set to **Uninstall** or **Install and Uninstall**). Select one of the following settings:
 - **No limited use:** The application will not be automatically uninstalled.
 - **Uninstall this application based on time:** The application will be automatically uninstalled from the user's computer after a set number of days.
A notification can be sent to the user before the application is removed.
Optionally, the user can be offered to extend the subscription with a number of days.
 - **Uninstall this application based on usage:** The application will be automatically uninstalled from the user's computer if it has not been used for a set number of days.
A notification can be sent to the user before the application is removed.

NOTE

The number of days must be less than specified in the setting `METERING_HISTORY_MONTHS` in Snow Management and Configuration Center, so that Snow License Manager has enough metering/usage data to provide data for this scenario.

6.2.9 BUNDLE OPTIONS TAB

On the Bundle options tab, select to unbundle an application bundle in order to license the included applications individually instead. This is done on the computer where the application is installed.

This tab is only available for bundles.

6.3 CHANGE DEFAULT METRIC

The default metric describes the general licensing conditions for an application. In Snow License Manager, the default metric is set per application, meaning that an application only can have one default metric. To change the metric for a license, you need to edit the application that the license is attached to.

NOTE

The default metric can only be changed if the metric for all registered license purchases is according to the default metric. For example, the default metric for an application with the default metric **Devices** can only be changed if all registered license purchases have the metric **Devices**. However, if licenses are added to applications with the default metric **Installations**, **Number of processors** and **Number of processor cores**, then the default metric can be changed to any of **Installations**, **Number of processors** and **Number of processor cores**.

1. Navigate to the application to be edited.
2. On the context menu, click **Edit application**.
3. On the **License settings** tab, select the new **Metric** from the list.
4. Click **Save**.

6.4 ALLOWLIST APPLICATION

An allowlisted application is approved for installation and usage in the IT environment. For more information on the application allowlist and how to specify criteria and automation rules that result in an allowlist of approved applications, see [Application allowlist](#).


6.4.1 ADD APPLICATION TO ALLOWLIST

To add an application to the system's allowlist:

1. Navigate to the application to be allowlisted.
2. On the context menu, click **Allowlist application**, and then click **OK**.
The information message **Allowlisted** is added to the application details view.

6.4.2 REMOVE APPLICATION FROM ALLOWLIST

To remove an application from the system's allowlist:

1. On the **Home** menu, click **Administration**.
The **Administration overview** appears.
2. Click **Application allowlist**.
The **Application allowlist** appears.
3. Find the application, click **Remove** , and then click **OK**.

6.5 DENYLIST APPLICATION


An application on the system's denylist is not approved for installation and usage in the IT environment. For more information on the application denylist and how to specify criteria and automation rules that result in a denylist of not approved applications, see [Application denylist](#).

6.5.1 ADD APPLICATION TO DENYLIST

To add an application to the system's denylist:

1. Navigate to the application to be denylisted.
2. On the context menu, click **Denylist application**, and then click **OK**.
The warning message **Denylisted** is added to the application details view.

6.5.2 REMOVE APPLICATION FROM DENYLIST

1. On the **Home** menu, click **Administration**.
The **Administration overview** appears.
2. Click **Application denylist**.
The **Application denylist** appears.
3. Find the application, click **Remove** , and then click **OK**.

6.6 APPLICATION USE RIGHTS

Application use rights can be assigned to users to, for example, monitor and ensure correct usage of expensive applications. When a user without use rights uses the application, an alert will be generated.

An application with registered use rights is indicated by the warning message **Application rights registered**.

6.6.1 ADD APPLICATION USE RIGHTS

1. Navigate to the application.
2. On the **Users** tab, right-click the user that will receive use rights of the application, and then click **Add rights to user**.
 - All users without use rights of the application are highlighted in red in the list.

- The warning message **Application rights registered** is added to the application.

6.7 BUNDLE OPTIONS

Application bundle licensing is removed from (or restored on) the computer where the bundle component is installed.

6.7.1 REMOVE BUNDLE LICENSING

1. Navigate to the application for which bundle licensing is to be removed.
2. On the context menu, click **Edit application**.
3. On the **Bundle options** tab, find the computer for which the bundle licensing is to be removed and click **Unbundle**.
4. Click **Save**.
A message box opens requesting you to confirm the changes you have made. Click **OK**.
5. On the **Computers** tab of the **Application details** view, the text UB will show in the **Remark** column.
6. Select **Recalculate compliance** from the dropdown menu under your username.
7. Refresh your web browser.
8. The data shown in the **Application details** view will reflect the changes you have made.

6.7.2 RESTORE BUNDLE LICENSING

1. Navigate to the application for which bundle licensing is to be restored.
2. On the context menu, click **Edit application**.
3. On the **Bundle options** tab, find the computer for which the bundle licensing is to be restored and click **Bundle**.
4. Click **Save**.
A message box opens requesting you to confirm the changes you have made. Click **OK**.
5. Select **Recalculate compliance** from the dropdown menu under your username.
6. Refresh your web browser.
7. The data shown in the **Application details** view will reflect the changes you have made.

6.8 APPLICATION MANUFACTURERS

The **Application manufacturers** view shows a list of all identified application manufacturers in the system. Pie charts are provided for a quick overview.

6.8.1 APPLICATION MANUFACTURERS DETAIL VIEW

The top section of the **Application manufacturers** detail view shows pie charts with information on **Top application installations** and **Top application license cost** for the selected manufacturer.

The bottom section of the detail view shows information on applications (both with and without license requirements), software agreements, and license purchases.

6.9 APPLICATION FAMILY OVERVIEW

All versions and editions of an application are together called an application family. In Snow License Manager, the application families are defined by the Software Recognition Service.

The **Application family overview** summarizes for example the license cost, compliance, and risk for applications belonging to the same family. The information can be used to optimize the licensing within an application family.

To view an **Application family overview**:

- In the top section of the **Application detail view**, click the **Application family** link.

The Application family overview consists of:

- A **graph** showing the number of installations per application and the percentage of how many consumers that are covered by a license.
- A **summary** of for example license cost, compliance and risk.
- **Detailed information** about the applications listed in tabs.

6.9.1 GRAPH

The graph shows specific bars for the five applications with the latest versions and editions, and a summarized bar for the older versions and editions. Only applications being installed and requiring a license are shown in the graph.

When pointing to a bar in the graph an information box appears. The information box shows the details on the coverage of the application.

6.9.2 SUMMARY

The summary shows licensing information for the whole application family.

The information is described in the following table.

Parameter	Description
Total license cost	The sum of <i>Total license cost</i> for all applications in the family.

Parameter	Description
Compliance	Compliance is calculated regardless of metric, and is here shown in percentage. Compliance is calculated as: (Sum of covered consumers / Total number of consumers) × 100
Risk	Sum of the risk for every application in the application family.
Unused installations	Assigned licenses with no registered usage compared to the total number of licenses, shown in percentage.
Risk (Unused installation)	The cost for unused installations.
Not utilized licenses	The sum of not utilized, unassigned and incorrectly assigned licenses compared to the total number of purchased licenses, shown in percentage.
Potential overspend	Calculated as: Not utilized licences × Total license cost

6.9.3 DETAILED INFORMATION

Detailed information about the applications is listed in tabs.

To find more information that can be used to optimize the licensing for the application family, click an application in the list on the **Applications** tab. Go to **Tracking** on the **Licenses** tab in the **Application detail view**.





7 COMPUTERS

The **Computers** category gives detailed information on the IT environment, such as computers, mobile devices, datacenters/clusters, and devices (RDS/Citrix). Here, information on available hardware can be found as well as information on which applications and users that have been using a specific computer.

7.1 COMPUTERS DETAIL VIEW

To show detailed information on a specific computer, click the item in a list of computers.

The information boxes in the **Computers** detail view shows information on usage and cost according to the following table.

Applications	Users	Cost	Last scanned
			
Number of applications installed on the computer.	Number of users of the computer.	Total cost of the computer.	Date for last update of computer data.


The bottom section of the detail view contains detailed information on the computer. The information is presented in tabs according to the following table.

Tab	Description
Applications	A list of all applications installed on the computer. For more information, see Applications tab .
Users	All users that have been logged on to the computer and when.
Hardware	Basic hardware information and information on for example the Number of processors , Cores per processor , and Logical processors collected from the computer during the inventory. Information on devices such as printers, hard drives, etc. is based on inventoried drivers. NOTE The number of Logical processors is not included when calculating compliance.
Information	General information on the computer. The information is grouped by information type. Note that some information is maintained manually and is therefore not available until registered.
Financial info	Financial information on the computer.

Tab	Description
Devices	The devices that have been connected to the computer using RDP, Citrix, etc. or via a virtual desktop connection.
Remote servers	The servers to which the computer has been connected as a terminal using RDP, Citrix, etc.
Virtual desktops	A list of the virtual desktops that the computer has been connected to. Available if the computer has accessed a virtual desktop.
Printers	All identified printer drivers installed on the computer.
Documents	Manually uploaded documents and links related to the computer. For more information, see Manage documents and links .
Oracle	Details about the Oracle databases and information on the Oracle orders associated with the server. Available for servers running Oracle database products.

7.1.1 APPLICATIONS TAB

The **Applications** tab shows a list of all applications installed on the computer

An arrow  to the left of the application name in the list is available for all applications with **registered usage**. Click the arrow to expand a list of users that have used this application on the specific computer. The following usage is registered per user:

- **Last used:** The last date and point of time when the application was used on the computer.
- **Run:** How many times the application has been executed on the computer.
- **Total time:** Total application usage displayed in days, hours, and minutes.

Applications can be marked with a background color according to the following table.

Scenario	Background color
No denylist of application is specified. The setting <code>ACTIVATE_APPLICATION_WHITELISTING</code> is disabled in Snow Management and Configuration Center .	White background.
A denylist of applications is specified. The setting <code>ACTIVATE_APPLICATION_WHITELISTING</code> is disabled in Snow Management and Configuration Center .	Applications that are denylisted have a red background. All other applications have a white background.

Scenario	Background color
<p>A denylist of applications is specified.</p> <p>The setting <code>ACTIVATE_APPLICATION_WHITELISTING</code> is enabled in Snow Management and Configuration Center.</p>	<p>Applications that are allowlisted have a white background.</p> <p>Applications that are denylisted have a red background.</p> <p>All other applications have a grey background.</p>
<p>The application is run on the specific computer but is not installed, for example, a cloud application or an application installed on a server share.</p>	<p>Orange background.</p>

NOTE

Denylist and allowlist have precedence over the orange background. If an application is added to allowlist, the application will show with a white background, even if it is not installed. If an application is added to denylist, it will get a red background.

7.2 EDIT COMPUTER

1. On the **Computers** menu, click **Search for computers** and find one or more computers to be edited.
2. To edit one computer:
 - a. Click the computer row.
The **Computer detail view** appears.
 - b. On the context menu, click **Edit computer**.
3. To edit several computers at the same time:
 - a. Select the computers.
 - b. Click **Edit computers** on the context menu.
The **Multiple computer editing view** appears.
4. Edit the information in the fields on the tabs according to the following sections.
5. Click **Save**.

7.2.1 GENERAL TAB



To enter information on the **General** tab:

1. Enter information on **Purchase date**, **Purchase price** and **currency**, **Vendor** and **Invoice reference**. Note that currency may vary and does not have to correspond to the default viewing currency.
2. Select computer **Status**. Available options:
 - **Active** - The computer is active in the system and will require licenses for installed applications.

- **Quarantined** - The computer is placed in quarantine after a defined number of days of not reporting inventory data, but will still require licenses for its installed applications. If automatic quarantine management is activated (in Snow MACC) the computer will automatically be placed in quarantine, and then removed from the system or set to inactive.
 - **Inactive** - The computer is not active in the system (when in storage for example) and does not require licenses for its installed applications. The computer is not included in compliance calculations. However, if the computer is still reporting to the Snow Inventory server, it will update its data in Snow License Manager. When an inactive computer reports inventory data, an alert is displayed.
3. Select **Organization** node that this computer belongs to.
 4. In the **Security code** box, type any anti-theft label on the computer.
 5. To disable auto connect rules, select the **Disable auto editing** check box.
 6. To prevent the computer from being placed in quarantine status or removed from the system if it stops reporting inventory data, select the **Disable automatic quarantine management** check box.

NOTE

This setting is not available for members of auto-generated datacenters. To make this setting available, you must first configure the setting **DCC_AUTODISCONNECT_DAYS** in **Snow Management and Configuration Center**. For more information, see [Quarantine management](#).

7. In the **Physical socket capacity**, type the number of processor sockets in the computer.
8. For physical servers that use MCM processors, select the **Uses MCM Processors** check box and type the number of **Chip modules per processor** in the box. This information is used to calculate and present number of populated physical sockets in the Oracle Server Worksheet report for servers that use MCM processors.
9. To enable secondary use rights:
 - a. Click the **Search**  icon to the right of the **Sibling computer** box. The **Search for computer** dialog box appears.
 - b. Type the search criterion and click **Search**. A list of computers that match the search criterion is displayed.
 - c. Select the computer to be added from the list.
10. For virtual machines, type **Host computer name**.
Selected host/virtual machine will be displayed on the **Information** tab of the virtual machine. To remove a host computer, click the **Clear**  icon to the right of the box.

7.2.2 AGREEMENTS TAB

Select one or more check boxes to attach the computer to one or more agreements.

If the correct agreement is not available in the list, it has to be created.

7.2.3 CUSTOM INFORMATION TAB

On the **Custom information** tab, enter information and values in the custom fields that are available for the **Computer/mobile device** category.

For more information, see [Enter custom field information](#).

7.2.4 IDENTIFIED FILES TAB

The **Identified files** tab shows all identified inventoried application files on the computer. No changes can be made on this tab.

7.2.5 DOCUMENTS TAB

On the Documents tab, click **Add document** to upload documents or add links related to the computer.


For more information, see [Manage documents and links](#).

7.2.6 EXTENDED COVERAGE TAB


Use the **Extended coverage** tab to specify which computer the coverage should be extended to, for which application, and for what reason.

Add or remove which computer the coverage should be extended to.

7.2.6.1 ADD COMPUTER

1. Click the **Search**  icon.
The **Search for computer** dialog box appears.
2. Type the search criterion and click **Search**.
A list of computers that match the search criterion is displayed.
3. Select the computer to be added from the list.
4. Select an application from the **Select application** list.
5. Select a reason from the **Select the reason for extending coverage** list.
6. Click **OK**.
The dialog box is closed and the selected computer is displayed in the **Computer** box.
7. Click **Add** to the right of the **Computer** box.
The selected computer is added to the list of computers with extended coverage.

7.2.6.2 REMOVE COMPUTER

- Click the **Remove**  icon to the right in the list, and then confirm the deletion.

7.2.7 ORACLE TAB

The **Oracle** tab is only available for servers running Oracle database products, and is used for associating a server with one or several Oracle orders.

To associate a server with an Oracle order:

1. Click **Add**.
The **Search for Oracle order** item dialog box appears.
2. Type the search criterion (Customer Support Identifier, CSI, or Product name) and click **Search**.
A list of Oracle orders that match the search criterion is displayed.
3. Click the check boxes to select the correct Oracle order, and then click **OK**.
The order is added to the list of Oracle orders.

7.3 ARCHIVE COMPUTER

When a computer is archived, a snapshot of the computer details is saved before the computer is removed from the system. Since an archived computer is removed, all licenses currently attached to it are released. The saved details can be accessed using the computer report **Archived computers** or the **Search for computers** page if the filter **Show archived** is added.

NOTE

An archived computer does not consume, that is, does not count towards the unit limit of the Snow License Manager license.

7.3.1 ARCHIVE ONE COMPUTER

1. Navigate to the specific computer to be archived.
2. On the context menu, click **Edit computer**.
3. Click **Archive** in the top right corner, and then click **Yes**.

7.3.2 ARCHIVE ONE OR MORE COMPUTERS

1. On the **Computers** menu, click **Search for computers** and find the computers to be archived.
2. Select the check boxes to the left of the computers to be archived.
3. On the context menu, click **Archive computers** and then click **OK**.

7.4 DELETE COMPUTER





For information on how to delete computers, see [Category views](#).

8 MOBILE DEVICES

This chapter describes how to manage mobile devices in Snow License Manager.

8.1 MOBILE DEVICE DETAILS

The information boxes in the **Mobile device details** view shows information on usage and cost according to the following table.

Applications	User	Cost	Last scanned
			
Number of applications installed on the mobile device.	The user of the mobile device.	Total cost of the mobile device.	Date for last update of mobile device data.

The bottom section of the detail view contains detailed information on the mobile device. The information is presented in tabs according to the following table.

Tab	Description
Applications	A list of all applications installed on the mobile device. For more information, see Applications tab .
Users	The user that has been using the mobile device and when.
Hardware	Shows basic hardware information collected from the mobile device during the inventory scan.
Information	Shows general information on the mobile device. The information is grouped by information type. Note that some information is maintained manually and is therefore not available until registered.
Financial info	Shows financial information on the mobile device.
Documents	Shows manually uploaded documents and links related to the mobile device. For more information, see Manage documents and links .

8.1.1 APPLICATIONS TAB

The **Applications** tab shows a list of all applications installed on the mobile device. Applications can be marked with a background color according to the following table.

Scenario	Background color
No denylist of application is specified. The setting ACTIVATE_APPLICATION_WHITELISTING is disabled in Snow Management and Configuration Center .	White background.
A denylist of applications is specified. The setting ACTIVATE_APPLICATION_WHITELISTING is disabled in Snow Management and Configuration Center .	Applications that are denylisted have a red background. All other applications have a white background.
A denylist of applications is specified. The setting ACTIVATE_APPLICATION_WHITELISTING is enabled in Snow Management and Configuration Center .	Applications that are denylisted have a white background. Applications that are denylisted have a red background. All other applications have a grey background.

8.2 EDIT MOBILE DEVICE

1. On the **Computers** menu, click **List all mobile devices** or **Search for mobile devices** and find one or more mobile devices to be edited.
2. To edit one mobile device:
 - a. Click the mobile device row.
The **Mobile device detail view** appears.
 - b. On the context menu, click **Edit mobile device**.
3. To edit several mobile devices at the same time:
 - a. Select the mobile devices.
 - b. Click **Edit mobile devices** on the context menu.
The **Multiple mobile devices editing view** appears.
4. Edit the information in the fields on the tabs according to the following sections.
5. Click **Save**.

8.2.1 GENERAL TAB

To enter information on the **General** tab:

1. Enter information on **Purchase date**, **Purchase price**, **currency**, **Vendor** and **Invoice reference**. Note that currency may vary and does not have to correspond to the default viewing currency.
2. Select mobile device **Status** from the list:
 - **Active** - The mobile device is active in the system and will require licenses for installed applications.

- **Quarantined** - The mobile device is placed in quarantine, but will still require licenses for its installed applications. If automatic quarantine management is activated (in Snow MACC) the mobile device will automatically be placed in quarantine and removed from the system when it stops reporting inventory data.
 - **Inactive** - The mobile device is not active in the system (when in storage for example) and does not require licenses for its installed applications. The mobile device is not included in compliance calculations. However, if the mobile device is still reporting to the Snow Inventory server, it will update its data in Snow License Manager. When an inactive mobile device reports inventory data, an alert is displayed.
3. Select **Organization** node that this mobile device belongs to from the list.
 4. In the **Security code** box, type any anti-theft label on the mobile device.
 5. To disable auto connect rules, select the **Disable auto editing** check box.
 6. To prevent the mobile device from being placed in quarantine status or removed from the system if it stops reporting inventory data, select the **Disable automatic quarantine management** check box.

8.2.2 AGREEMENTS TAB

On the **Agreements** tab, select one or more check boxes to attach the mobile device to one or more agreements.

If the correct agreement is not available in the list, it has to be created.

8.2.3 CUSTOM INFORMATION TAB

On the **Custom information** tab, enter information and values in the custom fields that are available for the **Computer/mobile device** category.

For more information, see [Enter custom field information](#).

8.2.4 IDENTIFIED FILES TAB

The **Identified files** tab shows all identified inventoried application files on the mobile device. No changes can be made on this tab.

8.2.5 DOCUMENTS TAB

On the **Documents** tab, click **Add document** to upload documents or add links related to the mobile device.

For more information, see [Manage documents and links](#).

8.3 DELETE MOBILE DEVICE

For information on how to delete mobile devices, see [Category views](#).

9 DATACENTERS AND CLUSTERS

This chapter describes how to manage datacenters and clusters in Snow License Manager.






9.1 DATACENTERS AND CLUSTERS

The **Datacenters and clusters** overview provides a summary with information on licensed applications, physical servers, and virtual machines (inventoried and total number) on each identified datacenter/cluster.

Datacenters and clusters that have been added based on inventory data are indicated as "auto generated" in the **Description** column.

9.1.1 DATACENTER/CLUSTER DETAIL VIEW

The information boxes in the **Datacenter/cluster details** view shows information on for example the number of hosts, processor, and cores, according to the following table.

Hosts	Processors	Cores	Virtual machines	License coverage
				
Number of hosts connected to the datacenter	Total number of processors for the datacenter members	Total number of processor cores for the datacenter members	Number of virtual machine connected to the datacenter	The percentage of instances covered by available licenses*

* The license coverage shows the percentage of all licensable applications on all hosts and their virtual machines that are fully covered by licenses. The license coverage is an indicator of the overall level of risk of the datacenter.

The bottom section of the detail view contains detailed information on the datacenter and clusters. The information is presented in tabs according to the following table.

Tab	Description
Licenses	All licenses that are connected to the datacenter/cluster.
Applications	All applications that are connected to the datacenter/cluster.
Hosts	All hosts that are connected to the datacenter/cluster. If any host has virtual machines installed, the number of the virtual machines can be seen in the column Virtual machines.
Virtual machines	The virtual machines that are connected to the datacenter/cluster.
Features	Available for auto generated VMware datacenters and shows licensed Product Features.

Tab	Description
General	General information on the datacenter/cluster.
Oracle	Only displayed for datacenter/clusters with Oracle products installed. Databases: All computers with Oracle databases installed. Orders: All Oracle orders for the datacenter/cluster.

9.2 ADD DATACENTER AND CLUSTER

1. On the **Computers** menu, click **Datacenters and clusters**. The **Datacenters and clusters** view appears.
2. On the context menu, click **Add datacenter/cluster**. The **Datacenter and cluster** detail view appears.
3. Enter information on the **General**, **Hosts**, and **Extended coverage** tabs according to the following sections.

9.2.1 GENERAL TAB

Use the fields on the **General** tab to enter information on the datacenter/cluster:

1. Type a **Name** for the new datacenter/cluster.
2. Select **Organization** node that the datacenter/cluster belongs to from the list.
3. For datacenters that are managed by a controller, select the **Controller** from the list.
 - To add a **Controller**:
 - a. Select the **Select a controller** drop-down list. The **Search controller** dialog appears.
 - b. Select the controller manually from the list, or click **Search controller** and start typing a search criterion; a list of computers that match the search criterion is displayed.
 - c. Select the computer to use as controller.
 - To remove a **Controller**, click the **Select a controller** drop-down list, and then select **Clear**.
4. Type a **Description** for the datacenter/cluster.
5. Select the **Hypervisor technology** that is used for the datacenter/cluster.
 - If **VMware vSphere** is selected as hypervisor, an additional option appears at the bottom of this screen. Select **Datacenter is a VMware DRS cluster** if the VMware DRS feature has been enabled for this cluster.
6. Select **High availability enabled** if high availability is used for the datacenter/cluster. If you are unsure whether it is, check with the administrator of the cluster.

NOTE

In the following scenario, most of the **General** tab settings are derived automatically:

- The **Snow Integration Connector for VMware vSphere** has been activated in the Snow License Manager environment.
- A datacenter/cluster is using **VMware vSphere** as its hypervisor technology.

In this case, the configuration of this particular VMware vSphere datacenter/cluster will be passed to Snow License Manager, which means that you will see the following on the **General** tab here on the **Edit datacenter/cluster** page:

- All of the fields will be grayed out, with the exception of **Organization, Controller** (host), and **Description**, which will still be editable.
- The **Hypervisor technology** will be **VMware vSphere**, and the following will be set automatically—selected or not—depending on this datacenter/cluster's particular VMware vSphere configuration:
 - **High availability enabled**
 - **Datacenter is a VMware DRS cluster**

General information

Enter information about the datacenter/cluster

Name

Enter the name of the datacenter/cluster

Organisation

Select the organisation the datacenter/cluster belongs to

Controller

Select a controller

Description

Enter a description for the datacenter/cluster

Hypervisor technology

Select the hypervisor technology used in this datacenter/cluster

Hypervisor technology configuration

Enter configuration information related to the hypervisor technology used in this datacenter/cluster

High availability

Select the check box if high availability is enabled

 High availability enabled

Datacenter is a VMware DRS cluster

Select the check box if this datacenter is a VMware DRS cluster

 Datacenter is a VMware DRS cluster

By design, these grayed-out settings cannot be manually changed, as having them in place is instrumental in licensing Windows Server environments correctly. These settings ensure that licensing requirements are covered for hosts with virtual machines running in datacenters/clusters that use VMware vSphere hypervisor technology.

In other words, implementing the VMware vSphere connector provides an automated way to reach improved license compliance calculations; in addition, these settings are also used in the Windows Server Assessment report.

9.2.2 HOSTS TAB

Use the **Hosts** tab to add servers that will be included in the datacenter/cluster:

1. Click **Add hosts**.
2. To select hosts, either use the check boxes on the left-hand side of the screen to select multiple hosts, or filter the list of available hosts by typing a search criterion and subsequently select hosts; a list of computers that match the search criterion is automatically displayed.
3. Select the servers to be added, and then click **Save**.
4. The selected servers are added to the **Hosts** list.

To delete a host, click **Delete** on the right-hand side of the host to delete.

9.2.3 EXTENDED COVERAGE TAB

Use the **Extended coverage** tab to specify for which datacenter/cluster the coverage should be extended to, for which application, and for what reason.

1. Select **Extend coverage**.
The **Select application** screen appears.
2. Select the **Select application** drop-down list.
The **Search for application** dialog appears.
3. Select the application manually from the list, or select **Search for application** and start typing a search criterion; select the application from the list of applications that match the search criterion.
4. Select a reason from the **Coverage reason** list.
5. Select **Select datacenter/cluster**.
6. Select the datacenter/cluster to extend coverage to.
7. Select **Extend coverage**.
The selected datacenter/cluster is added to the list of datacenters/clusters with extended coverage.

9.3 EDIT DATACENTERS AND CLUSTERS

For information on how to edit datacenters and clusters, see [Category views](#). For information on how to edit the information on the tabs, see [Add datacenter and cluster](#).

10 DEVICES

This chapter describes how to manage devices in Snow License Manager.

10.1 DEVICES

A device is a computer or object that has been connected to one or more remote desktop servers and/or virtual desktops. A device could be either an inventoried computer or a non-inventoried object.

Select **List all devices** from the category navigation to see all devices in the IT environment. Click a device to see the device details.

10.1.1 DEVICE DETAIL VIEW

The top section of the detail view contains general information on the device.

The bottom section of the detail view contains detailed information on the device. The information is presented in tabs according to the following table.

Tab	Description
Users	All users that have been logged on to the device
Applications	Applications installed on the device
Remote servers	The remote desktop servers that the device has been connected to
Virtual desktops	Available if the device has accessed a virtual desktop, and displays a list of the virtual desktops that the device has been connected to.
Features	Available for auto generated VMware datacenters and shows licensed Product Features.
General	General information on the device. The information in the list is sorted by information type.

10.2 EDIT DEVICE

1. On the **Computers** menu, click **List all devices** and find one or more devices to be edited.
2. To edit one device:
 - a. Click the device row.
The **Device detail view** appears.
 - b. On the context menu, click **Edit device**.
3. To edit several devices at the same time:
 - a. Select the devices.
 - b. Click **Edit devices** on the context menu.
The **Multiple device editing view** appears.
4. Edit the information in the fields on the **General** tab according to the following section.

5. Click **Save**.

10.2.1 GENERAL TAB

Use the fields on the **General** tab to edit information on the device:

1. Select **Organization** node that this device belongs to from the list.
2. Select device **Status** from the list:
 - **Active** - The device is active in the system and will require licenses for installed applications.
 - **Quarantined**- The device is placed in quarantine, but will still require licenses for its installed applications. If automatic quarantine management is activated (in Snow MACC) the device will automatically be placed in quarantine and removed from the system when it stops reporting inventory data.
3. To prevent the device from being placed in quarantine status or being removed from the system if it stops reporting inventory data, select the **Disable automatic quarantine management**.
4. To disable auto connect rules, select the **Disable auto editing** check box.
5. Click **Save**.





