Software Asset Management

Introduction

Software Asset Management

Note: *This article applies to Fuji and earlier releases. For more current information, see Software Asset Management* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

Software asset management (SAM) systematically tracks, evaluates, and manages software licenses and software usage. A strong SAM program can help an organization reduce software costs, improve compliance, and simplify or develop processes for employee software requests. SAM programs can also help control inventory through accurate databases, which in turn helps identify organizational software needs, identify unused software that can be deleted, as well as reduce or consolidate the number of software vendors used.

Setup Process

Use this method to get started with software asset management.

- Identify Software Owned. There are three methods of identifying the software your organization owns:
  - Migrating information from the ServiceNow Software License Management application (see Upgrading to Software Asset Management for details).
  - Using Discovery to identify currently owned software and begin working with the SAM application.
  - Identifying and adding the software manually or with a third-party tool.
- Make the Configuration Management Database Accurate

  Clean up information in the configuration management database (CMDB). At first, focus on your top 10-20 software vendors.
- Create Software Models

  Create software models for all of the software your organization wants to monitor. Software models can also be imported from another source such as a Discovery application, an existing data set of software licenses, or a third-party source. For more information, see Creating a Software Model.
- Create Software License Records

  Create software license records for all of the software your organization owns. This information can also be based on information from a purchasing source or imported as a spreadsheet. For more information, see Software Licenses.
- Configure Software Counters

  Configure software counters to view your organization's software compliance levels. For more information, see Using Software Counters for Software License Reconciliation.

Watch **Setting Up Software Asset Management**.

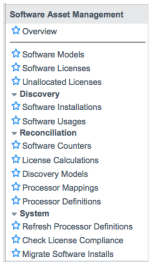
Roles

Software asset management adds the following user role.

Role Title	Contains Role Names	Description
sam	inventory_user category_manager contract_manager financial_mgmt_user	Can create, edit, change, and manage software licenses.

Menus and Modules

The Software Asset Management application contains these modules:



- **Overview:** View the Software Asset Management overview homepage, which displays graphs and charts for managing software assets.
- **Software Models:** View the list of software models, which displays the specific versions or configurations of software currently available.
- **Software Licenses:** View the list of software licenses owned by your organization.
- **Unallocated Licenses:** View the list of licenses owned by your organization, that are not allocated.
- **Discovery**
  - **Software Installations:** View the list of software that is installed on the network.
  - **Software Usages:** View the list of software usage records, which tracks licenses based on how often the license is actually used either by a workstation or a user.
- **Reconciliation**
  - **Software Counters:** View the list of software counters to verify compliance between software rights and software installations in your organization.
  - **License Calculations:** View the list of license calculations to see the different license calculation types that can be used to count software installations.
  - **Discovery Models:** View the list of software discovery models to approve, match, or create software discovery models.
  - **Processor Mappings:** View the list of PVU processor mapping records.
  - **Processor Definitions:** View the list of processor definitions.
- **System**
  - **Refresh Processor Definitions:** Update the list of processors.
  - **Check License Compliance:** Use the software license compliance checker to see whether the software licenses used in your organization are compliant based on the number of rights purchased and the number of installations.
  - **Migrate Software Installs:** Migrate all existing software installations from old software instances to the new software installation table.

Activating Software Asset Management

If you are currently using the Software Asset Management Extensions or Software License Management feature, please read the upgrading instructions before activating the Software asset management plugin. An administrator can activate the Software asset management plugin to access the application.

Click the plus to expand instructions for activating a plugin.

If you have the admin role, use the following steps to activate the plugin.

1. Navigate to **System Definition > Plugins**.
2. Right-click the plugin name on the list and select **Activate/Upgrade**.

   If the plugin depends on other plugins, these plugins are listed along with their activation status.
3. [Optional] If available, select the **Load demo data** check box.

   Some plugins include demo data—sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good policy when you first activate the plugin on a development or test instance. You can load demo data after the plugin is activated by repeating this process and selecting the check box.
4. Click **Activate**.

Integrations and Software Asset Management

When you activate the plugin, transform maps for these integrations also updated:

- Discovery
- Microsoft SCCM
- Altiris
- LANDesk

You must reactivate the Software Asset Management plugin if you reactivate any of these integration plugins.

Enhancements

Fuji

- The **Software Licenses** embedded list on the **Licenses** tab of the Software Model form shows the software licenses that should be created automatically from this model, rather than all assets, regardless of whether they are software licenses.
- The **By number of users** license calculation is renamed **Number of installs per user** on the Software License Calculation form.
- The **Asset Entitlements** form section is renamed **Device Entitlements** on the Software License form.

Eureka

- The Oracle Process Pack plugin (com.snc.sam.oracle.pp) provides the capability to manage software licensed under the Oracle licensing model.
- You can view when software counters were last completed and last started from the Software Counters page.
- You can specify the software installations that can be associated with a software counter.
- You can view a Software Counter Compliance Violations table using a customer license calculation scripts.
- The **Verify entitlements** and **Generate details** check boxes are added to the Software Counter form to speed up the software counter process.
- Each time a count is completed, the system automatically generates a Software Counter History [sam_sw_counter_history] record, which is a read-only copy of the software counter record.
- You can configure start and end dates for software upgrade and downgrade rights.
- You can merge multiple software licenses that are linked to the same software model into one new consolidated license.
- You can use a discovery tool to track installed database software and options.
- A system property called `sam.install_deletion_deadline` sets the interval in which the SAM Software Counters scheduled job removes software installations that have not been discovered with a configuration item.

Dublin

- Installations of an unlicensed software version can be counted as part of a licensed version in a Software Model record by defining the unlicensed version as the downgrade child of the licensed version. This allows users of unlicensed versions to keep their installations, which are counted against the license of the *upgrade parent*.
- You can view **Contract model**, **Short description**, and **Vendor** details in the **Contract** reference lookup list on software counter records.
- You can view **Workstation** and **User** details in the **Software Counter Details** related list on software counter summary records.
- Two **Related Links** in the Software Discovery Model form allow administrators to create new software models and counters. Use the same links in the **Actions** menu below the list view to create new models and counters for multiple Discovery models.
- SaaS contract types are supported for Software Contracts.

Calgary

- The sam role contains the Financial User (financial_mgmt_user) role.

References

[1] https://docs.servicenow.com/bundle/jakarta-it-business-management/page/product/software-asset-management2/concept/c_SoftwareAssetMgmt.html

Upgrading

Overview

ServiceNow contains several offerings for managing software assets and licenses:

- **Software Asset Management Extensions:** available in the Winter 2009 release. The extensions compare installed software with actual license counts and then check to ensure that software usage is in compliance with the number of licenses purchased. Can be activated and used, but customers are encouraged to use the new Software Asset Management application.
- **Software License Management (SLM):** available in the Winter 2011 release. SLM enables organizations to manage various types of software licenses and runs compliance checking jobs on a timely basis to verify all software licenses in the system. Can be activated and used, but customers are encouraged to use the new Software Asset Management application.
- **Software Asset Management (SAM):** available in the Berlin release. SAM is designed to replace SLM. SAM is a full-featured application for managing all types of software assets.

ServiceNow recommends using the SAM application. This is the newest offering. SAM also works together with the updated Asset Management application included in the Berlin release.

Software Management Application Table Structure

The three software asset applications in ServiceNow have different table structures and are not integrated. Do not use two or more of the applications together to manage software licenses.

Upgrading from Software Asset Management Extensions

There is no upgrade path from Software Asset Management Extensions to SLM or SAM. Records created in Software Asset Management Extensions must be recreated manually when you upgrade to either SLM or SAM.

Upgrading from Software License Management

Most of the upgrading process from SLM to SAM is automatic, but two steps in the process are done manually.

Step 1: Clean Existing Information

Before upgrading from SLM to SAM, review and clean up existing software information. When the Migrate Software Installs option (see step 3) is used, all existing software installations are migrated to a new table. Depending on the individual database, this process can involve a large number of records. Having clean information can make the process faster and the end results more useful.

Step 2: Upgrade to the Berlin Release

An administrator can activate the Software Asset Management plugin in the Berlin release.

Click the plus to expand instructions for activating a plugin.

If you have the admin role, use the following steps to activate the plugin.

1. Navigate to **System Definition > Plugins**.
2. Right-click the plugin name on the list and select **Activate/Upgrade**.

   If the plugin depends on other plugins, these plugins are listed along with their activation status.
3. [Optional] If available, select the **Load demo data** check box.

   Some plugins include demo data—sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good policy when you first activate the plugin on a development or test instance. You can load demo data after the plugin is activated by repeating this process and selecting the check box.
4. Click **Activate**.

During SAM activation, the following actions take place in the Software Asset Management application automatically:

- SLM is removed from the application navigator.
- SLM scheduled events are deactivated.
- All existing software packages are migrated to software models.
- All SLM software license records are migrated to software license assets. A software counter is created for each software model encountered during that process. The counters are set up with default values. Configure the counters manually to meet your needs.

There is one SLM scheduled event you should disable manually. Navigate to **System Scheduler > Scheduled Jobs**, click **Software License Compliance Check**, change **Trigger type** to **On Demand**, and click **Update**.

Step 3: Migrate Software Installs

After activating SAM, migrate software installs to add information to the new SAM installation table.

1. Navigate to **Software Asset Management > System > Migrate Software Installs**.
2. Click **Proceed**.

The Migrate Software Installs option:

- Migrates all existing software installations from the old Software Instances [cmdb_software_instance] table to the new Software Installation [cmdb_sam_sw_install] table.
- Creates new Software Discovery Models based on the software installations added to the Software Installation table.

Note: *If you activate Discovery integration plugins (Altiris v2, Landesk v2, or SCCM/SMS v2) after activating the SAM application, please reactivate the SAM application. For SCCM 2007, SCCM 2012, and SCCM 2012v2 plugins, it is not necessary to reactivate the SAM application because each of these plugins have a script that runs during plugin activation to update transform maps based on whether SAM plugin is enabled. Previously, data from the Discovery integration plugins was added to the Software [cmdb_ci_spkg] and the Software Instance [cmdb_software_instance] tables. Now, the data is added to the Software Installation [cmdb_sam_sw_install] table. Reactivating SAM ensures that the new table is used for data.*

Installed Components

Overview

Activating the Software Asset Management plugin adds these components:

- Tables
- Properties
- User Roles
- Script Includes
- Client Scripts
- UI Policies
- Business Rules
- References

Demo data is available with software asset management.

Tables

Software Asset Management adds the following tables.

Table	Description
Processor Definition [cmdb_processor_definition]	Describes a computer in terms of the attributes IBM uses for its PVU licensing model. A row can be associated with one or more discovered computers if they are all identical in terms of the attributes used for PVU licensing. This table is available starting with the Eureka release.
Processor Mapping [sam_processor_mapping]	Encodes the information specified by the IBM Table of Processor Value Units per core [1] and is used in matching a computer's processor definition to a PVU cost for that computer. Each row in this table is a mapping between a set of processors and the associated PVU cost (per core). This table is available starting with the Eureka release.
Software Counter [sam_sw_counter]	Configures license counting options for software models.
Software Counter Compliance Violations [sam_sw_counter_violation]	Stores records of software counter compliance issues that are due to violations other than installs exceeding rights, such as: • Maximum CPU/user count exceeded, based on model limits. • Maximum or minimum rights rules not followed, based on model limits. • Options installed on a server with a license that does not support options (Oracle). Available starting with the Eureka release.
Software Counter Detail [sam_sw_counter_detail]	Reconciles a software installation or usage with its corresponding software license and entitlement. The software counting logic automatically generates and maintains these records.
Software Counter History [sam_sw_counter_history]	Stores read-only copies of software counter records, which the system generates automatically each time a software counter finishes counting licenses (starting with the Eureka release).
Software Counter Result [sam_sw_counter_result]	Records all software counter results. Organizes the results based on the **Grouping** field (such as **Company**, **Department**, or **Location**) on the Software Counter record.
Software Counter Summary [sam_sw_counter_summary]	Aggregates all the software counter details for a given allocation state, a given group, and a given software counter. The software counting logic automatically generates and maintains these records.
Software Discovery Model [cmdb_sam_sw_discovery_model]	Stores a unique and definitive list of all software found by a discovery tool.
Software Installation [cmdb_sam_sw_install]	Associates software discovery models and the hardware on which they are installed.
Software Usage [cmdb_sam_sw_usage]	Associates software discovery models and the hardware that uses the models. ServiceNow Discovery does not populate the Software Usage (cmdb_sam_sw_usage) table. Use a third party tool to add information about software assets to the Software Usage table.

Properties

Software Asset Management adds the following system property.

Name	Description
sam.install_deletion_deadline	Defines the number of days after which a software install is deleted if not discovered with the configuration item. The best practice is to use a value that is greater than the number of days between consecutive discovery runs. Available starting with the Eureka release. • **Type:** integer • **Default value:** 7 • **Location:** System Properties [sys_properties] table • **Learn more:** Scanning Software Installations with the System Scheduler.

User Roles

Software Asset Management adds the following user role.

Role	Contains Roles	Description
sam	inventory_user contract_manager category_manager financial_mgmt_user (Calgary release)	Can create, edit, change, and manage software licenses. Can edit the **Software model** field on a discovery model. Can approve a model. Has full control of the Software Asset Management application. Controls the Software Asset Management IBM PVU Process Pack, if activated.

Script Includes

Software Asset Management adds the following script includes.

Name	Description
DiscoveryModelMatcher	Matches a discovery model with a software product model.
ProcessorDefinitionsUtils	Contains utilities for managing the Processor Definition [cmdb_processor_definition] table (starting with the Eureka release).
ProcessorValueUnitsUtils	Contains logic that determines the IBM PVU pricing associated with a given processor. Also generates an event when a processor mapping is not found (starting with the Eureka release).
SAMMigration	Used by the fix job that migrates software license management data to software asset management.
SAMSuiteEngine	Contains functions for handling suite inference on software installations.
SAMUtil	Generates models and counters for software asset management.

Client Scripts

Software Asset Management adds the following client scripts.

Name	Table	Description
Clean up Counter	Software Counter [sam_sw_counter]	Ensures integrity between the various counting options of a software counter.
Deactivate automatched checkbox	Software Discovery Model [cmdb_sam_sw_discovery_model]	Deactivates the automatically matched check box when a user edits the software model.
Notify if counter in progress	Software Counter [sam_sw_counter]	Displays a message if the counter is currently running (starting with the Eureka release).

UI Policies

Software Asset Management adds the following UI policies.

Name	Table	Description
Enforce Installs per license	Software Counter [sam_sw_counter]	Makes the **Installs per license** field mandatory when the software counter **License type** is **By number of users**.
Handle custom counts	License Calculation [sam_sw_license_calculation]	Displays the fields for entitlement type and valuation script when **Count by** is set to custom (starting with the Eureka release).
Hide condition fields	Software Counter [sam_sw_counter]	Hides the **Software usage condition** field if the license calculation query table is set to **Software install** and hides the **Software install condition** field if the license calculation query table is set to **Software usage** (starting with the Eureka release).
Hide query table	Software Counter [sam_sw_counter]	Hides the **Query table** field on the Software Counter form (starting with the Eureka release).

Business Rules

Software Asset Management adds the following business rules.

Name	Table	Description
assign processor	Computer [cmdb_ci_computer]	Attempts to match a processor with a processor definition.
Build Primary Key	Software Installation [cmdb_sam_sw_install]	Sets the primary key for the record to the serial number on the [cmdb_sam_sw_install] table. If the serial number is empty, the rule creates one based on the publisher, display name, product ID, version, and revision.
Build Primary Key	Software Usage [cmdb_sam_sw_usage]	Creates the primary key for the record from the publisher, name, product ID, and version number on the [cmdb_sam_sw_usage] table.
Check for software suite	Software Installation [cmdb_sam_sw_install]	Checks if the current software install is part of a software suite (starting with the Eureka release).
Check for suite omission	Software Installation [cmdb_sam_sw_install]	Checks if the current software install should be omitted from any suites (starting with the Eureka release).
Clean up Cache	Software License [alm_license]	Removes the cache for the counter of the software license record when a software license is deleted.
Clean up software normalization	Software Installation [cmdb_sam_sw_install]	Deletes the discovery model if the discovery model is changed and it is not used by other software installs. This rule is not enabled by default.
Clear install and usage records	Software Counter Summary [sam_sw_counter_summary]	Uncaches all related install and usage records when a software counter summary is deleted (starting with the Eureka release).
Clear normalized flag	Software Usage [cmdb_sam_sw_usage]	Clears normalized flag on certain field changes (starting with the Eureka release).
Clear normalized flag	Software Installation [cmdb_sam_sw_install]	Clears the **is_normalized** check box when a field value is changed from a normalized value (starting with the Eureka release).
CPU/Core count change	Computer [cmdb_ci_computer]	Clears the **Cached** check box on related software installs when the CPU count or CPU core count changes.
Create a Software Normalization	Software Installation [cmdb_sam_sw_install]	Links the record to the discovery model with that primary key on the [cmdb_sam_sw_install] table if the primary key changes. The business rule creates a discovery model if none exist for that primary key.
Create a Software Normalization	Software Usage [cmdb_sam_sw_usage]	Links the record to the discovery model with that primary key on the [cmdb_sam_sw_usage] table if the primary key changes. The business rule creates a discovery model if none exist for that primary key.

