Lab Guide

Succeed with SAM:

The New Normal(ization)

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Default Login / Password: Knowledge17

admin / Knowledge17

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Lab Goal

Lab 1.1
Normalization

Software Asset Management (SAM) offers numerous challenges: How do you match up software installations with entitlements you have purchased? Which software is compliant in the environment? How should that software be tracked? How can you ensure consistent data? How do you easily track costs and attain compliance?

The new ServiceNow Software Asset Management Premium plugin simplifies the process of managing software in the environment through the use of a built-in normalization process and a streamlined reconciliation process.

This lab highlights the normalization features available in Software Asset Management Premium.

Prerequisites

This lab requires the activation of four plugins:

- Software Asset Management Premium
- Software Asset Management Premium for Microsoft
- Software Asset Management Premium for Oracle
- Procurement

In the lab, you also import data from two spreadsheets, **SoftwareInstalls.xlsx** and **SoftwareUsage.xlsx,** which should be included with this document.

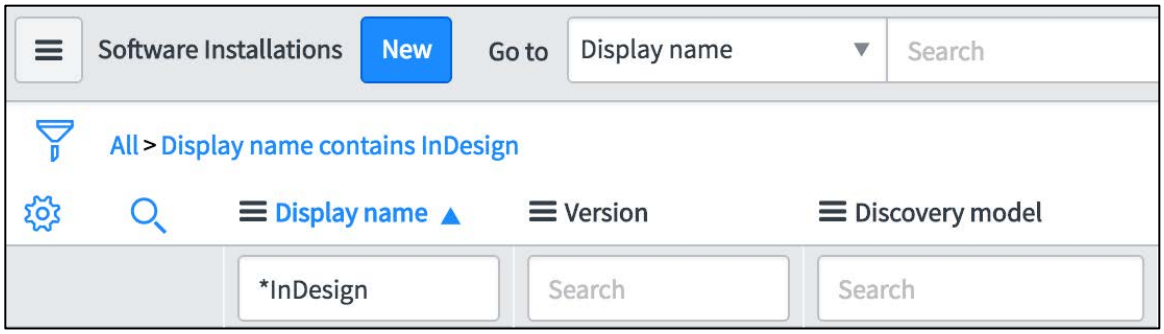
Software Installation Data

Software Installations are the most basic component used to determine how many software rights are in use within an environment. In this lab section, you simulate the discovery of Software Installation information with a System Import Set and then view the imported installation records.

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

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2. Filter on records that have a Display name that contains **InDesign**. Use ***InDesign** for the filter.



   - How many records are there?

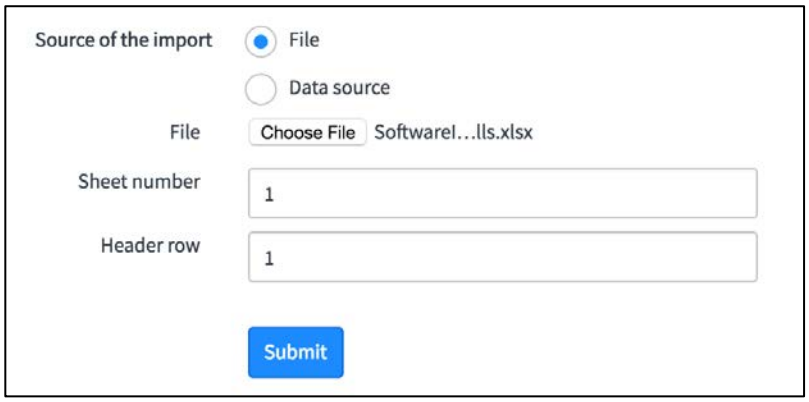
3. Navigate to **System Import Sets > Load Data**.

4. Complete the form as follows:

   Create table: **checked**
   Label: **Software Installations Import**



5. For the source of the import, select **SoftwareInstalls.xlsx**.



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6. Click **Submit**.