11 USERS

The **Users** category gives complete information on all users and the usage of the IT environment.


11.1 USERS DETAIL VIEW

To show detailed information on a specific user, click the item in a list of users.

The top section of the detail view contains general information on the user.

Applications	Computers	Devices	Logged in
			
Number of applications used by the user.	Number of computers used by the user.	Number of devices used by the user.	Shows when the user was last logged in.

The bottom section of the detail view contains detailed information on the user. The information is presented in tabs according to the following table.

Tab	Description
Applications	<p>The applications that have been used by the user, as well as details concerning the usage.</p> <p>An arrow  to the left of the application name in the list is available for all applications with registered usage. Click the arrow to expand a graph of the usage.</p>
Computers	<p>Which computers the user has logged on to and when.</p> <p>The list includes both computers and servers, such as Citrix and Terminal Server.</p>
Mobile devices	Which mobile devices that are registered on the user.
Information	<p>General information on the user.</p> <p>The information is grouped by information type. Note that some information is maintained manually and is therefore not available until registered.</p>
Devices	The devices (not inventoried computers) from which this user has run applications.
Application rights	The applications that the user has been given application use rights to.
Subscription plans	The Microsoft 365 subscription plans that has been assigned to the user.

Tab	Description
Documents	Uploaded documents and links related to the user. For more information, see Manage documents and links .

11.2 EDIT USERS

1. On the **Users** menu, click **List all users** or **Search for users** and find one or more users to be edited.
2. To edit one user:
 - a. Click the user row.
The **User detail view** appears.
 - b. On the context menu, click **Edit user**.
3. To edit several users at the same time:
 - a. Select the users.
 - b. Click **Edit users** on the context menu.
The **Multiple user editing view** appears.
4. Edit the information in the fields on the tabs according to the following sections.
5. Click **Save**.

11.2.1 GENERAL TAB

Use the fields on the **General** tab to enter information on the user:

1. Select **Organization** node that this user belongs to from the list.
2. If not populated already, type **Full name** of the user to facilitate searches.
Normally, this information is automatically populated by Snow Inventory.
3. Type the user's contact information; **Location, Room number, Phone number, Mobile phone number, and E-mail**.
4. Select user **Status** from the list:
 - **Active** - The user is active in the system and will require licenses for usage of applications.
 - **Quarantined** - The user is placed in quarantine, but will still require licenses for its usage of applications. If automatic quarantine management is activated (in Snow MACC) the user will automatically be placed in quarantine and removed from the system when it stops reporting inventory data.
5. To prevent the user from being placed in quarantine status or being removed from the system if it stops reporting inventory data, select the **Disable automatic quarantine management** check box.
6. To disable auto connect rules, select the **Disable auto editing** check box.

11.2.2 CUSTOM INFORMATION TAB


On the **Custom information** tab, enter information and values in the custom fields that are available for the **Users** category.

For more information, see [Enter custom field information](#).


11.2.3 APPLICATION RIGHTS TAB

Use the **Application rights** tab to add and remove application rights to the user.

11.2.3.1 ADD APPLICATION RIGHTS

1. Click the **Search for application**  icon.
The **Find application** dialog box appears.
2. Type a search criterion, and then click **Search**.
A list of applications that match the search criteria is displayed.
3. Select the application to be added from the list, and then click **OK**.
4. Click **Add**.
The selected application is added to the list of assigned applications.

11.2.3.2 REMOVE APPLICATION RIGHTS

- Click the **Remove**  icon.
The application is removed from the list of assigned applications.

11.2.4 DOCUMENTS TAB

On the **Documents** tab, click **Add document** to upload documents or add links related to the user.

For more information, see [Manage documents and links](#).

11.3 DELETE USER

For information on how to delete users, see [Category views](#).

CLOUD

The **Cloud** category in Snow License Manager gives detailed information on cloud services, such as Adobe Creative Cloud, Microsoft 365, and other SaaS (Software as a Service) providers.

Cloud services, also called SaaS services, are often licensed using a subscription model, which are purchased on an ongoing basis. A subscription, or subscription plan, entitles the user to one or several included applications.

ADOBE CREATIVE CLOUD

Use the Adobe Creative Cloud pages in Snow License Manager to find optimization opportunities for your license utilization and costs.

12.1.1 DESCRIPTION

The **Adobe Creative Cloud** pages provide information on the licenses, users, and costs for Adobe Creative Cloud. To populate the pages with data you need inventory sources, and to get correct statistics and insights you must add cost periods to the licenses and link users. See [Prerequisites](#) for more information.

On the **Licenses**, **Users**, and **Cost** pages you can explore activity, availability and spend for your Adobe Creative Cloud, to find optimization opportunities and potential cost savings.

The **Insights** show the potential cost savings and optimization opportunities for your Adobe Creative Cloud licenses specifically, and link to the corresponding report. On the **Reports** page you can directly explore and export all reports related to Adobe Creative Cloud. The **Portals** page shows all of your configured Adobe Creative Cloud portals which you import data from.

NOTE

Adobe Creative Cloud customers with an Enterprise (ETLA) agreement must be aware that manually changing the license quota for the licensing profiles in the Adobe Admin Console might cause Snow License Manager to show an incorrect number of licenses. To show the correct number of licenses, the sum of license quotas for all licensing profiles must equal the total licenses purchased.

12.1.2 CHARACTERISTICS

The statistics are presented in charts and tables. Several filters are available.

12.1.2.1 FILTERS

There is one main filter for portals and license plans, affecting most data, and column filters in tables.

- **Filter**

The main filter affects all data in the **Licenses**, **Users**, and **Cost** pages but not **Reports** or **Insights**.

- **Portals**
Select one or several Adobe portals to filter data from.
- **License plans**
Select one or multiple license plans to filter data on.
- **Column filter**
Search or select a metric in a column to filter data in the table. This affects data exports from the table.

12.1.2.2 CHARTS

Charts present summaries and relative breakdowns for the selected metric at the top and on the **Charts** tab.

Page	Description
Licenses: Availability	<p>Highlights assigned, unassigned, and overassigned licenses compared to total amount of licenses, indicating optimization opportunities.</p> <ul style="list-style-type: none"> ▪ License availability Shows a relative breakdown per license of assigned, unassigned, and overassigned licenses. ▪ Assigned licenses Shows assigned licenses per month for each year.
Licenses: Activity	<p>Highlights active and inactive licenses compared to total amount of assigned licenses, indicating optimization opportunities.</p> <p>Active licenses are assigned licenses with monitored activity within the last 90 days.</p> <p>Inactive licenses are assigned licenses with monitored activity more than 90 days ago and licenses without monitored activity.</p> <ul style="list-style-type: none"> ▪ License activity Shows a relative breakdown per license of active and inactive licenses. ▪ License activity history Shows license activity per month for each year.
Users	<p>Highlights total, active, and inactive users, indicating optimization opportunities.</p> <p>Active users are users with activity within the last 90 days.</p> <p>Inactive users are users with activity more than 90 days ago.</p> <ul style="list-style-type: none"> ▪ Users Shows a monthly breakdown of active and inactive users for all Adobe licenses with user-based metrics.

Page	Description
Cost	<p>Highlights costs for assigned, unassigned, and inactive licenses compared to total cost, indicating optimization opportunities.</p> <ul style="list-style-type: none"> ▪ License cost Shows relative costs per license for assigned, unassigned, and inactive licenses. ▪ Total license cost Show total license cost per month for each year.

12.1.2.3 TABLES

Tables present detailed breakdowns for the selected metric on the **Data** tab.

Page	Description
Licenses: Availability	Shows a breakdown of all assigned, unassigned, and overassigned licenses.
Licenses: Activity	Shows a breakdown of all active and inactive licenses.
Users	Shows a breakdown of all users and their latest activity in any license with user-based metrics.
Users / [user name]	<p>Tabs:</p> <ul style="list-style-type: none"> ▪ Licenses: Shows a list of the user's licenses and their activity in them. ▪ Products: Shows a list of the user's products and their activity in them. ▪ Inventoried users: Shows the Snow inventoried users linked to the Adobe user, and their inventoried activity.
Cost	Shows a breakdown of costs for assigned licenses, unassigned licenses, and inactive licenses.

PREREQUISITES

To populate the Adobe Creative Cloud pages in Snow License Manager with data, you need inventory sources. To get accurate statistics and insights, you must add cost periods and link users.

12.1.3.1 DESCRIPTION

To populate the **Adobe Creative Cloud** pages with data, you need inventory sources. To get accurate statistics and insights, you must add cost periods and link users.

ADD INVENTORY SOURCES

To get information on licenses, users, applications, and activity into the **Adobe Creative Cloud** pages, you need inventory sources.

- **Snow Integration Connector for Adobe Creative Cloud**

The connector imports information on license plans and users from one or several Adobe Creative Cloud portals. See [Snow Integration Connector for Adobe Creative Cloud](#) for more information and configuration.

- **Snow Inventory Agents**

The agents provide inventory of devices and Adobe Creative Cloud on-premise applications as well as user activity in those applications. See the links below for more information:

- [Snow Inventory Agent for macOS](#)
- [Snow Inventory Agent for Windows](#)
- [Configuration of Snow Inventory Agents](#)

NOTE

For proper recognition of Adobe Acrobat edition by the agent, you may require an Adobe Acrobat Registry Scan script from Snow's Data Intelligence Service. Contact Snow Software Support for access to and help with the script.

ADD COST PERIODS AND LINK USERS

To get accurate statistics and insights in the **Adobe Creative Cloud** pages, cost periods must be added and Adobe Creative Cloud users linked to Snow inventoried users.

- **Add cost periods**

Information imported from the Adobe Creative Cloud portal only contains the total number of licenses and the number of licenses that have been assigned to users. There is no information about the costs for the Adobe Creative Cloud licenses in the portal, so the cost periods must be added manually.

See [Manage cost periods](#) on how to add, edit and delete cost periods on the **Cost** page.

- **Link users**

To automatically detect license coverage of applications, users gathered from the inventory sources and the Adobe Creative Cloud portal users must be linked. The usage of on-premise applications can then be connected to the corresponding user and license.

Users are linked during the import of the Adobe Creative Cloud connector by matching the email addresses of Snow License Manager users with the Adobe user names from the Adobe Creative Cloud Portal. If a match is found, the user is linked. When no match is found, the user remains unlinked. To see users that are not linked, go to the **Link users** page.

See [Manage user linking](#) on how to improve automatic linking and manually link users.

MANAGE USER LINKING

Learn how to improve and manage linking of Adobe Creative Cloud users with Snow inventoried users in Snow License Manager.

Users are linked during the import of the Adobe Creative Cloud connector by matching the email addresses of inventoried Snow License Manager users with the Adobe user names from the Adobe Creative Cloud Portal. The best way to retain accurate user linking is to keep user email addresses up to date in the Adobe Creative Cloud portal.

12.1.4.1 IMPROVE USER LINKING WITH ACTIVE DIRECTORY USER DISCOVERY

Use Active Directory user discovery to improve the automatic user linking and bring additional value to the Adobe Creative Cloud feature.

- Enable **Active Directory user discovery** in the **Snow Inventory Server** to collect user data from Active Directory. The collected data is used to generate user objects in Snow License Manager so that they can be linked to the users from Adobe Creative Cloud portal data during imports. See [Snow Inventory Server Admin Console](#) for information on how to enable Active Directory user discovery.

12.1.4.2 IMPROVE USER LINKING THROUGH MANUAL MATCHING WITH ADOBE USER NAMES

If Active Directory user discovery is not used to improve user linking, you can improve it by editing the email addresses of inventoried users through an import or manually.

1. Create a list with the user names of the Snow License Manager users that you want to match with a corresponding Adobe Creative Cloud user.
The Snow License Manager users are found in the **All users** report or in the **List all users** view.
2. Add a column with the matching Adobe user name for each user.
3. Import the data by updating the existing users according to [Import data](#).
At the **Field mappings** step, ensure that the Adobe user name field is mapped to the **Email address** field.

You can also manually edit the email address for users one by one, by entering the Adobe user name in **E-mail** for the user. See [Edit users](#) for more information.

12.1.4.3 LINK USERS MANUALLY

Manually link users that could not be automatically linked, based on suggested matches and manual input on the **Link users** page.

TIP

One Adobe account can be linked to several Snow inventoried users.

1. In the **Adobe Creative Cloud** navigation bar, select **Link users**.
The **Users to link** tab appears.
2. Review the suggested matches.
Each row in the table shows Adobe users and any suggested link options for inventoried users. Link options can be either an inventoried user name or email address.
3. Select the rows for the users that you want to link.
You can change the suggestions in the **Link options** column. In case of multiple users, add them comma-separated without space:
`username1,username2,useremail3.`
4. Select **Preview** to review the linking.
 - To edit a user linking, in the **Link options** column, edit the row of each Adobe user. Select the save icon.
 - To remove a user linking, select the delete icon on the user row. The user is moved back to the **Users to link** tab.

- If you are satisfied with the user linking, go to [Step 5](#).
5. Select **Save** to confirm the linking.
Incorrectly entered user names or email addresses will be disregarded during the linking. If all link options for an Adobe user are incorrect, the user is moved back to the **Users to link** tab.
 6. To edit or remove the linking for a user, select the **Linked users** tab.
 - To edit the linking, in the **Link options** column, edit the inventoried user name or email address on the row for the user and select the save icon.
 - To remove the linking, select the delete icon on the user row. This unlinks the user accounts, and the Adobe user is moved to the **Users to link** tab.

MANAGE COST PERIODS

Learn how to manage cost periods for Adobe Creative Cloud licenses in Snow License Manager.

12.1.5.1 VIEW COST PERIODS

1. Go to the **Cost** page.
2. On the **Data** tab, select the license in the list.

A cost period is valid until a new cost period is [added](#).

12.1.5.2 ADD COST PERIODS

A cost period is valid until a new cost period is added. It is possible to add both older and future cost periods. However, it is only possible to add an old cost period if there is usage data for this period imported through the connector.

You can add costs for all your Adobe portals.

1. Go to the **Cost** page.
2. On the **Data** tab, select the license in the list.
3. Select **Add cost period**.
4. Select **Portal**.
5. Select **Year** and **Month** when the cost period starts.
6. Enter the **Monthly cost** and select **Currency**.
7. Select **Add cost**.
The new cost period appears in the list.

12.1.5.3 EDIT COST PERIODS

If the cost for a license is changed, the the monthly cost and currency can be edited. But to change the start of a cost period, a new cost period must be added.

1. Go to the **Cost** page.
2. On the **Data** tab, select the license in the list.
3. Select the **Edit** icon for the cost period that you want to edit.
4. In **License cost**, edit the **Monthly cost** and **Currency**.

5. Select **Save cost**.
The changes appear in the list.

12.1.5.4 DELETE COST PERIODS

1. Go to the **Cost** page.
2. On the **Data** tab, select the license in the list.
3. Select the **Delete** icon for the cost period that you want to remove.
4. Select **Delete** in the modal that appears.
If the cost period is not removed automatically from the list, refresh the page.

MANAGE PORTALS

Learn how to view and delete Adobe Creative Cloud portals in Snow License Manager.

12.1.6.1 VIEW PORTALS

1. On the **Cloud** menu, select **Adobe Creative Cloud**.
2. Select **Portals**.
The table shows the **Id** and **Name** of the configured portals, and date and time of the **Last import** of data.

12.1.6.2 DELETE PORTALS

To delete a portal, you must either be assigned the **Administrator** role or be assigned the permission **ADOBECC_PORTAL_MANAGEMENT** in Snow Management and Configuration Center.

WARNING

A deleted portal cannot be restored. When you delete a portal, you also delete all information on costs and linked users.

1. On the **Cloud** menu, select **Adobe Creative Cloud**.
2. Select **Portals**.
3. Select the delete icon on the row of the portal that you want to delete.
4. In **Delete portal**, enter the name of the portal to confirm the deletion, and then select **Delete**.

MICROSOFT 365

Use the Microsoft 365 pages in Snow License Manager to find optimization opportunities for your subscription utilization and costs.

12.2.1 DESCRIPTION

The **Microsoft 365** pages provide information on the subscription plans, user activity, and costs for the cloud service. To populate the pages with data you need inventory sources, and to get correct statistics and insights you must add cost periods to the subscriptions and link users. See [Prerequisites](#) for more information.

On the **Subscriptions**, **Users**, and **Cost** pages you can explore activity, availability and spend for all your Microsoft 365 subscriptions and users, to find optimization opportunities and potential cost savings.

The **Overview** page relates the most important messages for the following metrics:

- **Subscriptions:** Shows how many of your subscriptions that have been provisioned (assigned) to a user.
- **Users:** Shows how many of the users with provisioned subscriptions that have been active within the last 90 days.
- **Spend:** Shows how much you spend on unprovisioned (unassigned) subscriptions and inactive users.
- **Subscription utilization:** Shows how well you utilize each subscription with user-based metrics, divided into active users, inactive users, and unprovisioned (unassigned) subscriptions.

The **Insights** show the potential cost savings and optimization opportunities for your Microsoft 365 subscriptions specifically, and link to the corresponding report. On the **Reports** page you can directly explore and export all reports related to Microsoft 365. The **Portals** page shows all of your configured Microsoft 365 portals which you import data from.

12.2.1.1 USER ACTIVITY

User activity means when the user last had any activity in the application. Activity data comes from one or several inventory sources. In such a case, the latest available activity is shown regardless of inventory source. For some applications, activity cannot be monitored.

The Microsoft 365 portal provides activities for some applications: Outlook, OneDrive, Sharepoint, Teams, Yammer, Skype. Activities for all other Microsoft 365 applications are collected through Snow Inventory Agents and Cloud Application Metering: Power BI, Visio, Project, Apps for Enterprise, Dynamics365, Office Online.

To always show updated user activity data in the **Microsoft 365** pages, you are recommended to scan your inventory sources regularly. See [Prerequisites](#) for more information.

NOTE

Changes from Snow License Manager 9.12

After installation of Snow License Manager 9.12, when the O365 service is started, migration of historic data for user activity starts automatically. The migration is only executed once, at this first start of the O365 service. The **Subscription utilization** chart on the **Activity** page shows accurate data, including inactive users, only for periods occurring **after** installation of Snow License Manager 9.12. Historic data from before the installation of Snow License Manager 9.12 shows only active users and the numbers are **approximate**, only used to show **trends**.

Refer to [Microsoft 365 functionality](#) for more information on the migration of user activity historic data.

12.2.2 CHARACTERISTICS

The statistics are presented in charts and tables. Several filters are available.

12.2.2.1 FILTERS

There are several types of filters available to filter data in charts and tables.

- **Portal filter**
Select a Microsoft portal to filter data from. The filter affects **all** pages that display data from the chosen portal: **Overview, Subscriptions, Users, Cost**. The filter can be selected from all of those pages.
- **Subscription filter**
Select one or multiple subscriptions to filter data on in the **At a glance** chart or in subscription and cost charts. The filter contains subscriptions that have user-based metrics. The filter only affects the chart.
- **Annual filter**
Select a year to filter data on in charts. The filter only affects the chart.
- **Column filter**
Search in a column to filter data in tables. The filter only affects the table.

12.2.2.2 CHARTS

Charts show a brief summary of several metrics or a monthly breakdown of the item for the selected metric.

Page	Chart	Description
Overview	At a glance	Shows a graphical summary of the most important areas: <ul style="list-style-type: none"> ▪ Subscriptions: The rate of provisioned subscriptions to total amount paid for. ▪ Users: The rate of user activity on provisioned subscriptions. ▪ Annual/monthly spend: The rate of overspend on unprovisioned (available) subscriptions and inactive users.
Overview	Subscription availability	Shows all subscriptions with user-based metrics in a compound chart per subscription plan of assigned, unassigned, and overassigned subscriptions.
Overview	Subscription activity	Shows all subscriptions with user-based metrics in a compound chart per subscription plan of active users, inactive users, and unknown usage. Unknown usage means that activity cannot be monitored.

Page	Chart	Description
Subscriptions: Activity	Subscription utilization	Shows a monthly breakdown, with historic data, of active and inactive users and unknown usage for provisioned (assigned) licenses. <ul style="list-style-type: none"> ▪ Active users: active less than 90 days ago (for monitored subscriptions) ▪ Inactive users: <ul style="list-style-type: none"> ◦ active more than 90 days ago (for monitored subscriptions) ◦ no activity recorded (for monitored subscriptions) ▪ Unknown usage: activity cannot be monitored for the subscriptions
Subscriptions: Availability	Subscription availability	Shows a monthly breakdown of provisioned, unprovisioned, and overassigned subscriptions.
Subscriptions: Activity details / [subscription name]	[subscription name]	Shows a monthly breakdown of user activity and amount of unlinked users for the subscription.
Users	Users	Shows a monthly breakdown of active and inactive users for all Microsoft 365 subscriptions with user-based metrics.
Cost	Subscription cost	Shows a monthly breakdown of the costs for active and inactive users and unprovisioned subscriptions. Shows historical data if available.
Cost details / [subscription name]	Subscription utilization	Shows a monthly breakdown of the costs for active and inactive users and unprovisioned subscriptions. Shows historical data if available. The data below the chart show: <ul style="list-style-type: none"> ▪ Cost for unprovisioned subscriptions and provisioned subscriptions for the current month. ▪ Cost for provisioned subscriptions divided into inactive and active users. ▪ Accumulated total cost per month, if historical data is available. Costs for inactive users and unprovisioned subscriptions highlight potential cost savings.

12.2.2.3 TABLES

Tables show a detailed breakdown per item for the selected metric with additional column data.

Page	Table	Description
Subscriptions: Activity	Subscription activity details	Shows a breakdown of user activity, with data based on the latest import from the Microsoft 365 portal. The column Inactive users indicates a potential subscription optimization opportunity. It consists of: <ul style="list-style-type: none"> Users for which no activity has been recorded (for subscriptions checked in the Monitored column). Users that were active more than 90 days ago.
Subscriptions: Availability	Subscription availability details	Shows a breakdown of provisioned and unprovisioned or overassigned subscriptions.
Subscriptions: Applications	Applications	Shows a breakdown for all Microsoft 365 applications, their user activity, and the corresponding subscriptions.
Subscriptions: Activity details / [subscription name]	[subscription name]	Shows a breakdown of all users and their activity in the selected subscription applications.
Users	User details	Shows a breakdown of all users and their latest activity in any subscription with user-based metrics.
Users / [user name]	Subscriptions Products	Shows a list in respective tab of the user's subscriptions and products and their activity in them.
Cost	Subscription cost details	Shows a breakdown of costs for all subscriptions. The column Overspend shows a summary of the costs for inactive users and unprovisioned subscriptions, which indicates potential cost savings.

PREREQUISITES

To populate the Microsoft 365 pages in Snow License Manager with data, you need inventory sources. To get accurate statistics and insights, you must add cost periods and link users.

12.2.3.1 DESCRIPTION

To populate the **Microsoft 365** pages with data, you need inventory sources. To get accurate statistics and insights, you must add cost periods and link users.

ADD INVENTORY SOURCES

To get information on subscriptions, users, applications, and activity into the **Microsoft 365** pages, you need inventory sources.

- **Snow Integration Connector for Microsoft 365**
The connector imports information on subscription plans and some [user activity](#) from the Microsoft 365 portal. See [Snow Integration Connector for Microsoft 365](#) for more information and configuration.

- **Snow Inventory Agents**

The agents provide inventory of devices and Microsoft 365 on-premise applications as well as user activity in those applications. See the links below for more information:

- [Snow Inventory Agent for macOS](#)
- [Snow Inventory Agent for Windows](#)
- [Configuration of Snow Inventory Agents](#)

- **Cloud Application Metering**

The browser extensions collect cloud application use and user activity. See [Cloud Application Metering](#) for more information.

ADD COST PERIODS AND LINK USERS

To get accurate statistics and insights in the **Microsoft 365** pages, cost periods must be added manually and Microsoft 365 users linked to Snow inventoried users.

- **Add cost periods**

Information imported from the Microsoft 365 portal only contains the total number of subscriptions and the number of subscriptions that have been assigned to users. There is no information about the costs for the Microsoft 365 subscriptions in the portal, so the cost periods must be added manually.

See [Manage cost periods](#) for information on how to add, edit, and delete cost periods on the **Cost** page.

- **Link users**

To automatically detect license coverage of applications, users gathered from the inventory sources and the Microsoft 365 portal users must be linked. The usage of on-premise applications can then be connected to the corresponding user and subscription plan.

Manual linking and unlinking is done on the **Link users** page. See [Manage user linking](#) for more information on how to set up automatic linking, manually link users, and unlink users.

MANAGE USER LINKING

Learn how to manage linking of Microsoft 365 portal users with Snow inventoried users in Snow License Manager.

12.2.4.1 LINK USERS AUTOMATICALLY WITH ACTIVE DIRECTORY USER DISCOVERY

Automatic linking through the use of Active Directory user discovery brings additional value to the Microsoft 365 feature.

- Enable **Active Directory user discovery** in **Snow Inventory Server** to collect user data from Active Directory. The collected data is used to generate user objects in Snow License Manager and link them to the users from Microsoft 365 portal data. Refer to [Snow Inventory Server Admin Console](#) for information on how to enable Active Directory user discovery.

NOTE

From Snow Inventory Server 6.5.0, the collected data includes Microsoft 365 User Principle Name (UPN). From Snow License Manager 9.8.1, user objects are created based on the Active Directory data (including UPN) and not only from inventoried users. You are recommended to update to the latest product versions. If you are using product versions earlier than Snow Inventory Server 6.5.0 and Snow License Manager 9.8.1, user linking based on UPN can be done manually as described in [Link users through manual matching with Microsoft 365 UPN](#).

12.2.4.2 LINK USERS THROUGH MANUAL MATCHING WITH MICROSOFT 365 UPN

If you are using product versions earlier than Snow Inventory Server 6.5.0 and Snow License Manager 9.8.1, you can link users by manually matching their username to their Microsoft 365 User Principle Name (UPN) and import the file.

1. Find and export a list of Snow License Manager users that you want to match to a corresponding Microsoft 365 user.
The Snow License Manager users are found in the **All users** report or in the **List all users** view.
2. Remove all columns except the user name and add a column called Microsoft 365 UPN to the user export and add the matching Microsoft 365 User Principle Name for each user.
The Microsoft 365 users are found under **Users** in the **Microsoft 365** navigation, or in the Microsoft 365 portal.
3. Import the data by updating the existing users according to [Import data](#).
At the Field mappings step, ensure that the Microsoft 365 UPN field is mapped to the Email address field.

During the next import by the Microsoft 365 connector, correctly mapped users will be linked. The import can be manually triggered in the Snow Integration Manager user interface.

12.2.4.3 LINK USERS MANUALLY

For users that can not be automatically linked, manual linking is done based on suggested matches.

1. In the **Microsoft 365** navigation bar, select **Link users**.
The **Link users** view appears.
2. Select the **Users to link** tab, if it is not already shown.
The list shows users that can be linked to a matching inventoried user. If you are satisfied with the suggestion, go to [Step 4](#).

NOTE

If several matching users exist, chose which inventoried user to link to.

3. To change the default suggestion, select another option in the **Link options** column.
Mark as online only will not connect the user to an inventoried user account.
Keep unlinked will move the user to the **Unlinked users** tab.

4. Select **Preview**.
A list with your selected link options is shown.
5. To edit or delete a linking choice, use the icons on each row.
6. Select **Save** to confirm the linking options.
7. The **Users to link** tab is shown.
If all users are linked, or if users are not yet inventoried in Snow License Manager, the list is empty, otherwise it shows the remaining suggestions for users to link.

12.2.4.4 UNLINK USERS

A Microsoft 365 user that has been linked to an inventoried user, or marked as online only, can be unlinked.

1. In the **Microsoft 365** navigation bar, select **Link users**.
The **Link users** view appears.
2. Select the **Linked users** tab.
3. Change option in the **Link options** column, for each user that you want to unlink.
The change is updated immediately.
4. Users that have been unlinked show up on the **Unlinked users** tab.
Select **Reload** if they are not visible.

MANAGE COST PERIODS

Learn how to view, add, edit, and delete cost periods for Microsoft 365 subscriptions in Snow License Manager.

12.2.5.1 VIEW COST PERIODS

1. Select **Cost** in the Microsoft 365 navigation bar.
The **Cost** page appears.
2. Under **Subscription cost details**, select the subscription in the list.
The **Cost** page for the subscription appears.
3. Select **View cost periods**.