Delete cached count results	Software License [alm_license]	Marks the software counter results to be recounted when one or more fields on a license have changed. This script runs after a change to a field that a counter can be grouped on, such as location, department, company, cost_center, entitlement_condition, or assigned_condition. If one or more of these fields changes, then the script sets the **Recount** field to true on any cached counter results matching the previous value. When the counter runs, the results with **Recount** set to true are treated as non-cached results and are recounted. For example, if **Location** on a license was *Americas* and changes to *EMEA*, cached results for *Americas* will have **Recount** set to true for the next count. (Available starting with the Eureka release.)
Delete Cached row entry	License Entitlement [alm_entitlement]	When an entitlement is deleted: • Deletes all related software counter details. • Clears the **Cached** check box on the related software install.
Drop counter Cache	Software Counter [sam_sw_counter]	Clears the **Cached** check box for the software counter if the grouping, license type, contract, or installs per license change in a software counter. Added enforce field changes to the conditions (starting with the Eureka release).
Flag counter to reprocess	Software Upgrade and Downgrades [cmdb_m2m_downgrade_model]	Clears the **Cached** check box for all related software counters if the upgrade parent or downgrade child values are changed or deleted.
Flag counter to reprocess	Software Suite [cmdb_m2m_suite_model]	Clears the **Cached** check box for all related software counters if the suite parent or suite child values are changed or deleted.
invalidate sw install cache	Computer [cmdb_ci_computer]	Uncaches all install and usage records referencing a computer when the computer's processor field is changed (starting with the Eureka release).
Limit license metric	License [alm_license]	Limits software licenses to a single license metric value (starting with the Eureka release).
Limit license metric combinations	Hardware [cmdb_ci_hardware]	Rejects license metric combinations of the same type, such as CAL (user) and CAL (devices) (starting with the Eureka release).
Link to Model	Software Discovery Model [cmdb_sam_sw_discovery_model]	Finds and sets the model field to the model that best corresponds to the record when a software discovery model is created.
Mark install for suite omission	License Entitlement [alm_entitlement]	Searches for any matching installs and marks them for suite omission (starting with the Eureka release).
One and only one default mapping	Processor Mapping [sam_processor_mapping]	Ensures only one default mapping by resetting the last resort flag for modified records and setting it to false for new records (starting with the Eureka release).
Process cache reset	Software Installation [cmdb_sam_sw_install]	Resets the install of any counter information when it becomes uncached (starting with the Eureka release).
Process suite component deletion	Software Installation [cmdb_sam_sw_install]	Updates all other members of an install's suite if the install is deleted (starting with the Eureka release).
rebind processor definitions	Processor Mapping [sam_processor_mapping]	Refreshes processor definitions when a processor mapping changes (starting with the Eureka release).
Rebuild Cache	Software Discovery Model [cmdb_sam_sw_discovery_model]	Clears the **Cached** field on the software counter if the associated software model is modified on the software discovery model record (starting with the Dublin release).
Rebuild inferred suite and cached	Software Discovery Model [cmdb_sam_sw_discovery_model]	Clears the cached flag and inferred suite field on records referencing this discovery model, when the matched model changes (starting with the Eureka release).
Remove cached flag	Software Installation [cmdb_sam_sw_install]	Clears the corresponding cached software counter details if a software installation is deleted or if the configuration item on which it is installed changes.
Remove cached flag	Software Usage [cmdb_sam_sw_usage]	Clears the corresponding cached software counter details if a software usage record is deleted or if the configuration item from which the software is accessed changes.

Remove caches from detail	Software Counter Detail [sam_sw_counter_detail]	Clears the **Cached** check box on the related entitlement, installation, and usage records if they exist (starting with the Dublin release).
Reset counter info on suite change	Software Installation [cmdb_sam_sw_install]	Uncaches and resets counter information on the install if its inferred suite changes (starting with the Eureka release).
Reset Installs per License	Software Counter [sam_sw_counter]	Clears the **Installations per license** fields if the counter license type is not **per user**.
Retrieve PVU Mapping	Processor Definition [cmdb_processor_definition]	Finds a matching processor mapping based on the information of the processor definition (starting with the Eureka release).
SAM: Core Process	Global [global]	Not used for any processing.
Set Display name	Software Counter Result [sam_sw_counter_result]	Sets the display name of the counter result to the counter name with the grouping type.
Set normalized fields	Software Usage [cmdb_sam_sw_usage]	Sets normalized fields on insert to be copies of discovered fields (starting with the Eureka release).
Set normalized fields	Software Installation [cmdb_sam_sw_install]	Copies the given values as their normalized values when a software install is inserted.
Sync Software Package	Software Discovery Model [cmdb_sam_sw_discovery_model]	Creates a row in the package table to reflect the row in the discovery model table.
Update Cache	Software Installation [cmdb_sam_sw_install]	Updates all corresponding cached software counter details if usage metrics for this installation change.
Update Cache	Software Usage [cmdb_sam_sw_usage]	Updates all corresponding cached software counter details if usage metrics for this software usage change.

References

Name	Description
Processor Definition	Activating the Software Asset Management IBM PVU Process Pack after activating the Software Asset Management plugin adds a reference to the processor definition to the Hardware [cmdb_ci_hardware] table.

References

[1] https://www-01.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

Using

Overview Module

Note: *This article applies to Fuji and earlier releases. For more current information, see Software Asset Management Overview* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

The Software Asset Management Overview module displays various software asset management reports that are used as *gauges*.

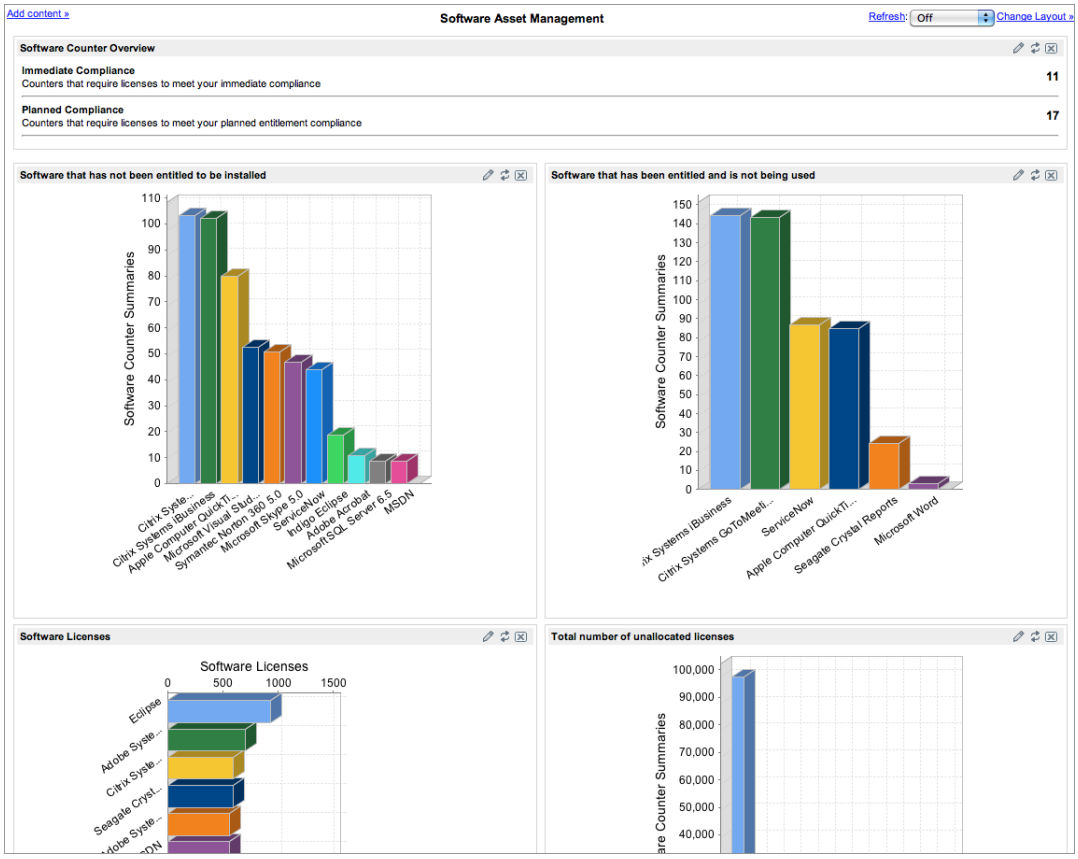
The Overview module is a type of homepage. For details about editing gauges on homepages, see Adding Existing Gauges to a Homepage.

Roles

Users with the sam or admin role can view the overview page and refresh, add, delete, and rearrange gauges.

Using the Software Asset Management Overview Module

To use the Software Asset Management Overview module, navigate to **Software Asset Management > Overview**. You can click elements within the gauges to obtain more information or add and move gauges as needed.



The overview shows these compliance types:

- **Immediate Compliance**: number of licenses that should be purchased in order to be compliant immediately. Compliance is based on grouping. When tracking software licenses at a high level without any grouping, you are more likely to be compliant. With grouping, you are more likely to be out of compliance. For example, if grouping regionally by location, your organization can be globally compliant, but regionally non-compliant.
- **Planned Compliance**: based on the number of licenses you plan to allocate and the number installed.

The graphs show important statistics about the software being tracked, including software that has been entitled but is not being used and the total number of unallocated licenses.

References

[1] https://docs.servicenow.com/bundle/jakarta-it-business-management/page/product/software-asset-management2/concept/c_SAMOverview.html

Software Installed

Overview

When determining where software is installed, keep the following in mind:

- The software instance no longer contains discovered info. The information previously went to the Software Instance [cmdb_software_instance] table, but now goes to the Software Installation [cmdb_sam_sw_install] table. Because the table has changed, you must change your transform maps to point to the new table.
- Models identified by a discovery tool are linked to software models.
- Use grouping to obtain more specific information from a software counter.
- Software installations link a computer with a software model (via a discovery model).

A discovery tool places the data it obtains into the Software Installation [cmdb_sam_sw_install] table. All of the information can be seen in the Software Installations list and the individual Software Installation forms. When a record is created, the system analyzes the Discovery Model table and identifies five key points:

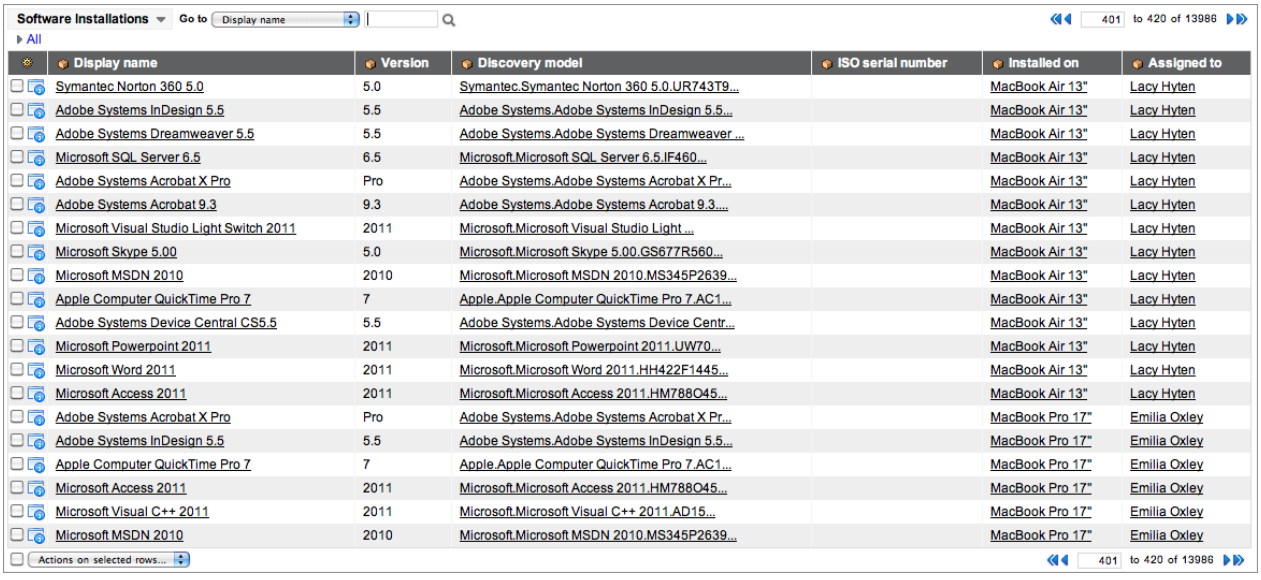
- Publisher
- Display name
- Prod ID
- Version
- Revision

Note: *For information about upgrading from Software License Management to Software Asset Management, see Upgrading to Software Asset Management.*

Finding Software on the Network

After using a discovery tool, you can find a definitive list of all the software found on the network.

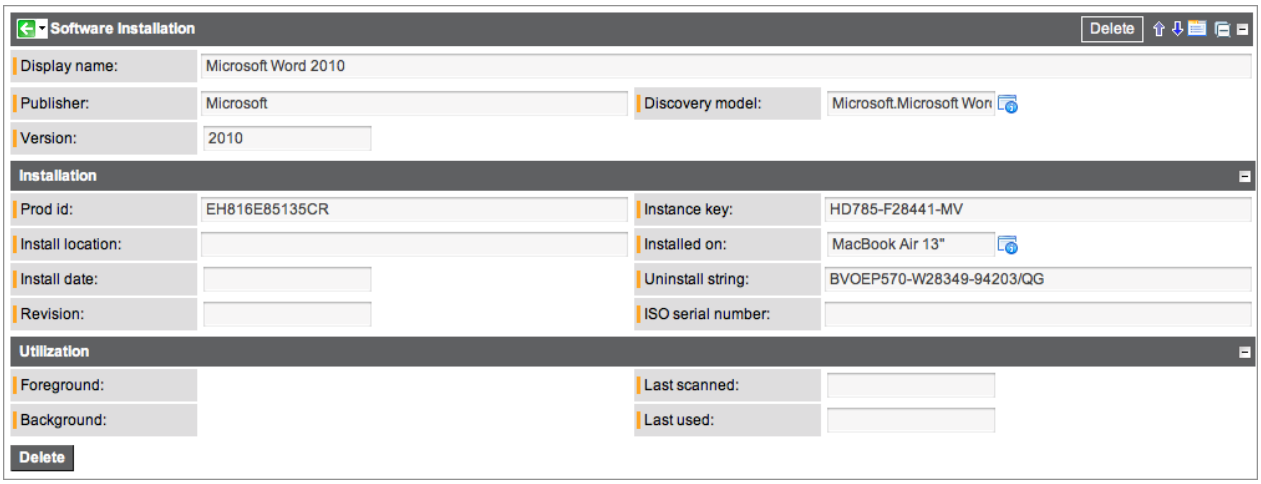
1. Navigate to **Software Asset Management > Discovery > Software Installations**.



A software administrator can, for example, look at the list and see that Adobe Acrobat 9.0, 9.2, 9.3, and 9.5 were found. Then, the administrator can edit software discovery models so all the dot versions are simply considered version 9.0 when doing reconciliation.

2. Click a **Display Name** in a row.

   All installations that map to an individual software discovery model are displayed.



All fields on the form are read-only.

Field	Description
Display name	Name of the software installation as it appears in record lists.
Publisher	Publisher of the software.
Version	Version of the software.
Discovery model	Software discovery model that represents the installed software.
Prod id	Number created by the publisher to identify the software.
Install location	Path under which the software is installed.
Install date	Date on which the software was installed.
Revision	Revision of the software.
Instance key	Encrypted credentials for the software installation.
Installed on	Hardware on which the software is installed.
Uninstall string	Identifier used to uninstall the software.
ISO serial number	ISO number of the software.
Foreground	Duration of foreground usage of the software.
Background	Duration of background usage of the software.
Last scanned	Date and time on which the software was last discovered on this hardware.
Last used	Date and time on which the software was last used on this hardware.
Counted by	The counter summary name that the installation is counted on.
Entitlement	Entitlement that is associated with the software installation.
Inferred suite	Software suite inferred by the inference parameters. For more information on inference parameters, see Creating a Software Model.
Valuation	Indicates the number of rights the install has.
Cached	If checked, the license installation has already been counted.
Omit from suites	If checked, the license will be ignored for any suite calculations. This box is automatically checked if the install finds a possible entitlement of the exact software model for this configuration item.