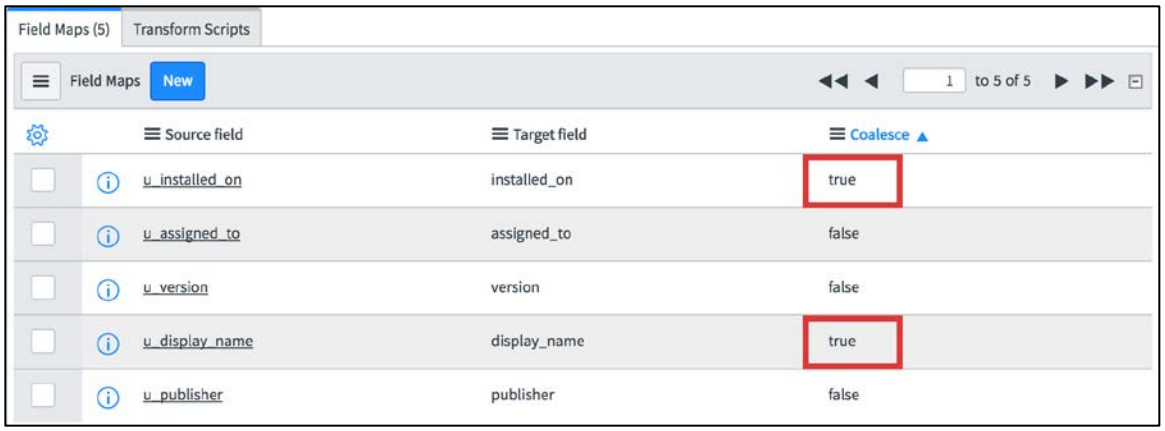
7. Under **Next steps…**, click **Create transform map**.

8. Complete the form as follows:

   Name: **Software Installations Map**
   Target table: **Software Installation [cmdb_sam_sw_install]**

9. Under **Related Links**, click **Auto Map Matching Fields**.

10. Under the **Field Maps** related list, set the **Coalesce** option for **u_installed_on** and **u_display_name** to true.