A cost period is valid until a new cost period is [added](#).

12.2.5.2 ADD COST PERIODS

A cost period is valid until a new cost period is added. Hence, if the cost for a license or a subscription plan changes, a new cost period must be added. It is possible to add both older and future cost periods. However, it is only possible to add an old cost period if there is subscription and user data imported for this period.

1. Select **Cost** in the Microsoft 365 navigation bar.
The **Cost** page appears.
2. Under **Subscription cost details**, select the subscription in the list.
The **Cost** page for the subscription appears.
3. Select **View cost periods**.
4. Select **Add cost period**.
A side panel appears.

5. Select **Month, Year, Monthly cost** and **Currency** for the subscription.
6. Select **Add cost**.
7. If the cost period is not added automatically in the list, refresh the page.

12.2.5.3 EDIT COST PERIODS

1. Select **Cost** in the Microsoft 365 navigation bar.
The **Cost** page appears.
2. Under **Subscription cost details**, select the subscription in the list.
The **Cost** page for the subscription appears.
3. Select **View cost periods**.
4. Select the edit icon on the row for the cost period that you want to edit.
A panel slides out.
5. Select the correct values for **Month, Year, Monthly cost** and **Currency** for the subscription.
6. Select **Save cost**.
7. If the cost period is not updated automatically in the list, refresh the page.

12.2.5.4 DELETE COST PERIODS

1. Select **Cost** in the Microsoft 365 navigation bar.
The **Cost** page appears.
2. Under **Subscription cost details**, select the subscription in the list.
The **Cost** page for the subscription appears.
3. Select **View cost periods**.
4. Select the delete icon on the row for the cost period that you want to delete.
5. Select **Yes**.
6. If the cost period is not deleted automatically in the list, refresh the page.

MANAGE PORTALS

Learn how to view and delete Microsoft 365 portals in Snow License Manager.

12.2.6.1 VIEW PORTALS

1. On the **Cloud** menu, select **Microsoft 365**.
2. Select **Portals**.
The table shows the **Id** and **Name** of the configured portals, and date and time of the **Last import** of data.

12.2.6.2 DELETE PORTALS

To delete a portal, you must either be assigned the **Administrator** role or be assigned the permission **OFFICE365_PORTAL_MANAGEMENT** in Snow Management and Configuration Center.

WARNING

A deleted portal cannot be restored. When you delete a portal, you also delete all information on costs and linked users.

1. On the **Cloud** menu, select **Microsoft 365**.
2. Select **Portals**.
3. Select the delete icon on the row of the portal that you want to delete.
4. In **Delete portal**, enter the name of the portal to confirm the deletion, and then select **Delete**.

SAAS OVERVIEW

Use the SaaS overview pages in Snow License Manager to find optimization opportunities for your SaaS subscriptions.

12.3.1 DESCRIPTION

The **SaaS overview** provides an overview of which SaaS (Software as a Service) service providers are being used in your organization, by which users and how much they are using them. The information is imported from the respective service provider via [Snow Integration Connector for SaaS](#).

Select a SaaS service provider to explore details for the provider, and then select a subscription to explore more details for the specific subscription type.

To populate the **SaaS overview** pages with data you need inventory sources, and to get correct statistics and insights you must add cost periods to the subscriptions. See [Prerequisites for SaaS overview](#) for more information.

12.3.2 CHARACTERISTICS

The statistics are presented in charts and tables on the respective tabs.

12.3.2.1 CHARTS

Charts present an overview of the metrics for the selected tab.

Page	Tab	Description
SaaS overview	Total user accounts	Shows the total number of SaaS user accounts over the last 12 months.
SaaS overview	Total monthly cost	Shows the cost for the SaaS subscriptions over the last 12 months.
SaaS overview / [provider - subscription]	Total user accounts	Shows the number of user accounts over the last 12 months divided into those with and those without login activity.
SaaS overview / [provider - subscription]	Total monthly cost	Shows the cost for the subscription over the last 12 months.
SaaS overview / [provider - subscription / connector - subscription type]	Total user accounts	Shows the number of user accounts for the selected subscription over the last 12 months divided into those with and those without login activity.

Page	Tab	Description
SaaS overview / [provider - subscription / connector - subscription type]	Total monthly cost	Shows the cost for the selected subscription over the last 12 months. Below the chart a breakdown into costs for user accounts with and without login activity is presented for the last two months and as accumulated total cost.

12.3.2.2 TABLES

Tables present a breakdown into important metrics for the selected tab.

Page	Tab	Description
SaaS overview	Total user accounts	SaaS provider overview shows all SaaS user accounts per provider since the last import and how many user accounts that have login activity.
SaaS overview	Total monthly cost	SaaS service providers shows the SaaS service providers and the associated costs since the latest import.
SaaS overview / [provider - subscription]	Total user accounts	All subscriptions shows all subscriptions for this provider provider since the last import, total amount of user accounts and how many user accounts that have login activity.
SaaS overview / [provider - subscription]	Total monthly cost	SaaS service providers shows the connectors for this providers and the associated costs since the latest import with a breakdown into user account login activity.
SaaS overview / [provider - subscription / connector - subscription type]	Total user accounts	All user accounts for this subscription shows a list of users in this subscription and their login activity.

PREREQUISITES FOR SAAS OVERVIEW

To populate the SaaS overview pages in Snow License Manager with data, you need inventory sources. To get accurate statistics and insights, you must add cost periods.

12.3.3.1 DESCRIPTION

To populate the **SaaS overview** pages with data, you need inventory sources. To get accurate statistics and insights, you must add cost periods.

ADD INVENTORY SOURCES

To get information on subscriptions, applications and activity into the **SaaS overview** pages in, you need inventory sources.

- **Snow Integration Connector for SaaS**

The connector imports information on subscriptions, application use, and user activity from the respective service provider. Not all connectors can provide

activity data. See [Snow Integration Connector for SaaS](#) for more information and configuration.

ADD COST PERIODS

To get accurate statistics and insights in the **SaaS overview** pages, you must add cost periods.

The information imported from SaaS providers covers the total number of subscriptions and the number of subscriptions that have been assigned to users. However, there is no information about the costs for the subscriptions from the service providers. Therefore, the cost periods must be added manually to provide accurate statistics and charts. Refer to [Manage cost periods in SaaS overview](#) on how to add and delete cost periods.

MANAGE COST PERIODS IN SAAS OVERVIEW

Learn how to add and delete cost periods for SaaS subscriptions in Snow License Manager.

12.3.4.1 ADD COST PERIODS

A cost period is valid until a new cost period is added. Hence, if the cost for a license or a subscription plan changes, a new cost period must be added. It is possible to add both older and future cost periods. However, it is only possible to add an old cost period if there is imported user data for this period.

1. On the **Total monthly cost** tab for the subscription type, select **Edit cost periods**.
The **Cost periods** dialog box appears.
2. Select **Add new cost period**.
3. Select the month and year from when the periods starts.
4. Set the price for the subscription plan or subscription and select the currency for the period.

NOTE

For SaaS subscriptions, the cost model can vary and depends on the service provider.

5. Select **Add period**.
The added cost period is being processed.
6. Select **Close**.
7. If the cost period is not added automatically, refresh the page.

12.3.4.2 DELETE COST PERIODS

It is not possible to edit a cost period, but it is possible to delete a cost period.

1. On the **Total monthly cost** tab for the subscription type, select **Edit cost periods**.
The **Cost periods** dialog box appears.
2. Select **Delete** for the cost period to be deleted.
3. Select **Yes, delete period**.
The deleted cost period is being processed.

4. Select **Close**.
5. If the cost period is not deleted automatically, refresh the page.

13 AGREEMENTS






Agreements, including master and sub-agreements, can be viewed and managed in the Agreements category.

This section also covers how to manage Oracle agreements in the Enterprise category.

13.1 AGREEMENTS DETAIL VIEW

To show detailed information on a specific agreement, click the item in a list of agreements.

The top section of the detail view contains general information on the agreement.

Type	Agreement number	Total cost	Expiration date	Renewal date
				
The type of agreement.	The agreement number.	The total cost for the agreement. Note that incomplete license purchases are not included.	The date when the agreement expires. When agreement has expired: red icon	The date when the agreement must be renewed. When agreement is not renewed: red icon

The bottom section of the detail view contains detailed information on the agreements. The information is presented in tabs according to the following table. Depending on selected agreement type, available tabs will vary.

Tab	Description
Sub-agreements	All defined sub-agreements for this agreement.
Licenses	All licenses attached to the agreement.
Computers/Mobile devices	All computers/mobile devices attached to the agreement.
Objects	All objects attached to the agreement (e.g. mobile phones, printers, and monitors)
Orders	Information on the Oracle orders attached to the agreement.
Agreement periods	Between which dates the agreement is valid.
Settings	General settings for the agreement.
Information	General information and the custom fields that have been created for the agreement. The information is sorted by information type.

Tab	Description
Description	A description of the agreement.
Documents	Uploaded documents and links related to the agreement. For more information, see Manage documents and links .

13.1.1 TOTAL COST

If there are licenses linked to an agreement, the **Total cost** or value of the agreement is visible from the top section of the agreement detail view. If no financial information is visible within the agreement, then either there are no licenses linked to the agreement or there is no financial information entered on the license. Note that incomplete license purchases are not included in the Total cost.

To see a cost breakdown for all licenses attached to the agreement, click the **Total cost** box.

13.2 ADD AGREEMENT

To add an agreement, other than an Oracle agreement:

1. On the **Agreements** menu, click **Add agreement**.
The **Add agreement** view appears.
2. Enter information in the fields on the tabs according to the following sections.
3. Click **Save**.

To add an Oracle agreement:

1. On the **Enterprise** menu, click **Oracle overview**.
The **Oracle overview** appears.
2. On the **Entitlements** tab, click **Agreements**.
3. Click **Add agreement**.
4. Enter information in the fields on the tabs according to the following sections.
5. Click **Save**.

13.2.1 GENERAL TAB

Use the fields on the **General** tab to enter general information, for example agreement type and agreement number, on the agreement.

NOTE

Depending on selected agreement type, available fields and options will vary.

1. Select agreement **Type** from the list.
To be able to attach licenses to the agreement, select **Software agreement**. All other agreement types are hardware related so it is not possible to attach a license. For more information about Agreement types, see [Agreement](#).
2. Type **Agreement number** and **Agreement name** according to the manufacturer.

If the agreement has an Agreement number and Agreement name, then use those. However, if there is no unique number or specific agreement name, internally agree on a naming convention so it is done the same way by everyone within the organization.

3. For Oracle agreements, select **Status** from the list:
 - Select **Valid** when registering a new agreement.
 - To ensure traceability, historical agreements should still be available in the system. When upgrading or migrating an agreement, select the status **Terminated** to highlight that this agreement is no longer valid
4. For Oracle agreements, add specific information related to the agreement in the **Description** box according to [Description tab](#).
5. To automatically attach computers to the agreement (not available for Software agreements and Oracle agreements), select the **Auto attach computers** check box and select organization nodes from the list.
6. For subscription agreements, select the **Subscription agreement** check box.

NOTE

The period of a Subscription agreement will override any Subscription period for licenses attached to the agreement if the **Subscription agreements** check box is selected. This impacts which licenses are included in the compliance calculation. If you wish to add a subscription period for each license instead then do not check this check box. You can still add expiration and renewal information.

7. For software agreements with upgrade rights, select the **Upgrade rights** check box to specify that upgrade rights apply, and that each license manually added and connected to the agreement will have upgrade rights.
8. To always have the agreement visible when you want to search for and attach agreements to license purchases, select **Include in searches where license purchase date is outside of active period**. The agreement will then be visible even if the agreement period has expired or has not yet started at the time of the license purchase date.

13.2.2 AGREEMENT PERIODS TAB

Use the **Agreement periods** tab to specify start and end dates for the agreement. Note that agreement periods cannot overlap.

If the agreement is renewed check whether all licenses attached to the agreement are included in the renewal:

- If the **licenses are included in the renewal** add the new agreement period to the existing agreement.
- If the **licenses are not included in the renewal** do one of the following:
 - Create a new agreement for the renewal and attach the licenses covered by the renewal.
 - Add the new periods to the existing agreement but detach the licenses which are not covered by the new agreement.

To edit the detail on the **Agreement periods** tab:

1. Click **Add new period**.
2. Select dates from the **Valid from** and **Valid to** lists, and then click **OK**.
The agreement period is added to the list.


13.2.3 CONTACT INFO TAB

Use the Contact info tab to add contact information, for the contractor as well as for the agreement owner within your own organization:

Add contact information on **Contractor**, **Contractor contact**, and **Local contact**. If the agreement was signed with the application manufacturer add that manufacturer as Contractor. If the agreement was signed through a reseller add the reseller as Contractor. The local contact is the agreement owner within the organization.

13.2.4 ALERTS TAB



Use the **Alerts** tab to specify if agreement expiration should give alerts on the Snowboard/Overview.

1. To activate agreement alerts, select the **Activate alerts on and before agreement expiration** check box (not applicable for Oracle agreements).
2. In the **Renewal** box  (🕒 for Oracle agreements), type number of days before expiration that this agreement needs to be renewed, or is automatically renewed as stated in the agreement.

EXAMPLE

If the actual renewal date is the end date of the agreement, type 0.

If the renewal date is 3 months before the end date of the agreement, type 90.

3. For Oracle agreements, optionally select the **Activate two additional high priority alerts** check box and then continue with [Step 4](#) and [Step 5](#).
4. In the **Warning** box  (🕒 for Oracle agreements), type number of days before expiration that an agreement alert will appear as a warning.
5. In the **Critical** box  (🕒 for Oracle agreements), type number of days before expiration that an agreement alert will appear as critical.

It is also possible to add email notifications to give alerts when an agreement is about to expire. For more information, see [My notifications](#).

13.2.5 DESCRIPTION TAB

Use the **Description** tab to add specific information related to the agreement, for example metrics, geographical restrictions and use rights. This will save time when adding licenses relating to the agreement as the key information will be easily visible, rather than having to search through the attached agreement document each time.

Read through the agreement and copy and paste or type the specific information in the white area of the tab.

NOTE

The **Description** tab is not available for Oracle agreements.

13.2.6 DOCUMENTS TAB

Use the **Documents** tab to upload documents or add links related to the agreement. It is recommended to give the documents meaningful names to prevent having to open each document to see what it is.

Click **Add document** to upload documents or add links related to the agreement.

For more information, see [Manage documents and links](#).

13.2.7 CUSTOM INFORMATION TAB

Use the **Custom information** tab to enter information and values in the custom fields that are mandatory for the **Agreement** category.

For more information, see [Enter custom field information](#).

13.2.8 SECURITY TAB

The **Security** tab is used to manage the security for the agreements, on an organization and role level. By attaching the agreement to one or more roles, the system will only make the agreement available to users attached to the specific role. For management of roles, refer to the User Guide for Snow Management and Configuration Center.

- To limit access to the agreement on an organization level, select an organization node from the **Organization access** list and select the **Restrict access according to organization setting** check box.
- To limit access to the agreement on a role level, select the **Allow access to the following roles only** check box and use the check boxes to the left to select the roles.

13.3 EDIT AGREEMENT

To edit an agreement, other than an Oracle agreement:

1. On the **Agreements** menu, click **List all agreements** or **Search for agreements** and find the agreement to be edited.
2. Click the agreement row.
The **Agreement detail view** appears.
3. On the context menu, click **Edit agreement**.
4. Edit the information in the fields on the tabs according to [Add agreement](#).
5. Click **Save**.


To edit an Oracle agreement:

1. On the **Enterprise** menu, click **Oracle overview**.
2. On the **Entitlements** tab, click **Agreements**.
3. Click the agreement row.
The **Oracle agreement detail view** appears.
4. Edit the information in the fields on the tabs according to [Add agreement](#).

- Click **Save**.


13.4 MANAGE SUB-AGREEMENTS

There are two ways of connecting agreements to each other. An agreement can either be attached to another agreement as a sub-agreement, or be selected as master to another agreement which will then act as a sub-agreement.

In the **List all agreements** view, the relationships between master and sub-agreements is indicated by an arrow .

Agreement list
Lists all agreements

All ▾

Agreement	Agreement type	Agreement number	Contractor
SAP 1 agreement	Software agreement	SAP1	SAP
 Microsoft Select Plus Corporate Affiliate Registration Form S8700846	Software agreement	S8700846	Microsoft
Microsoft Select Plus Corporate Affiliate Registration Form 60410013	Software agreement	60410013	Microsoft
	Software agreement	S1596188	Microsoft

13.4.1 ADD SUB-AGREEMENT

- Navigate to the agreement that will be used as master.
- On the context menu, click **Add sub-agreement**.

NOTE

For Oracle agreements, click **Add sub-agreement** on the **Sub-agreements** tab or on the context menu.

- Add a new agreement according to [Add agreement](#)

13.4.2 ATTACH AGREEMENT TO MASTER

- Navigate to the agreement that will be used as sub-agreement.
- On the context menu, click **Attach to master**.
The **Attach to master** dialog box appears.
- Select the agreement that will be used as master from the **Agreement** list and click **Save**.
The sub-agreement is added to the **Sub-agreements** tab of the selected master agreement.

13.4.3 VIEW MASTER AGREEMENT

- Navigate to the sub-agreement.
- On the context menu, click **Show master agreement**.

The Master agreement detail view appears.

13.4.4 DETACH SUB-AGREEMENT

1. Navigate to the agreement to detach.
2. On the context menu, click **Detach from master**, and then confirm the detachment.

13.5 MANAGE CUSTOM AGREEMENT TYPES

A custom agreement type can be used in case the pre-defined agreement types in Snow License Manager are not applicable, and it can be used for any type of agreement.

1. To manage custom agreement types, click **Custom Agreement types** on the **Agreements** menu.
The **Custom Agreement types** view appears.
2. Add, edit or delete a custom agreement type according to the following sections.

13.5.1 ADD CUSTOM AGREEMENT TYPE

1. On the context menu, click **Add agreement type**.
The **Add agreement type** view appears.
2. Enter information in the fields on the tabs according to the following table.
3. Click **Save**.

13.5.2 EDIT CUSTOM AGREEMENT TYPE

To edit details of an existing agreement type:

1. Navigate to the custom agreement type to be edited.
2. Enter information in the fields on the tabs according to the following table.
3. Click **Save**.

Tab	Instruction
General	<ol style="list-style-type: none"> 1. Type a Name and a Description of the agreement type. 2. To make it possible to attach computers to agreements of this type, select the Computer attachments active check box 3. To make it possible to attach objects to agreements of this type, select the Object attachments active check box.
Custom information	<p>Enter information and values in the custom fields that are mandatory for the Agreement category.</p> <p>For more information, see Enter custom field information.</p>

13.5.3 DELETE CUSTOM AGREEMENT TYPE

1. Navigate to the specific custom agreement type to be deleted.

2. Click **Delete** in the top right corner, and then confirm the deletion.

NOTE

Only custom agreement types that have no agreements attached can be deleted. A deleted custom agreement type is removed from the system and cannot be restored.

13.6 ARCHIVING AND UNARCHIVING AGREEMENTS

An agreement can be archived, for example if it is not in use or if it is in a draft stage. It is kept in the database for future reference, in contrast to when an agreement is deleted and removed from the system completely. During the archiving procedure, you will have the option to archive connected licenses and agreements.

If connected licenses and agreements are not archived together, they will be disconnected. A disconnected license may become incomplete, since the agreement number and the maintenance period in the agreement is disconnected from the license.

An agreement can be unarchived to be actively used again. During the archiving procedure, you will have the option to unarchive licenses and agreements that were archived together with the selected agreement.

If an agreement is unarchived, then previously connected licenses and agreements will be reconnected to it. However, if the licenses and agreements have been connected to another agreement already, they will not be reconnected to the selected agreement.

Archived agreements can be viewed in the report **Archived agreements**. For instructions how to find it, go to [Find a report](#).

13.6.1 ARCHIVE AGREEMENT

1. On the **Agreements** menu, select **List all agreements** or **Search for agreements** to find the agreement to archive.
2. Select the agreement row.
The **Agreement detail** view appears.
3. On the context menu, select **Archive agreement**.
The **Select agreements** view appears.
4. Select the check boxes for the agreements to archive.
5. Select the **Next** button if it is enabled, indicating that there are connected licenses to the selected agreements. Otherwise, continue to [Step 7](#).
The **Select licenses** view appears. The list shows licenses connected to the selected agreements.
6. Select the check boxes for the licenses to archive.
7. Select **Archive**.

The selected agreements and licenses are archived, and you are returned to the **Agreement list** view. Use the check box **Show archived** to either show or hide archived agreements in the list.

13.6.2 UNARCHIVE AGREEMENT

1. On the **Agreements** menu, select **List all agreements**.
2. Select the box **Show archived**.
3. Select the agreement row.
The **Agreement detail** view appears.
4. On the context menu, select **Unarchive**.
The **Select agreements** view appears.
5. Select the check boxes for the agreements to unarchive.
6. Select the **Next** button if it is enabled, indicating that there are previously connected licenses to the selected agreements. Otherwise, continue to [Step 8](#).
The **Select licenses** view appears. The list shows licenses previously connected to the selected agreement.
7. Select the check boxes for the licenses to unarchive.
8. Select **Unarchive**.

The selected agreements and licenses are unarchived, and you are returned to the **Agreement list** view.

13.7 DELETE AGREEMENT

For information on how to delete agreements, see [Category views](#).





14 LICENSES

In the **Licenses** category all license purchases can be viewed and managed, and compared to installations and usage.

14.1 LICENSE DETAIL VIEW

To show detailed information on a specific license, click the item in a list of licenses.

The top section of the detail view contains general information on the license purchase. Some information is clickable to show more details, such as the Incomplete warning that shows the reasons that make the license incomplete.

Metric	Default metric	Purchase price	Quantity
			
The metric for the license.	The default metric for the application.	The purchase price for the license.	The number of licenses purchased.

The bottom section of the detail view contains detailed information on the license. The information is presented in tabs according to the following table.

Tab	Description
Purchase	A summary of the information and settings that have been registered for the license purchase.
Maintenance and support	Information on maintenance and support costs registered for the license purchase. Also, information on current upgrade rights is shown here.
Assignment	How the license purchase has been assigned (to organization, site, user, or computer/datacenter)
Information	General information on the license purchase, sorted by information type.
Documents	Uploaded documents and links related to the license purchase. For more information, see Manage documents and links .

14.1.1 PURCHASE TAB

The **Purchase tab** displays details that are related to the license purchase.

If a license has been upgraded, the field **Upgraded to** will be available next to the **Show upgrades** link. Select **Show upgrades** to see which application that this license is upgraded to, and its quantity; select the application name to display the license that the current license is upgraded to.

If a license is upgraded from another license, the field **Upgraded from** will be available next to the **Show base licenses** link. Select **Show base licenses** to see which

application that this license is upgraded from, and its quantity; select the application name to display the license that the current license is based on.

For more information on the fields that are available in this tab, see [Add license purchase](#)

14.1.2 MAINTENANCE AND SUPPORT TAB

The **Maintenance and support** tab lets the user keep track of periodical costs connected to the license purchase. Any registered costs will be included in the **Total license cost** displayed on the **Financial info** tab in the application details view.

There are three options for adding maintenance and support periods to a license purchase;

1. Add period and application upgrade rights manually.
2. Use period and application upgrade rights according to an existing agreement that this license purchase has been registered as a part of.
3. Use application upgrade rights according to the application SKU, and add period manually.

If a license has manually set upgrade rights and registered periods for maintenance and support, and that is changed to be according to an agreement instead, then these manually registered settings are replaced by the settings of the selected agreement.

When an agreement is updated with a new period, any license purchases that are part of that agreement will be updated regarding their maintenance and/or support periods.

14.2 ADD LICENSE PURCHASE

Correct registration of license purchases is important to achieve accurate compliance statements from Snow License Manager.

To make the registration of a license purchase complete, Snow License Manager requires certain information to be entered, such as application, number of licenses, and metric. There may also be a license policy defined by the system administrator, making more fields mandatory.

To add a new license purchase:

1. Perform one of the following steps:
 - Navigate to the application, and then click **Add application license** on the context menu.
 - On the **Licenses** menu, click **Add License**.



The **Add license** view appears. If the license is added as an application license, the correct application is pre-selected on the **Purchase** tab.

2. Enter information in the fields on the tabs according to the following sections.
3. Click **Save**.

For more information on how to copy a license, see [Copy license purchase](#).

14.2.1 PURCHASE TAB

Use the **Purchase** tab to enter information on the license purchase.

1. Enter **Date of purchase**.
2. Select the **Legal organization** that is the owner of the license from the list.
Only one legal organization can be selected for each license purchase (normally the top level of the organization).
With auto allocation enabled, licenses will be allocated from selected organization level and downwards.
3. Type the **Purchase price** and select **currency** from the list.
The currency does not have to correspond with the default viewing currency.
New currencies are added in Snow MACC.
4. Type an **Invoice reference**.
5. To select the **Application** that the license purchase applies to (if not already selected):
 - a. Click the **Search**  icon.
The **Find application** dialog box appears.
 - b. Select to search by application name or SKU.
 - c. Type a search criterion, and then click **Search**.
 - d. Select application in the displayed list and then click **OK**.
 - e. When applicable, select **Stock-keeping unit (SKU)** from the list.
6. If the license is part of an agreement, perform the following steps:
 - a. Click the **Search**  icon.
The **Select agreement** dialog box appears.
 - b. Select to search by **Agreement name** or **Agreement number**.
 - c. By default, the list shows all agreements that have a period matching the license purchase date, as well as agreements that have the option **Include in searches where license purchase date is outside of active period** selected. To also search among other agreements, select **Include agreements inactive on purchase date**.
 - d. Type a search criterion, and then click **Search**.
 - e. Select the **Agreement** from the list, and then click **OK**.
The **agreement period** is displayed to the right of the **Agreement** text box.

If the agreement is not available, it could be for one of the following reasons:

 - The license purchase date is not within an agreement period, and the option **Include in searches where license purchase date is outside of active period** is not selected for the agreement. Select **Include agreements inactive on purchase date** to search also among agreements that have not yet started or agreements that have expired.
 - The agreement has not yet been created.
7. In the **Quantity** box, type the number of licenses included in the purchase.
The box is only editable for new and incomplete licenses.
8. Select **Metric** from the list.

9. If the metric is **Installations** or **Users**, select **Assignment type** from the list. Depending on selected assignment type, assignments to an **Organization**, **Computer/datacenter**, **User**, or **Site** must be made on the **Assignment** tab. If no assignments are made for a metric that requires assignment, the license will be shown as unassigned and these licenses will not be considered in compliance calculations. For more information on assignment types, see [Assignment types](#).
10. If the license is purchased with downgrade rights, select the **Downgrade rights** check box.
11. If the license is an upgrade license, select the **Upgrade license** check box. When selected, the additional tab **Base licenses** will appear.
12. If the license allows for coverage of applications within the family (same version) and with the same or lower edition, select the **Cross edition rights** check box.
13. If the license allows for coverage of applications within the family (same version) and with the same edition, regardless of the operating system they are installed on, select the **Cross platform rights** check box.
14. If the license is a subscription license, select the **License has a subscription period** check box, and then enter a subscription period using the **From** and **To** calendar views.

14.2.2 MAINTENANCE AND SUPPORT TAB

Use the **Maintenance and support** tab to register any maintenance and support periods and costs for this license.

If a license purchase is both part of an agreement and has a SKU with application upgrade rights, both the **According to agreement** and **Use upgrade rights according to SKU** will be available as options. However, only one option can be selected.

NOTE

Information on **Period from** and **Period to** is required, or the license purchase will be registered as incomplete.

14.2.2.1 ADD PERIOD AND UPGRADE RIGHTS MANUALLY

1. Click **Add period**.
A row with input fields is added to the table.
2. Select dates from the **Period from** and **Period to** calendars.
3. Use the **Invoice reference** and **Notes** textboxes for reference and comments (optional).
4. If the license includes application upgrade rights, select **Yes** from the **Upgrade rights** list.
5. Optionally, use the **Support cost** and **Maintenance cost** textboxes to specify the current costs.

14.2.2.2 USE PERIOD AND UPGRADE RIGHTS FROM AN EXISTING AGREEMENT

1. Select the **According to agreement period** option.
One or several rows with input fields are added to the table, where dates for **Period from** and **Period to** are fetched from the agreement together with any application **Upgrade rights**.