Note: *A user with the Asset role can delete software installations, but it is not recommended. As an alternative, archive software installation information.*

Note: *Third-party discovery tools can use software normalization to more effectively manage the software installation database. Software normalization allows you to standardize your software installation data, such as the display name, publisher, revision and version. You can personalize the software installation form to include these normalization fields. For more information, see Personalizing Forms.*

Scanning Software Installations with the System Scheduler

The Software Asset Management plugin adds a scheduled job for scanning software installations named SAM License Counters in **System Scheduler > Scheduled Jobs**. The SAM License Counters job occurs at 2:00am (local time) every morning . The job queries the Software Installation [cmdb_sam_sw_install] table and captures any installations that have not been scanned in the past 7 days. The job runs a join query on hardware that has been scanned within the last day and software installations that have not been scanned in the last 7 days. These software installations are then removed.

Software Licenses

Note: *This article applies to Fuji and earlier releases. For more current information, see Software License Management* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

Software licenses are based on defined models. You can create the models to organize software licenses in any way that makes sense for your organization. Common methods of defining models and licenses include by department or by region.

Licenses can be associated with a contract. For more information, see Software Contracts.

Licensing Types

Different types of licenses are available in the ServiceNow Software Asset Management application:

- By CPU
  - By CPU cores
  - By number of CPUs
- By number of points
  - Per installation - IBM PVU
- By user
  - By number of users
  - Per named user
- By utilization

Usage (CPU)

Usage (User)

- By workstation

  Per workstation

For additional information, see Calculating Software Licenses.

Licensing Models

Supported license models are:

- **Individual**: given to individuals.
- **Bulk allocated**: allocated to users via entitlements.
- **Bulk not allocated**: given to users with details, such as who has a license or where the license is located, not tracked.

Add a New Software License

1. Navigate to **Software Asset Management > Software Licenses**.
2. Click **New**.
3. Fill in the fields as appropriate

Field	Description
Display name	*Read-only*. Name of the software license. Created automatically.
Model category	Model category for the software license, such as **Software License**.
Model	Specific asset type. For example, a specific type of software identified by company name and number.
Rights	Number of entitlements to be granted by this license.
	General
Asset tag	Number from the asset tag. The tag contains the serial number and bar code for tracking the software license.
State	Current status of the software license, such as **On order** or **In use**.
Assigned to	User currently assigned to this software license.
Managed by	User that maintains the software license. Can be different than the owner. For example, the company may own a software license, but the IT department manages the software license.
Owned by	User who has financial ownership of the software license. Can be different than the manager.
Parent	Parent asset of the software license, if any. For example, the parent asset of Microsoft Word software is often the Microsoft Office suite.
Class	*Read-only.* Automatically created as Software License.
Serial number	Unique number assigned for identification.
Substate	More details about the software license stage. The available substate settings depend on the **State** selected. For example, if you select the **Retired** state, the substate options available are **Disposed**, **Sold**, **Donated**, and **Vendor credit**.
Location	Where the license will be used. For example, a specific site, country, or region.
Department	Department to which the person assigned this software license belongs.
Company	Company that created the software.
Assigned	Date on which the software license was assigned.

Installed	Date on which the software license was installed.
Comments	Information about the software license that would be helpful for others to know.

For information about the fields in the **Financial** and **Contracts** sections of the form, see Creating Assets.

Creating Enterprise and Subscription Licenses

Enterprise licenses and subscription licenses are common ways of purchasing software. Use the Contract Management application to set a software license as enterprise or subscription.

- **Enterprise license:** usually a license for large customers that provides some flexibility, an agreed upon discount price, and a mechanism for easy administration.
- **Subscription license:** an annual or multi-year license that provides the right to use the software and to obtain software updates and service.

To create and manage an enterprise license:

1. Navigate to **Contract Management > Software License** and click **New**.
2. Select a **License type** of **Enterprise**.
3. Fill in as many of the remaining fields on the Contract form as you can and click **Submit**.
4. Open the contract.
5. In the **Assets Covered** related list, click **New**.
6. In **Asset**, select the software covered by the contract.
7. In **Date added**, select the date the software license was added to the contract. The date can be in the past, the present, or the future.
8. (Optional) In **Date removed**, select the date asset was, or will be, removed from the contract.
9. Click **Submit**.
10. Navigate to **Software Asset Management > Reconciliation > Software Counters**.
11. Click the software specified in step 6.
12. Click **Count Licenses**.

    The licenses are listed under **Software Counter Results**. The licenses display as unentitled, but you are not out of compliance because you have an enterprise license with an enterprise contract. Once an enterprise contract is associated with software, all users are entitled when the licenses are counted.

Note: *In the Software Licenses list, enterprise licenses will not have information in the **Rights** column. The concept of rights is not used with enterprise licenses.*

To create and manage a subscription license:

1. Navigate to **Contract Management > Software License** and click **New**.
2. Select a **License type** of **Subscription**.
3. Fill in as many of the remaining fields on the Contract form as you can and click **Submit**.
4. Open the contract.
5. In the **Assets Covered** related list, click **New**.
6. In **Asset**, select the software covered by the contract.
7. In **Date added**, select the date the software license was added to the contract. The date can be in the past, the present, or the future.
8. (Optional) In **Date removed**, select the date asset was, or will be, removed from the contract.
9. Click **Submit**.
10. Navigate to **Software Asset Management > Reconciliation > Software Counters**.

11. Click the software specified in step 6.
12. Click **Count Licenses**.

    The licenses are listed under **Software Counter Results**.

Creating Software License Entitlements

Software entitlements enable asset managers with the Asset role to define the people or machines to which a specific, purchased software license is assigned. Asset managers allocate a license to entitle a user or machine to use the license. For example, a company purchases a software license for 100 rights. The software entitlement specifies the 100 employees or machines that are rightfully assigned a license. If the ServiceNow Discovery tool is used and it finds the software installed on 200 machines, the asset manager can identify the employees or computers that have the software installed without a license. The asset manager can ask users to remove the software from their computers.

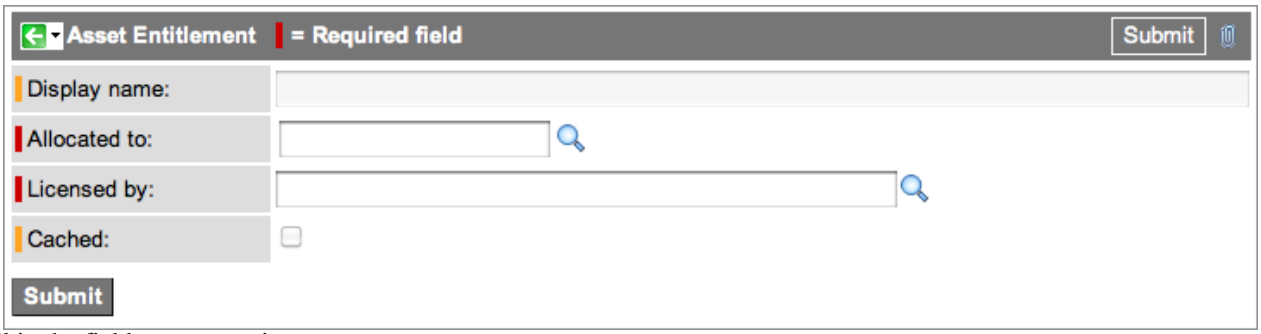
Built-in rules prevent entitling more licenses than have been purchased. License entitlements use specific software license asset tags. In addition to the mandatory asset tag, an individual person and a specific configuration item can be assigned.

The benefits of using software entitlements include:

- If the overall license allotment is exceeded, the asset manager can rapidly address the problem and return to compliant status by either removing unauthorized software or ordering more licenses.
- If the license allotment is not being used completely, the asset manager can respond by lowering the number of licenses purchased in the future.

To create a software asset license entitlement:

1. Navigate to **Asset Management > Software > Asset License Entitlements**.
2. Click **New**.

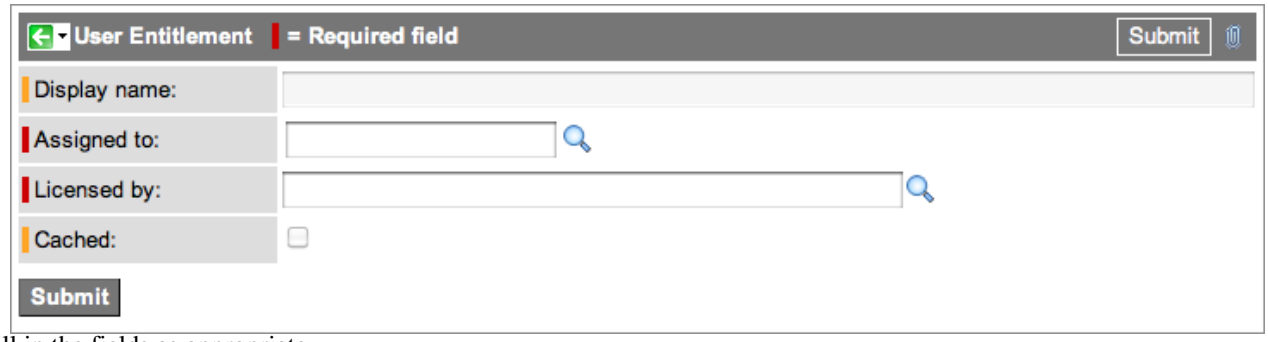


3. Fill in the fields as appropriate.

Field	Description
Display name	*Read-only*. Name used in record lists.
Allocated to	The configuration item consuming the license token.
Licensed by	License granting this token.
Cached	*Read-only*. Internal flag set and used by software counters logic.

To create a software user license entitlement:

1. Navigate to **Asset Management > Software > User License Entitlements**.
2. Click **New**.



3. Fill in the fields as appropriate.

Field	Description
Display name	*Read-only*. Name used in record lists.
Assigned to	User of the entitlement token.
Licensed by	License granting this token.
Cached	*Read-only*. Internal flag set and used by software counters logic.

To entitle a license to a configuration item:

1. Navigate to **Software Asset Management > Software Licenses**.
2. Click an **Asset tag** (or click **New** and create a new software license).
3. In the **Asset Entitlements** related list, double-click in one of the following columns:
   - **Allocated to**: entitle the license to a specific configuration item, such as a computer or server.
   - **Location**: entitle the license to a specific location, such as a city or building.
4. (Optional) Set a condition:
   - **Allocated conditions**: the configuration items given this license must meet the specified conditions (for example, only configuration items in a certain department can be allocated this software license).
5. Click **Update**.

To entitle a license to a user:

1. Navigate to **Software Asset Management > Software Licenses**.
2. Click an **Asset tag** (or click **New** and create a new software license).
3. In the **User Entitlements** related list, double-click in one of the following columns:
   - **Assigned to**: entitle the license to a specific user.
   - **Location**: entitle the license to a specific location, such as a city or building.
4. (Optional) Set a condition:
   - **Assigned to condition**: every user given this license must meet the specified conditions (for example, only people in a certain region can be assigned this software license).
5. Click **Update**.

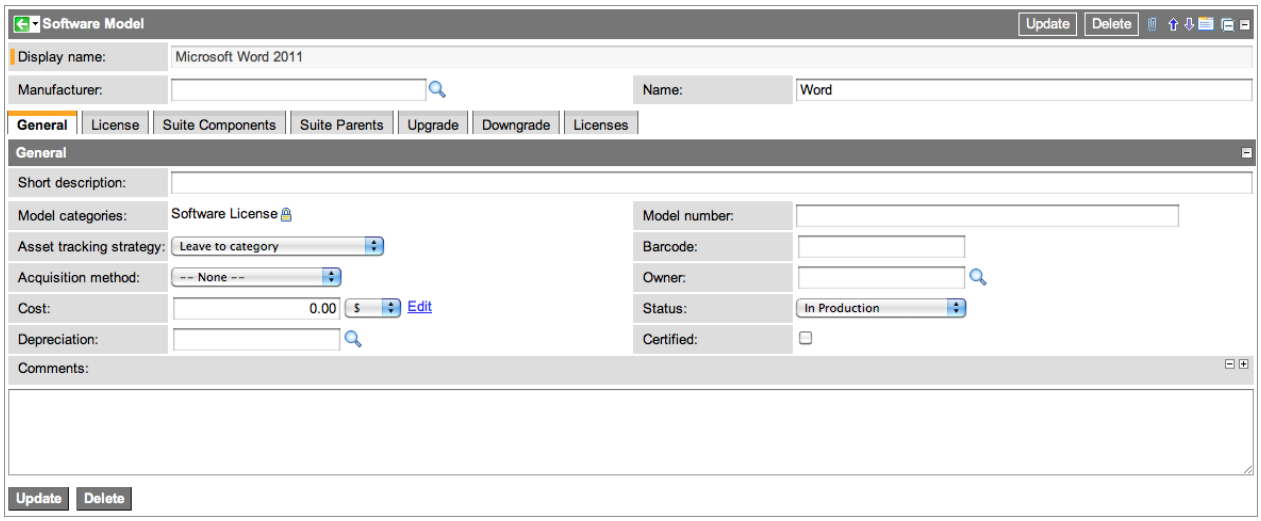
Upgrading and Downgrading Licenses

The concept of upgrading and downgrading licenses is built into the Software Asset Management application. This is helpful when reconciling licenses. Downgrading a license is the process of purchasing a license, but using an earlier version. Upgrading a license occurs when a newer version of a license is not purchased, but you are allowed to use the newer version. Downgrading is more common than upgrading.

All software versions defined as a *downgrade child* that do not have entitlements and a license can be counted as an installation of the *upgrade parent*. Use this method to avoid having to uninstall unlicensed versions of software running in your environment. When you define an unlicensed version as a downgrade child of a licensed version, the system creates a Software Model record for the unlicensed version with an upgrade path to the licensed version. If you delete the downgrade child from the licensed version's record, ServiceNow automatically deletes the Software Model record for the unlicensed version. This functionality is available starting with the Dublin release.

Note: *If the downgrade child has either a license or an entitlement, that version must have a counter, which counts all installations of the downgrade child against it's own license.*

For example, you have licenses for the software model Microsoft Word 2010, but no licenses or entitlements for Word 2007. Discovery finds installations of Word 2007 being used in your organization. Rather than force users to uninstall all instances of this unlicensed version, you decide to count installations of Word 2007 against your Word 2010 license. To do this, you configure Word 2007 as a **Downgrade Child** in the Word 2010 Software Model record. ServiceNow automatically creates a Software Model record for Word 2007 which specifies Word 2010 as the **Upgrade Parent**.

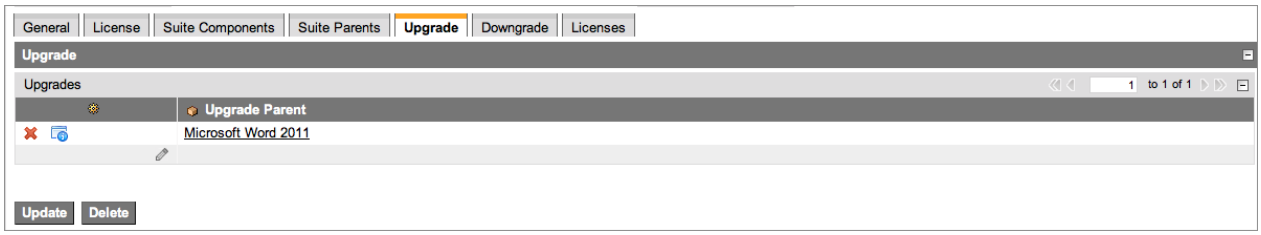


View previous version examples

- **Downgrading example 1:** For the software model Software 2011, set a downgrade license of Software 2010. When reconciling, if a Software 2010 installation is found on a machine allocated a Software 2011 license, the combination is considered valid.
- **Downgrading example 2:** The company that sells Software ABC gives all customers the right to purchase licenses of Software ABC 6, but install an earlier version. You purchase 15 Software ABC 6 Upgrade licenses and previously purchased 25 Software ABC 5 licenses. You can install up to 25 copies of Software ABC of which only 15 can be version 6.
- **Upgrading example:** You purchase copies of Software Blue version 3.0. The company that sells the software allows you, at no additional charge, to use versions 3.2, 3.5, and 3.8 when they are released. When version 4.0 of Software Blue is released, you are required to purchase copies to use the new version.