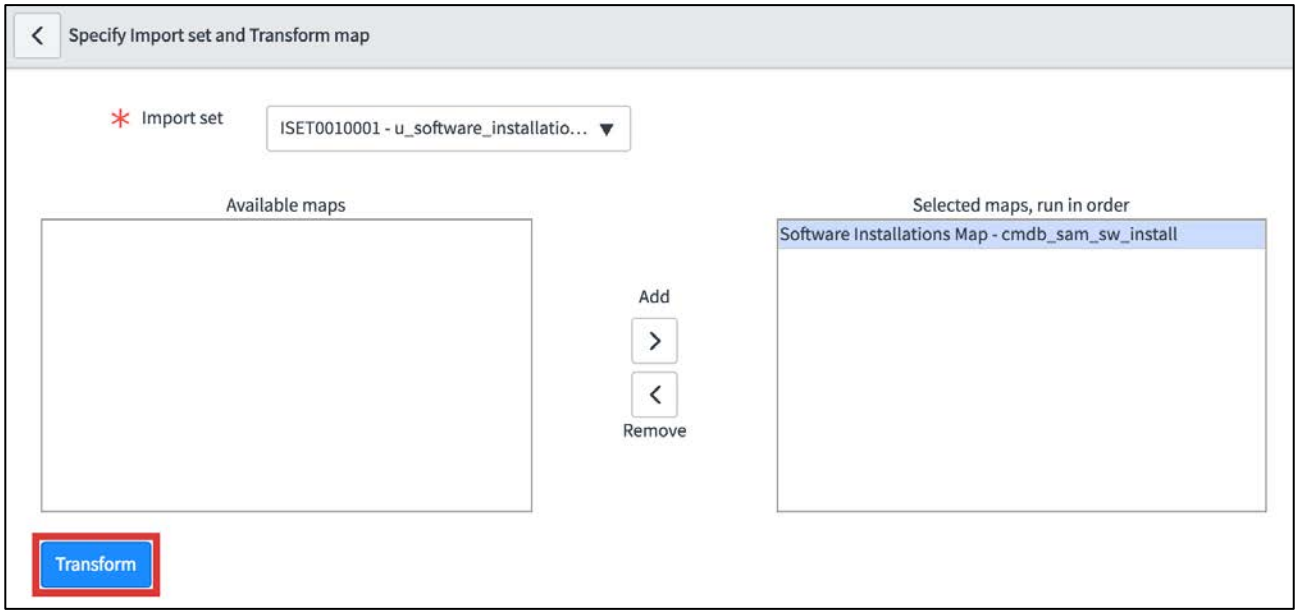


11. Under **Related Links**, click **Transform**.



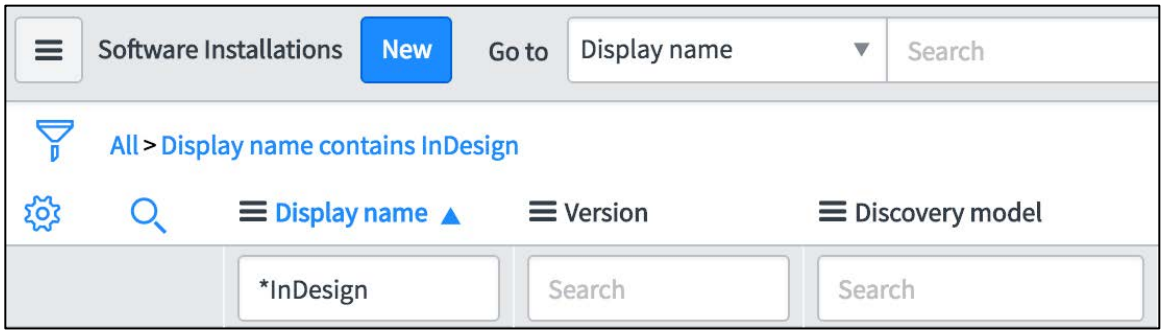
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12. Click **Transform**.



13. Navigate to **Software Asset > Discovery > Software Installations**.

14. Filter on records that have a Display name that contains **InDesign**. Use ***InDesign** for the filter.



- How many records are there?
- Compare the list against the information in the spreadsheet. Notice the installations in ServiceNow point to a Discovery Model. How is this Discovery Model derived?
- Open any installation record. What details does it contain?

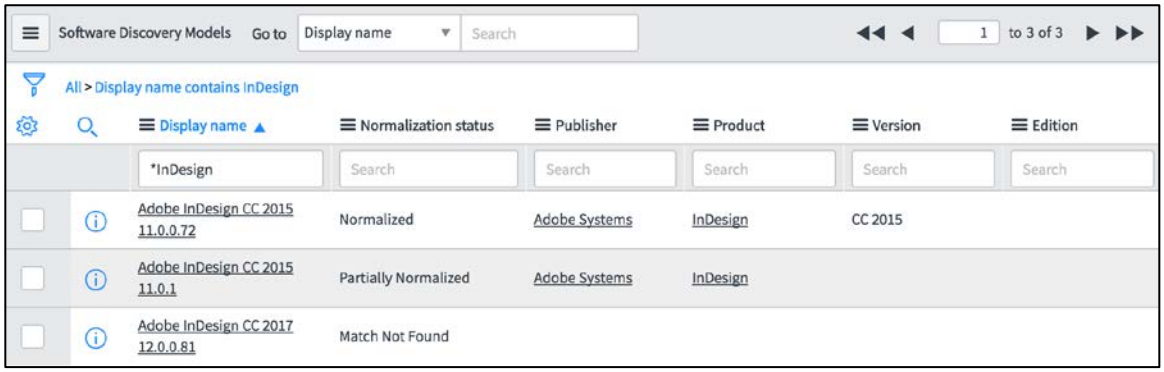
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View Discovery Models

To more easily facilitate the management of Software Installation information, ServiceNow points installations of the same software version to a Discovery Model. This Discovery Model gets matched against a database of known software and normalized to clean up the data. If ServiceNow can match information for the known software, it updates the Discovery Model with normalized data and some additional information about the associated installations. Here you view what happens when data is normalized, partially normalized, or the information in the Discovery Model cannot be matched. You also see what information can be updated in the Discovery Model record to manually normalize it.