2. Use the **Invoice reference** and **Notes** textboxes for reference and comments (optional).
3. If the agreement includes no application upgrade rights but the license purchase does, select **Yes** from the **Upgrade rights** list.
4. Optionally, use the **Support cost** and **Maintenance cost** textboxes to specify the current costs.

14.2.2.3 USE UPGRADE RIGHTS FROM SKU

1. Select the **Use upgrade rights according to SKU** option and click **Add period**. A row with input fields is added to the table where application **Upgrade rights** are fetched from the SKU.
2. Select dates from the **Period from** and **Period to** calendars.
3. Use the **Invoice reference** and **Notes** textboxes for reference and comments (optional).
4. Optionally, use the **Support cost** and **Maintenance cost** textboxes to specify the current costs.

14.2.3 ASSIGNMENT TAB

Depending on the selected assignment type for the license, assignments to an **Organization**, **Computer/datacenter**, **User**, or **Site** must be made. The assignment type is selected on the **Purchase** tab. The assignment types are defined in [Assignment types](#).

14.2.3.1 ASSIGNMENT TYPE: ORGANIZATION

When adding a license, you have the option to enable automatic allocation or to manually allocate licenses. To have the licenses automatically allocated at each compliance calculation, and based on the actual needs in the organization, select the **Auto allocate** check box. To manually allocate the licenses, clear the **Auto allocate** check box.

To enable that the **Auto allocate** check box is enabled by default, configure the user settings on the [Settings tab](#).

To select **Automatic allocation** for the license purchase:

1. Select the **Auto allocate** check box.
2. Optionally, select **Disable auto allocation after first calculation** to have the licenses allocated only once and then keep that allocation.

To select **Manual allocation** for the license purchase:

1. Clear the **Auto allocate** check box.
2. Select one organization node at a time from the list and click **OK**. The legal organization level is always added as default.
3. Click **Add** to add the organization node.
4. Type the **Quantity** of licenses allocated to each organization node.

14.2.3.2 ASSIGNMENT TYPE: COMPUTER/DATACENTER

To assign the purchased licenses to one or more computers:

1. Click **Add**.
A search dialog box appears.
2. To search for a computer/datacenter:
 - a. Optionally, type search criteria.
 - b. Optionally, click **More options** and select the check boxes to filter the search, according to the following table.

NOTE

The starting point for the search function is to find all machines with the application installed to which the license can be assigned to, based on the use rights selected for the license. The use rights that are taken into account are downgrade rights, upgrade rights, cross platform rights and cross edition rights. To refine the search result, add filter options to the search.

Filter option	Description
Physical	Shows all physical machines with the application installed <i>and</i> all physical machines hosting a virtual machine with the application installed.
Virtual	Shows all virtual machines with the application installed.
Datacenter / Cluster	Shows all datacenters or clusters hosting physical or virtual machines with the application installed.
Show only machines hosting VMs with the application installed	Shows all physical machines, datacenters, and clusters hosting virtual machines with the application installed.
Show only machines hosting VMs with application family installed	Shows all datacenters, clusters, and physical machines hosting virtual machines with the application or an application from the same application family installed.
Show only machines requiring a license	Shows all machines* with the application installed, which are not compliant and require a license. * Physical machines, physical machines hosting a virtual machine, and datacenters or clusters hosting physical or virtual machines
Ignore use rights	Shows all datacenters, clusters, and physical and virtual machines. Use this option to find and assign a license to a machine where the application is not yet installed.

EXAMPLE

A user wants to find all physical machines with the application installed that is currently not covered by a license. The machines should host virtual machines. To find the physical machines, the user selects the following filter options:

- Physical
- Show only machines hosting VMs with the application installed
- Show only machines requiring a license

EXAMPLE

A user wants to find all datacenters that hosts at least one virtual machines with the application installed that is currently not covered by a license. To find the datacenters, the user selects the following filter options:

- Datacenters
- Show only machines hosting VMs with the application installed
- Show only machines requiring a license

EXAMPLE

A user wants to find all virtual machines with the application installed that is currently not covered by a license. To find the virtual machines, the user selects the following filter options:

- Virtual
- Show only machines requiring a license

EXAMPLE

A user wants to find all virtual machine where the application is not yet installed. To find the virtual machines, the user selects the following filter options:

- Virtual
- Ignore use rights

c. Click **Search**.

3. In the search result list, use the check boxes to select computers, and then click **Add**.
4. For each computer, type number of **Assigned** licenses.
The number of **Total licenses**, **Total assigned** and **Total remaining** is changed according to the number of **Assigned** licenses.
5. For licenses with VM use rights, set the **VM use rights** for the host with virtual instances:
 - a. Click **Change**.
The **VM use rights** dialog box appears.
 - b. Click the option that meets the license purchase conditions.
 - c. Click outside the **VM use rights** dialog box to close it.
VM use rights are now set for **Unlimited** or **Any (number)** virtual instances.
6. To override the **Unlimited** or **Any (number)** setting and assign VM use rights to specific virtual instances:

- a. Click the **VM use rights** cell of the host computer. A dialog box appears.
- b. Optionally, filter the list of virtual instances.
- c. Use the check boxes to select the virtual instances to be assigned with a license.
- d. Click **OK**.

For more information on VM use rights, see [VM use rights](#).

14.2.3.3 ASSIGNMENT TYPE: USER

1. Type search criteria in the **User name**, **Full name**, and/or **Organization** boxes (% can be used as wild card character) and click **Search**. The **Search results** dialog box appears.
2. Select the user to whom the license should be attached and click **Add**. The selected user is moved to the **Current grants** window.
3. To remove an assigned user, select the user in the **Current grants** window and click **Remove**. The selected user is removed from the **Current grants** window.

14.2.3.4 ASSIGNMENT TYPE: SITE

To assign the purchased licenses to one or more sites:

1. Click the list, and then select a site.
2. Click **OK**, and then click **Add**.
3. Type the quantity of assigned licenses.
4. Repeat for every site to be assigned.

14.2.4 INFORMATION TAB

Use the **Information** tab to add additional information on the license purchase. Information entered on the **Information** tab can be used as search criteria in lists, searches, and reports using the **Column selector**.

1. Type an **External ID** (external for SLM) for the license, for example purchase order ID, or system ID.

NOTE

When the basic setting LICENSE_EXTID_CHECK is enabled in Snow MACC, this value can be used to avoid duplicate license purchase records when performing bulk imports.

2. Enter a vendor in the **Vendor** box.
3. Type information on **License proof location**.
4. Type information on **Installation media storage**.
5. Type **Serial numbers/license keys** connected to the license purchase.
6. Use the **Notes** textbox for comments.

14.2.5 DOCUMENTS TAB

On the **Documents** tab, click **Add document** to upload documents or add links related to the license.

For more information, see [Manage documents and links](#).

14.2.6 CUSTOM INFORMATION TAB

On the **Custom information** tab, enter information and values in the custom fields that are mandatory for the **License** category.

For more information, see [Enter custom field information](#).

14.2.7 BASE LICENSES TAB

The **Base licenses** tab is only available if the **Upgrade license** check box on the **Purchase tab** is selected.

To add a base license:

1. Select **Add**.
The **Search for license** dialog box appears.
2. Enter a search criteria and then select **Search**.
3. Select the check boxes to select one or more base licenses, and then select **OK**.
4. In the **Base licenses to upgrade** box, enter the number of base licenses to upgrade.
5. In the **Upgrade quantity** box, enter the quantity of upgrade licenses that you are entitled to.

EXAMPLE

You have registered a license where the metric is installations. You want to upgrade one of the licenses to a higher version that uses the processor metric. For the base license, you enter 1, and for the upgrade quantity you enter 2.

NOTE

If the number of base licenses available for upgrade is not enough, the license purchase will be marked as incomplete when saved.

14.3 COPY LICENSE PURCHASE

When multiple license purchases are to be added with more or less the same settings and information, or if a similar license already exists, the **Copy license** option can be used.

To create a new license based on another license:

1. Add the first license purchase and save it, or navigate to an existing license purchase that is to be copied.
2. On the context menu, click **Copy license**.
The **Copy license** view appears.

3. If required, edit the information on the tabs.
4. Click **Save**.

14.4 EDIT LICENSE

1. On the **Licenses** menu, click **List all licenses** or **Search for licenses** and find the license to be edited.
2. Click the licenses row.
The **License detail view** appears.
3. On the context menu, click **Edit license**.
4. Edit the information in the fields on the tabs according to [Add license purchase](#).
5. Click **Save**.

14.5 ARCHIVING AND UNARCHIVING LICENSES

A license can be archived, for example if it is not in use or if it is in a draft stage. It is kept in the database for future reference, in contrast to when a license is deleted and removed from the system completely. An archived license can be viewed but will not be included in compliance calculations. During the archiving procedure, you will have the option to archive connected licenses and agreements.

If you archive a base license without its upgraded licenses it will make the upgraded licenses become incomplete, since the base license is missing.

A license can be unarchived and will then be included in compliance calculations. During the unarchiving procedure, you will have the option to unarchive licenses that were archived at the same time as the selected license.

A license can be unarchived only together with its base licenses and upgraded licenses. A license will be reconnected to its previous agreement when it is unarchived.

Archived licenses can be viewed in the report **Archived licenses**. For instructions how to find it, go to [Find a report](#).

14.5.1 ARCHIVE LICENSE

1. On the Licenses menu, select **List all licenses** or **Search for licenses** to find the license to archive.
2. Select the license row.
The **License detail** view appears.
3. On the context menu, select **Archive license**.
The **Select licenses** view appears, which shows all base licenses and upgraded licenses connected to the selected license.
4. Select the check boxes for the licenses to archive.
5. Select the **Next** button if it is enabled, indicating that there are agreements connected to the selected licenses. Otherwise, continue to step [Step 7](#).
The **Select agreements** view appears. The list shows agreements connected to the selected licenses.

6. Select the check boxes for the agreements to archive.
7. Select **Archive**.

The selected licenses and agreements are archived, and you are returned to the **License list** view. Use the **Archived** column to either show or hide archived licenses in the list.

14.5.2 UNARCHIVE LICENSE

1. On the **Licenses** menu, select **List all licenses**.
2. In the **License** list, select **Yes** in the menu in the **Archived** column.
3. Select the license row.
The **License detail** view appears.
4. On the context menu, select **Unarchive license**.
The **Select licenses** view appears, which shows all base licenses and upgraded licenses connected to the selected license.
5. Select the check boxes for the licenses to unarchive.
6. Select the **Next** button if it is enabled, indicating that there are agreements connected to the selected licenses. Otherwise, continue to [Step 8](#).
The **Select agreements** view appears. The list shows agreements previously connected to the selected licenses.
7. Select the check boxes for the agreements to unarchive.
8. Select **Unarchive**.

The selected licenses and agreements are unarchived, and you are returned to the **License list** view.

14.6 DELETE LICENSE

For information on how to delete licenses, see [Category views](#).

14.7 UPGRADE LICENSE

Licenses can be upgraded within a single license purchase or simultaneously within multiple licenses. However, selected licenses must belong to the same application family. Note that only existing licenses can be upgraded.

To upgrade one or more licenses:

1. Perform one of the following steps:
 - To upgrade a single license:
 - a. Navigate to the license to be upgraded.
 - b. On the context menu, click **Upgrade license**.
 - To upgrade multiple licenses at the same time:
 - a. On the **Licenses** menu, click **List all licenses**.
 - b. Click the check boxes to the left to select the licenses.
 - c. On the context menu, click **Upgrade**.

2. The **Add license view** appears.
3. On the **Base licenses** tab, the number of **Available base licenses** is stated. In the **Base licenses to upgrade** box for the application, type the number of base licenses to be upgraded, and in the **Upgrade quantity** box, type the quantity to upgrade to.
4. On the **Purchase** tab, select the application to upgrade to by performing the following steps:
 - a. Click the search icon.
The **Find application** dialog box appears.
 - b. Select to search by application name or SKU.
 - c. Type a search criteria and click **Search**.
 - d. Select application in the displayed list and then click **OK**.
5. Enter the rest of the license purchase information according to [Add license purchase](#).

EXAMPLE

In Snow License Manager 9, it is possible to change license metric when upgrading licenses. For example, a license for Windows Server 2008 R2 Standard has **Installations** as default metric. If that license is upgraded to Windows Server 2012 R2 Standard, the upgrade license can have **Number of processors** as metric, which is the Microsoft default metric for this Windows Server version. Subsequently, the Windows Server 2012 R2 Standard license can be upgraded to a Windows Server 2016 Standard license, then using **Number of processor cores** as metric.

For an upgrade license, one can specify the number of **Base licenses to upgrade**, and also the **Upgrade quantity**.

To trace the upgrades for a license, display it in in Snow License Manager and select the **Purchase** tab. If you are displaying a license that has been upgraded to or upgraded from, **Show base licenses** and **Show upgrades** will display, respectively.

14.8 ENSURE CORRECT LICENSE REGISTRATIONS

By making fields mandatory, adding lists with pre-defined options, and adding descriptions that clearly state the intended purpose of a specific field, the Snow License Manager administrator can ensure that all license purchases are registered in accordance with the IT policy of the company.


Examples of **descriptions**:

- Total purchase amount: "Affects the average price for each purchased license and must be specified, with the correct currency."
- Invoice reference: "Must be defined for the traceability of the license certificate."

Examples of **lists with pre-defined options**:

- Installation media storage: IT Department, Sales Department, HR Department
- License proof location: Bank Vault, Office Safe

To enforce correct license registrations:

1. In the **Home** category, select **Administration**.
The **Administration overview** appears.
2. Select **License policy**.
The **License policy** view appears.
3. Click the **Edit**  icon for each **Field name** to be changed.
The **Field name** dialog box appears.
4. To make a field mandatory:
 - a. Select the **Required information** check box.
 - b. Type a **Description**.
 - c. Click **Save**.
5. To include a list:
 - a. Select the **Use multi selection** list check box.
 - b. Type **Selectable options**.
 - c. To allow other values than the listed options, select the **Allow use of custom values** check box.
 - d. Click **Save**.

NOTE

The task License Policy is only available to users with administrative rights.


14.9 MANAGE SECONDARY USE RIGHTS

With the Secondary use rights licensing feature, one single license covers two installations of the same application on two separate computers, for instance one desktop and one laptop. Secondary use rights must be activated for the application, and a connection must be established between the two computers.

14.9.1 ACTIVATE SECONDARY USE RIGHTS

1. Navigate to the application.
2. On the context menu, click **Edit application**.
3. On the **License settings** tab, select the **Enable secondary use rights** check box.
4. Click **Save**.

14.9.2 MANUALLY SPECIFY A SIBLING COMPUTER

1. Navigate to the primary computer (desktop, work PC).
2. On the context menu, click **Edit computer**.
3. On the **General** tab, click the **Select host icon**  icon.
The **Search for computer** dialog box appears.
4. Type a search criterion to find the sibling computer (laptop, home PC), and then click **Search**. A list of computers that match the search criterion is displayed.
5. Select the sibling computer, and then click **OK**.

6. Click **Save**.

14.10 MANAGE WINDOWS VDA LICENSING

Managing Windows VDA licensing includes the following tasks:

- Ensure that Windows licenses with Software Assurance are registered with upgrade rights enabled.
- Register Windows Virtual Desktop Access licenses, see [Add license purchase](#).

NOTE

The instructions below only apply if the purchased Windows license entitles to Software Assurance.

To verify upgrade rights:

1. Navigate to the Windows license.
2. On the **Maintenance and support** tab, verify the **Upgrade rights** option:
 - **Upgrade rights = Yes**
The Windows license is registered *with* Software Assurance, with the stated validation period.
 - **Upgrade rights = No**
The Windows license is registered without Software Assurance.

To enable upgrade rights if **Upgrade rights = No**:

1. On the context menu, click **Edit license**.
2. On the **Maintenance and support** tab, add upgrade rights according to [Add license purchase](#).
3. Click **Save**.

15 OBJECTS

Custom objects, such as projectors, monitors, or other company assets can be managed in the **Objects** category. Create own object types and objects, and attach them to agreements for efficient asset management.

15.1 OBJECTS DETAIL VIEW

To show detailed information on a specific object, click the item in a list of objects.

The top section of the detail view contains general information on the object.

The bottom section of the detail view contains detailed information on the object. The information is presented in tabs according to the following table.

Tab	Description
Properties	Displayed properties depend on type of object.
Agreements	Agreements that this object is attached to.

15.2 OBJECTS TYPE VIEW

The **Object types** view shows a list of the custom object types that have been created locally in the SLM Web UI.



15.3 ADD OBJECT

1. On the **Objects** menu, click **Add object**.
The **Add custom object** view appears.
2. To speed up the registration process when adding multiple objects, select the **After object has been saved, open new form for same object type** check box.
When selected, the system will automatically go to **Add object** with the current object type selected when you save the current item.
3. Enter information in the fields on the tabs according to the following sections.
4. Click **Save**.

15.3.1 PROPERTIES TAB

Use the **Properties** tab to enter properties for the object:

1. Select an **Object type** from the list.
2. Type a **Name** of the object.
3. Select **Organization** node from the list in order to attach the object to a specific part of the organization.
4. Enter **Property values** of the object.
Available property values depend on selected object type.

5. Click the **Select computer**  icon for **Linked computer** to search for a computer and link the object to it.
6. Click the **Select user**  icon for **Linked user** to search for a user and link the object to it.

15.3.2 AGREEMENTS TAB

The **Agreements** tab is only available if the selected object type can be attached to an agreement.

To attach the object to an agreement:

- Click the check boxes to select an agreement.

15.4 ADD OBJECT TYPE

To create a new object type:

1. On the **Objects** menu, click **Object types**.
2. On the context menu, click **Add object type**.
The **Add custom object type** view appears.
3. Enter information in the fields on the tabs according to the following sections.
4. Click **Save**.

15.4.1 INFORMATION TAB

Use the **Information** tab to enter basic information on the object type:

1. Type a **Name** of the object type.
2. Type a **Description** of the object type.
3. To make it possible to attach objects of this type to agreements, select the **This object type can be attached to agreements** check box.

15.4.2 PROPERTIES TAB

Use the **Properties** tab to define the fields that will be available (and mandatory) when registering an object of this type:

1. Click **Add property**.
A dialog box appears.
2. Select **Type** of field from the list.
3. Type a **Name** and a **Description** for the property.
4. To make this property mandatory for all objects of this object type, select the **Mandatory** check box.
5. Click **Save**.
6. Repeat for all properties needed.

15.5 EDIT OBJECT TYPE

To edit details of an existing object type:

1. On the **Objects** menu, click **Object types**.
The **Custom object types** view appears.
2. Click the object type to be edited.
The **Object type** tabs appear.
3. Edit the details for the object type.
4. Click **Save**.

16 ENTERPRISE

The **Enterprise** category gives detailed information on the Oracle and SAP environments.

16.1 ORACLE OVERVIEW

The **Enterprise > Oracle overview** shows detailed information about your Oracle environment. The information is only shown if the [Oracle Management Option](#) is installed, in which case the information is presented on six tabs. Each tab is described in a separate section:

- [Overview Products tab](#)
- [Recommendations tab](#)
- [Products tab](#)
- [Entitlements tab](#)
- [Reports tab](#)
- [Oracle verified data tab](#)

16.1.1 OVERVIEW PRODUCTS TAB

The **Oracle overview > Overview Products** tab gives you visibility of your Oracle products' compliance and an overview of your Oracle licenses and associated costs. You can choose between two different views:

- The [Compliance summary view](#) shows the compliance for your entire Oracle estate as well as broken down by product type or product.
- The [Order summary view](#) shows the number of Oracle licenses per product, and your Oracle licenses costs per organization.


16.1.1.1 COMPLIANCE SUMMARY VIEW

The **Compliance summary view** gives you an overview of the compliance for your Oracle estate. To see the view, go to the **Oracle overview > Overview Products** tab, and from the **Select view** list, select **Compliance summary**.

You can select to view the **License summary** or the **Compliance trend**, as described below.

LICENSE SUMMARY

You can choose to view the license compliance either by **product type**, or by **product**.

Select the **Filter**  button and then specify your choice by selecting from the appearing lists according to the following:

- To see the compliance broken down by product type, select **Product type** from the **Data group** list, and then select a metric type from the **Metric type** list. The key figures above the graph show the compliance for all Oracle products in your estate.

- To see the compliance for a selected product type, broken down by product, select **Product** from the **Data group** list, and then select a product type from the **Product type** list, and a metric type from the **Metric type** list.
The key figures above the graph show the compliance for all Oracle products within the selected product type.

For each product type or product, the bar in the graph shows the total license count divided into:


- **Remaining quantity** - The number of licenses that remain to be assigned to reach compliance.
- **Over-assigned quantity** - The number of licenses that are assigned in surplus of the covered quantity.
- **Covered quantity** - The number of licenses that have been assigned correctly.
- **Unassigned quantity** - The number of available licenses that are not assigned.

To show the exact number, point to the respective part of the bar.

The following compliance figures are shown above the graph:

- **Total licenses count** - The total number of licenses.
The total licenses count is calculated from data transferred from the OMO portal.
- **Assigned licenses** - The number of correctly assigned licenses.
- **Unassigned licenses** - The number of licenses that are not assigned.
- **Over-assigned licenses** - The number of licenses that are assigned in surplus of the correctly assigned licenses.
- **Required quantity** - The number of licenses required to be compliant.

COMPLIANCE TREND

The compliance trend is shown in a graph for a specific set of product type, product, and metric type. Select the **Filter**  button and then specify your choice of **Product type**, **Product**, and **Metric type** by selecting from the appearing lists.

The compliance trend is by default shown for the last three months. Select date range to view the compliance trend for another period of time.

To show the exact value for a trend, point to a dot on the line representing the specific point of time.

You can select to view the trend for all or a selected set of:

- Requirements
- Assignments
- Compliance
- Available quantity
- Trend

NOTE

It is possible to hide lines in the graph to view only a set of lines. To show all the lines again, refresh the page.

INSIGHTS

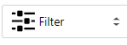
The Insights section of the Compliance summary view highlights areas of potential spend-optimization opportunities, for example:

- Over-assigned licenses
- Unassigned licenses

For each area, the potential optimization is shown, together with a link to a report with more detailed information.

16.1.1.2 ORDER SUMMARY VIEW

The **Compliance summary view** gives you an overview of the number of Oracle licenses per product, and your Oracle licenses costs per organization. To see the view, go to the **Oracle overview** > **Overview Products** tab, and from the **Select view** list, select **Order summary**.

You can choose to see either the **number of purchased Oracle licenses per product** or your **Oracle licenses costs per organization**. Select the **Filter**  button and then specify your choice by selecting from the appearing lists according to the following:

- To see the total number of purchased Oracle licenses per product for a selected product type and metric, select **Ordered licenses** from the **Data group** list, and then select a product type from the **Product type** list, and a metric type from the **Metric type** list.
The bar for each product in the graph shows the number of assigned and unassigned licenses.
- To see the total cost for your Oracle licenses for a selected product type and metric, select **Cost** from the **Data group** list, and then select a product type from the **Product type** list, and a metric type from the **Metric type** list.
The graph shows the total licenses cost by organization for the selected product type and metric. For each organization, the bar shows the total amount spent on license purchases and the total amount spent on first-year maintenance.

The following figures, for the selected product type and metric, are shown above the graph:

- **Total licenses cost** - The total amount spent on license purchases.
- **Total maintenance cost** - The total amount spent on first-year maintenance.
- **Cost of assigned licenses** - The amount spent on license purchases for assigned licenses.
- **Cost of unassigned licenses** - The amount spent on license purchases for licenses that are still unassigned.

INSIGHTS

The Insights section of the Order summary view highlights areas of potential spend-optimization opportunities, for example:

- The total amount spent on licenses.
- The total maintenance fees for licenses.

For each area, there is a link to a report with more detailed information.

16.1.2 RECOMMENDATIONS TAB

The **Oracle overview > Recommendations** tab provides a starting point for the optimization of your Oracle environment. The information is divided into two parts:

- **Recommendations** list
The list shows recommendations for a number of devices or computers that should be further investigated in your Oracle environment. An arrow or circle on the icon for each recommendation indicates if the number has increased (red arrow) or decreased (green arrow) since the last scan. Click the recommendation to show a report of the computers or devices that should be investigated.
- **Environment overview of discovered computers** and **License cost overview** graphs
The **Environment overview of discovered computers** graph visualizes to what extent the computers in your environment have been inventoried. To show the exact number of computers, point to the respective bar.
The **License cost overview** graph shows the Oracle order cost in relation to total licensing costs. Note that only licenses with available cost information are shown here.

16.1.3 PRODUCTS TAB

The **Oracle overview > Products** tab shows the Oracle Databases, Oracle Fusion Middleware, and Java installations in your environment.

To view the details of an Oracle Database, Oracle Fusion Middleware product, or Java installations, select it from the list on the left of the Products tab. An overview with summary information about the selected item will appear in the view pane.

To see more detailed information about the selected item, select **Go to** to the right of the selected name. You will then be directed to the detailed view of the Oracle Database, Oracle Fusion Middleware, or Java installations:

- [Oracle Database edition detailed view](#)
- [Oracle Fusion Middleware detailed view](#)
- [Oracle Java installations view](#)

16.1.3.1 ORACLE DATABASE EDITION DETAILED VIEW

The Oracle Database edition detailed view shows all databases, instances, servers, and orders for a specific Oracle Database edition. You can reach the page from the **Oracle overview > Products** tab by selecting the applicable Oracle Database edition, and then selecting **Go to**.

The information on the page is presented on tabs:

Tab	Description
Databases	<p>The tab lists all inventoried and discovered databases that are using this Oracle Database edition. For each database, information is shown, such as the name, the number of installed and used options, and the number of granted and agreed management packs. You can filter the list of databases by Options, Management packs, or Versions.</p> <p>The information is based on data supplied by the Oracle Management Option inventory scan.</p> <p>To view detailed information for a specific database, click the database row to go to the Oracle database detailed view.</p>
Instances	<p>The tab lists all inventoried and discovered instances that are using this Oracle Database edition. You can filter the list of instances by Options, Management packs, or Versions.</p> <p>The information is based on data supplied by the Oracle Management Option inventory scan.</p> <p>To view detailed information for a specific instance, click the instance row to go to the Instance tab of the Oracle database detailed view.</p>
Servers	<p>The tab lists the servers that this Oracle Database edition is installed on. For each server, information is shown, such as the name, model, OS, number of processor and processor cores, and if it is a virtual server or not.</p> <p>The information is based on data supplied by the Oracle Management Option inventory scan.</p> <p>To view detailed information for a specific server, click the server row to go to the Computers detail view in the Computers category of the user interface.</p>
Orders	<p>The tab lists all orders associated with this Oracle Database edition. For each order, information is shown, such as the order number, license type, and metric.</p> <p>You can add a new order by selecting Add Oracle order in the upper-right corner of the page, see Add Oracle order manually.</p> <p>To view detailed information for a specific order, click the order row to go to the Oracle order detailed view.</p>

16.1.3.2 ORACLE DATABASE DETAILED VIEW

The Oracle database detailed view shows detailed information on an inventoried database. You can reach the page from the **Oracle overview** > **Products** tab by selecting the applicable Oracle Database edition, selecting **Go to**, and then selecting the specific database row.

The left area of the view shows information about the server that the database is installed on. The database information is presented on tabs as described in the table below. The information is based on data supplied by the Oracle Management Option inventory scan.

To edit information about the database, select **Edit database** in the upper-right corner.