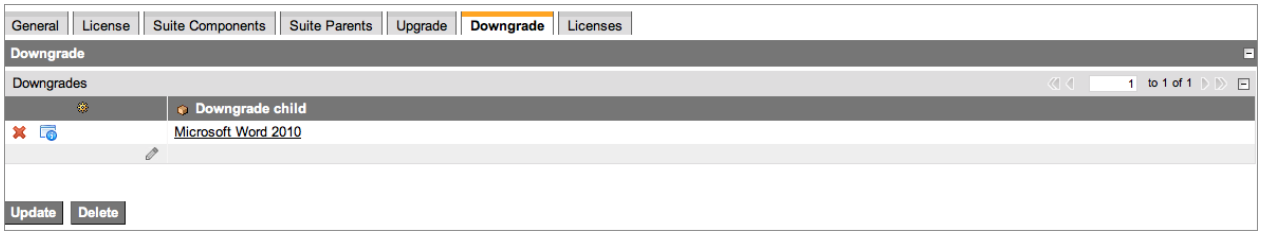
Upgrading a License

1. Navigate to **Software Asset Management > Software Models**.
2. Select a model.
3. In the **Upgrade** related list, double-click under the **Upgrade Parent** column heading.
4. Click the reference lookup icon ( ).
5. Select a software model from the list.
6. Click the green check mark.



Downgrading a License

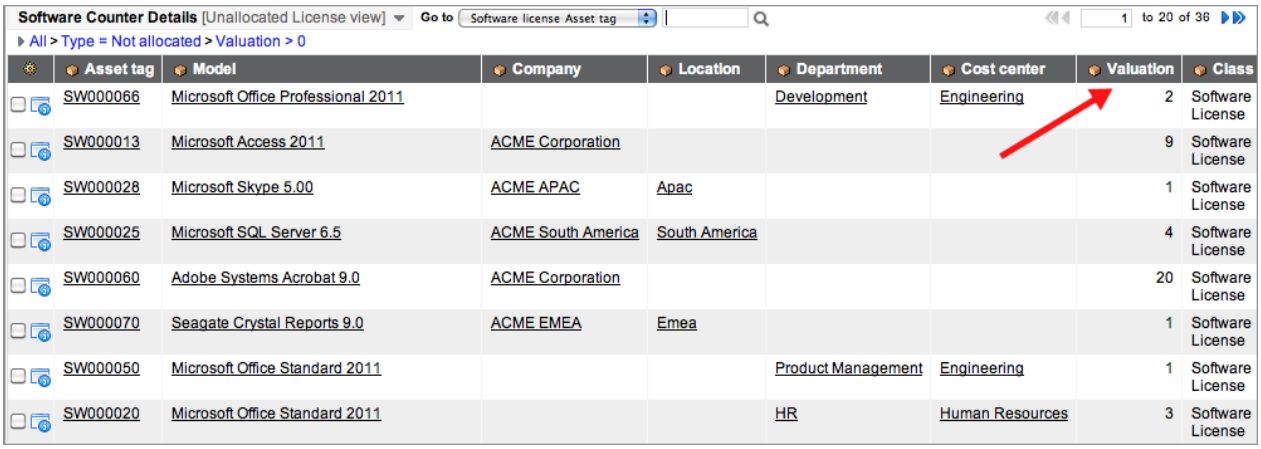
1. Navigate to **Software Asset Management > Software Models**.
2. Select a model.
3. In the **Downgrade** related list, double-click under the **Downgrade child** column heading.
4. Click the reference lookup icon ( ).
5. Select a software model from the list.
6. Click the green check mark.



Viewing a List of Unallocated Software Licenses

Part of managing software licenses is knowing what licenses are owned by your organization, but not allocated. You can, for example, allocate the licenses to users or machines. If no one needs the unallocated licenses, this can be noted so that fewer licenses are purchased in the future.

1. Navigate to **Software Asset Management > Unallocated Licenses**. (This list is also available from **Asset Management > Stock > Unallocated Licenses**.)



2. View the Software Counter Details list (Unallocated License view).

   The **Valuation** column lists the number of unallocated licenses for the given software model.
3. Click a name in the **Model** column for detailed information about a specific license.

   View the Software Model list (Unallocated License view).

References

[1] https://docs.servicenow.com/bundle/jakarta-it-business-management/page/product/software-asset-management2/concept/c_SAMLicensing.html

Software Discovery Models

Note: *This article applies to Fuji and earlier releases. For more current information, see Discovery Models* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**'

Overview

Software discovery models can be used to help normalize the software you own by analyzing and classifying models to reduce duplication. Software discovery models are stored in the Software Discovery Model [cmdb_sam_sw_discovery_model] table. There is a distinct difference between software models and software discovery models:

- A software model is a specific version or configuration of software.
- A software discovery model is a model created when Discovery runs and identifies software.

Software discovery models cannot be created manually. ServiceNow uses any of the following field combinations to match the new software discovery model to an existing software model:

- **Display Name**, **Publisher**, and **Version**
- **Display Name** and **Version** (if the **Publisher** field is empty)
- **Display Name** only (if the **Publisher** and **Version** fields are empty)

When analyzing version numbers, ServiceNow always searches for an exact match first, but rounds down to major version number if an exact match is not found. For example, if no match is found for a version number 8.0.4, but version 8.0 is found, then version 8.0 is used in the **Software model** field.

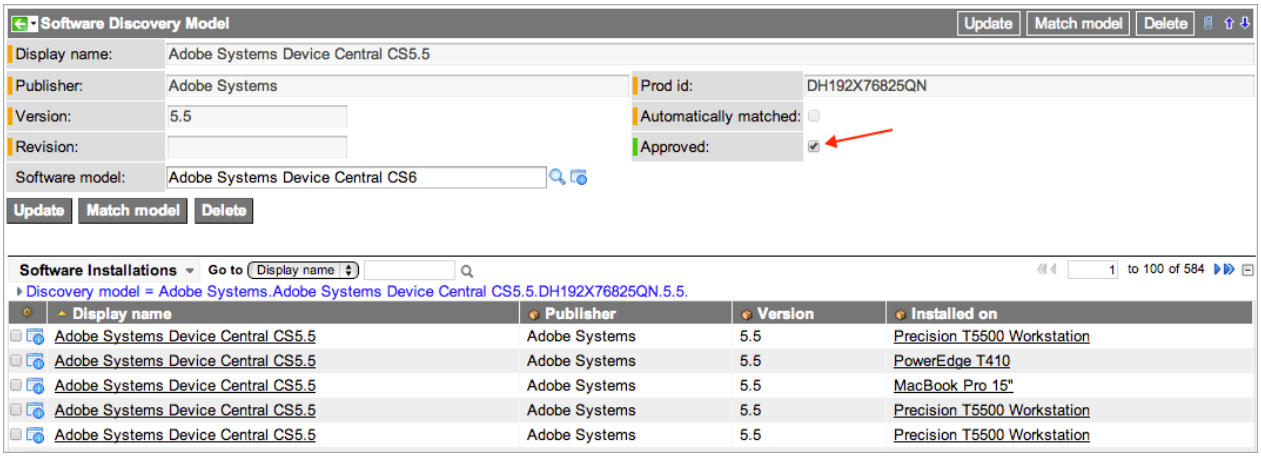
Editing a Software Discovery Model

You can only edit the **Software model** field and **Approved** check box on the Software Discovery Models form. If the information automatically added to the **Software model** field is incorrect, you can change to an existing model or create a new one. None of the software discovery model records are approved when they are created. You must approve them manually after you have reviewed them for accuracy. You can change an existing model or create a new one to normalize the record.

Approving a Model

If the automatically generated software model is correct, approve the model.

1. Navigate to **Software Asset Management > Reconciliation > Discovery models**.
2. Click an entry in the **Publisher** column.
3. Select **Approved**.



Automatic Matching to an Existing Model

The automatic matching feature allows you to match a software discovery model to an existing software model.

1. Clear the **Software model** field.
2. Click **Match model**.

   ServiceNow searches for the best match from existing models. If a match is found, the system automatically adds the name to the **Software model** field and selects the **Automatically matched** check box. If a match is not found, a **No match found** message is displayed, and two related links appear, allowing you to create a new model.
3. If no match is found, create a new model.

The automatic matching feature can also be used when you insert a new discovery model record or if you modify and update an existing discovery model, starting with the Eureka release. If automatic matching is run, all software installations and usages that reference the discovery model will have their **Inferred suite** and **Cached** fields cleared. For more information on software installation and usage records, see Software Installations and Software Usage.

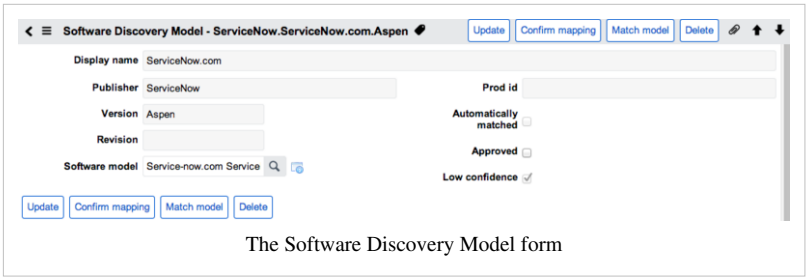
Note: *If a model is already matched then the automatic matching feature will not run.*

Creating New Models

If the automatically generated software model is not correct or if ServiceNow cannot find a match from existing models, you can create a new model. You can also create new models from the Discovery Model list. For more information, see Creating New Models from Discovery Models.

1. Clear the **Software model** field.
2. Save the record.

   Two related links appear for creating software models.
3. Select one of these related links to create a new model, which are available only if no **Software model** is specified:
   - **Create Software Model:** Creates a new software model for this record if a suitable one does not already exist.
   - **Create Software Model and Counter**: Creates a new software model and a new software counter for this record. The system creates the software model automatically using the value in the **Display name** field, and then opens a new Software Counter form.
4. Click **Update**.



The Software Discovery Model form

Field	Description
Display name	[Read-only] Name of the discovery model as it appears in record lists.
Publisher	[Read-only] Publisher of the software.
Version	[Read-only] Specific version of the software.
Revision	[Read-only] Revision number of the software.
Software model	Software product model to which the discovery model maps. Click the reference lookup icon and use the lookup list to find the software model to associate with this software discovery model.
Prod id	[Read-only] Product ID code for the software, as reported through the discovery process.
Automatically matched	[Read-only] Check box that indicates whether the discovery tool used the **Display Name**, **Publisher**, and **Version** fields to determine the **Software model**.
Approved	Check box that indicates whether the mapping to software model has been reviewed and approved.
Low confidence	[Read-only] Check box that indicates whether the application considers the matching software model as correct. If you see this check box selected, review the software model and make a change if necessary. When you are certain that the software model is correct, click **Confirm Mapping** and the **Low confidence** check box is cleared. Finally, you can approve the model.

Creating New Models from Discovery Models

You can create a new software model for multiple records in the Discovery Models list view. This feature is available starting with the Dublin release.

1. Navigate to **Software Asset Management > Reconciliation > Discovery Models**
2. Select one or more records.
3. Click the **Create Software Model** link in the **Actions** choice list.

   To create a new model and counter, click the **Create Software Model and Counter** link in the **Actions** choice list.

References

[1] https://docs.servicenow.com/bundle/jakarta-it-business-management/page/product/software-asset-management2/concept/c_DiscoveryModels.html

License Compliance Checker

Overview

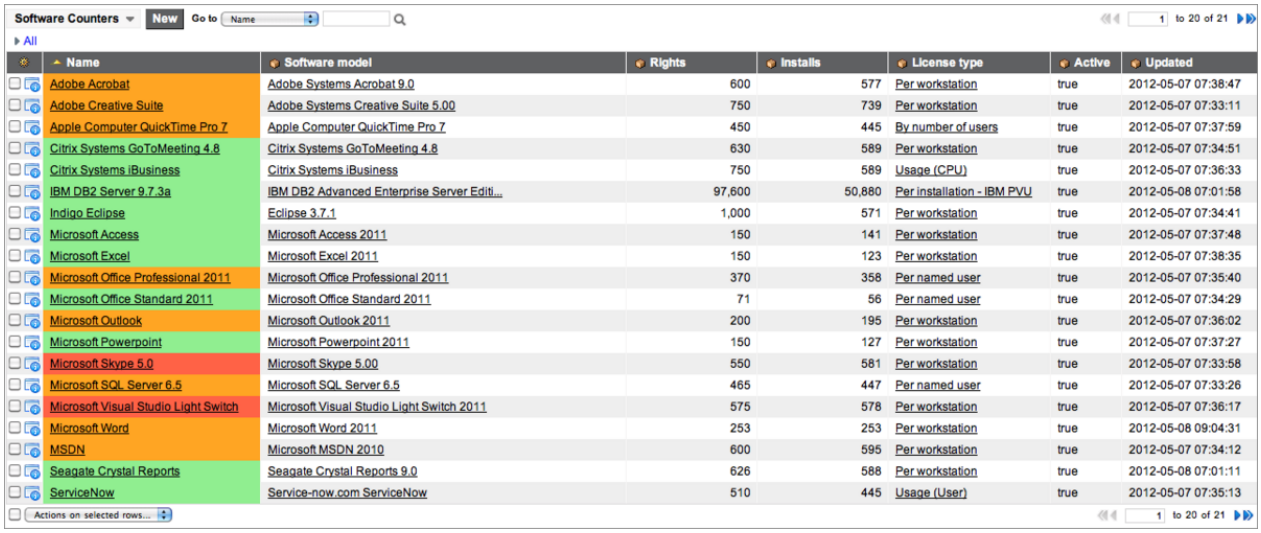
The Software License Compliance Checker is a fast way to see if the software licenses used in your organization are compliant based on number of rights purchased and number of installations. For example, if there are 100 licenses for a software program, the Software License Compliance Checker can show if the software has been installed more than 100 times. The Compliance Checker uses information found by a discovery tool (Discovery, Help the Help Desk, or third-party technologies) to analyze the software installed on your network.

Note: *The Software Asset Management feature is available starting with the Berlin release. For information about upgrading from Software License Management to Software Asset Management, see Upgrading to Software Asset Management.*

Using the Software License Compliance Checker

Users with the sam role can check software license compliance.

1. Navigate to **Software Asset Management > System > Check License Compliance**.
2. Click **Proceed**.
3. ServiceNow analyzes your organization's network for name, software model, rights, installs, license type, and active status.
4. View results. The Software Counters list is color coded:
   - Green - in compliance
   - Orange - within 5% of being out of compliance
   - Red - not compliant



Software Counters | New | Go to Name | 1 to 20 of 21

All

Name	Software model	Rights	Installs	License type	Active	Updated
Adobe Acrobat	Adobe Systems Acrobat 9.0	600	577	Per workstation	true	2012-05-07 07:38:47
Adobe Creative Suite	Adobe Systems Creative Suite 5.00	750	739	Per workstation	true	2012-05-07 07:33:11
Apple Computer QuickTime Pro 7	Apple Computer QuickTime Pro 7	450	445	By number of users	true	2012-05-07 07:37:59
Citrix Systems GoToMeeting 4.8	Citrix Systems GoToMeeting 4.8	630	589	Per workstation	true	2012-05-07 07:34:51
Citrix Systems iBusiness	Citrix Systems iBusiness	750	589	Usage (CPU)	true	2012-05-07 07:36:33
IBM DB2 Server 9.7.3a	IBM DB2 Advanced Enterprise Server Editi...	97,600	50,880	Per installation - IBM PVU	true	2012-05-08 07:01:58
Indigo Eclipse	Eclipse 3.7.1	1,000	571	Per workstation	true	2012-05-07 07:34:41
Microsoft Access	Microsoft Access 2011	150	141	Per workstation	true	2012-05-07 07:37:48
Microsoft Excel	Microsoft Excel 2011	150	123	Per workstation	true	2012-05-07 07:38:35
Microsoft Office Professional 2011	Microsoft Office Professional 2011	370	358	Per named user	true	2012-05-07 07:35:40
Microsoft Office Standard 2011	Microsoft Office Standard 2011	71	56	Per named user	true	2012-05-07 07:34:29
Microsoft Outlook	Microsoft Outlook 2011	200	195	Per workstation	true	2012-05-07 07:36:02
Microsoft Powerpoint	Microsoft Powerpoint 2011	150	127	Per workstation	true	2012-05-07 07:37:27
Microsoft Skype 5.0	Microsoft Skype 5.00	550	581	Per workstation	true	2012-05-07 07:33:58
Microsoft SQL Server 6.5	Microsoft SQL Server 6.5	465	447	Per named user	true	2012-05-07 07:33:26
Microsoft Visual Studio Light Switch	Microsoft Visual Studio Light Switch 2011	575	578	Per workstation	true	2012-05-07 07:36:17
Microsoft Word	Microsoft Word 2011	253	253	Per workstation	true	2012-05-08 09:04:31
MSDN	Microsoft MSDN 2010	600	595	Per workstation	true	2012-05-07 07:34:12
Seagate Crystal Reports	Seagate Crystal Reports 9.0	626	588	Per workstation	true	2012-05-08 07:01:11
ServiceNow	Service-now.com ServiceNow	510	445	Usage (User)	true	2012-05-07 07:35:13

Actions on selected rows... | 1 to 20 of 21

Software Counters

Overview

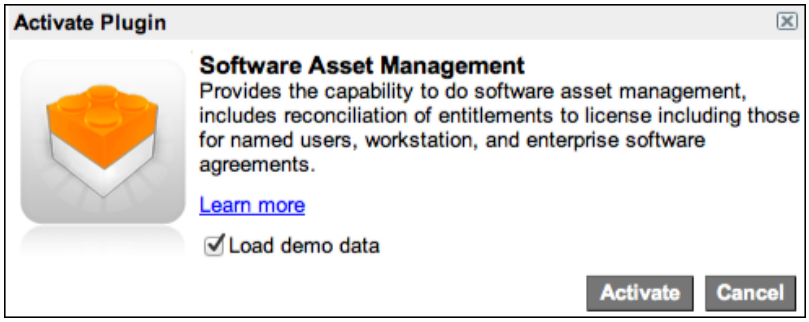
Software counters reconcile software rights with software installations to verify compliance. For asset managers, software counters answer the question: *Is my number of installations equal to or lower than the number of rights purchased?* Counters are useful for software that must be tracked; some software may not need to be tracked closely. Grouping—such as location, company, department, cost center, entitlement workstation and entitlement user—or no grouping can be used with software counters.

In addition to software counters, software asset management offers usage counters that track a license based on use by a workstation or user.

The software counter cache is used to increase the speed of counting software licenses. If there is a large number of software license records, the first time software is counted takes several minutes. After the first count, only changes are processed so the procedure is faster.

Getting Started with Software Counters

A good way to see how software counters work is to use the demo data provided with the Software Asset Management application. Load the demo data on a non-production instance.



Using the demo data, try some of the procedures on this page, such as Using the Software Counter and Viewing Usage Counter Results.

To use software counters with your own information, follow the steps in the software asset management process. ServiceNow Discovery does not populate the Software Usage (cmdb_sam_sw_usage) table. Use a third party tool

such as Microsoft's System Center Configuration Manager to add information about software assets to the Software Usage table.

Scheduling Software Counts

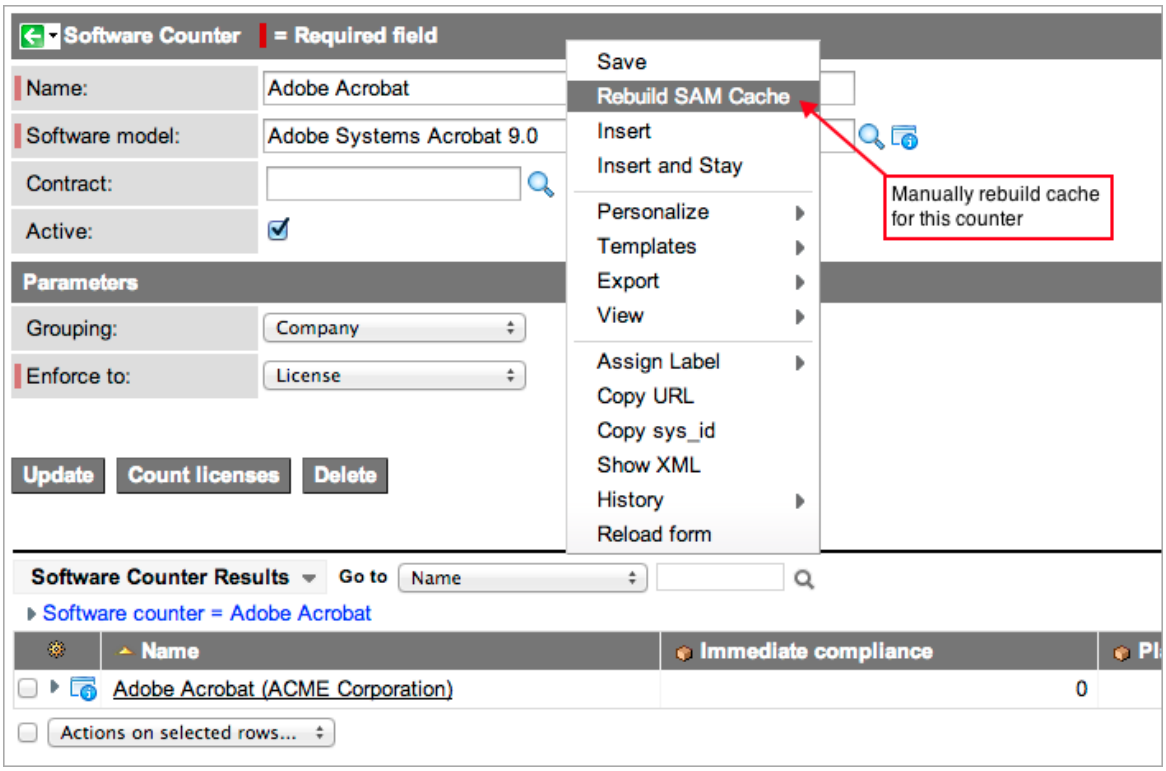
The SAM License Counters scheduled job scans your instance for software installations. The SAM License Counters job occurs at 2:00am local time every morning. The job queries the Software Installation [cmdb_sam_sw_install] table and captures any installations that have not been scanned in the past 7 days. The job runs a join query on hardware that has been scanned within the last day and software installations that have not been scanned in the last 7 days. These software installation records are then removed.

Note: *You can change the deletion interval of software installations with the* `sam.install_deletion_deadline` *property in the System Properties [sys_properties] table. For more information, see the property description.*

The SAM License Counters scheduled job runs all software counters at once.

To refresh the cache manually for a specific counter:

1. Navigate to **Software Asset Management > Reconciliation > Software Counters**.
2. Select a counter whose cache you want to refresh.
3. Right-click in the header bar of the Software Counter record and select **Rebuild SAM Cache** from the context menu.



Calculating Software Licenses

License calculations define how software licenses are counted in the SAM application. For information about default license calculation types and creating custom types, see Using License Calculations.

Using the Software Counter

When a software counter runs for the first time, it can take several minutes to process records. The license counts are cached so that on subsequent runs, the counter processes only changed records, both those from Discovery or altered entitlements, making it faster. The Software Counter form contains check boxes to enable faster counting through the use of quick counters. For more information on using quick counters, see Setting Up Quick Counters.

Use a software counter to count the licenses for a specific version of software and receive summary or detailed results. For example, an asset manager can look at summary information to discover which departments are not in compliance. Then, department managers can look at detailed information to determine the people or individual computers that are not in compliance.

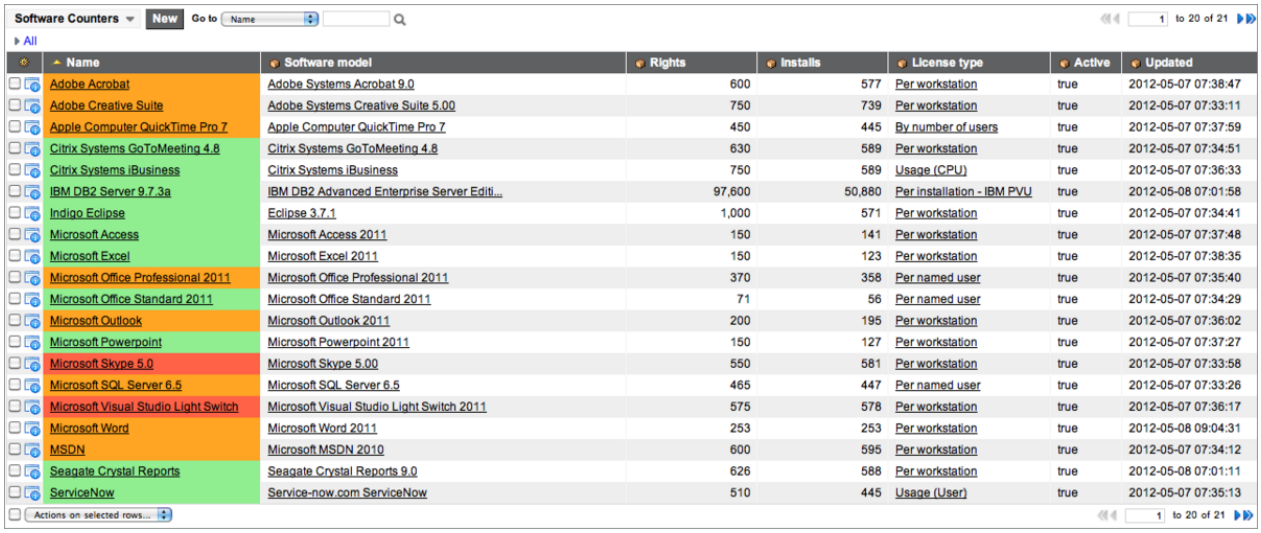
Software counters return results by **Licensing Type**:

- **Entitled in use:** Number of people who have been allocated a license and installed the software.
- **Entitled not in use:** Number of people who have been allocated a license but did not install the software.
- **Not entitled:** Number of people using an unauthorized copy of the software.
- **Not allocated:** Number of licenses not assigned.

Note: *For information about the scheduled job that runs all counters each day or the steps to run all counters manually, see Scheduling Software Counts.*

The Software Counters list is color coded:

- Green - in compliance
- Orange - within 5% of being out of compliance
- Red - not compliant



Name	Software model	Rights	Installs	License type	Active	Updated
Adobe Acrobat	Adobe Systems Acrobat 9.0	600	577	Per workstation	true	2012-05-07 07:38:47
Adobe Creative Suite	Adobe Systems Creative Suite 5.00	750	739	Per workstation	true	2012-05-07 07:33:11
Apple Computer QuickTime Pro 7	Apple Computer QuickTime Pro 7	450	445	By number of users	true	2012-05-07 07:37:59
Citrix Systems GoToMeeting 4.8	Citrix Systems GoToMeeting 4.8	630	589	Per workstation	true	2012-05-07 07:34:51
Citrix Systems iBusiness	Citrix Systems iBusiness	750	589	Usage (CPU)	true	2012-05-07 07:36:33
IBM DB2 Server 9.7.3a	IBM DB2 Advanced Enterprise Server Editi...	97,600	50,880	Per installation - IBM PVU	true	2012-05-08 07:01:58
Indigo Eclipse	Eclipse 3.7.1	1,000	571	Per workstation	true	2012-05-07 07:34:41
Microsoft Access	Microsoft Access 2011	150	141	Per workstation	true	2012-05-07 07:37:48
Microsoft Excel	Microsoft Excel 2011	150	123	Per workstation	true	2012-05-07 07:38:35
Microsoft Office Professional 2011	Microsoft Office Professional 2011	370	358	Per named user	true	2012-05-07 07:35:40
Microsoft Office Standard 2011	Microsoft Office Standard 2011	71	56	Per named user	true	2012-05-07 07:34:29
Microsoft Outlook	Microsoft Outlook 2011	200	195	Per workstation	true	2012-05-07 07:36:02
Microsoft Powerpoint	Microsoft Powerpoint 2011	150	127	Per workstation	true	2012-05-07 07:37:27
Microsoft Skype 5.0	Microsoft Skype 5.00	550	581	Per workstation	true	2012-05-07 07:33:58
Microsoft SQL Server 6.5	Microsoft SQL Server 6.5	465	447	Per named user	true	2012-05-07 07:33:26
Microsoft Visual Studio Light Switch	Microsoft Visual Studio Light Switch 2011	575	578	Per workstation	true	2012-05-07 07:36:17
Microsoft Word	Microsoft Word 2011	253	253	Per workstation	true	2012-05-08 09:04:31
MSDN	Microsoft MSDN 2010	600	595	Per workstation	true	2012-05-07 07:34:12
Seagate Crystal Reports	Seagate Crystal Reports 9.0	626	588	Per workstation	true	2012-05-08 07:01:11
ServiceNow	Service-now.com ServiceNow	510	445	Usage (User)	true	2012-05-07 07:35:13

Creating a Software Counter

Depending on the license type you select for a counter, multiple installations can count as a single license, such as when using the per user license type. This licensing concept is used on occasion by companies like Microsoft and Adobe. It grants users the right to install software on multiple machines if those users already have rights to install the software.

Note: *You can create new counters from Discovery model records or from the list view starting with the Dublin release.*

To manage multiple versions of software from a single licensing perspective for the parent software model:

- The downgrade child software models that are licensed under the parent software model should all be related to a the single parent software model
- The downgrade child software models should not have any software counters associated with them
- The software counter should be associated only with the licensed parent software model, otherwise misleading results for the counter will be reported

To create a software counter:

1. Navigate to **Software Asset Management > Reconciliation > Software Counters**.
2. Click **New**.
3. Fill in the fields on the Software Counter form (see table).
4. Click **Submit**.
5. Reopen the new counter and click **Count Licenses**.
6. Reload the form to view the counter results.

Field	Description
Name	[Required] Enter the name of the software counter as it appears in record lists.
Software model	[Required] Click the reference lookup icon and select the software model for which the counter will check compliance.
Contract	Select the contract that you want to use to limit the license. Used for enterprise and subscription-based licenses. Also restricts how counters retrieve licenses for the given counter. If left empty, all licenses for the model are counted.
Active	Select the check box to have the scheduler run the counter.
Rights Owned	[Read-Only] Displays a summation if a contract is specified. The total sum is the license rights provided by all the licenses for the software model (of the counter) under the specified contract. If no contract is specified, this field is a count of all licenses of this model.
Rights Used	[Read-Only] Displays the number of rights used by all installs, whether a contract is specified or not.
Immediate compliance	[Read-Only] Displays the number of additional rights needed to achieve compliance based on installations.
Parameters	
Grouping	Select the field for grouping data: • **Location:** group by the geographic location set in the license record. • **Company:** group by the company set in the license record. • **Department:** group by the department set in the license record. • **Cost Center:** group by the cost center set in the license record. • **Entitlement (CPU):** group by the condition defined in the **Allocated condition** field of the license record. • **Entitlement (User):** group by the condition defined in the **Assigned condition** field of the license record. The software counter results also displays counts for licenses that do not match the grouping parameter.

Enforce to	[Required] Select the level of adherence to the license: • **License:** counts all existing entitlements for the installations or usage you are analyzing regardless of the grouping parameter selected. • **Strict:** counts the license and entitlement as valid only if the license also matches the grouping category. For example, a license is assigned to a specific location, such as Americas. With strict enforcement enabled, the user and the machine on which the license is installed must be in the Americas group. If the person and their license assigned to the Americas group moves to the United Kingdom, the license is still valid, but strict enforcement flags the user as unauthorized to use that license. The license will be counted as valid, but will also show up as not entitled in the summary.
Verify entitlements	Select the check box to view the software entitlement details for the software counter. Results include the number of installations of all types: not entitled, entitled in use, entitled not in use, and not allocated. For more information, see Setting Up Quick Counters. This field is available starting with the Eureka release.
Generate details	Select the check box to generate the details of the entitlement records. For more information, see Setting Up Quick Counters. This check box is available starting with the Eureka release.
License type	[Required] Select the method for counting licenses. For example, **Per named user** or **Per workstation**. For more information, see License Calculation Types.
Installs per license	Enter the number of installations allowed (one or more) per license for each user if the **License type** is set to **By number of users**. You can allow more than two installations per license starting with the Dublin release. For all other license types this field is set to 1 install per license.
Cached	[Read-Only] Shows whether this option is selected. If selected, only changed information is counted, reducing the amount of time it takes to count the licenses.
License condition	Specify the condition a license should satisfy in order to be counted. This field is available starting with the Eureka release.
Software install condition	Specify the condition an install record should satisfy in order to be counted. This field appears depending on the value of the **License type** field and is available starting with the Eureka release.
Software usage condition	Specify the condition a usage record should satisfy in order to be counted. This field appears depending on the value of the **License type** field and is available starting with the Eureka release.
Related Lists	
Software Counter Results	Displays all results for this software counter.
Software Counter Compliance Violations	Displays all records of compliance violations for this software counter (starting with the Eureka release).
Software Counter Histories	Displays all software counter history records for this software counter. Each time a count is completed, the system automatically generates a software counter history record, which is a read-only copy of the software counter record (starting with the Eureka release).