Tab	Description
Users	The Users tab shows a list of the database users.
Options used	<p>The Options used tab shows a list of Oracle options, presented with name, owner, and if the option is installed, and used.</p> <p>Information on option usage along with the owner information is important from a license point of view since there is a fee for most used options.</p> <p>The information is collected by the Oracle Management Option inventory scan, which is based on the Oracle LMS (License Management Services) scripts and follows the LMS guidelines, thus ensuring full Oracle compatibility.</p> <p>An option is marked as used or not, based on the results of a number of queries. To see details, expand the option row by selecting the arrow to the left of the option name in the list. The queries are gathered in groups. Expand each group to see the included queries, the resulting values, and whether each query is triggered or not. All queries within a group must be triggered for the group to be triggered. At least one group must be triggered for the option to be marked as used.</p> <p>It is possible to manually change the values in the Installed and Used columns. This can be relevant when the results from the Snow Inventory Oracle Scanner need to be adjusted. The manually changed values will be displayed in reports.</p> <p>To manually change the values, select Edit database in the upper right area of the Oracle database detail view, and, on the Options view, select or clear the Installed and Used check boxes for one or more options.</p> <p>When one or more values for an option have been manually changed, this is indicated in the Changes column. A manually changed value can be reverted to the original value.</p>

Tab	Description
Management packs agreed	<p>The Management packs agreed tab shows a list of granted Oracle Management packs, presented by name, if it is agreed, by whom, and when.</p> <p>The information is collected by the Oracle Management Option inventory scan, which is based on the Oracle LMS (License Management Services) scripts and follows the LMS guidelines, thus ensuring full Oracle compatibility.</p> <ul style="list-style-type: none"> ▪ Agreed column: The information is important from a license point of view since there is a fee for most agreed Management packs. If usage of the Management pack is agreed by a user, the username is shown in the User column. ▪ User column: The Oracle Management Option also detects usage of features that requires a Management Pack to be licensed. These will be illustrated by the User column containing one of the following: <ul style="list-style-type: none"> ◦ ACCEPTED BY DATABASE SETTING ◦ ACCEPTED BY USAGE OF SQL PROFILES <p>It is possible to change the values in the Granted and Agreed columns manually. This can be useful when the results from the Snow Inventory Oracle Scanner need to be adjusted. The manually changed values will be displayed in reports.</p> <p>To manually change the values, select Edit database in the upper right area of the Oracle database detail view, and, on the Management packs view, select or clear the Granted and Agreed check boxes for one or more management packs.</p> <p>When one or more values for a management pack have been manually changed, this is indicated in the Changes column. A manually changed value can be reverted to the original value.</p>
Feature usage	<p>The Feature usage tab shows usage information.</p> <p>The Oracle Management Option inventory scan collects the information when available. The more recent the Oracle version, the more feature usage information is available.</p> <p>NOTE Feature usage information can be used as guidance, but it is not valid as a basis for licensing requirements. Instead, use the information in the Options and Management packs tabs.</p>
Instances	<p>The Instances tab shows all installed instances that are using this database.</p>

16.1.3.3 ORACLE FUSION MIDDLEWARE DETAILED VIEW

The Oracle Fusion Middleware detailed view shows all installations, servers, and orders related to a specific Oracle Fusion Middleware product. You can reach the page from the **Oracle overview > Products** tab by selecting the applicable Oracle Fusion Middleware product, and then select **Go to**.

The information on the page is presented on tabs:

Tab	Description
Installations	<p>The tab lists all installations of the selected Oracle Fusion Middleware product. For each installation, information is shown, such as the name, version, hostname, and home path. You can filter the list of installations by Versions.</p> <p>The information is based on data supplied by the Oracle Management Option inventory scan.</p> <p>To view detailed information for a specific installation, select the installation row.</p>
Servers	<p>The tab lists all the servers that this Oracle Fusion Middleware product is installed on. For each server, information is shown, such as the name, model, OS, number of processor and processor cores, and if it is a virtual server or not.</p> <p>The information is based on data supplied by the Oracle Management Option inventory scan.</p> <p>To view detailed information for a specific server, select the server row to go to the Computers detail view in the Computers category in Snow License Manager.</p>
Orders	<p>The tab lists all orders associated with this Oracle Fusion Middleware product. For each order, information is shown, such as the order number, license type, and metric.</p> <p>You can add a new Oracle order by selecting Add Oracle order in the upper right corner of the page, see Add Oracle order manually.</p> <p>To view detailed information for a specific order, select the order row to go to the Oracle order detailed view.</p>

16.1.3.4 ORACLE JAVA INSTALLATIONS VIEW

The Oracle Java installations view shows details about detected Java installations. You can reach the page from the **Oracle overview** > **Products** tab by selecting a grouping in the **Java** section, and then select **Go to**.

The available groupings, depending on the detected installations, are:

- Oracle Java SE on server (DC), not licensable and licensable, respectively
- Oracle Java SE on desktop (EUC), not licensable and licensable, respectively
- OpenJDK on both server and desktop

The information on the page is presented on tabs:

Tab	Description
Installations	<p>The tab lists all detected installations for the selected grouping. The list can be filtered to show installations for a specific estate type (only applicable for DC), a certain branch of the organization, or one or more specific major Java versions.</p> <ul style="list-style-type: none"> ▪ For DC installations, all DCC:s, virtual machines, and physical hosts with the detected installations are listed. Select the arrow on the left side of a row to drill down and display the components of the DCC, virtual machine, or physical host. Continue to drill down to the lowest level to see a list of the installations, including the full Java version and commercial features, if any. ▪ For EUC installations, all desktops with the detected installations are listed, including information on the total number of users for the desktop. Select the arrow on the left side of a row to display a list of the installations, including the full Java version and commercial features, if any. ▪ For OpenJDK installations, the list shows both servers and desktops.
Orders	The tab shows the Oracle orders associated with the Oracle Java installations.

ALL JAVA INSTALLATIONS REPORT

You can use the report **All Java installations** to gather and share data on the Java installations in your organization.

Note that the report contains all detected Java installations, that is, both Oracle and non-Oracle Java.

16.1.4 ENTITLEMENTS TAB

The **Entitlements** tab provides four different views:

- The **Agreements** view lists all registered Oracle agreements. You can add new agreements by selecting **Add agreement** in the upper-right corner of the view. To view detailed information for a specific agreement, select the agreement row to go to the [Agreements detail view](#).
- The **Orders** view lists all registered Oracle orders. An Oracle order includes a customer's entitlement details related to a specific Oracle purchase: amount of licenses, support status, associated maintenance agreements, product use rights, and more. For an explanation of the statuses in the **Completeness** field of the Oracle order list, see [Oracle order statuses](#). To view detailed information for a specific order, select the order row to go to the [Oracle order detailed view](#).
- The **License Assignments** view lists the license compliance status of all virtual machines, physical servers, and datacenters/clusters. For an explanation of the license compliance statuses, see [Oracle license compliance statuses](#).

- The **Auto assignment** tab lists all auto-assignment rules, if any. To learn more about auto-assignment and how to configure auto-assignment rules, see [Auto assign Oracle licenses](#).

16.1.4.1 ORACLE ORDER DETAILED VIEW

The **Oracle order detailed view** shows detailed information for a specific Oracle order. To reach the page from the **Oracle overview > Entitlements** tab, select the **Orders** view, and then select the specific order row in the table.

The top section of the view contains general information regarding the Oracle order, such as the order number, the total cost (license cost and support cost) for the order, and the number of assigned licenses.

The bottom section of the view contains detailed information on the Oracle order. The information is presented in tabs according to the following table:

Tab	Description
Order information	General information on the Oracle order If the order status is Partial , or Incomplete , you can select Edit order in the upper-right corner of the page and fill in the missing fields. Once an order is completely filled in, its status will be updated to Complete . The order statuses are described in Oracle order statuses .
Contact information	Contact information on the Oracle order
Products	Products associated with the Oracle order.
Documents	Uploaded documents and links related to the Oracle order
General	General information on the Oracle order registration

16.1.4.2 ORACLE ORDER STATUSES

To see the status of your Oracle orders, go to the **Oracle overview > Entitlements** tab and then select the **Orders** view. The status is shown in the **Completeness** column for each order in the list as one of the following:

Status name	Description
Complete	All Order information and Products fields are completely filled in and correct for the order; no order information is missing. An order must have this status before you can Assign Oracle licenses to the products included in the order.
Partial	All Order information is complete and correct, but there are no products included at all.
Incomplete	One or more Order information fields are not complete. There may or may not be problems with the Products fields.

To resolve the Partial or Incomplete status for an order, go to the **Edit order** view and edit the incorrect or missing information on the **Order information** and **Products** tabs.

16.1.4.3 ORACLE LICENSE COMPLIANCE STATUSES

To see the Oracle license compliance status for each virtual machine, physical server, and datacenter/cluster, go to the **Oracle overview > Entitlements** tab and then select the **License Assignments** view. The status is shown in the **Status** column in the list as one of the following:

Status name	Description
Compliant	Has assigned licenses for each inventoried deployed Oracle product, based on calculated license requirements
Incomplete Data	Has inventoried deployed Oracle products, but license requirements cannot be precisely calculated
Not Compliant	Does not have assigned licenses for every inventoried deployed Oracle product, based on calculated license requirements
Product Issues	Rules have been violated for inventoried deployed Oracle Database Standard Editions related to maximum number of occupied sockets
No Products	Does not have any inventoried deployed Oracle products and should be excluded from Oracle compliance overview

NOTE

To view how to assign licenses to non-compliant Oracle database software and middleware, see [Assign Oracle licenses](#).

16.1.5 REPORTS TAB

The **Reports** tab shows all available Oracle reports.

For more information on managing reports, see [Reports](#).

16.1.6 ORACLE VERIFIED DATA TAB

The **Oracle overview > Oracle verified data** tab enables you to download Oracle verified data for your Oracle environment.

Snow Software is a verified third-party tool vendor for Oracle Databases and Database options, Fusion Middleware, and Java SE, meaning that Oracle accepts the data collected by Snow License Manager as verified data.

NOTE

The Oracle verified data tab is not available by default for all users. See [Oracle verified data in Snow License Manager](#) for more information on the Oracle verified data feature and how to enable it.

The Oracle verified data tab divides the computers of the estate into two tables:

- Computers with complete verified data**
 Oracle verified data can be prepared and downloaded for the computers listed in this table.
 Computers lacking information about Assigned database license, Metric, and/or Environment are included in the list, but the missing information must be added

before those computers can be included in the output file. If any computers in the table are lacking the above-mentioned information, a warning message is shown above the table. The missing information can be added directly via the user interface.

- **Computers with incomplete verified data**

Oracle verified data cannot be prepared and downloaded for the computers listed in this table because of critical missing data or errors, for example, missing Snow Inventory Oracle Scanner data, missing computer in the topology, validation errors, or parsing errors.

For each issue listed in the table, the reasons why the data is categorized as incomplete are shown, together with recommended actions for resolving the issue. If all the issues for a computer are resolved, it will be moved to the **Computers with complete verified data** table, and verified data for the computer can be included in the output file.

See [Oracle verified data — Reference](#) for a description of the information shown in the tables.

See [Manage Oracle verified data](#) to learn, for example, how to edit or download the data.

ORACLE VERIFIED DATA TAB — REFERENCE

Refer to the tables below for descriptions of the tables on the **Oracle verified data** tab.

COMPUTERS WITH COMPLETE VERIFIED DATA

The table on the **Computers with complete verified data** page shows the following information:

Column name	Description
Computer name	The name of the computer with inventoried data. Select the arrow to the left of the computer name to expand the table row. Information about the inventoried products is shown in separate tables for Databases, Middleware, and Java, respectively, in the expanded row view. See the following sections for descriptions of the information shown in each table.
Last scanned	The date when the computer was last scanned successfully by Snow Inventory Oracle Hardware Scanner (SIOHS).

COMPUTERS WITH COMPLETE VERIFIED DATA/DATABASES

The **Databases** table for an inventoried computer shows the following information:

Column name	Description
Database name	The database name for the inventoried Oracle Database product.
Instance name	The instance name for the inventoried Oracle Database product.
Database edition	The Oracle Database edition.

Column name	Description
Assigned database license	<p>The license that will be assigned for the respective database license requirement.</p> <p>The value is mandatory for generating the output file for Oracle Database products.</p> <p>You can edit the value by selecting Edit.</p>
Metric	<p>The metric type: Processor or Named User Plus.</p> <p>The value is mandatory for generating the output file for Oracle Database products.</p> <p>You can edit the value by selecting Edit.</p>
Environment	<p>The intended type of use for the environment, for example, Prod, Dev, or QA.</p> <p>The value is mandatory for generating the output file for Oracle Database products.</p> <p>You can edit the value by selecting Edit.</p>
Last scanned	The date when the computer was last scanned successfully by Snow Inventory Oracle Scanner (SIOS).
Edit	Select the Edit icon to edit database instance properties.

COMPUTERS WITH COMPLETE VERIFIED DATA/MIDDLEWARE

The **Middleware** table for an inventoried computer shows the following information:

Column name	Description
Recognized products	<p>All recognized Oracle Fusion Middleware products on the environment.</p> <p>If no Oracle Fusion Middleware products have been recognized, the column will be empty.</p>
Environment	<p>The intended type of use for the environment, for example, Prod, Dev, or QA.</p> <p>The value is mandatory for generating the output file for Oracle Middleware products.</p> <p>You can edit the value by selecting Edit.</p>
Last scanned	The date when the computer was last scanned successfully by Snow Inventory Oracle Middleware Scanner (SIOMS).
Anonymization	Select the Show details icon to see the details for all files and values that will be anonymized by the SIOMS configuration file. The SIOMS configuration file is included in the installation package.
Edit	Select the Edit icon to edit the Environment property.

COMPUTERS WITH COMPLETE VERIFIED DATA/JAVA

The **Java** table for an inventoried computer shows the following information:

Column name	Description
Version	The Release/Version/Build for the Java installation.
Machine type	The type of inventoried environment: Server or Desktop.
Environment	<p>The intended type of use for the environment, for example, Prod, Dev, or QA.</p> <p>The value is mandatory for generating the output file for Oracle Java products.</p> <p>You can edit the value by selecting Edit.</p>
Open source	A selected checkbox indicates that the Java installation is an Open Source distribution.
Part of other product	<p>A selected checkbox indicates that the Java installation is included in another Oracle product license.</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
Used with OCI	<p>A selected checkbox indicates that the Java installation is included in an Oracle Cloud Infrastructure (OCI) subscription.</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
Support required	<p>A selected checkbox indicates that Oracle Support has been requested for the Java installation.</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
OTN	<p>A selected checkbox indicates that the Java installation is connected to an Oracle Technology Network (OTN) license agreement.</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
BCL	<p>A selected checkbox indicates that the Java installation is connected to an Oracle Binary Code License (BCL) development license grant.</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
NFTC	<p>A selected checkbox indicates that the Java installation is connected to an Oracle No-Fee Terms and Conditions (NFTC) agreement.</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
BLRA	<p>A selected checkbox indicates that the Java installation is connected to a Binary License and Redistribution Agreement (BLRA).</p> <p>The checkbox is cleared by default since the information is not provided by Snow License Manager. You can edit the information by selecting Edit.</p>
Last scanned	The date when the computer was last scanned successfully by Snow Inventory Oracle Java Scanner (SIJS).

Column name	Description
Edit	Select the Edit icon to edit Java properties.

COMPUTERS WITH INCOMPLETE VERIFIED DATA

The table on the **Computers with incomplete verified data** page shows the following information:

Column name	Description
Computer name	The name of the computer with Oracle products (Oracle Databases, Oracle Fusion Middleware, and Java SE) that has been inventoried with issues.
Last scanned	The date when the computer was last scanned.
Reasons	A description of why the data is categorized as incomplete.
Recommendations	A description of recommended actions to resolve the issue.
Details	Select the Show details icon to see reasons and recommendation details, including log data.

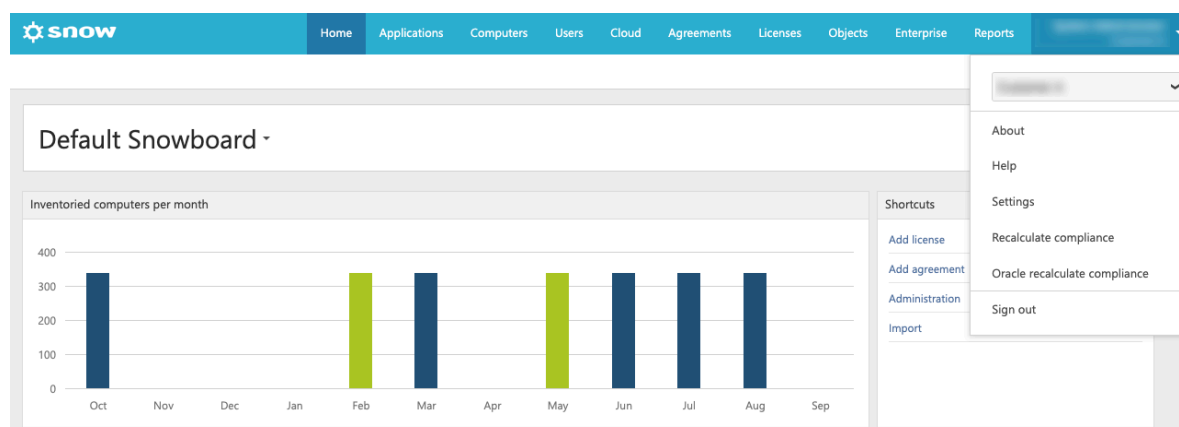
16.1.7 ORACLE LICENSE COMPLIANCE: SUPPORTED RULE SETS

The Data Update Job transfers data about Oracle devices and usage to Snow License Manager daily at 21:00 (default). At 07:00 the following morning, the Oracle Service updates the Oracle estate *topology*.¹

The Oracle service determines the license requirements for Oracle database software and middleware on the clusters and computers inventoried, updating license compliance calculations using two metrics: **Processor** and **Named User Plus** minimums.²

NOTE

Recalculating compliance for an Oracle estate can be a lengthy process and is currently available for admin users. To recalculate compliance for your Oracle estate, select **Oracle recalculate compliance** from the dropdown menu under your username.



¹The Oracle estate topology defines the relationship between datacenters/clusters and computers (virtual machines and physical host servers).

²The number of users within the Oracle estate cannot yet be inventoried or manually added to the system. Therefore, the **Named User Plus** metric is only supported as **Named User Plus per processor minimums**.

The Oracle license requirement calculation rule sets currently covered are:

- Oracle Products Standard Edition and any virtualization/physical server (on-premise)
- Oracle Products Enterprise Edition on physical servers (no virtualization, on-premise)
- Oracle Products Enterprise Edition on soft partitioning³ on-premise environments (also known as *support for soft partitioning*)
 - In soft partitioning scenarios, Oracle does not allow you to license the resources assigned to a virtual machine; you need to license the entire physical infrastructure. This usually happens in VMware environments in a datacenter/cluster.
 - This rule set calculates the license requirement for these products based on the number of processors in all the combined hosts.
- Oracle Products Enterprise Edition on IBM AIX LPAR on-premise environments (also known as *support for IBM hard partitioning*)
 - Instead of licensing an entire server, Oracle allows grouping of server resources into logical partitions (LPARs), with one LPAR assigned to a virtual machine, for example. This concept is known as *hard partitioning*, which is supported by this rule set for LPARs on IBM AIX servers.
 - This rule set is able to take in most of the required data points for LPARs, using this information to calculate accurately these hard-partitioned environments to support most scenarios.

16.1.8 MANAGE ORACLE ORDERS AND LICENSES

16.1.8.1 REGISTER AN ORACLE PURCHASE

When an Oracle purchase has been made, the following needs to be done in Snow License Manager:

- [Add agreement](#)
- [Add the Oracle order manually](#) or [import Oracle orders in bulk](#).
- Optionally, [associate the server with the Oracle order](#).

ADD ORACLE ORDER MANUALLY

To add a new, single Oracle order field by field:

1. On the **Oracle overview** and on the **Entitlements** tab, click the **Orders** view. The **Oracle order list** page appears.
2. Select **Add an Oracle order > Add order manually**.
3. On the **Order information** tab, enter the following information:
 - a. Enter **Order date**.
 - b. Select **Status** from the list:
 - When registering a new Oracle order, select **Valid**.

³As defined in the Oracle Partitioning Policy, *partitioning* means that server CPUs are separated, with each section behaving as if it were an individual system.

- When upgrading or migrating an order, select status **Terminated** to highlight that this order is no longer valid.
This is done to ensure traceability, since historical orders should still be available in the system.
 - c. Type **Order name** and **Oracle order number**.
 - d. Type the applicable **Oracle Master Agreement (OMA)** or **Oracle License and Services Agreement (OLSA)** reference.
 - e. Optionally, type the **Reseller order number**.
 - f. Optionally, type **Internal reference number**.
 - g. Select the **Currency** for this order from the list.
 - h. Type **Area of use** and **Notes** about the order.
 - i. Enter information about the person responsible for the order in the **Ordered by** section.
 - j. Enter information about the vendor or contractor for the order in the **Vendor/contractor** section.
 - k. Click **Add document** to upload documents or add links related to the order.
 - 4. On the **Products** tab, click **Add product** and enter the following information to add the product licenses purchased on the Oracle order:
 - a. Select **Product category**, **Product type**, and **Product** from the lists.
 - b. In the **Type** list:
 - Select **Normal** for a new Oracle order.
 - Select **Upgrade** when upgrading from an earlier version or upgrading to another edition.
 - Select **Migration** when changing metrics.
- NOTE**
The currently used metrics are Named User Plus and Processor. For older products, there are other metrics. When upgrading a database with old metrics, you need to migrate the metrics to the currently used metrics.
- c. Select **Period type**, **License type**, and **Metric** from the lists.
 - d. Type **Quantity** of licenses and **License cost**.
 - e. Type **CSI** (Customer Support Identifier).
 - f. In the **Agreement** list, select the agreement to attach the Oracle order to.
 - g. In the box to the right of the **Agreement** list, type the support and upgrade cost for the agreement, normally 22% of the purchase price.
 - h. Click **Add product** to save the changes.
 - i. Repeat [Step 4](#) for all products included in the order.
5. Click **Save**.

IMPORT ORACLE ORDERS

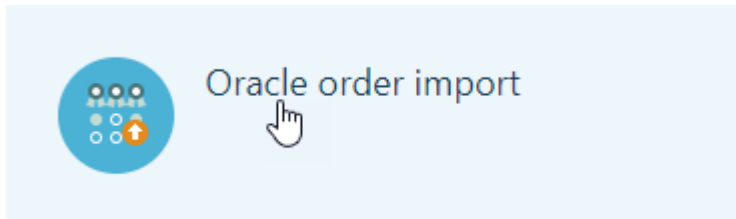
Instead of [entering individual Oracle orders manually](#), you can import Microsoft Excel and comma-separated files containing one or more Oracle orders.

NOTE

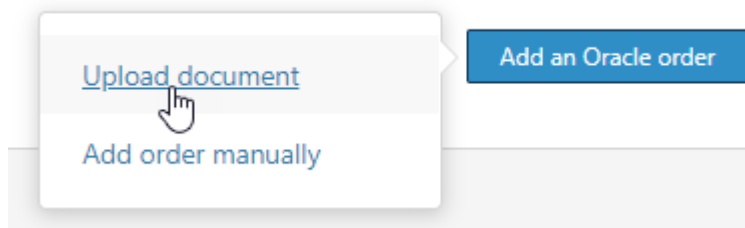
The Oracle order import functionality has no way to validate the uniqueness of licenses in an order, so you need to ensure that the entitlements that are imported are not yet in the system; otherwise, this could result in having duplicate licenses.

To start this process, navigate to the **Upload your Oracle orders** page using either of the following:

- **Home > Import data > Oracle order import**



- **Enterprise > Oracle overview > Entitlements tab > Orders page > Add an Oracle order > Upload document**

**NOTE**

For more detailed information on the required data for Oracle order import and where the data can be found in Snow License Manager after the import, see the document *Data Import Field Description*.

Importing an Oracle order file is a four-step, wizard-like process:

1. On the **Upload your Oracle orders** page (**Upload order** in the sidebar):
 - a. Click **Choose file**. The Windows **Open** dialog appears.
 - b. Browse to your Oracle order file (in .xls, .xlsx, or .csv format) and click **Open**. The file name now appears to the right of the **Choose file** button.

NOTE

If you are not sure that your Oracle order file is correct, click **Download template** (upper-right corner) to download a Microsoft Excel file that has the correct Oracle import file structure.

- c. Click **Save and continue**.
2. On the **Import settings** page (**Import settings** in the sidebar):
 - a. Select one of the following actions for organizations that appear in the source file, but do not exist in the database:

- **Do nothing:** Do not create a new organization.
 - This means that Snow License Manager will not create a new organization, disregarding any data listed under the order import file column name **Organization**.
 - In this case, the order import status will become *Discarded*.

NOTE

Recommended practice for a SAM manager: Select **Do nothing** here if you don't know to which organization the Oracle order belongs.

- Or **Create:** Create a new organization and attach the order to it.
 - The import file's **Organization** data indicates to which organization this Oracle order belongs.
- b. If you have not uploaded a .csv file, click **Save and continue** and continue with [Step 3](#).

If you *have* uploaded a .csv file select the delimiter character to use as a column separator:

- **Comma**
- **Semicolon**
- **Tab**

NOTE

If you select a delimiter character that is not used in the uploaded Oracle order file, the file import status will become *Discarded* when you complete [Step 4](#).

In this case the order import will fail; therefore, you must make changes in the .csv import file so that the delimiter character selection matches the column-separator format of the file to be uploaded.

- c. Click **Save and continue**.
3. On the **Map fields** page (**Map fields** in the sidebar):
- a. Review the mapping.
 - The **Source** column is a listing of the import file columns, and **Destination** is the name in Snow License Manager of each Oracle order field name. This information ends up under the **Order information** tab on the [Oracle order detail view](#).
 - The minimum required input for the order import to be allowed is marked by an asterisk (*): *Order date, Order name, Order number, Purchase currency, Organization, Agreement number, Agreement name, Agreement valid from, Agreement valid to*.
 - b. If you need to change this mapping, select a different field in the **Source** column.
 - c. Once you are satisfied with the mapping, click **Save and continue**.
4. On the **Review import** page (**Review** in the sidebar):

- a. Once you are satisfied with these import settings, click **Finish report**. If not, return to any of the previous steps by clicking **Back**.

Order import statuses on the **Review import** page:

- *Complete*: The order import will be successful. An order must have this status before you can [Assign Oracle licenses](#) to the products included in the order.
- *Incomplete*: Required fields are present, but others are missing.
 - The advantage of importing incomplete Oracle orders is that you get them into the Snow License Manager system, where you can then edit them later when you have the rest of the order information.

NOTE

Snow Software expects that some customers may already have Oracle order Excel export files that closely match the Snow upload template, but not exactly. In this case, it can be helpful to import these Oracle orders.

The disadvantage here is that you cannot [Assign Oracle licenses](#) as long as the order status is not *Complete*.

- *Discarded*: Here are the reasons why an order can be given this status:
 - Structural error: As stated earlier, orders are given this status in a .csv file import where the delimiter character does not match the selected column separator setting.
 - Logical error: Another example of an imported Oracle order reaching the *Discarded* status: if any of the required fields have errors, such as the order file containing a currency that is not currently supported by Snow License Manager.
 - Lack of required field: If the order import file is missing any of the required fields, the order in question will be given *Discarded* status.

To get any *Discarded* orders into the system, you must either fix the problem(s) in your import file and repeat the import process, or you can [add the order manually](#), making sure to included valid order and product information.

ASSOCIATE SERVERS WITH THE ORACLE ORDERS

The following needs to be done for all servers to be associated with the Oracle order.

1. In the **Computers** category, navigate to the server.
2. On the context menu, click **Edit computer**. The **Edit computer** view appears.
3. On the **Oracle** tab, click **Add**.

NOTE

The **Oracle** tab is available only for Oracle servers.

4. In the dialog box, type search criteria for the Oracle order item, and then click **Search**.
5. Click the check boxes to select the correct Oracle order, and then click **OK**.

6. Click **Save**.

16.1.8.2 EDIT ORACLE ORDERS

There are two different procedures for editing Oracle orders. The first procedure describes how to edit a single Oracle order. The second procedure describes how to edit several Oracle orders at the same time. However, the second procedure can also be used to edit a single order.

To edit a single Oracle order:

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **Orders** view.
3. Select the row for the order that you want to edit.
The **Oracle order detail view** appears.
4. Select **Edit order**.
5. Edit the fields on the **Order information** and **Products** tabs according to
6. Select **Save**.

To edit one or several Oracle orders at the same time, perform the following steps:

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **Orders** view.
3. In the **Oracle order list**, select the check boxes for the orders that you want to edit.
4. Select **Edit**.
5. To view the orders that you have selected, select **View selected orders**, and then select an order to open it in a new tab.
6. Select for example **General** or **Additional information**, and then select the fields that you want to edit.
7. Edit the selected fields, and then select **Continue**.

NOTE

If the fields that you have selected already have a value, then this is indicated with the number of fields with a value on a green background.

If the fields that you have selected is empty, then this is indicated with the number of empty fields on a blue background.

The changes you make here will apply to all selected orders. If you leave a field blank, then the value in the field will be deleted.

8. Review the changes that you have made, and when you're done, select **Finish**.

16.1.8.3 DELETE ORACLE ORDERS

There are two different procedures for deleting Oracle orders. The first procedure describes how to delete a single Oracle order. The second procedure describes how to delete several Oracle orders at the same time. However, the second procedure can also be used to delete a single order.

You can only delete Oracle orders with no assigned licenses.

To delete a single Oracle order:

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **Orders** view.
3. Select the row for the order that you want to delete.
The **Oracle order detail view** appears.
4. Select **Edit order**.
5. Select **Delete** and confirm the action.

To delete one or several Oracle orders at the same time, perform the following steps:

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **Orders** view.
3. In the **Oracle order list**, select the orders that you want to delete.
4. To view the orders that you have selected, select an order to open it in a new tab.
5. Select **Delete orders**.

16.1.8.4 ASSIGN ORACLE LICENSES

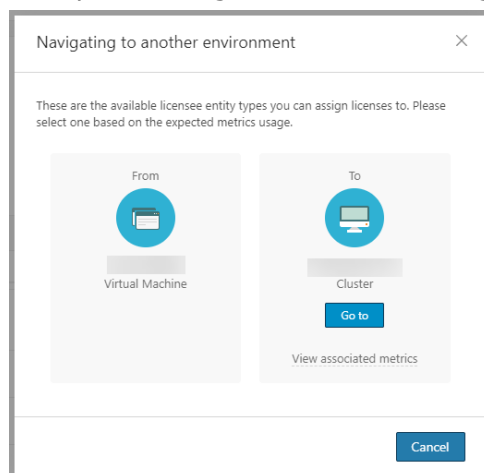
Note that you can only assign licenses to products included in orders having the status **Complete**. To see the status of your Oracle orders, go to **Enterprise > Oracle overview**, select the **Entitlements** tab, and then select the **Orders** view.

Follow these steps to assign Oracle licenses to existing products:

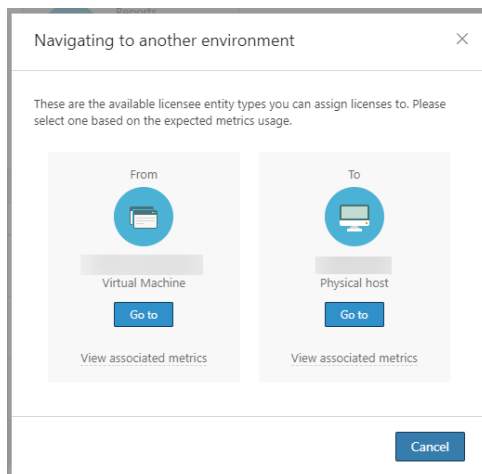
1. Go to **Enterprise > Oracle overview**, select the **Entitlements** tab, and then select the **License Assignments** view.
2. Select one of the following buttons to view the Oracle license compliance position on that entity type only: **Virtual machines**, **Physical servers**, or **Datacenters**.
3. Select the virtual machine, server, or datacenter row with status **Not Compliant** that you want to investigate.

The license assignment here is based on [the currently-supported license compliance rule sets](#). For example, when you select **Go to** in the **Navigating to another environment** dialog, you will assign the license in the following ways:

- Soft-partitioning case—license assignment to a cluster:



- Hard-partitioning case—license assignment to a VM or physical host:




- On the resulting, **Computer/Datacenter License Assignment** page, select either the **Database Products** tab or **Middleware Products** tab, so that you can investigate on which products there are missing Oracle licenses.

NOTE

Next to **View the license requirements using a different metric**, you can toggle between **Named User Plus** minimums and **Processor** (or select both), which updates the product list.

- Identify a **Product name** row whose **Is satisfied** column is **No**; this inventoried product does not have the required license coverage. Select the **Edit** icon on the right side of the row to assign Oracle licenses to this product:

Is satisfied	
abc	
No	

- Select the right arrow next to a product with enough available licenses to cover the need. In the **Assign licenses** box, enter the number of desired licenses and select **Assign**:

Find licenses for Oracle Database Standard Edition 2

See only the products where licenses have been assigned

License information Processor

License requirement 8
License assigned 0
License needed 8

CSI number	Product name	License usage	Metric
		All	Processor

CSI number	Product name	Licenses	Usage	Metric
1	Oracle Database Standard Edition 2	18 available	Full Use	Processor
	Oracle Database Standard Edition 2	30 available	Full Use	Processor

18 total licenses
2 licenses are being used by other products. See where

Assign licenses: 8 Assign

Here is the result:

Find licenses for
Oracle Database Standard Edition 2

See only the products where licenses have been assigned

License information
Processor

License requirement 8
License assigned [Remove all](#) 8
License needed 0

Metric information
Processor

CSI number	Product name	License usage	Metric
		All	Processor

CSI number	Product name	Licenses	Usage	Metric
1	Oracle Database Standard Edition 2	10 available 8 assigned	Full Use	Processor

NOTE

To review the Oracle licenses that have been assigned, select **See only the products where licenses have been assigned**.

In addition, if you need to undo your license assignment, click **Remove all**. To activate this change, select **Yes, remove** in the **Confirm removal of licenses** dialog.

- To save this license assignment, navigate to the bottom of this view and select **Save changes**.
- The **Is satisfied** column now reads **Yes**, indicating that these licenses have been assigned and saved.

Back on the **Oracle overview > License Assignments** page, the virtual machine, physical server, or datacenter will still have the status **Not Compliant**.

If the license assignment in [Step 6](#) had been the final product requiring licenses, the status will change to **Compliant** on the day after the appropriate number of licenses has been assigned on its respective products. If the license assignment had *not* been the final product requiring licenses, the virtual machine, physical server, or datacenter's licensing status would have remained **Not Compliant**.

For a description of the compliance update process, see [Oracle license compliance: Supported rule sets](#).

Note that there are three more possible license compliance statuses that you may notice on the **License Assignments** list, for which there is no way to move to the **Compliant** status: **Incomplete data**, **Product issues**, and **No products**. For a description of the statuses, see [Oracle license compliance statuses](#).

16.1.8.5 AUTO ASSIGN ORACLE LICENSES

Oracle licenses can be auto assigned to an environment. This is configured in **Oracle overview > Entitlements > Auto assignments**. Select the **Auto assign is inactive** toggle switch to enable the auto assign functionality.

NOTE

If auto assign is enabled, compliance for your Oracle environment is likely to be affected. Read this entire section before enabling the feature.

HOW AUTO ASSIGNMENT WORKS

When run, auto assignment analyses the need for licenses to cover noncompliant environments. Environments are virtual machines, physical servers, and datacenters. When an noncompliant environment is discovered, auto assignment finds out whether there is need to license all of its products. If there is an adequate amount of licenses—entered

via Oracle orders—to cover all products for an environment, auto assign will cover that environment; otherwise, that environment will be skipped by auto assignment and will be retried the next time auto assignment runs.

For example, if there is need for auto assign to cover four required licenses for a product that is installed on an environment, but only three licenses exist, the environment will not have licenses auto assigned to it. The next time auto assignment runs, the process will be retried.

AUTO ASSIGNMENT RULES

The default rule assigns licenses where the License Type is **Full Use** and the metric is **Processor**.

To create user-defined rules, select **Configure auto assignment rules**. This starts a wizard that contains four steps:

1. **Configure rules**

This step is where rules can be created, changed, activated, and inactivated. Select the **Status** toggle switch to make a rule active or inactive.

Where the **Value** box can contain text, use a vertical bar (|) to enter more than one value. Do not add space characters before or after use of the vertical bar.

EXAMPLE

If the rule **Database name** is activated and its Value is **DBName|Maintenance**, auto assignment will only affect environments where the database name contains **DBname** or **Maintenance**.

Select **Continue** to go to the next step.

2. **Confirm environments**

This step previews the results for every rule before they are applied. The number of covered environments and the percentage of the total number of environments are displayed, per rule. When the number of covered environments is more than zero, you can select the linked text to see a preview list of the environments that will be affected by the rule.

Select **Continue** to go to the next step.

3. **Confirm licenses**

This step displays:

- The total number of orders that will be used to assign licenses.
- The total number of licenses that will be assigned when the rules are applied. The number of licenses is also displayed by NUP and Processor, respectively.
- The total number of environments that will be covered.
- The compliance status before and after license assignment.

Select **Complete configuration** to complete the configuration and go to the next step.

4. **Finish**

This step confirms that the auto assignment rules have been successfully configured.

THE AUTO ASSIGNMENT PROCESS

When enabled, auto assignment is scheduled to occur once every day at 06:00 a.m. When user-defined rules are active, auto assignment can also be triggered manually, by selecting **Trigger the auto assignment process now**.

The auto assignment process consists of the following steps:

1. Auto assignment analyses the environments to see where licenses are needed.
2. If any user-defined rules are active, auto assignment will fill those license requirements first. This means that licenses where the License Type is **Full Use** and the metric is **NUP** will be covered first. When those licenses are covered, auto assignment continues:
3. Auto assignment covers the licenses where the License Type is **Full Use** and the metric is **Processor**. If user-defined rules do not completely cover license requirements due to an insufficient number of licenses for the selected metric, the default rule will be applied instead.

NOTE

- When auto assign is enabled, the default rule will execute even if no user-defined rules are active.
- Hard partitioning environments (IBM LPAR) with licenses manually assigned to one or more levels will not be included in the auto assignment process.

16.1.8.6 UNASSIGN ORACLE LICENSES

Users can unassign more than one Oracle license at a time. Only users who are members of the **License Administrator** role can unassign Oracle licenses.

Licenses can be unassigned from orders, products, computers (virtual and physical), and datacenters/clusters.

UNASSIGN LICENSES FROM ONE OR MORE ORDERS

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **Orders** view.
3. Select the check boxes for the orders from which you want to unassign licenses.
4. Select **Unassign licenses**.
5. To view the orders that you have selected, select an order to open it in a new tab.
6. Select **Unassign licenses**.

UNASSIGN LICENSES FROM ONE OR MORE PRODUCTS

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **Orders** view.
3. Select an order.
4. Select the **Products** tab.

5. Select **Manage license assignments**.
6. Select check boxes for the products for which you want to unassign licenses.
7. Select **Unassign licenses from selected products**.

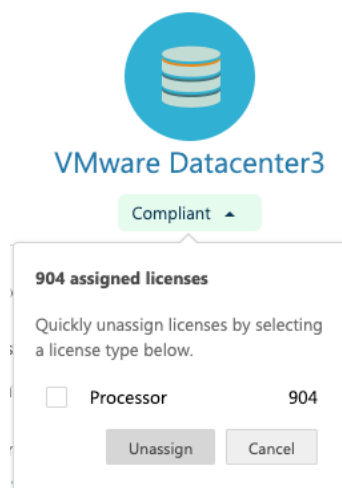
UNASSIGN LICENSES FROM ONE OR MORE COMPUTERS/DATACENTERS/CLUSTERS

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **License Assignments** view.
3. Select **Virtual machines**, **Physical servers**, or **Datacenters**.
4. Select **Manage license assignments**.
5. Select check boxes for the computers and/or datacenters/clusters from which you want to unassign licenses.
6. Select **Unassign licenses**.

UNASSIGN LICENSES FROM ONE COMPUTER/DATACENTER/CLUSTER

1. On the **Oracle overview**, select the **Entitlements** tab.
2. Select the **License Assignments** view.
3. Select **Virtual machines**, **Physical servers**, or **Datacenters**.
4. Select a computer/datacenter.
5. Select the label named for example **Compliant**, **Not Compliant**, or **Product issues**.

An image—like the following example—displays on the left-hand side of the screen.



6. Select check boxes for the license types to unassign licenses for.
7. Select **Unassign** and then confirm the action.

16.1.9 MANAGE ORACLE VERIFIED DATA

Learn how to manage data on the **Oracle verified data** tab to download data on your environment that is accepted by Oracle as verified data.

16.1.9.1 VIEW COMPUTERS WITH VERIFIED DATA

1. On the **Oracle verified data** tab, go to the **Computers with complete verified data** view.

The table shows all inventoried computers for which verified data can be prepared and downloaded.

2. Select the arrow to the left of the computer name to expand the table row and see detailed information.

In the expanded view, the data is shown in separate tables for Databases, Middleware, and Java, respectively. See [Oracle verified data tab — Reference](#) for descriptions of the content of the respective table.

TIP

- You can filter the table to only show inventoried Databases, Middleware, or Java, respectively.
- You can filter the table to only show items with empty values for the properties Assigned Database license, Environment, and/or Metric.

The filters are available via dropdown lists above the table.

16.1.9.2 PREPARE AND DOWNLOAD ORACLE VERIFIED DATA

To download a file containing data on your environment that is accepted by Oracle as verified data, follow the steps below.

NOTE

The following items cannot be included in the output file:

- Computers listed in the **Computers with incomplete verified data** table. See [Resolve issues for computers with incomplete data](#) for instructions on how to enable them to be included in the file.
- Databases lacking information on the **Assigned database license, Metric,** or **Environment** properties, and Java or Middleware installations lacking information on the **Environment** property.

The missing data must be added before those computers can be included in the output file, see [Edit data](#) for instructions on how to add the data.

1. On the **Oracle verified data** tab, go to the **Computers with complete verified data** view.
2. Select the checkboxes for the items you want to include in the output file, and then select **Prepare file**.
Tip: If you want to include all the items in the table, you can select **Actions** and then **Select all**.
The data for the selected items is extracted. If many items are selected, the process may take some time. When all data is extracted, the **Download file** button is enabled.
3. Select **Download file**.
The output file with Oracle verified data is downloaded as a ZIP file.

We strongly advise that you check the contents of the output file before sharing it with third parties.

16.1.9.3 EDIT DATA

You can edit the records in the **Computers with complete verified data** table with regards to the following properties:

- General property: **Environment**
- Database-specific properties: **Assigned database license, Metric**
- Java-specific properties: **Machine type, Used with OCI, Part of other product, Support required, OTN, BCL, NFTC, BLRA**

NOTE

Edited values only affect the records in the Oracle verified data view, with the exception of the **Environment** property for Database instances. In this case, the value will be permanently stored, which means that other views in the user interface will display the same Environment value for the Database instance.

To add or edit data:

1. On the **Oracle verified data** tab, go to the **Computers with complete verified data** view.
2. In the table, select the checkboxes for one or more items you want to edit.
3. Select **Actions** and then **Edit**.
4. In the **Edit properties** window, select the fields you want to edit, edit the data, and then select **Save**.
For field descriptions, see [Oracle verified data tab — Reference](#).

TIP

If you want to edit one single row in the table, you can select the **Edit** icon in the **Edit** column of the row to go directly to the **Edit properties** window.

16.1.9.4 RESET DATA

You can reset edited records to their original value.

NOTE

- You cannot reset the **Environment** property for Database instances. To change edited environment values for Database instances, use the **Edit** function instead.
- All edited and resettable values for all Database, Middleware, and Java instances will be reset when you use the reset function, whether you have selected them in the table or not.

1. On the **Oracle verified data** tab, go to the **Computers with complete verified data** view.
2. Select the checkbox for at least one item in the table.
3. Select **Actions** and then **Reset**.

16.1.9.5 RESOLVE ISSUES FOR COMPUTERS WITH INCOMPLETE DATA

Computers with incomplete data cannot be included in the output file with Oracle verified data. To resolve issues for a computer and make the data complete:

1. On the **Oracle verified data** tab, go to the **Computers with incomplete verified data** view.
2. For each issue listed in the table for a specific computer, follow the recommended actions described in the **Recommendations** column.
When all the issues have been resolved, the computer will be moved to the **Computers with complete verified data** table and it can be included in the output file.

16.2 SAP OVERVIEW

The **SAP overview** shows information provided by the Snow Optimizer for SAP Software. The information can be either automatically imported from file via the Web Configurator, or manually imported from file using the SAP import wizard in the **Import data** view.

NOTE

The **SAP overview** is only available if the setting SAP_ENABLED has been set, and if the logged in user has the required permission to view the information. System settings and permissions are set in Snow MACC.

NOTE

All information on the **SAP overview** page is read-only.

The user will be notified when the imported SAP data is more than 90 days old.

16.2.1 TOP 5 LICENSE TYPE RECOMMENDATION

The top section of the **SAP overview** shows a **Top 5 metric recommendation** graph. Information on the current count of used metrics is displayed together with the count recommended by the Snow Optimizer for SAP Software. The graph shows the metrics with the largest absolute difference in current and recommended count.

To view more details in the **All SAP user accounts** report:

- Click **View report** in the top right corner.

16.2.2 USER SUMMARY

The **User summary** shows information based on the import file.

User summary		
23041 Accounts	18102 Licensable users	1.27 Average accounts per licensable user

Accounts

Number of identified user accounts

Licensable users

Number of licensable users after user account consolidation by the Snow Optimizer for SAP Software

Average accounts per licensable user

Average number of user accounts per licensable user

16.2.3 DETAILED INFORMATION

The bottom section of **SAP overview** contains detailed information on the utilization of SAP software. The information is presented in tabs according to the following table.

Tab	Description
Systems	The number of users of each identified SAP system software. Information is based on the import file and is view-only.
Applications	The number of installations and users for each identified SAP software based on information in Snow License Manager. Only applications with installations or users will be displayed. Click an application to open the application details.
Licenses	Information on each license purchase of SAP software registered in Snow License Manager. Only licenses attached to an application will be displayed. Click a license to open the license details.
Agreements	Information on each SAP agreement registered in Snow License Manager. The agreement will be displayed in the list if either one or more SAP licenses are attached to the agreement, or information in the Contractor field contains "SAP". Click an agreement to open the agreement details.

17 REPORTS

Reports are an ideal way to gather data and gain insights about the status of your environment. Reports support decision-making in asset management for activities such as audit tracking and spend optimization. The features available in the **Reports** category enable you to assemble data in standardized views, customize it, save it to the system, download to your device, share with other users, and schedule to track data over time. The views available in this category are:

- **All reports** a list of all standard and user-modified reports.
- **Report files** a list of reports created using the system-save feature.
- **Scheduled reports** a list of reports created using the scheduling feature.



The system ships with useful pre-configured reports that correspond to common tasks such as *Compliance Summary*, *Cost of unused applications per computer*, and *Computers without antivirus software installed*.



The access rights of the signed-in user and licensing of Snow products control what reports a user can see. To manage user roles and access rights, refer to the User Guide for Snow Management and Configuration Center. For licensing, refer to your purchase with Snow.

17.1 ICONS, CONFIGURATIONS, AND DATA





Clues in the graphical user interface help to differentiate among the different types of reports and file types, as well as providing easy access to report features such as delete, edit, and schedule.

When working with reports, distinguishing between a report configuration and report data is key. A report configuration controls what data should be shown in a report, such as what columns and how the report should be filtered. Report data is the information that populates those columns when you run **Show report**. Once you've set up a report configuration, you will probably keep it, whereas the data that populates it will change as your network environment evolves and licenses are added to the system. The word report is used interchangeably to describe both a report configuration and its data.





Icon	Description
	Standard reports are the set of baseline report configurations that ship with the system. The standard configuration for Compliance summary , for example, includes the columns: Application, Manufacturer, Total licenses, License requirement, Available licenses, Coverage, Compliance, and Cost. The icon illustrates a worksheet.
	User-modified standard reports are standard configurations that have been customized by a user with, for example, additional data columns or reordered columns, and saved. These reports are visible to the user who created them. The icon illustrates a worksheet with a user symbol.

Icon	Description
	Shared reports are user-modified standard reports that have been shared. All users within the organization with access rights to the standard report that the modified report is based on will be able to view this report. The icon illustrates a worksheet with a share symbol.
	Customized report are additional report configurations delivered by Snow Services. Examples of custom reports include <i>LPAR and WPAR data</i> , <i>Software per computer</i> , and <i>Unassigned inventoried software</i> .

System-save supports several file formats differentiated with tags:

Icon	Description
	Indicates a report that has been saved to the system as a comma-separated values (CSV) file. The icon illustrates a file with a CSV tag.
	Indicates a report that has been saved to the system as a Portable Document Format (PDF) file. The icon illustrates a file with a PDF tag.
	Indicates a report that has been saved to the system as a Microsoft Excel (XLS/XLSX) file. The icon illustrates a file with an XLS tag.
	Indicates a report that has been saved to the system as an eXtensible Markup Language (XML) file. The icon illustrates a file with an XML tag.

Direct access to features:

Icon	Description
	Saves a report configuration to the system under Report files and/or downloads a report to your device, depending on the view.
	Allows you to set up/edit scheduling parameters for automatic generation of report files.
	Opens a dialog window enabling you to edit the name and/or description of a report. Does not apply to Standard reports .
	Deletes a report. Only applies to reports created by the signed-in user.

17.2 FIND A REPORT

To locate a report, use the search box on the **All Reports** view. As you enter search criteria, any matching reports will show. Use the **Categories** dropdown menu to filter results. By default, the system searches all categories, but you can refine your search to **Application reports**, for example, by checking the appropriate box.

17.3 SHOW REPORT

To populate a report with data from your environment:

- From any list view (**All reports**, **Report files**, or **Scheduled reports**), select the name of the report.
The **Report detail** view appears.
- Populate the report with current or cached data from your environment.
 - To populate the report with the current data from your environment, select **Show report**.
 - To populate the report with cached data from your environment, select **Show cached report**.

NOTE

The report can only be populated with cached data if caching is enabled, see [Enable or disable caching](#).

To refine the data populated in a report, use the filtering features available in the report criteria panel. See: [Change report criteria](#).

17.3.1 ENABLE OR DISABLE CACHING

Some reports can take a long time to run. Use the cache reports functionality to run the reports from a cache instead of from the live database. This will enable you to run reports faster.



To enable or disable caching for a single report:

- On the context menu for the report, select **Enable caching** or **Disable caching**

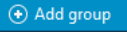
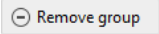
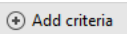

To enable or disable caching for several reports at the same time, see [Reports cache](#).

17.3.2 CHANGE REPORT CRITERIA

Filtering reports is an ideal way to refine the amount of data running a report extracts from the system. In a **Report detail** view, create filters by adding conditions or groups of conditions in the **Report criteria** panel.

Hide/collapse this panel by selecting the  icon, and show/expand it by selecting the  icon.

Create refinement conditions by using the pre-populated dropdown menus. The contents of this menu depend on the report you are filtering and operators, such as *like* and *not equals to* in turn depend on whether you have selected a parameter that is text or a number. Boolean logic applies. For complex filtering create groups of conditions.

Icon	Description
	Add a new group of conditions.
	Remove both the group and all conditions within that group.
	Add a new condition, within or outside a group. You can also create nested conditions.
	Remove a condition.

When applying operators, use % for wildcard characters.

REPORT CRITERIA

Computer manufacturer | like | %sun%

and | Computer model | like | %sparc%

+ Add group | - Remove group | + Add criteria

+ Add group | + Add criteria

Dropdown menu options: equal to, has any value, has no value, like, not equal to, not like

To remove filtering:

Option	Description
Set default	<p>NOTE This option applies to user-modified reports only. It does not apply to standard reports.</p> <p>Sets the default for the report to the current conditions.</p>
Reset	Reverts to the default filter. If no default has been set, all conditions will be cleared.
Clear	Removes all displayed conditions.

17.3.2.1 DATE OPERATORS


The following table describes all possible date operators.

Date operator	Description
After	After, but not including the selected date.
Before	Before, but not including the selected date.
Between	Between, and including the two selected dates.
From	<p>From, but not including the selected date.</p> <p>If "Today" is selected, the report shows data from the day after today's date. If a number of weeks or months is selected, the counting of number of weeks or months is started on the day after today's date.</p>
Until	<p>Until, but not including the selected date.</p> <p>If "Today" is selected, the report shows data until the day after today's date. If a number of weeks or months is selected, the counting of number of weeks or months is started on the day after today's date.</p>


Date operator	Description
In	<p>Between today and the date when the selected number of weeks or months has passed.</p> <p>The selected number of weeks or months is counted from today's date.</p>
Within next	<p>Between today and the date when the selected number of weeks or months has passed.</p> <p>The selected number of weeks or months is counted from the day after today's date.</p>
Not in	<p>Not between today and the day when the selected number of weeks or months has passed.</p> <p>The selected number of weeks or months is counted from today's date.</p>
Within	<p>Between the selected number of weeks or months before today's date and today.</p> <p>The selected number of weeks or months is counted from today's date.</p>
Witin last	<p>Between the selected number of weeks or months before today's date and today.</p> <p>The selected number of weeks or months is counted from the day after today's date.</p>
Not within	<p>Not between the selected number of weeks or months before today's date and today.</p> <p>The selected number of weeks or months is counted from today's date.</p>

17.3.3 SAVE REPORT


Saving a report, saves the configuration of the report, including columns and filtering; it does not save the data from your system. For example, if you modify the standard **Compliance summary** report and save it as *My Compliance Summary*, every time you open *My Compliance Summary*, your modified columns and filtering will display, and running **Show report** will cause the columns to be populated with the most recent data from your system.

1. In a **Report detail** view, select **Save report** from the context  menu. The **Save report** dialog box appears.
2. In the dialog, you can change the **Name** and **Description** fields for the report.
3. Select **Group name** from the list, or type a new group name.
4. If you are saving the configuration of a **user-modified** report, the **Save as new** checkbox will appear on the dialog. Leave this checkbox clear if you want to override your existing settings for this user-modified report. To create a new configuration, check the **Save as new** box.
5. Click **Save**.
The report configuration will show in the top section of the **All Reports** view below the group name you selected, or among ungrouped reports if you have not specified a group name.

17.3.4 DELETE REPORT

You can delete a report if the delete  icon appears next to the name of a report. You can delete reports you (the signed-in user) have created. It is not possible, for example, to delete **Standard reports** or **Shared reports** created by another user.

17.4 EXPORT FROM REPORT DETAILS VIEW (DOWNLOAD TO A DEVICE)

1. From any list view, click the name of the report to be viewed. The **Report detail** view appears.
2. Click **Show report**.
3. From the context  menu, select **Export**, and choose the type of file you want to export to (CSV, PDF, XLS/XLSX, or XML) from the dropdown menu.
4. Select to **Save** to export the file.

NOTE

Your file will be saved to your device in accordance with your browser settings.

17.5 EXPORT REPORT TO FILE (SYSTEM SAVE)


The export/system-save feature saves the data of a report configuration to the system as a file. By saving to the system, you can refer back to your reports, share them with other users, or download to a device at any time.

Commonly-used file formats are supported: Comma-separated values (CSV), Portable Document Format (PDF), Microsoft Excel (XLS/XLSX), and eXtensible Markup Language (XML).

When exporting to Microsoft Excel, counts and totals are saved using Excel formulas. In this way, counts and totals will remain consistent with subsequent offline editing of the data.

NOTE


In Excel, the maximum number of arguments for a formula is 256. Consequently, it is not possible a save report with a formula that exceeds 256 arguments. In such cases, only the *value* of a count or total is exported and any subsequent editing of the file contents may result in data inconsistencies.

1. In the **All reports** view, click the **Download**  icon next to the report. The **Export to file** dialog box appears.
2. In the dialog, you can change the **Name** and **Description** fields for the report.
3. Select the **Type** of file to export to (CSV, PDF, XLS/XLSX, or XML) from the list.
4. Click **Save** to export the file.

To view a saved report, from the **Reports** category, select **Report files**.

17.6 SCHEDULE AUTOMATIC REPORT GENERATION

This feature enables you to set up automatic generation of reports that can be sent to an email recipient, or saved to a file location. Saving to a location enables third-party systems to import data about the computers, applications, and licenses in your network. Automatically generated reports can be saved in CSV, PDF, XLS/XLSX, or XML format.

1. In the **All reports** view, click the **Schedule**  icon next to the report's name. The **Schedule report** dialog box appears.
2. From this dialog, you can change the **Name** and **Description** fields for the scheduled report.
3. Select the desired output file format from the **Type** dropdown, how often you want to generate a report under **Recurrence**, and when during the day from the **Time** dropdown.
4. Select email or Disk under **Delivery**. Enter the email address where the report should be sent or pathname where it should be stored.
5. To activate automated generation of the report check the **Active** checkbox. To simply save your scheduling settings, leave this checkbox clear. You can always edit these settings later to activate or deactivate a scheduled report.

NOTE

If the **Active** checkbox is unchecked, scheduled reports will not be created according to your settings.



6. Click **Save**.

17.7 SHOW, EDIT, OR DELETE A SCHEDULED REPORT

1. On the **Reports** category, click **Scheduled reports**.
2. A list of all scheduled reports will display, showing the name, type of export (email or disk), when the next export is due and when the most recent export was carried out.

NOTE

Next export will be empty if the report is not **Active**. **Latest report** will be empty if the scheduled report has never run.