Note: *A message is displayed at top of the software counter form indicating if a license count is in progress (starting with the Eureka release). Reload the form to view the counter results.*

Setting Up Quick Counters

Quick counter settings can help speed up the software counting process. The following check boxes are available in the Parameters section of the Software Counter form (starting with the Eureka release):

- **Verify entitlements:** When this check box is selected, the software counter will generate entitlement details in the software counter summaries, displaying the number of entitlements in use and entitlements not in use. If the check box is cleared, the software counter will display **Entitlement not known** with a count of total installs. The counter will not check for entitlements.

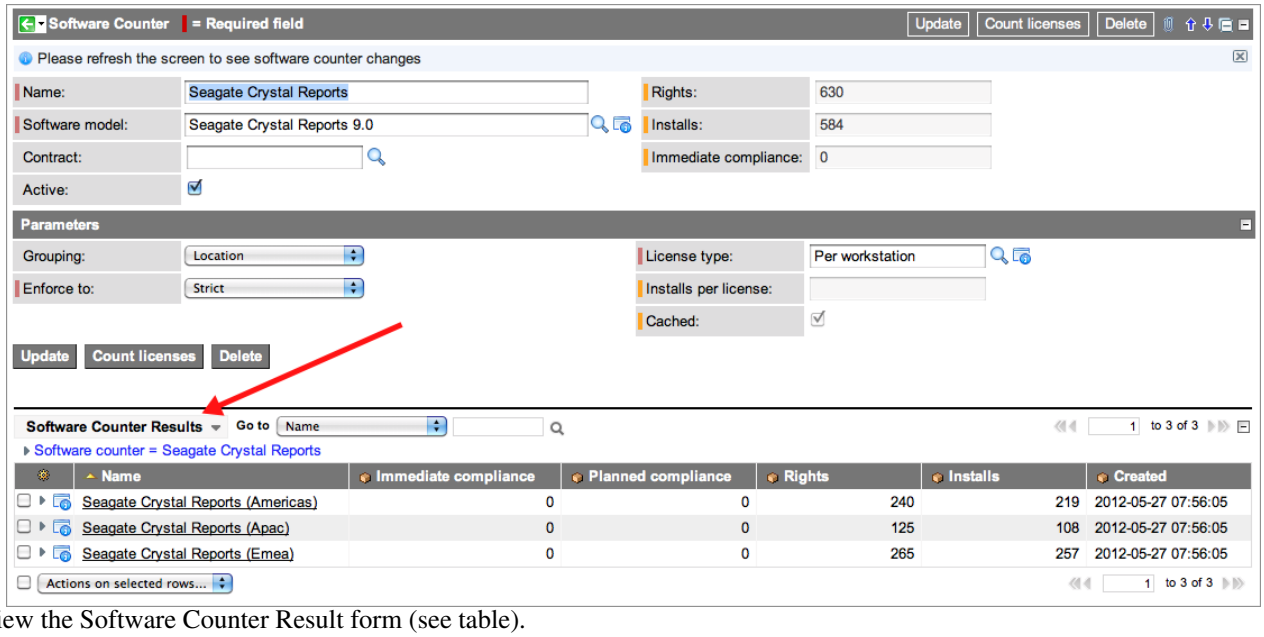
- **Generate details:** When this check box is selected, the software counter will generate software counter details for each software counter result type. If the check box is cleared, no details will be available.

Clearing these check boxes in addition to setting the **Grouping** parameter to **None** will enable software counters to run more quickly.

Viewing Software Counter Results

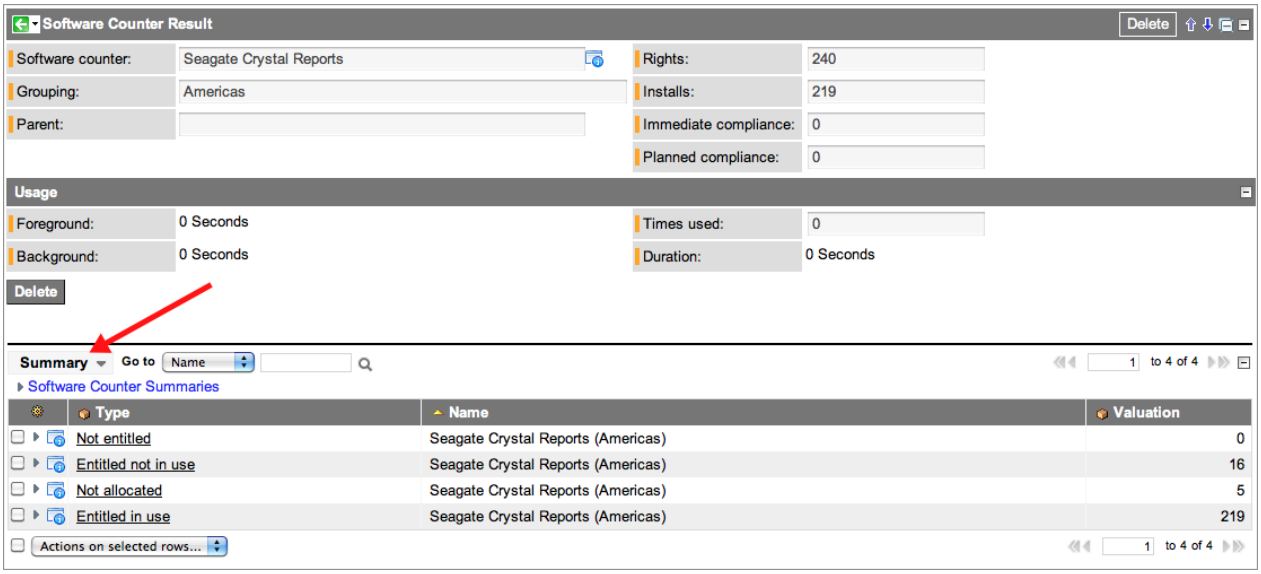
Software counter results provide detailed information about each grouping. To view software counter results:

1. On the Software Counter form, click a name in the **Software Counter Results** related list.



2. View the Software Counter Result form (see table).

   All fields on the form are read-only.



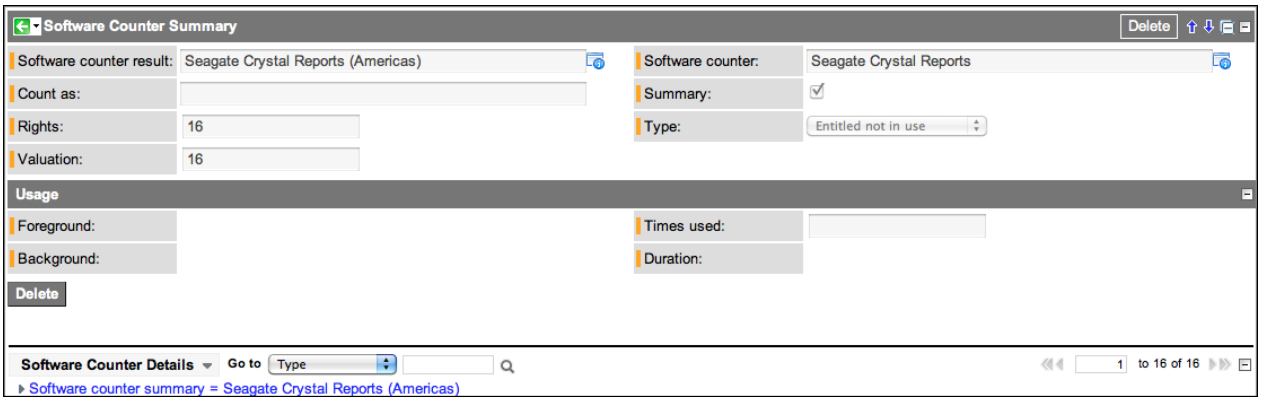
Field	Description
Software counter	Name of the software counter whose results are displayed.
Grouping	Grouping this software belongs to.
Parent	Name of the parent software, if one exists, assigned to this software.
Rights	Number of rights available in the group.
Installs	Number of rights used by installations of the software in the group.
Immediate compliance	Number of additional rights needed for the group to achieve compliance based on installations.
Planned compliance	Number of additional rights needed for the group to achieve compliance based on installations and number of unused entitlements available.
Usage Section	
Foreground	Total duration of foreground usage of the software, based on all the installations for the group.
Background	Total duration of background usage of the software, based on all the installations for the group.
Times used	Total number of times the software was used, based on software usage records for the group.
Duration	Total duration of software usage, based on software usage records for the group. (Not the sum of **Foreground** and **Background**.)
Related List	
Summary	Breakdown of software counter results by type. Click a type to view a detailed summary.

Viewing Software Counter Summaries

Software counter summaries provide information about each software counter type. To view a software counter summary:

1. On the Software Counter Result form, click a type in the **Summary** related list.
2. View the Software Counter Summary form (see table).

   All fields on the form are read-only.



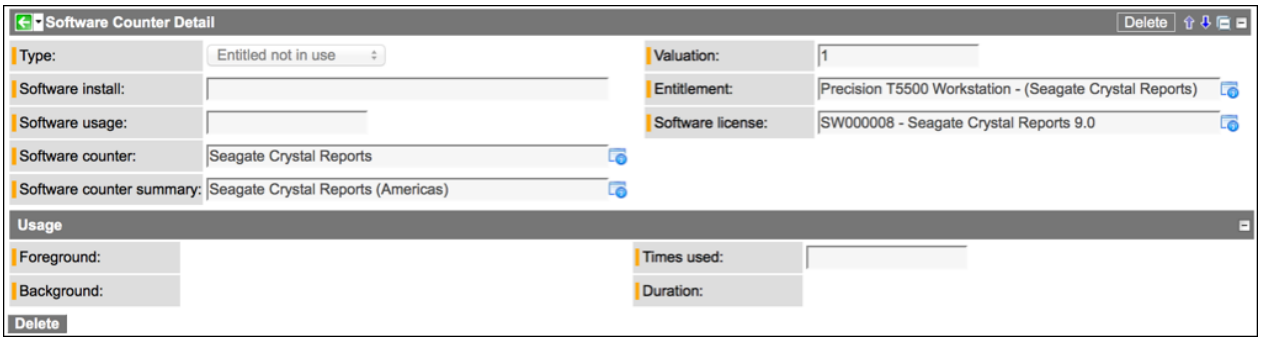
Field	Description
Software counter result	Name of the software counter result for which the summary is displayed.
Count as	The software model being counted.
Rights	Number of rights that have been used.
Valuation	How software is counted during the reconciliation process.
Software counter	Name of the software counter.
Summary	Check box that indicates whether the form displays summary information (selected) or detailed information (cleared).
Type	Type of license counted.
Usage Section	
Foreground	Total duration of foreground usage of the software, based on all the installations for the grouping.
Background	Total duration of background usage of the software, based on all the installations for the grouping.
Times used	Total number of times the software was used, based on software usage records for the grouping.
Duration	Total duration of software usage, based on software usage records for the group. (Not the sum of **Foreground** and **Background**.)
Related List	
Software Counter Details	Shows every entitlement, software install, and software usage for the software. The related list also shows the **Workstation** and **User**, if applicable, for each software counter detail (starting with the Dublin release). A software asset manager can, for example, identify people who are using the license but are not entitled. The software can then be uninstalled from machines that are not in compliance or people can be entitled a license to meet compliance rules. Click a type to view the software counter detail.

Viewing Software Counter Details

Software counter details provide information about a specific software counter summary. To view a software counter detail:

1. On the Software Counter Summary form, click a type in the **Software Counter Details** related list.
2. View the Software Counter Detail form (see table).

   All fields on the form are read-only.



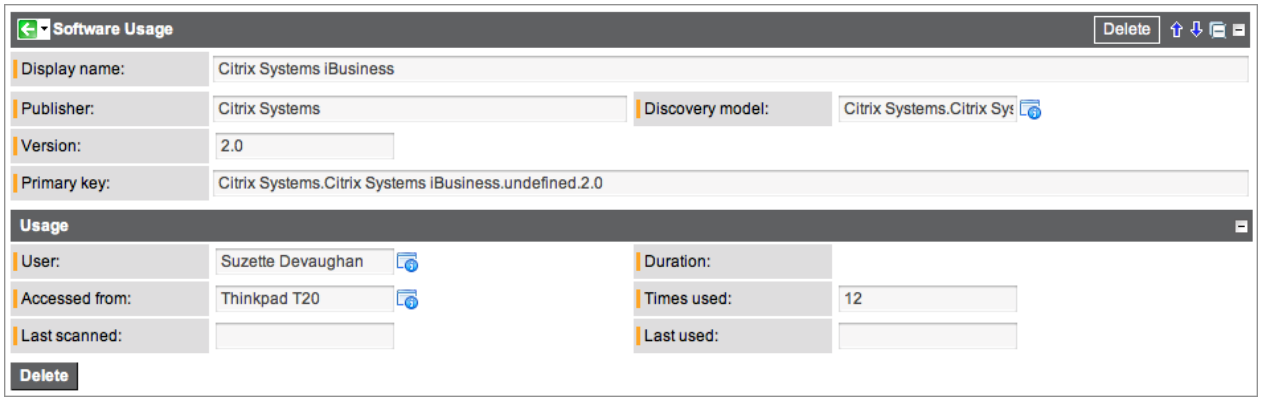
Field	Description
Type	Type of the counter detail.
Software install	Name of the related software install record, if applicable. This field is blank if the type is **Entitled not in use** or **Not allocated**.
Software usage	Name of the related software usage record, if applicable.
Software counter	Name of the related software counter.
Software counter summary	Name of the related software counter summary.
Valuation	A valuation of **1** indicates that the license right is being used. A valuation of **0** indicates that the license right is part of a software suite, or that the license allows more than one installation per right (starting with the Dublin release). The **0** indicates that this installation does not count against the license.
Entitlement	Name of the related software license entitlement, if applicable. This field is blank if the type is **Not entitled** or **Not allocated**.
Software license	Name of the related software license, if applicable. This field is blank if the type is **Not entitled**.
Usage Section	
Foreground	Total duration of foreground usage of the software, based on the related software install record.
Background	Total duration of background usage of the software, based on the related software install record.
Times used	Total number of times the software was used, based on the related software usage record.
Duration	Total duration of foreground and background software usage, based the related software usage record.

Viewing Usage Counter Results

A usage counter tracks a license based on how often the license is actually used either by a workstation or a user. For example, an asset manager can use a usage counter to determine who is actually using the software they have been entitled. If an individual is not using the software at all or very infrequently, the software can be uninstalled and given to an individual who will use it more often. If you have a way of capturing information, for example a proxy server or gateway, you can capture the IP address and the name of the user accessing the license. The captured data can be added directly into the Software Usages list.

1. Navigate to **Software Asset Management > Discovery > Software Usages**.
2. Click the **Display Name** in the row containing the software and user to check.
3. View the **Software Usage** form (see table).

   All fields on the form are read-only.



Field	Description
Display name	Name of the software usage record.
Publisher	Publisher of the software.
Version	Version of the software.
Discovery model	Software discovery model associated with the installed software.
Primary key	Unique identifier for table row.
Usage	
User	User who accessed the software.
Accessed from	Hardware configuration item from which the software was accessed.
Last scanned	Date and time when the software was last discovered on this hardware.
Duration	Duration of all usage.
Times used	Number of times the software was accessed from this hardware.
Last used	Date and time when the software was last used on this hardware.
Software counter	
Counted by	The software counter summary record in the Software Counter Summary [sam_sw_counter_summary] table on which this usage is counted.
Entitlement	The entitlement rights of the software.
Valuation	Number of license rights used by this software usage.
Cached	If selected, indicates that a software count has already been cached.

IBM PVU Process Pack

Overview

Processor Value Unit (PVU) is a unit of measurement defined by IBM to determine software licensing costs based on processor or server model. A processor is defined as each core on a socket. Each software package has a price defined as number of points or PVUs per core. For a complete explanation of IBM PVU licensing for distributed software, please see the IBM PVU Table [1] on the IBM website. Virtualization (sub-capacity) licensing is supported starting with the Eureka release.