3. To edit the settings for a scheduled report select the Schedule  icon beside the report, make your changes, and select **Save**.
4. To delete a scheduled report, select the **Delete**  icon beside the report. Confirm your deletion by selecting **OK** in the pop-up dialog, or **Cancel** if you want to keep your settings.

NOTE

Deleting a scheduled report, removes the configuration from your system and deactivates scheduling.

17.8 SHOW RELATED DOCUMENTS

Documents saved in the system relating to computers, mobile devices, users, agreements, or licenses can be extracted through the **Show related documents** feature. This feature is accessible from the context menu for reports, such as **All computers**, that can have attached documents. If the **Show related documents** option doesn't appear on the context menu, you are viewing a report for which documents are not relevant. To extract related documents:

1. In the **All reports** view, click the name of the report.
The **Report details** view appears.
2. Click **Show report**.
3. From the context menu, click **Show related documents**.
The **Documents** view appears.
4. To download all documents, check the **Select all** box, otherwise check the box or boxes next to the specific document or documents you want. Select **Export**. A compressed file containing the documents you have selected will be downloaded to your device.

17.9 SHARE REPORT

Use the **Share report** feature to share user-modified reports with other users.

1. In the **All reports** view, click the name of the user-modified report you want to share.
2. From the context menu, click **Share report**.
The **Share report** dialog box appears.
3. Check the names of the users you wish to share this report with, and then click **Save**. The report will appear in the top section of the All reports view for the selected users, assuming they have the correct access rights.

NOTE

To view a shared report the signed-in user must have access rights to the standard report that the user-modified report is based on.

17.10 GENERATE A MICROSOFT CIDC

The Clean Inventory Data Contract (CIDC) is an Excel file that consists of a set of tabs; on the first tab definitions and instructions are provided by Microsoft of how to handle the file, while the tabs that follow are intended to be completed with inventory data related to Microsoft products.

In Snow License Manager it is possible to export inventory data to pre-populate the Microsoft CIDC as an initial step for generating a CIDC. After the bulk part has been pre-populated, some additional manual input is required to verify and complete the CIDC.


Export of CIDC's requires a specific Report Security permission, which is set in Snow MACC.

17.10.1 EXPORT A CIDC


NOTE

- The CIDC must be in .xlsx format and is only available for export.
- The CIDC can only be generated in English.
- Export date will be automatically added to the CIDC file name.

To export a CIDC:

1. On the **Reports** menu, click **Reports**.
2. Expand the **Microsoft** report group or search for the report by typing search criteria in the **Find report** box.
3. Click the **Download**  icon to export the **Clean Inventory Data Contract (CIDC) – Excel export only**.
The **Export to file** dialog box appears. **Name** and **Type** is automatically set and cannot be changed.
4. To more easily identify the export file, type a **Description**.
5. Click **Save**.

17.10.2 OPEN THE CIDC

1. In the **Reports** view and on the context menu, click **Report files**.
All exported **Report files** are listed.
2. Find the CIDC in the list and click the **Download**  icon.
3. Select to open the report, or to save the report to disk.

17.10.3 VERIFY AND COMPLETE

The CIDC is populated with data from Snow License Manager, given that the requested information is stored in the database.

Any errors in the file are indicated by a red background and the prefix [**ERR:...**].

Columns with values that need to be verified are indicated by a yellow background.

Columns destined for information that is not stored in Snow License Manager will be left empty, and need to be completed manually, if mandatory. In some cases, a default value will be set instead. The sections that follow describe these columns and values, and what actions the SAM administrator needs to take to complete the file.

NOTE

To correct and complete the CIDC, use the information provided in the *WorkSpace Domain Data – Definition Document* that can be found on the WorkSpace website.

17.10.3.1 A - HARDWARE AND OPERATING SYSTEMS

NOTE

The operating system **Install Date** is set to the installation date of the Snow client in the CIDC file.

Column	Default value	Action
Server Farm Name	Unknown	Needs to be set if applicable.
Physical Machine Fully Qualified Name	[name of physical machine] - or - <Unknown host>	Only computer name is retrieved from Snow License Manager. If a FQDN is required, it has to be completed manually. In case the name of a VM's physical host is missing (i.e. no inventory data of the host in SLM), <Unknown host> will be set.
Installation Media Channel	Unknown	Data needs to be manually entered.
OEM install confirmed via BIOS	No	Data needs to be verified and corrected if necessary.
License Quantity Required	1	Data needs to be verified and corrected if necessary.
Active SA Quantity Required	0	Data needs to be verified and corrected if necessary.
License Program Group Assigned	Unknown	Data needs to be manually entered.
License Model Assigned	Device	Data needs to be verified and corrected if necessary.
Environment Type	Production	Data needs to be verified and corrected if necessary.
External Connector Licensing Required	0	Data needs to be verified and corrected if necessary.
License Mobility Flag	0	Data needs to be verified and corrected if necessary.

17.10.3.2 B - CLIENT AND SERVER APPLICATIONS

NOTE

In case the application **Install Date** is missing, it will be set to **1980-01-01 00:00:00** in the CIDC file.

Column	Default value	Action
License Quantity Required	0 (no license required) - or - 1 (license required)	Based on application settings in Snow License Manager. Data needs to be verified and corrected if necessary.
Active SA Quantity Required	0	Data needs to be verified and corrected if necessary.
License Program Group Assigned	Unknown	Data needs to be manually entered.
License Model Assigned	One of the following: User Device User Access Device Access	The following mappings of metric and license model will be made: <ul style="list-style-type: none"> ▪ Total users -> User ▪ Total devices -> Device ▪ Concurrent user -> User Access ▪ Concurrent devices -> Device Access ▪ Installations -> Device Data needs to be verified and corrected if necessary.
Environment Type	Production	Data needs to be verified and corrected if necessary.
External Connector Licensing Required	0	Data needs to be verified and corrected if necessary.

17.10.3.3 C - ACCESS LICENSING

No information is retrieved from Snow License Manager. Instead, information needs to be manually collected and entered.

17.10.3.4 D - USER SUBSCRIPTION

No information is retrieved from Snow License Manager. Instead, information needs to be manually collected and entered.

17.10.3.5 E - VIRTUAL MACHINE MOVEMENT HISTORY

NOTE

This sheet displays movement history of virtual machines. Virtual machines that have never been moved will not show up here.

17.10.3.6 F - SQL SERVER INSTANCE

Column	Default value	Action
License Quantity Required	0 (no license required) - or - 1 (license required)	Based on application settings in Snow License Manager. Data needs to be verified and corrected if necessary.
Active SA Quantity Required	0	Data needs to be verified and corrected if necessary.
License Program Group Assigned	Unknown	Data needs to be manually entered.
License Model Assigned	One of the following: User Device User Access Device Access	The following mappings of metric and license model will be made: <ul style="list-style-type: none"> ▪ Total users -> User ▪ Total devices -> Device ▪ Concurrent user -> User Access ▪ Concurrent devices -> Device Access ▪ Installations -> Device Data needs to be verified and corrected if necessary.
Environment Type	Production	Data needs to be verified and corrected if necessary.
External Connector Licensing Required	0	Data needs to be verified and corrected if necessary.

17.10.3.7 G - GENERAL INFORMATION

Information that cannot be retrieved from Snow License Manager is indicated by an empty column and a yellow background. Information in these columns needs to be manually entered.

18 IMPORT DATA

Import data is a wizard-based feature for importing data to Snow License Manager. Examples of import types are licenses, agreements, and users. Available import types are determined by the access rights of the logged on user.

Depending on the type of import, either new objects are created or existing objects are updated with new metadata.

The wizard guides you through the import/update, which consists of the following steps:

1. Upload a data source.
2. Configure import settings.
3. Map source and destination fields.
4. Preview of imported data.
5. Import.

There is a dedicated wizard for each type of import/update.

18.1 IMPORT SOURCE FILE

The import source file can be in Excel (.xls or .xlsx) or CSV (Comma Separated Values) format, and source files both with or without file headers can be used. Note that CSV files need to be encoded as UTF-8. Information can be imported to the pre-defined fields and to most custom fields applicable to the category (except for custom fields of type currency).

To download templates for importing data to Snow License Manager:

1. On the **Home** menu, select **Import data**.
The **Import data** view appears.
2. Select **Import templates**.
The **Import templates** dialog box appears.
3. Select an import template from the list and then select **Download**.
The template is downloaded.

NOTE

The source file column names (if any) do not have to match the destination field names in Snow License Manager.

For a successful import of new or updated information in Snow License Manager, certain information must be provided. For more detailed information on required import data, and where the data can be found in Snow License Manager after the import, see the document *Data Import Field Description*.

18.2 VALIDATION OF DATA

To verify that only allowed data types and values are included in the import source file, the **Import data** function validates the data before it is imported. In the preview step of

the import, errors are highlighted in red. Point to the field to see more information on the error.

Errors and conflicts that are highlighted in red prevent import/update of data.

Data can only be updated for an object that already exists in Snow License Manager. If the import data does not match an object in the database, it is not possible to continue with the update of that particular object.

18.3 FIELD MAPPINGS

In the **Field mappings** step of the import, the column names of the import source file are mapped to the corresponding fields in Snow License Manager. If the import source file has no header, index mapping can be used instead. This means that the fields of the import source file will be identified by index (column position 0, 1, 2, etc.) instead of text (column header).

18.4 RUN IMPORT

1. On the **Home** menu, select **Import data**.
The **Import data** view appears.
2. Select import type to start the import wizard, which will take you through the steps described in the following sections.

NOTE

The import procedures for the following import types are described in separate sections:

- **Licenses**, see [Import or update licenses](#).
- **Microsoft License Statement (MLS) files**, see [Microsoft License Statement \(MLS\) file import](#).
- **Oracle orders**, see [Import Oracle orders](#).

18.4.1 UPLOAD A DATA SOURCE

1. Select **Browse** and then select the import source file.
2. If the import source file is a CSV file, select used **Delimiter** from the list. Otherwise, leave the default value.
3. Select **Next**.

18.4.2 CONFIGURE IMPORT SETTINGS

1. Manage settings for the data import according to the following sections. Available import settings depend on the type of import/update.
2. Select **Next**.

18.4.2.1 SETTINGS FOR ALL IMPORTS/UPDATES

In the **New organization action** list, select how to handle organizations that exist in the import source file but not in the Snow License Manager database. The options are described in the following table.

Options for New organization action	Description
Do nothing	Unknown organizations will be ignored. However, information on organization is required for a successful import. The field will be highlighted in the Preview step and it will not be possible to import data for that particular row.
Create	The system will create the new organization node, either directly under the root (for example: ROOT/[new organization node]) or according to the path in the import source file (for example: ROOT/IT/[new organization node]).

18.4.2.2 COMPUTER UPDATE SETTINGS

In the **Obsolete computer action** list, select how to handle computers that exist in the Snow License Manager database but not in the import source file. The options are described in the following table.

Options for Obsolete computer action	Description
Do nothing	Nothing will happen to the obsolete computers.
Inactivate	All obsolete computers will be inactivated during the import. An inactive computer does not require licenses for its installed applications and is not included in the compliance calculations.
Archive	All obsolete computers will be archived during the import. An archived computer is removed and all licenses currently attached to it are released.
Delete	All obsolete computers will be deleted during the import. A deleted computer is removed from the system; all computer details are deleted and all attachments to users, agreements, licenses, etc. are released. This option is available when the basic setting IMPORT_ENABLE_DELETE is enabled.

CAUTION

A computer that has been archived or deleted during import cannot be restored. If you have an import file that does not include all the computers in the database, only select **Archive** or **Delete** if you really want to remove them from the system.

NOTE

It is possible to limit the obsolete computer action to certain computers in the database by a configuration setting in Snow MACC.

18.4.2.3 CUSTOM OBJECT UPDATE SETTINGS

In the **Object type** list, specify the object type that will be updated. Depending on object type, different destination fields will be available in the **Field mappings**.

18.4.2.4 LICENSE ASSIGNMENT IMPORT SETTINGS

In the **Assignment action** list, select to add to existing assignments on a license, or to replace them completely.

18.4.3 MAP SOURCE AND DESTINATION FIELDS

Map the column headers of the import **Source** file to the corresponding **Destination** fields in Snow License Manager. Mandatory fields are marked with an asterisk * and must be included in the import source file. The fields to be mapped depend on type of import/update.

If the source file has no header, **Map by index** can be used instead.


18.4.3.1 MAP AND CONFIGURE IDENTIFIERS

For updated information to be mapped to the correct items, an identifier must be selected. Depending on how the import file looks like, select to identify by using the file header or to map by index.

To map and configure identifiers:


1. To map by index, select the **Map by index** check box.
2. In the **Map identifiers** destination list to the right, select identifier.
3. In the **Map identifiers** source list to the left, select column header or column position where information on selected identifier is found.
4. To remove any spaces in the beginning or the end of a data value, select the **Trim leading or trailing white space** check box.

18.4.3.2 MAP AND CONFIGURE FIELD MAPPING OPTIONS

1. To configure a field mapping, select the **Mapping**  icon to the right of the field name.
A dialog box appears.
2. To remove any spaces in the beginning or the end of a data value, select the **Trim leading or trailing white space** check box.
3. To map by index, select the **Map by index** check box.
4. Enter a **Default value** to be imported if there is no value in the source field.
5. Optionally, enter a **Prefix** (text and/or number) to be added in front of all imported values. This can be used for separating objects from different sites. For example, enter "**SE_**" to be added in front of all computers located in site Sweden.
6. For update of existing items an option is included for any existing custom fields. In the **Empty value action** list, select how the system shall handle an empty field in the source file when updating the database:
 - **Do not update** - The database will not be updated.
 - **Remove value** - The database will be updated with the empty (blank) value.

NOTE

If a Default value has been defined, see above, the Empty value action will not apply.

7. Select **Save**. The **Mapping** icon to the right of the field name is replaced by an exclamation mark  indicating that settings have been made.
8. In the **Source** list, select column header or column position where information on selected **Destination** field is found.
9. Repeat the previous steps for every field mapping.
10. Select **Next**.

18.4.4 PREVIEW OF IMPORTED DATA

In the **Preview of imported data**, errors, missing information and data that differs from what is expected are color highlighted, according to the following table.

Color of field	Description
Yellow	If the Incomplete licenses functionality is activated (which is done in Snow MACC), fields that are missing the required information are highlighted in yellow.
Red	Errors like conflicts or invalid values are highlighted in red. Rows that have any fields highlighted in red will not be imported.

It is possible to continue with the import/update even if there are invalid rows. However, only rows that are not highlighted or highlighted in yellow will be imported.

To preview the data:

1. To see more information about a highlighted field, point to the field.
2. To export the entire preview to an Excel file, select **Export all rows**.
3. To export only rows with errors, select **Export invalid rows**. Descriptions of the errors/warnings will be included in the file. This may help you to correctly create the source file, with the right fields and content.
4. To go back and correct field mappings and import settings, select **Previous**.
5. To start the import, select **Next**.

18.4.5 IMPORT

The progress of the import is displayed.

- When completed, select **Finish**.

18.5 IMPORT OR UPDATE LICENSES

To import new licenses, or to update data for licenses already in Snow License Manager, go to **Home > Import data > License import/update**. This starts a wizard that contains five steps:

1. Prepare the license import.
2. Upload the license import file and configure import settings.
3. Map source and destination fields.
4. Preview of the import data, including optionally adding new metrics.
5. View the results of the license import.

Each step of the wizard is described below.

NOTE

- If the license import is interrupted, for example if the browser window is accidentally closed, you can resume the import process by returning to step 1 of the license import wizard. A dialog box will appear, where you can select to either **Resume current import** or **Start a new import**.
- You can view or undo the results of the most recently completed license import until a new import is started. If there is a previously completed license import, the **Last import** section will be shown in the upper right corner of step 1 of the wizard. Select the link in that section to get to the import **Results** view, where you can view or undo the results of the import.

18.5.1 STEP 1: PREPARE THE LICENSE IMPORT

The preparations consist of the following steps:

- **Import agreements** (optional)
If you want to attach the licenses, that you are about to import, to agreements that are not yet in Snow License Manager, you must first import the agreements. To import agreements, go to **Home > Import data > Agreement import**.
- **Create your license import file**
The license import file must be in Excel (.xls or .xlsx) format. A license import template with the right format and fields can be downloaded from this step of the wizard.
Use the drop-down menu to see a description of a field in the template. For more detailed information on required import data, and where the data can be found in Snow License Manager after the import, see [Data Import Field Description](#).
The following fields in the template are mandatory:
 - **Application name** or **SKU** (Stock Keeping Unit)
 - **Legal organization**
 - **Purchase date**
 - **Assignment type**

For license updates, the following field is required in addition to the above fields:

- **License ID**
If the License ID is not included, Snow License Manager will treat the licenses in the import file as new instead of as updates.
To find the ID for a license in Snow License Manager: Go to **Licenses > List all licenses**, open the **Column selector** and add the **License ID** column to the list.

NOTE

A license, for which only the above fields have been filled in, will be imported to Snow License Manager, but will be marked as incomplete and will not be included in compliance calculations. For an imported license to be complete, the fields **Metric** and **Quantity** must also be filled in.

When you have completed the preparations, select **Start license import** to continue to the next step of the wizard.

18.5.2 STEP 2: UPLOAD THE LICENSE IMPORT FILE AND CONFIGURE IMPORT SETTINGS

Upload the license import file by selecting **Choose file** and browse for the file you have prepared. When the file is uploaded, the file name is displayed to the right of the **Choose file** button.

Configure the settings for the license import:

- **Identity field mapping**
Select to use either **Application name** or **SKU** (Stock Keeping Unit) as identity field for mapping the licenses to applications.
- **New organization action**
Select how organizations in the **Legal organization** field of the license import file that do not already exist in the Snow License Manager database should be handled:
 - **Do nothing**
The data in the field will be disregarded. The new organization will not be added to Snow License Manager.
Note that information on organization is required. The field will be highlighted in the **Preview** step of this wizard and it will not be possible to import data for that row.
 - **Create**
The system will create the new organization node according to the path in the license import file, for example: ROOT,IT,[new organization node].
If no path is specified, the new organization node will be created directly under the root.

Select **Next** to continue to the next step of the wizard.


18.5.3 STEP 3: MAP SOURCE AND DESTINATION FIELDS

In this step the fields of the license import **Source** file are mapped to the corresponding **Destination** fields in Snow License Manager. Matching source and destination field names are automatically mapped. You can manually override the auto mapping by selecting another source field name from the drop-down list.

Mandatory fields are marked with an asterisk (*) and must be included in the license import file.

For license updates, the **License ID** field is required in addition to the fields marked with an asterisk. If the **License ID** field is not mapped, Snow License Manager will treat the licenses in the import file as new. When the **License ID** field is mapped, the values in the mapped fields will be replaced with the values in the import file for those licenses. Note

that this means that if no value is present in the import source file for a mapped field, the field will be cleared in Snow License Manager.

To configure a field mapping, open the configuration dialog box by selecting the **Mapping**  icon to the right of the destination field name.

- To remove any spaces in the beginning or end of a data value, select the **Trim leading or trailing white space** check box.
For example, the values "Application xyz" and " Application xyz " in the **Application name** field will be interpreted as one and the same application when the check box is selected.
- To populate the destination field with a default value if the source field is empty, enter a value in the **Default value** box.
For example, if the fields in the **Is upgrade** column of the import file contain the value "yes" for upgrade licenses and are empty for non-upgrade licenses, and "no" is entered as default value, the destination field will be populated with the value "no" for all empty source fields.
- To add a prefix in front of all imported values, enter a prefix (text and/or number) in the **Prefix** box.
This option is available for some of the destination fields. It can be used to separate or specify the values in the import file. For example, if the invoice reference values in the import file are "1", "2", and "3", and the text "INV_" is added as a prefix to all invoice references, the imported values will be changed to "INV_1", "INV_2", and "INV_3".

Select **Next** to continue to the next step of the wizard.

18.5.4 STEP 4: PREVIEW OF THE IMPORT DATA, INCLUDING OPTIONALLY ADDING NEW METRICS

This step presents a preview of the data in the license import file. The **Status** column shows for each row in the import file if it is **Ready** or **Not ready** to be imported. You can continue with the import or update even if the import file contains invalid rows. However, rows in status **Not ready** will not be included in the import.

The fields of the preview are color highlighted as follows:

Highlighting color	Description
No highlighting	The field is properly filled. A row with no highlighted fields is given the status Ready with a green check icon. The license will be included in the import and it will be included in compliance calculations.

Highlighting color	Description
Yellow	<p>Required information is missing.</p> <p>A row with fields highlighted in yellow in addition to any fields with no highlighting is given the status Ready with an orange check icon. The license will be included in the import, but it will be marked as incomplete. It will not be included in compliance calculations until it has been completed with the missing data.</p> <p>NOTE For license updates, empty fields in the import file will result in the fields being cleared in Snow License Manager. To avoid unintentional loss of data it is therefore important to consider yellow fields, if any, when the import concerns updating existing licenses.</p> <p>NOTE The Incomplete licenses functionality must be activated in Snow Management and Configuration Center for missing required information to be highlighted in yellow.</p>
Red	<p>The field contains errors, such as conflicts or invalid values.</p> <p>A row with one or more fields highlighted in red is given the status Not ready and will not be included in the import.</p>

You can perform the following actions in this step:

- Hover over a highlighted field to see more information about it.
- Select **Export all rows** to export the entire preview to an Excel file.
- Select **Export invalid rows** to export only rows with errors to an Excel file. Descriptions of the errors and warnings will be included in the file. This can be an aid in creating a correct source file, with the right fields and content.
- Select **Previous** to go back and correct field mappings and import settings.
- Select application version from the drop-down list in the **SKU (Stock Keeping Unit)** column to change version for the application in that row. The drop-down list is available if SKU was chosen as identity field in step 2 of the import wizard and the SKU represents multiple application versions. Selecting another application version will trigger re-validation of the row.
- Select **Add new metrics** to add one or more new metrics from the license import file to one or more applications in Snow License Manager. See [Add new metrics](#).
- Once you are satisfied with the preview, select **Run import** to import the licenses to Snow License Manager. The **Import completed** pop up window will appear, showing the number of imported rows and the number of rows that failed to be imported. Select **Close and view results** to continue to the last step of the wizard.

18.5.4.1 ADD NEW METRICS

A **Metric** field is highlighted in red when the metric for an application in the license import file does not match the metric or metrics currently added to the application in Snow License Manager.

To add the metric in the license import file to the application:

1. Select **Add new metrics**.
The **Import preview/Add new metrics** view is displayed. All rows in the license import file containing an unmatched metric are listed. The metric or metrics currently added to the application in Snow License Manager are shown in the **Current metric(s)** column. The metric from the license import file is shown in the **New metric** column.
2. Select the check box for the application you want to add the new metric to. Multiple applications can be selected if they share the same new metric.
3. Select **Add metrics for selected applications**.
The **Import preview/Add new metrics/Enter metric details** view is displayed.
4. Enter the details for the new metric.
See applicable parts of subsections **Metrics** and **General** in [License settings tab](#) for guidance.
Select the **Set as default metric** check box if you want to make the new metric the default metric of the application.

NOTE

The default metric cannot be changed for a Windows Server application.

5. To apply the new metric details, select one of the following:
 - Select **Apply to selected** to apply the details to the applications you selected in the previous view.
 - Select **Apply to applications with same metric type** to apply the details to all applications with the same new metric type listed in the previous view.

You are returned to the **Import preview/Add new metrics** view. The applications to which the new metrics have been added are now in status **Ready**.

6. Select **Continue** when you are done adding new metrics to applications.
You are returned to the **Import preview** view.

18.5.5 STEP 5: VIEW THE RESULTS OF THE LICENSE IMPORT

The last step of the wizard shows the results of the license import.

The **Status** column shows for each row of the import file if it has been **Imported**, **Updated**, or if the import or update **Failed**.

You can perform the following actions in this step:

- Select **Export all rows** to export all rows to an Excel file.
- Select **Export invalid rows** to export only rows with errors to an Excel file. Descriptions of the errors/warnings will be included in the file.
- Select **Undo import** to undo the import you just carried out.

NOTE

Any metric changes for an application will also be reverted to the way they were before the import.

If you have used any of the licenses from the import before undoing it, the action may cause incompliance.

- Select **Go to your licenses** to see a list of all licenses in Snow License Manager.
- Select **Start a new import** to go to step 1 of the import wizard and start a new import.

18.6 MICROSOFT LICENSE STATEMENT (MLS) FILE IMPORT

Snow License Manager can import Microsoft License Statement (MLS) files. The file must be in .xlsx format, and in its original state (unaltered). The MLS import will import agreements and licenses, and map licenses to applications in SLM using the SKU (Stock-keeping Unit) repository. Moreover, the import will apply product use rights information where possible.

License information is imported from the **License Agreement** and the **Transaction Data** tabs of the MLS file. The columns that are used for import are described in the user guide *Data Import Field Description*.

18.6.1 RUN IMPORT

1. On the **Home** menu, select **Import data**.
The **Import data** view appears.
2. Select **MLS import** to start the import wizard.
3. Select **Browse**, select the import source file, and then select **Next**.
4. Change the MLS import settings:
 - a. To use an organization alias when linking the agreements or licenses to organization nodes, select the **Use organization alias for agreements** and/or **Use organization alias for licenses** check boxes.

NOTE

There has to be an alias, case sensitive, for each company name appearing in the **Customer Name on Agreement** column on the tab **License Agreements** of the MLS file. Aliases are created when adding/editing an organization node in Snow Management and Configuration Center.

- b. To include incomplete licenses in the import, select the **Import incomplete licenses** check box.
 - c. Select **Next**.
5. Verify the agreements, and then select **Next**.
 6. Verify the licenses, and then select **Next** to start the import.

7. Select **Finish** when the import is complete.

19 APPENDIX A - COMPLIANCE EXAMPLES

19.1 COMPLIANCE EXAMPLE 1

The following example refers to the application **WinRAR archiver 5.30**.

In the compliance summary of the application we see that:

- The metric of the application is set to **Installations**
- There are **10** licenses with that metric for this application
- There is a license requirement of **18** licenses
- There are **10** licenses available for coverage
- We are **8** licenses short

WinRAR archiver 5.30
Alexander Roshal WinRAR Microsoft Windows [Edit application](#)

Installations 18 Licenses 10 License requirement 18 Coverage 10 Compliance -8

Licenses Allocation Compliance Computers Users Information Financial info SKU

Details History Trend

Initial requirement	Licenses	Required licenses	Coverage	Compliance
18 Installations	10 Licenses	18 Required licenses	10 Coverage	-8 You are not compliant
	Licenses purchased 0	Installations 18	Licenses 10	
	Transfers received via upgrade rights 10			
	Licenses 10	Required licenses 18	Coverage 10	Compliance -8

Initial requirement	Licenses	Required licenses	Coverage	Compliance
18 Processors	0 Licenses		0 Coverage	
	Licenses purchased 4		Licenses 0	
	Unassigned -4			
	Licenses 0		Coverage 0	

In the **Details** view of the **Compliance** tab, we see that there are no licenses registered for the metric of the application (top red box), but there are licenses registered with another metric (bottom red box):

- There are **4** licenses registered with the metric **Number of processors**. However, these licenses have not been assigned to any computer/datacenter and are not used for coverage.

19.1.1 DEFAULT METRIC

The metric of this application is set to **Installations**.

The initial license requirement of the application is **18 Installations**, which corresponds to **18 Required licenses**. No adjustments have been made.

WinRAR archiver 5.30
Alexander Roshal WinRAR Microsoft Windows Edit application

Installations 18 Licenses 10 License requirement 18 Coverage 10 Compliance -8

Licenses Allocation Compliance Computers Users Information Financial info SKU

Details History Trend

Initial requirement	Licenses	Required licenses	Coverage	Compliance
18 Installations	10 Licenses	18 Required licenses	10 Coverage	-8 You are not compliant
	Licenses purchased 0	Installations 18	Licenses 10	
	Transfers received via upgrade rights 10			
	Licenses 10	Required licenses 18	Coverage 10	Compliance -8

Initial requirement	Licenses	Coverage
18 Processors	0 Licenses	0 Coverage
	Licenses purchased 4	Licenses 0
	Unassigned -4	
	Licenses 0	Coverage 0

In the **Licenses** column we see that 10 licenses have been transferred to the application via upgrade rights. For more information:

- Click the **Licenses** tab, and then click **Transfers**.