In ServiceNow, the concept of PVU is used in the Software Asset Management IBM PVU Process Pack.

- **Software Asset Management IBM PVU Process Pack:** Add-on to the Software Asset Management application. Provides the ability to manage software licensed under the IBM Processor Value Units licensing model.
- **Software Asset Management Processor Definition Extension:** Automatically activated when the Software Asset Management IBM PVU Process Pack is activated. Provides data model support for processor definitions. Required by all Software Asset Management process packs.

Note: *Oracle and Microsoft also use the concept of PVU, but have slightly different definitions.*

Activating the IBM PVU Process Pack

An administrator can activate the IBM PVU Process Pack plugin.

Click the plus to expand instructions for activating a plugin.

If you have the admin role, use the following steps to activate the plugin.

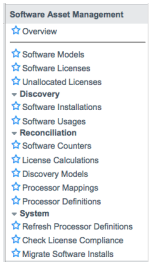
1. Navigate to **System Definition > Plugins**.
2. Right-click the plugin name on the list and select **Activate/Upgrade**.

   If the plugin depends on other plugins, these plugins are listed along with their activation status.
3. [Optional] If available, select the **Load demo data** check box.

   Some plugins include demo data—sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good policy when you first activate the plugin on a development or test instance. You can load demo data after the plugin is activated by repeating this process and selecting the check box.
4. Click **Activate**.

Menus and Modules

After activating the Software Asset Management - IBM PVU Process Pack plugin, options are added to the Software Asset Management application.



- **Processor Mappings:** View the mapped relationships between processors and PVU costs created in accordance with IBM guidelines.
- **Processor Definitions:** View the descriptions of computers that include attributes IBM uses for PVU licensing.
- **Refresh Processor Definitions:** Create process definitions for computers [cmdb_ci_computer] table.

Requirements to Associate a Software Installation to PVU Mapping

Follow these steps to ensure that you receive the highest quality results with PVU mapping.

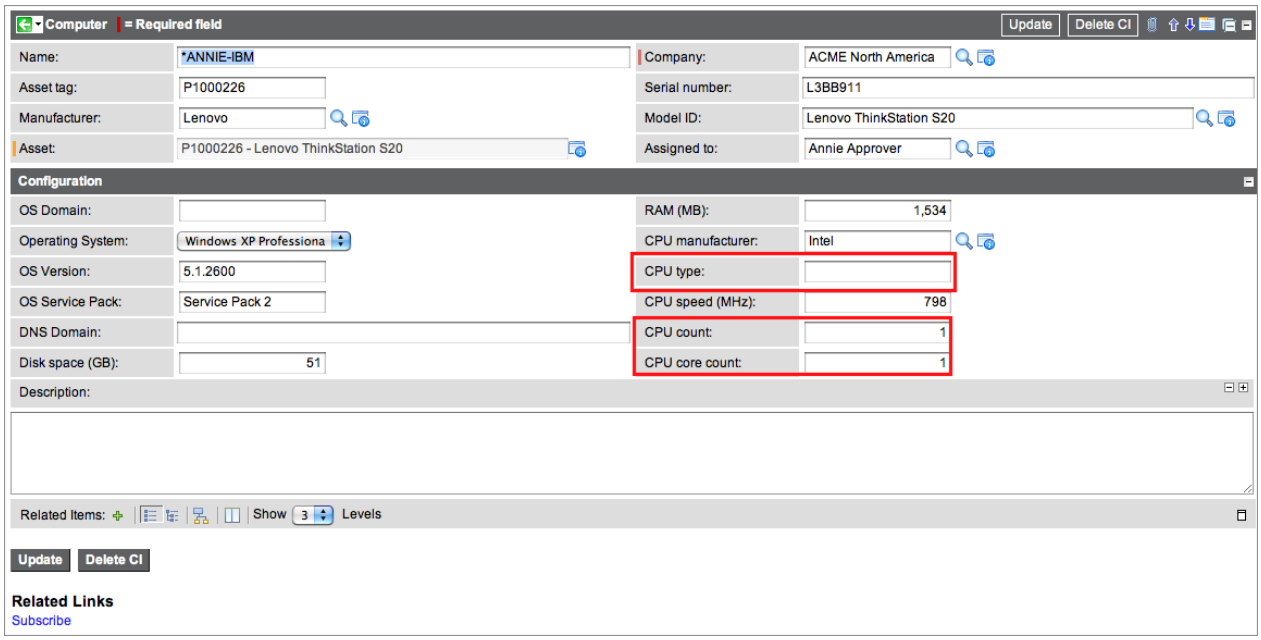
1. Use a discovery tool, such as Servicenow Discovery, to identify hardware and populate the configuration management database (CMDB) with the configuration items you want to manage with IBM PVU licensing.
2. Use a discovery tool, such as ServiceNow Discovery, to identify software installations. Check that the added CPU information is correct.
3. Activate the Software Asset Management - IBM PVU Process Pack plugin. This also activates the Software Asset Management plugin if it is not already active.
4. Refresh processor definitions.
5. Ensure that the software models you want to manage with IBM PVU licensing have the correct license type: **Per installation - IBM PVU**.
6. Create software counters to calculate IBM PVU licenses.
7. Count licenses to determine compliance with IBM PVU guidelines.

Preparing for IBM PVU Mapping

Most IBM PVU mapping and license checking in ServiceNow is managed automatically. For the automatic calculations to be as accurate as possible, it is important that configuration item and software model information be accurate.

The important fields describing the processor on the configuration item form are:

- **CPU type**
- **CPU count**
- **CPU core count**

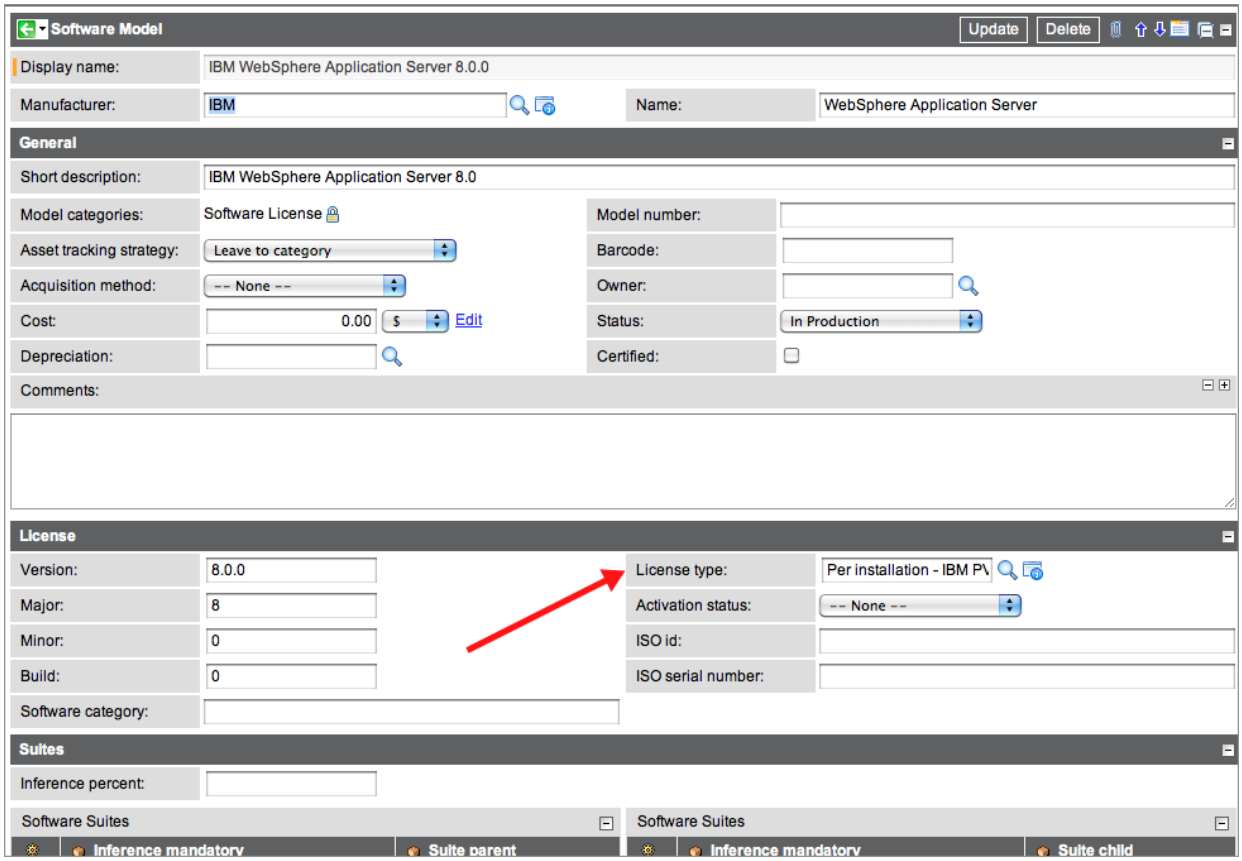


This CPU data is often added accurately when the CMDB is populated with information. If the fields contain incorrect information, manually edit the fields on the configuration item form.

The mapping between the configuration item form fields and processor definition fields is as follows.

Configuration Item Form Field	Processor Definition Form Field	Definition
CPU type	Processor name, Server model number, and Processor model number	Combination of processor name, server model number, and processor model number. The **CPU type** field is created as part of the general process described in Populating the CMDB. Some discovery tools fill in the **CPU name** instead of **CPU type**. If the **CPU type** field is empty, the CPU name field is used for mapping instead. (You can personalize the form to display the **CPU name**, if needed.) If the CPU type field and the CPU name field are both empty, no mapping is done.
CPU count	Number of sockets	Number of sockets.
CPU core count	Cores per socket	Cores per socket.

The key field on the Software Model form is **License type**. For any software licenses you want to track with IBM PVU, open the corresponding software model form and select the **Per installation - IBM PVU** license type.



Refresh Processor Definitions

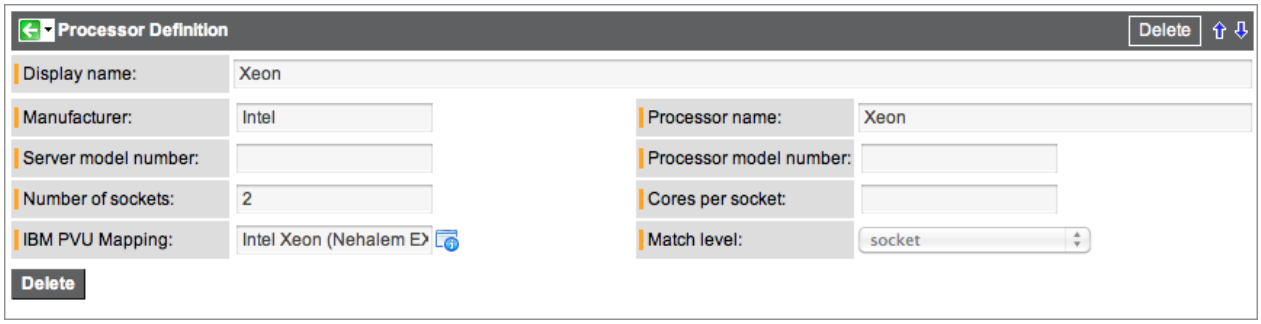
After activating the Software Asset Management IBM PVU Process Pack, use the **Refresh Processor Definitions** option in the Software Asset Management (SAM) application to create process definitions for existing computers (those in the Computer [cmdb_ci_computer] table). After this step, business rules in SAM update the Processor Definition [CMDB_processor_definition] table automatically when changes are made to computers or when new computers are added. You should not need to use the Refresh Processor Definitions option a second time, but it is always available if you make significant changes to the Computer [cmdb_ci_computer] table.

1. Navigate to **Software Asset Management > System > Refresh Processor Definitions**.
2. Click **Proceed**.

Viewing Processor Definitions

Processor definitions are automatically derived from the information in the configuration item form for an item such as a computer or server.

To view a processor definition, navigate to **Software Asset Management > Reconciliation > Processor Definitions** and click an item.

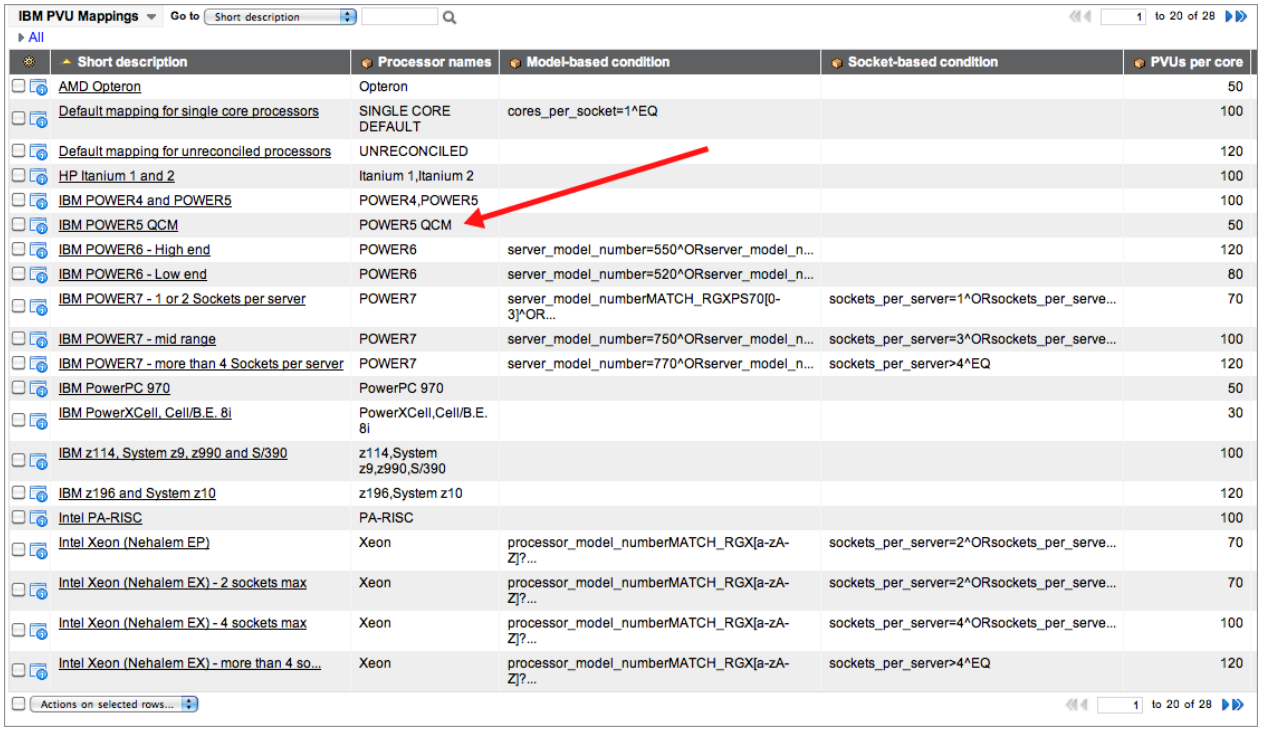


The following read-only fields are listed.

Field	Description
Display name	Name of the processor as it should appear in the processor list.
Manufacturer	Company that built the processor.
Server model number	Number assigned to the model by the server manufacturer.
Number of sockets	Number of dies on the computer motherboard. The number of CPUs per die is specified by **Cores per socket**.
IBM PVU Mapping	The IBM PVU mapping to which this processor is associated. The information in this field is automatically calculated from the server model number, number of sockets, processor name, and processor model number, based on the rules defined in the IBM PVU Table [1].
Processor name	Name assigned to the processor by the manufacturer.
Processor model number	Number assigned to the model by the processor manufacturer.
Cores per socket	Number of cores (functional unit needed to execute programs) on each physical connection (socket) on the motherboard.
Match level	Accuracy level of the association between processor and PVU mapping. Automatically set when association is inferred.

Viewing IBM PVU Mappings

Every rule listed in the IBM PVU Table [1] is represented by one PVU mapping record in the ServiceNow Software Asset Management application. For example, in the IBM PVU Table there is one line with processor name POWER5 QCM and in ServiceNow IBM PVU mappings there is a line representing POWER5 QCM.