Licenses Allocation Compliance Computers Users Information Financial info SKU

Purchases **Transfers** Tracking

Application name	Transfer type	Metric	Quantity
WinRAR archiver 5.00	Received via upgrade rights	Installations	2
WinRAR archiver 5.10	Received via upgrade rights	Installations	8

To see how these licenses are covering the installations:

- On the **Licenses** tab, click **Tracking**.
- Select **Covered** in the **Entitlement state** list. The list is filtered.

In this example we see that the list is empty (no consumers are covered), although we have 10 licenses available for coverage.

Consumer name	Type	Used	Required	Entitlement state
☰	= (All) ▼	= (All) ▼	=	= Covered ▼

To investigate more, click the **Allocation** tab.

NOTE

Allocation can only be changed according to the current licensing conditions.

Now we see that the organization node **Company** has no license requirement, but is covered by 10 licenses. At the same time, the organization node **Company/Sweden** has a requirement of 18 licenses but no licenses available for coverage.

Organisation	Metric	License requirement	Coverage	Compliance
☰	☰			
Company	Installations	0	10	10
Company/Sweden	Installations	18	0	-18

Here we might want to edit the license purchase to make it possible for the licenses to cover installations of the application further down in the organization structure:

1. Navigate to the license purchase and click **Edit license**.
2. On the **Assignment** tab, select the **Auto allocate** check box, and then click **Save**.
3. Select **Recalculate compliance** from the dropdown menu under your username.
4. Navigate to the application, and then click the **Allocation** tab.

In this case we changed one of the license purchases, so now 8 of the available licenses can be used for covering consumers in the **Company/Sweden** node.

Organisation	Metric	License requirement	Coverage	Compliance
☰	☰			
Company	Installations	0	2	2
Company/Sweden	Installations	18	8	-10

To see how the licenses are covering the installations after the change:

1. Click the **Licenses** tab, and then click **Tracking**.
2. Select **Covered** from the **Entitlement state** list.
The list is filtered.

Consumer name	Type	Used	Required	Entitlement state
XXL7JL8ZW1	Computer	<input checked="" type="checkbox"/>	1	Covered
XXLJ9JPJ1	Computer	<input checked="" type="checkbox"/>	1	Covered
XXL3BL8PX1	Computer	<input type="checkbox"/>	1	Covered
SELTSER1503	Computer	<input checked="" type="checkbox"/>	1	Covered
SELTSER1502	Computer	<input type="checkbox"/>	1	Covered
WBRAALEXSAULT	Computer	<input type="checkbox"/>	1	Covered
SELTSER1506	Computer	<input checked="" type="checkbox"/>	1	Covered
8 items				

Note that we are still 8 licenses short according to the overall compliance calculation, and that we have 4 unassigned licenses with the metric **Number of processors**.

Initial requirement	Licenses	Required licenses	Coverage	Compliance
18 Installations	10 Licenses	18 Required licenses	10 Coverage	-8 You are not compliant
	Licenses purchased 0	Installations 18	Licenses 10	
	Transfers received via upgrade rights 10			
	Licenses 10	Required licenses 18	Coverage 10	Compliance -8
18 Processors	0 Licenses		0 Coverage	
	Licenses purchased 4		Licenses 0	
	Unassigned -4			
	Licenses 0		Coverage 0	

19.1.2 OTHER METRICS

On the **Compliance** tab and in the **Details** view, we see that licenses with another metric than the application's metric have been registered. However, these licenses have not been assigned to any computer/datacenter and are not used for coverage.

To correct the unassigned licenses:

1. Navigate to the license with the **Number of processors** metric, and click **Edit license**.
2. Click the **Assignment** tab.
3. Click **Add** and search for the computers that you want to assign the licenses to.
4. Type number of licenses to be assigned for each computer.
5. Save the changes to the license.
6. Select **Recalculate compliance** from the dropdown menu under your username.

7. Navigate to the application, and then click the **Compliance** tab.

In this example the computers that we assigned the licenses to have 1 processor each. This means that the 4 licenses correspond to 4 installations which they now cover. This is shown in the **Coverage** column where we in the top section now have a row for **Covered by other metrics**, and in the second section a row for **Licensing other metrics**.

WinRAR archiver 5.30
Alexander Roshal WinRAR Microsoft Windows Edit application

Installations
18

Licenses
10

License requirement
18

Coverage
14

Compliance
-4

Licenses Allocation **Compliance** Computers Users Information Financial info SKU

Details History Trend

Initial requirement	Licenses	Required licenses	Coverage	Compliance
18 Installations	10 Licenses	18 Required licenses	14 Coverage	-4 You are not compliant
	Licenses purchased 0	Installations 18	Licenses 10	
	Transfers received via upgrade rights 10		Covered by other metrics 4	
	Licenses 10	Required licenses 18	Coverage 14	Compliance -4
18 Processors	4 Licenses		0 Coverage	
	Licenses purchased 4		Licenses 4	
			Licensing other metrics -4	
	Licenses 4		Coverage 0	

19.2 COMPLIANCE EXAMPLE 2

In the compliance summary of the application **Microsoft SQL Server 2012 Enterprise** we see that:

- The metric of the application is set to **Cores**
- There are **0** licenses with that metric for this application
- There is a license requirement of **24** licenses
- There are **0** licenses available for coverage
- We are **24** licenses short

Microsoft SQL Server 2012 Enterprise
 Microsoft Corporation Microsoft SQL Server Microsoft Windows

Edit application

Cores
24

Licenses
0

License requirement
24

Coverage
0

Compliance
-24

Licenses Allocation Compliance Computers Users Bundle content Information Financial info SKU

Details History Trend

Initial requirement	Licenses	Required licenses	Coverage	Compliance
24 Cores	0 Licenses	24 Required licenses	0 Coverage	-24 You are not compliant
	Licenses purchased	0 Cores	24 Licenses	0
	Licenses	0 Required licenses	24 Coverage	0 Compliance

19.2.1 DEFAULT METRIC

The metric of this application is set to **Cores**.

The application is detected on hardware that has a total number of **24 Cores**, which corresponds to **24 Required licenses**. No adjustments have been made.

Microsoft SQL Server 2012 Enterprise
 Microsoft Corporation Microsoft SQL Server Microsoft Windows

Edit application

Cores
24

Licenses
0

License requirement
24

Coverage
0

Compliance
-24

Licenses Allocation Compliance Computers Users Bundle content Information Financial info SKU

Details History Trend

Initial requirement	Licenses	Required licenses	Coverage	Compliance
24 Cores	0 Licenses	24 Required licenses	0 Coverage	-24 You are not compliant
	Licenses purchased	0 Cores	24 Licenses	0
	Licenses	0 Required licenses	24 Coverage	0 Compliance

To verify that no consumers are covered:

- Click the **Licenses** tab, and then click **Tracking**.
 A list of all consumers that require a license is shown. There are six consumers and none of them is covered.

Consumer name	Type	Used	Required	Entitlement state
>=:	= (All) ▾	= (All) ▾	=	= (All) ▾
SE1Q208	Computer	<input type="checkbox"/>	4 ▾	Not covered ▾
SE1Q209	Computer	<input type="checkbox"/>	4 ▾	Not covered ▾
SE1Q210	Computer	<input type="checkbox"/>	4 ▾	Not covered ▾
SE1E750	Computer	<input type="checkbox"/>	4 ▾	Not covered ▾
SE1E751	Computer	<input type="checkbox"/>	4 ▾	Not covered ▾
SE1A8EN100	Computer	<input type="checkbox"/>	4 ▾	Not covered ▾

19.2.2 DECIDE ON LICENSING

Take into consideration how the consumers are set up and decide how to license them in the best way.

As support, use the report **License tracking per computer**, and add the columns **Datacenter name** and **Host computer name** from the Column selector.

In this example, we have three physical hosts.

License tracking per computer
Shows license tracking per computer

REPORT CRITERIA Show report Clear Set default

Drag a column header here to group by that column

Computer name	Legal organisation	Datacenter name	Host computer name	Application name	Manufacturer	Metric	Assignment type	Coverage reason
SE1E750	Company		SE1E750	Microsoft SQL Server 2012 Enterprise	Microsoft Corporation	Number of processor cores		None
SE1E751	Company		SE1E751	Microsoft SQL Server 2012 Enterprise	Microsoft Corporation	Number of processor cores		None
SE1Q208	Company	VMW Datacenter 1	SE1A8C0701	Microsoft SQL Server 2012 Enterprise	Microsoft Corporation	Number of processor cores		None
SE1Q209	Company	VMW Datacenter 1	SE1A8C0701	Microsoft SQL Server 2012 Enterprise	Microsoft Corporation	Number of processor cores		None
SE1Q210	Company	VMW Datacenter 1	SE1A8C0701	Microsoft SQL Server 2012 Enterprise	Microsoft Corporation	Number of processor cores		None
SE1A8EN100	Company	SE1E751	SE1E751	Microsoft SQL Server 2012 Enterprise	Microsoft Corporation	Number of processor cores		None

We decide to cover two of the physical hosts with VM use rights. We buy and register a license for Microsoft SQL Server 2014 Enterprise Core with:

- quantity **120** and metric **Number of processor cores**
- upgrade rights
- downgrade rights
- cross edition rights
- VM use rights

When registering the license purchase we assign licenses to the two physical hosts according to their requirement of licensable cores.

Name	Organisation	Type	Processors / Cores	VMs (Inventoried)	VM use rights	Assigned
SERVER001	Company	Physical	1 / 6	14 (14)	Unlimited	6
SERVER002	Company	Physical	2 / 4	4 (4)	Unlimited	8

After compliance has been calculated, we see that the application **Microsoft SQL Server 2012 Enterprise** now has coverage due to **VM** use rights. License requirement is adjusted with the number of cores from the physical hosts to which the licenses were assigned.

Microsoft SQL Server 2012 Enterprise

Microsoft Corporation Microsoft SQL Server Microsoft Windows

120 Total licenses 14 Total assigned 106 Total remaining

Cores: 24 Licenses: 14 License requirement: 38 Coverage: 34 Compliance: -4

Licenses Allocation Compliance Computers Users Information Financial info SKU

Initial requirement	Licenses	Required licenses	Coverage	Compliance
24 Cores	14 Licenses	38 Required licenses	34 Coverage	-4 You are not compliant
	Licenses purchased: 120	Cores: 24	Licenses: 14	
	Unassigned: -106	Physical host: 14	VM use rights: Details	
			Licensing other metrics: Details	
Licenses: 14	Required licenses: 38	Coverage: 34	Compliance: -4	

To verify that consumers are now covered:

- Click the **Licenses** tab, and then click **Tracking**. A list of all consumers that require a license is shown. Note that the list now also contains the physical hosts, as they are counted towards the requirement. Seven out of the eight consumers are now covered. That is, five of the virtual machines and two hosts are covered.

Licenses Allocation Compliance Computers Users Information Financial info SKU

Purchases Transfers **Tracking**

Consumer name	Type	Used	Virtual	Required	Entitlement state
	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	Not covered
	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	Covered
	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	Covered
	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	Covered
	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	Covered
	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	Covered
	Computer	<input type="checkbox"/>	<input type="checkbox"/>	6	Covered
	Computer	<input type="checkbox"/>	<input type="checkbox"/>	8	Covered

19.3 COMPLIANCE EXAMPLE 3

The following example refers to the application **Microsoft SQL Server 2012 Standard**.

In the compliance summary of the application (blue box) we see that:

- The metric of the application is set to **Number of processor cores**.
- There are no (**0**) licenses with that metric for this application.
- There is a license requirement of **44** licenses.
- There are **44** licenses that have been used for coverage.
- We are **compliant**.

Microsoft SQL Server 2012 Standard
 Microsoft Corporation Microsoft SQL Server Microsoft Windows Edit application

Cores 35 Licenses 0 License requirement 44 Coverage 44 Compliance 0

Licenses Allocation Compliance Computers Users Bundle content Information Financial info SKU

Details History Trend

Initial requirement	Licenses	Required licenses	Coverage	Compliance
35 Cores	0 Licenses	44 Required licenses	44 Coverage	0 You are compliant
	Licenses purchased 0	Cores 35	Licenses 0	
		Extended coverage for hosts -4	Covered by other metrics 44	
		Minimum requirement 9		
		Core factor adjustment 4		
	Licenses 0	Required licenses 44	Coverage 44	Compliance 0

Initial requirement	Licenses	Required licenses	Coverage	Compliance
12 Installations	83 Licenses		76 Coverage	
	Licenses purchased 93		Licenses 83	
	Transfers given via downgrade rights -10		Licensing other metrics -7	
	Licenses 83		Coverage 76	

Initial requirement	Licenses	Required licenses	Coverage	Compliance
12 Processors	4 Licenses		0 Coverage	
	Licenses purchased 4		Licenses 4	
			Licensing other metrics -4	
	Licenses 4		Coverage 0	

In the **Details** view of the **Compliance** tab, we see that there are no licenses registered for the metric of the application (top red box), but there are licenses registered with other metrics (bottom red boxes):

- There are **93** licenses registered with the metric **Installations**. The initial requirement of **35** cores corresponds to **12** installations.
- There are **4** licenses registered with the metric **Number of processors**. The initial requirement of **35** cores corresponds to **12** processors.

19.3.1 DEFAULT METRIC

The initial license requirement of the application is **35 Cores**. However, adjustments need to be made for **Extended coverage**, **Minimum requirement**, and **Core factor** which results in a final requirement of **44 Required licenses**.

Initial requirement	Licenses	Required licenses	Coverage	Compliance
35 Cores	0 Licenses	44 Required licenses	44 Coverage	0 You are compliant
	Licenses purchased	Cores	Licenses	
		Extended coverage for hosts	Covered by other metrics	
		Minimum requirement		
		Core factor adjustment		
	Licenses	Required licenses	Coverage	Compliance
12 Installations	83 Licenses		76 Coverage	
	Licenses purchased		Licenses	
	Transfers given via downgrade rights		Licensing other metrics	
	Licenses		Coverage	
12 Processors	4 Licenses		0 Coverage	
	Licenses purchased		Licenses	
			Licensing other metrics	
	Licenses		Coverage	

For information on the consumers of this application:

- Click the **Licenses** tab, and then click **Tracking**.
A list of all consumers that require a license is shown.

19.3.1.1 ADJUSTMENT FOR EXTENDED COVERAGE




Adjustment has been made for a host that is configured with extended coverage for this application. In the **Tracking** view, the involved consumer has **Entitlement state** set to **No requirement**.

For detailed information:

- On the **Licenses** tab and in the **Tracking** view, click the arrow next to the **Required** number of licenses (in this example **0**).
- In the **License requirements** box, any adjustments are shown.

19.3.1.2 ADJUSTMENT FOR MINIMUM REQUIREMENT

The setting **Minimum number of licenses** means that each consumer of the application must be covered with a certain number of licenses. When this setting is used, the set value is shown on the **Information** tab in application details.

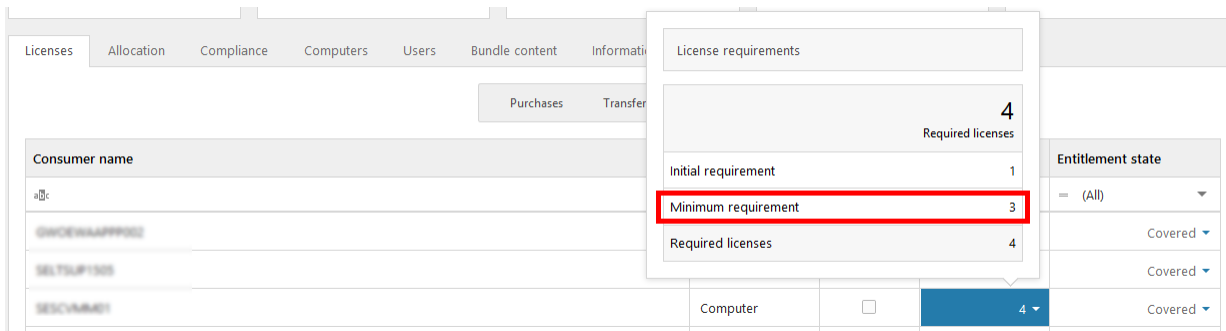
Type	Name	Value
	Metering history period	28/02/2015 - 28/02/2016
	Metric	Based on total processor cores
	Minimum number of licenses	4




EXAMPLE

Minimum number of licenses is set to 4. For a consumer with 4 cores no adjustment is needed. For a consumer with only 1 core, an additional adjustment of 3 cores is needed.

For information on any adjustments that have been made for a consumer:




1. On the **Licenses** tab and in the **Tracking** view, click the arrow next to the number of **Required** licenses.
2. In the **License requirements** box, any adjustments are shown.



Type	Name	Value
	Minimum requirement	3
	Initial requirement	1
	Required licenses	4

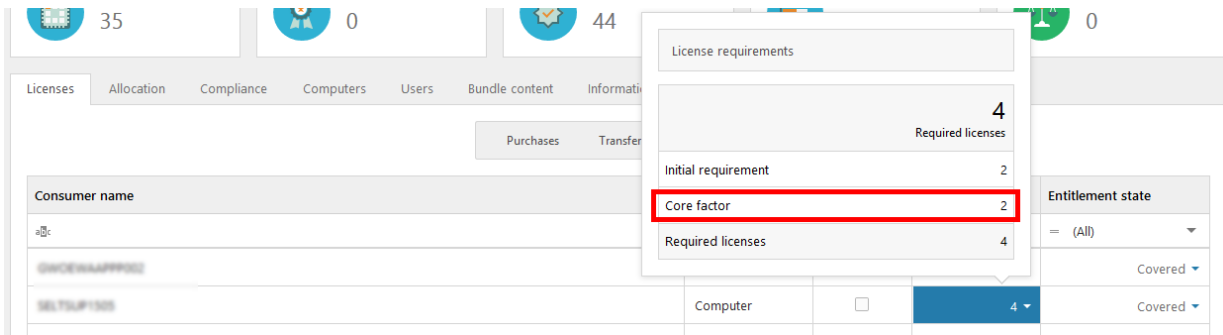
19.3.1.3 ADJUSTMENT FOR CORE FACTOR

When a Core factor table is applied, information on used table and factor is shown on the **Information** tab in computer details.

Type	Name	Value
	Manufacturer	Dell Inc.
	Microsoft Core factor table	2.00 (Licensable cores: 4)
	Model	Latitude E6430

For information on any applied core factor for a consumer:

1. On the **Licenses** tab and in the **Tracking** view, click the arrow next to the number of **Required** licenses.
2. In the **License requirements** box, any adjustments are shown.



19.3.2 OTHER METRICS

On the **Compliance** tab and in the **Details** view, we see that license purchases with other metrics than the application’s metric have been registered, and are shown in the subsequent sections.

Initial requirement	Licenses	Required licenses	Coverage	Compliance
35 Cores	0 Licenses	44 Required licenses	44 Coverage	0 You are compliant
	Licenses purchased	Cores	Licenses	
		Extended coverage for hosts	Covered by other metrics	
		Minimum requirement		
		Core factor adjustment		
	Licenses	Required licenses	Coverage	Compliance
12 Installations	83 Licenses		76 Coverage	
	Licenses purchased		Licenses	
	Transfers given via downgrade rights		Licensing other metrics	
	Licenses		Coverage	
12 Processors	4 Licenses		0 Coverage	
	Licenses purchased		Licenses	
			Licensing other metrics	
	Licenses		Coverage	

Out of the 93 purchased licenses with the metric **Installations**, 10 have been transferred to other versions of the application via downgrade rights. For information on which versions, click the **Licenses** tab, and then click **Transfers**.

The remaining 83 licenses with the metric **Installations** are available for coverage.

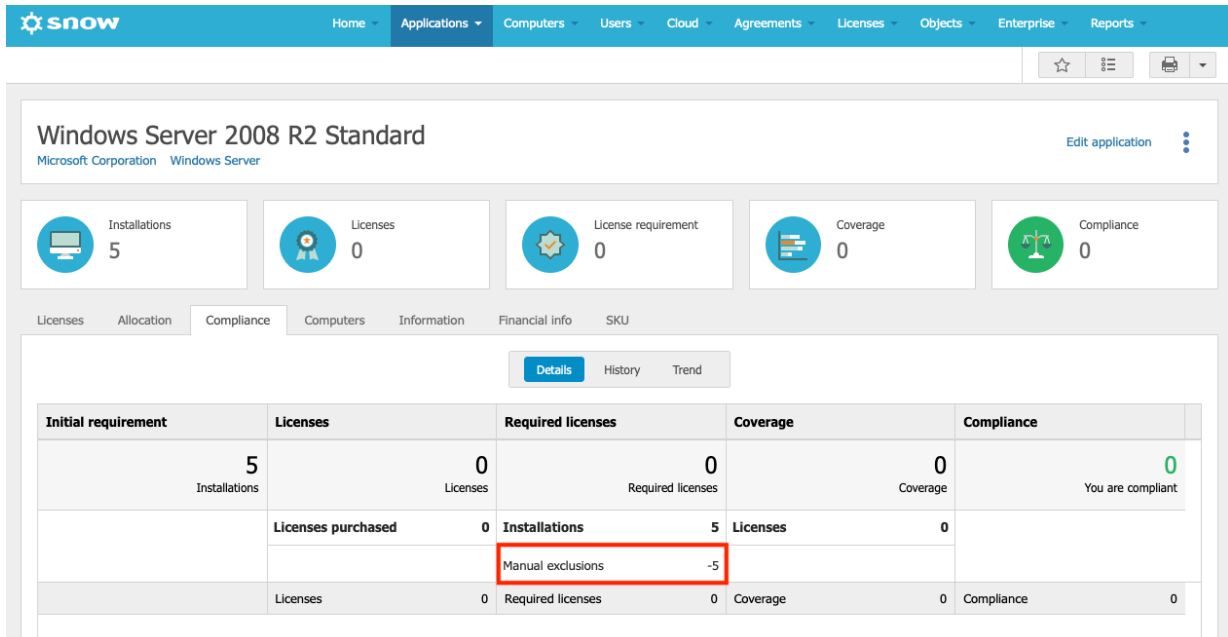
Since the metric of the application is set to **Number of processor cores** each license of another metric must be translated into the metric of the application.

In this example 7 of the **Installations** licenses and 4 of the **Processors** licenses are translated into a corresponding 44 **Cores** licenses, and are used for coverage of the

application. This is indicated by the **Licensing other metrics** row in each section of the other metrics, and the **Covered by other metrics** row in the default metric section.

19.4 COMPLIANCE EXAMPLE 4

This example displays where compliance exclusions are displayed in other areas of Snow License Manager than [Administration overview](#)



The screenshot shows the Snow License Manager interface for the application "Windows Server 2008 R2 Standard". The "Compliance" tab is selected, displaying a table of metrics. A red box highlights the "Manual exclusions" row in the table.

Initial requirement	Licenses	Required licenses	Coverage	Compliance
5 Installations	0 Licenses	0 Required licenses	0 Coverage	0 You are compliant
	Licenses purchased 0	Installations 5	Licenses 0	
		Manual exclusions -5		
	Licenses 0	Required licenses 0	Coverage 0	Compliance 0

Displaying an application with the **Compliance** tab selected shows compliance exclusions.

Windows Server 2016 Standard
Microsoft Corporation Windows Server

System Administrator Customer A

1 of 1

Cores: 95 | Licenses: 0 | License requirement: 240 | Coverage: 0 | Compliance: -240

Licenses | Allocation | Compliance | Computers | Information | Financial info | SKU

Purchases | Transfers | **Tracking**

Consumer name	Type	Used	Required	Entitlement state
[Filtered]	Computer	<input type="checkbox"/>	0	No requirement
[Filtered]	Computer	<input type="checkbox"/>	16	Not covered
[Filtered]	Computer	<input type="checkbox"/>	16	Not covered
[Filtered]	Computer	<input type="checkbox"/>	0	No requirement
[Filtered]	Computer	<input type="checkbox"/>	16	Not covered
[Filtered]	Computer	<input type="checkbox"/>	16	Not covered
[Filtered]	Computer	<input type="checkbox"/>	16	Not covered
[Filtered]	Computer	<input type="checkbox"/>	16	Not covered
[Filtered]	Computer	<input type="checkbox"/>	0	No requirement

18 items

Displaying an application with the **Applications** tab selected shows compliance exclusions where the Entitlement state is **No requirement**.

Virtual
Microsoft Windows Server 2012 R2 Standard, 64-bit

System Administrator Customer A

Applications: 29 | Users: 75 | Cost: 0.00 (EUR) | Last scanned: 28/09/2017

Applications | Users | Hardware | Information | Financial info | Devices | Remote servers | Virtual machines | Virtual desktops | Printers | Documents | Oracle

Name	Metric	First discovered	Last used	Requirement	Entitlement state	Remark
TS-7-Zip 17 Beta	No license required		27/09/2017			
TS-Google Chrome 59	No license required		07/08/2017			
TS-Google Chrome 60	No license required		26/09/2017			
TS-Google Chrome 61	No license required		28/09/2017			
TS-Microsoft Internet Explorer 11	No license required		28/09/2017			
TS-Notepad++ 7	No license required		28/09/2017			
TS-TreeSize 3 Free	No license required		11/08/2017			
TS-VMware Tools 10	No license required		28/09/2017			
VMware Tools 10	No license required					
Windows Media Player 12	No license required					
Windows Server 2012 R2 Standard	Number of processors			0	No requirement	EXC
Zenmap 7	No license required					

29 items

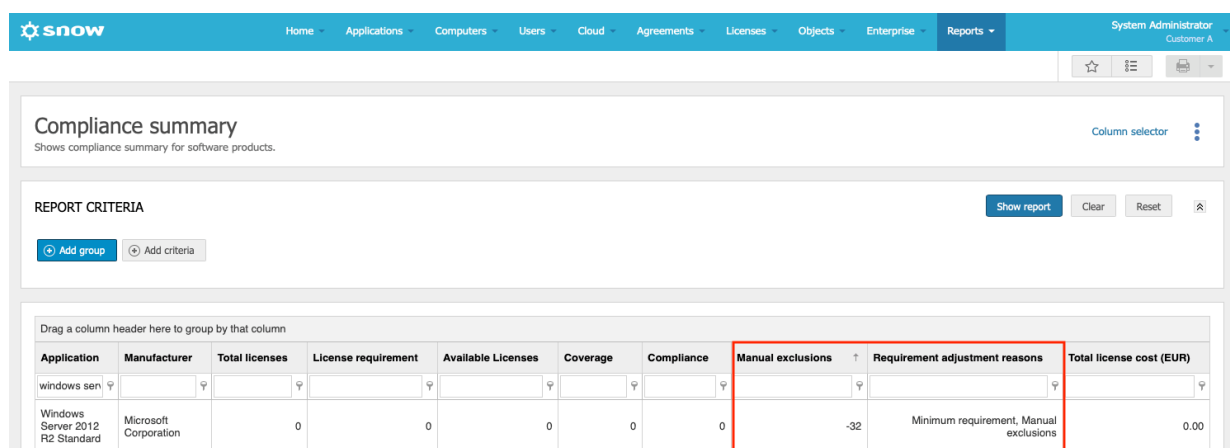
Displaying details of a computer with the **Applications** tab selected will display the remark "EXC" if compliance is excluded.

19.4.1 COMPLIANCE EXCLUSIONS IN REPORTS

The following reports are related to the compliance exclusion functionality that is introduced with Snow License Manager 9:

- **Compliance exclusions**
Displays the computer name and excluded application, among other examples. The **Reason** column displays the reason for the exclusion.
- **Compliance summary**
Displays a compliance summary for applications.
- **License tracking per computer**
Displays license tracking per computer.
By adding the column named **Requirement adjustment reasons**, "Manual exclusions" is displayed where compliance exclusion is used.
- **Windows Server Assessment - 2012 licensing**
- **Windows Server Assessment - 2016 licensing**
- **Windows Server Assessment - 2019 licensing**
- **Windows Server Assessment - 2022 or later licensing**
- **Windows Server Assessment - Lowest-cost licensing**
These four Windows Server Assessment reports can have the column named **Excluded Windows Server VMs** added, which displays the number of Windows Server VMs that are excluded.

For the **Compliance summary** report, an example use is to add the columns "Manual exclusions" and "Requirement adjustment reasons," which displays the number of manual exclusions for a specific application, and the reasons for this.



The screenshot shows the 'Compliance summary' report in the Snow License Manager interface. The report includes a table with the following data:

Application	Manufacturer	Total licenses	License requirement	Available Licenses	Coverage	Compliance	Manual exclusions	Requirement adjustment reasons	Total license cost (EUR)
windows sen									
Windows Server 2012 R2 Standard	Microsoft Corporation	0	0	0	0	0	-32	Minimum requirement, Manual exclusions	0.00