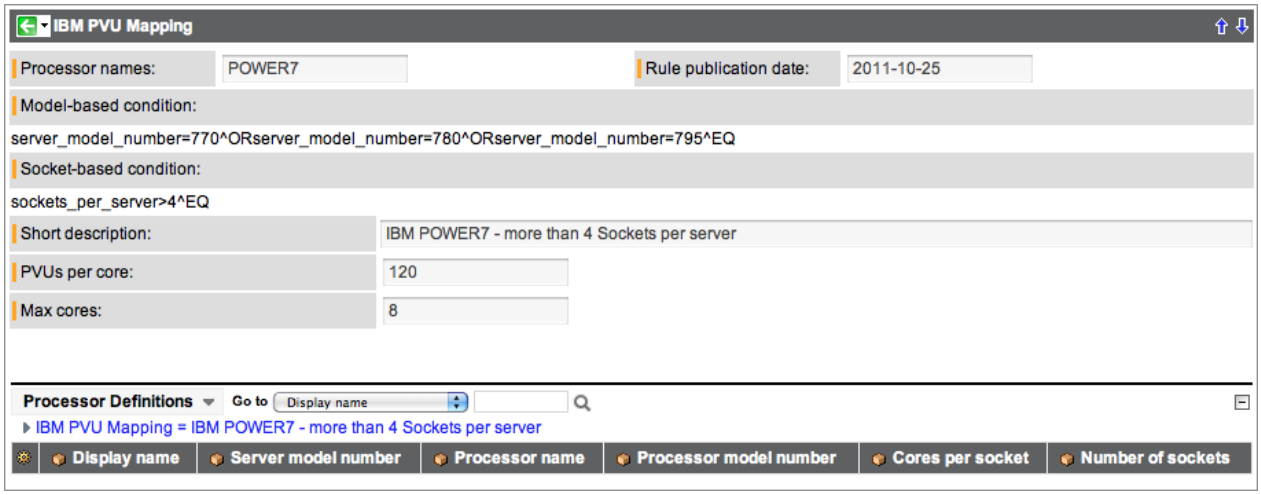
IBM PVU Mappings | Go to: Short description | 1 to 20 of 28 | All

Short description	Processor names	Model-based condition	Socket-based condition	PVUs per core
AMD Opteron	Opteron			50
Default mapping for single core processors	SINGLE CORE DEFAULT	cores_per_socket=1^EQ		100
Default mapping for unreconciled processors	UNRECONCILED			120
HP Itanium 1 and 2	Itanium 1,Itanium 2			100
IBM POWER4 and POWER5	POWER4,POWER5			100
IBM POWER5 QCM	POWER5 QCM			50
IBM POWER6 - High end	POWER6	server_model_number=550^ORserver_model_n...		120
IBM POWER6 - Low end	POWER6	server_model_number=520^ORserver_model_n...		80
IBM POWER7 - 1 or 2 Sockets per server	POWER7	server_model_numberMATCH_RGXPS70[0-3]^OR...	sockets_per_server=1^ORsockets_per_serve...	70
IBM POWER7 - mid range	POWER7	server_model_number=750^ORserver_model_n...	sockets_per_server=3^ORsockets_per_serve...	100
IBM POWER7 - more than 4 Sockets per server	POWER7	server_model_number=770^ORserver_model_n...	sockets_per_server>4^EQ	120
IBM PowerPC 970	PowerPC 970			50
IBM PowerXCell, Cell/B.E. 8i	PowerXCell,Cell/B.E. 8i			30
IBM z114, System z9, z990 and S/390	z114,System z9,z990,S/390			100
IBM z196 and System z10	z196,System z10			120
Intel PA-RISC	PA-RISC			100
Intel Xeon (Nehalem EP)	Xeon	processor_model_numberMATCH_RGX[a-zA-Z]?...	sockets_per_server=2^ORsockets_per_serve...	70
Intel Xeon (Nehalem EX) - 2 sockets max	Xeon	processor_model_numberMATCH_RGX[a-zA-Z]?...	sockets_per_server=2^ORsockets_per_serve...	70
Intel Xeon (Nehalem EX) - 4 sockets max	Xeon	processor_model_numberMATCH_RGX[a-zA-Z]?...	sockets_per_server=4^ORsockets_per_serve...	100
Intel Xeon (Nehalem EX) - more than 4 so...	Xeon	processor_model_numberMATCH_RGX[a-zA-Z]?...	sockets_per_server>4^EQ	120

Actions on selected rows... | 1 to 20 of 28

To view an IBM PVU mapping:

1. Navigate to **Software Asset Management > Reconciliation > IBM PVU Mappings**.
2. Click a **Short Description** for detailed information about the mapping.



IBM PVU Mapping

Processor names: POWER7 | Rule publication date: 2011-10-25

Model-based condition:

server_model_number=770^ORserver_model_number=780^ORserver_model_number=795^EQ

Socket-based condition:

sockets_per_server>4^EQ

Short description: IBM POWER7 - more than 4 Sockets per server

PVUs per core: 120

Max cores: 8

Processor Definitions | Go to: Display name

IBM PVU Mapping = IBM POWER7 - more than 4 Sockets per server

Display name	Server model number	Processor name	Processor model number	Cores per socket	Number of sockets

The fields are for information only and cannot be edited.

Field	Description
Processor names	Names of running processors. Processor names are separated by commas.
Model-based condition	Regular expression used to determine whether the server model number of a computer's processor definition matches that of the PVU entry.
Socket-based condition	Regular expression used to determine whether the number of sockets of a computer's processor definition matches that of the PVU entry.
Short description	A short description of this PVU mapping.
PVUs per core	Number of processor value units consumed (according to the IBM PVU chart [1]) by each core.
Max cores	Maximum number of cores on the processor family, as shown in the IBM PVU Table (rightmost column under cores per socket).
Rule publication date	Date published by IBM on the PVU Rules table.

Using Software Counters to Calculate IBM PVU Licenses

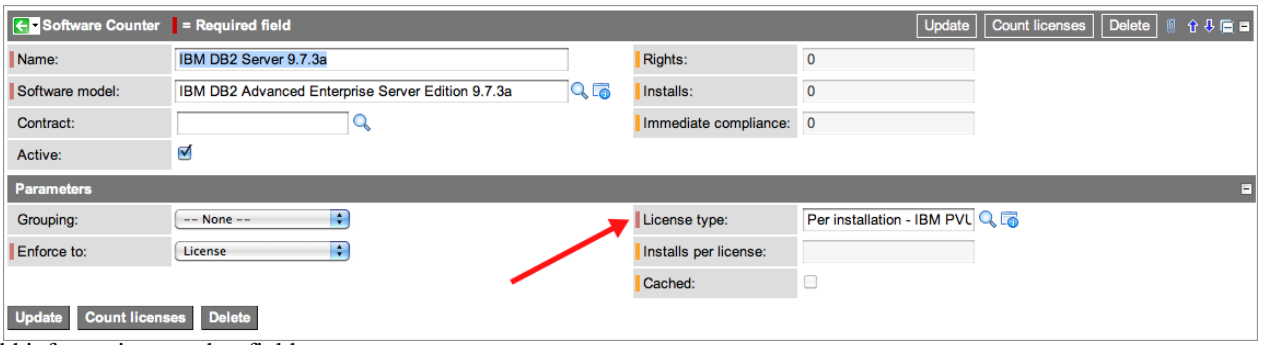
To calculate IBM PVU licenses, create a software counter with the IBM PVU license type. For a given PVU software package, you only need to create the counter once and then it can be reused.

Processor definitions are searched as licenses are counted. If a processor definition is found, but no PVU mapping link exists for the processor, the system automatically takes the following steps to obtain a PVU mapping link:

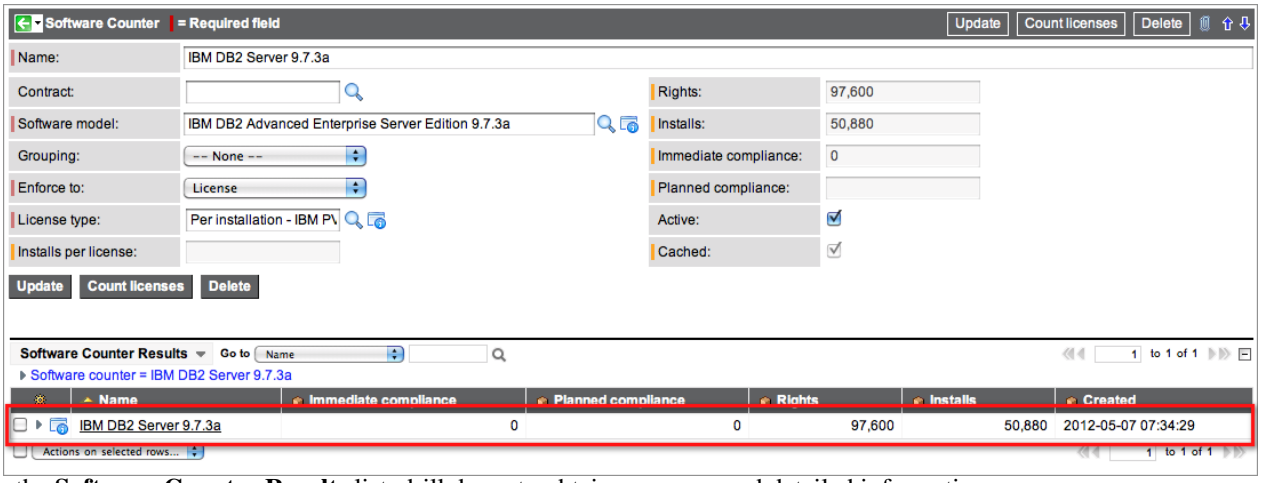
- Pre-filtering based on processor name.
- Advanced filtering based on PVU mapping records' condition field.
- If no exact match is found, the most expensive mapping is used to increase the chance of being compliant.

To create a software counter and count licenses:

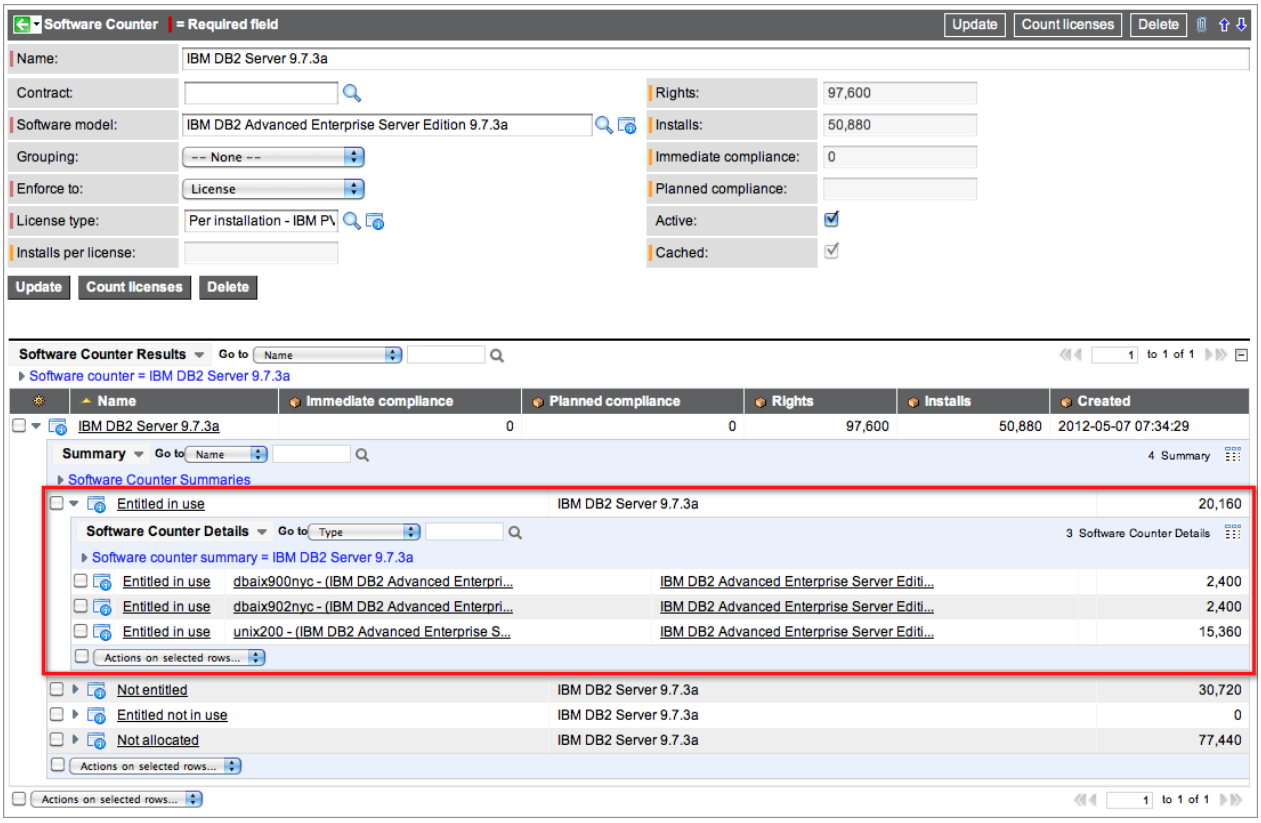
1. Navigate to **Software Asset Management > Reconciliation > Software Counters**.
2. Click **New**.
3. Enter a **Name**.
4. Select a **Software Model**.
5. Select a level of adherence to the license in the **Enforce to** field.
6. For **License type**, select **Per Installation - IBM PVU**.



7. Add information to other fields as necessary.
8. Right-click in the header bar and select **Save**.
9. Click **Count licenses**. Information is displayed in the **Software Counter Results** list.



10. In the **Software Counter Results** list, drill down to obtain summary and detailed information.



Installed with Software Asset Management IBM PVU Process Pack

Tables

The following tables are added.

Table	Description
IBM PVU Mapping [sam_processor_mappin]	Each row in this table is a mapping between a set of processors and the associated PVU cost (per core). This table encodes the information specified by the IBM Table of Processor Value Units per core [1] and is used in matching a computer's processor definition to derive a PVU cost for that computer.
Processor Definition [cmdb_processor_definition]	Each row in this table describes a computer in terms of the attributes IBM uses for its PVU licensing model. A row can be associated with one or more (if they are all identical in terms of the attributes used for PVU licensing) discovered computers.

Fields

The following fields are added.

Field	Table	Description
processor_mapping	Hardware [cmdb_ci_hardware]	PVU rule that applies to the software installation. Used for IBM PVU-based license counting.
processor_mapping	Software Installation [cmdb_sam_sw_install]	PVU rule that applies to the software installation. Used for IBM PVU-based license counting.

Script Includes

The following script includes are added.

Name	Description
ProcessorDefinitionsUtils	Contains utilities for managing the Processor Definition [cmdb_processor_definition] table.
ProcessorValueUnitsUtils	Contains logic that determines the IBM PVU pricing associated with a given processor.

Business Rules

The following business rules are added.

Name	Description
One and only one default mapping [sam_processor_mapping]	Ensures only one default mapping by resetting the last resort flag for modified records and setting it to false for new records.

Software Contracts

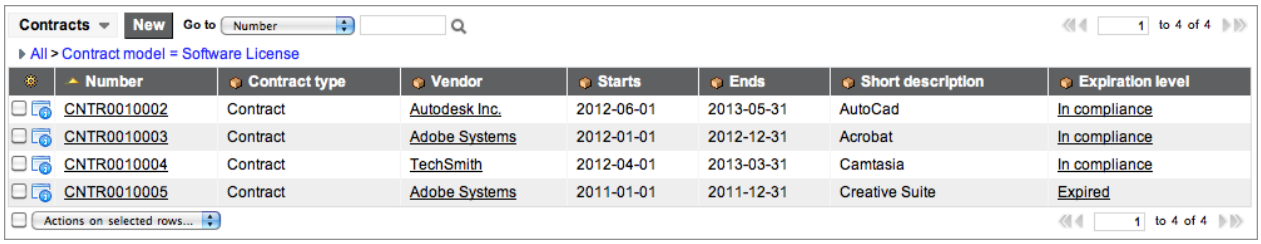
Overview

A software contract is a binding agreement between the owner of a software product and a buyer. The contract enables the buyer to use the software legally. In ServiceNow, manage and track software contracts with the Contract Management application. When creating a new software contract, you can specify that the contract is an enterprise or subscription license.

Viewing and Creating Software Contracts

To view a list of software contracts:

1. Navigate to **Contract Management > Software License**.
2. Click a contract **Number** to view its details.



To create a software license contract:

1. Navigate to **Contract Management > Software License**.
2. Click **New**.
3. Fill in the fields as appropriate. For detailed field descriptions, see Creating Contracts.
4. Add the software license to the contract.

Be sure to use the **Software License** option. The **License Bundle** (from Software Asset Management Extensions) and **Software License Contracts** (from Software License Management) options have been deprecated.

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