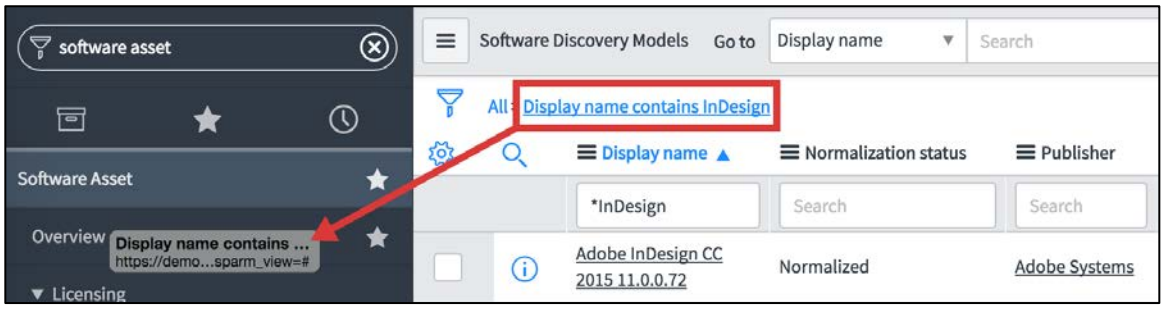
1. Navigate to **Software Asset > Discovery > Discovery Models**.

2. Filter on records that have a Display name that contains InDesign. Use ***InDesign** for the filter.



- How many records are there? What is the Normalization status on these records and how does it appear to relate to the other details displayed in the list?

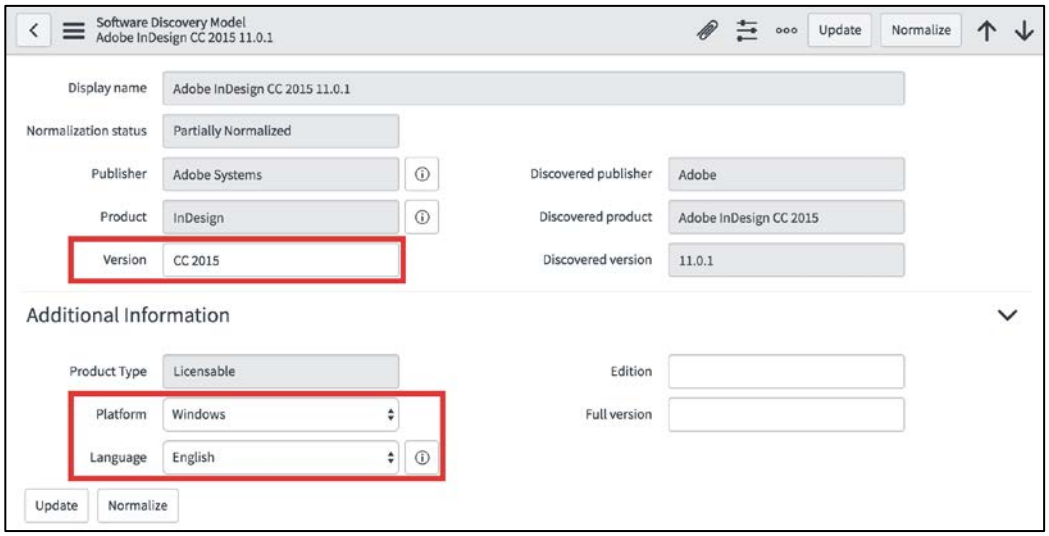
3. Drag the last item in the filter breadcrumb over the Application Navigator to create a Favorite to reuse later.



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4. Open the record with a Normalization status of **Normalized**.
   - How many Software Installations match this Discovery Model?
   - To what values was this record normalized?
   - What additional information was made available through the normalization?
   - Can you modify any information?
5. Click the **back arrow** to return to the list of Discovery Models.
6. Open the record with a Normalization status of **Partially Normalized**.
   - How many Software Installations match this Discovery Model?
   - What information was not normalized? What information can you modify?
7. Complete the form as follows:

   Version: **CC 2015**
   Platform: **Windows**
   Language: **English**



8. Click **Update**.
   - What is the Normalization status now?
9. Open the record with a Normalization status of **Match Not Found**.
   - How many Software Installations match this Discovery Model?

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Create Normalization Pattern and Apply

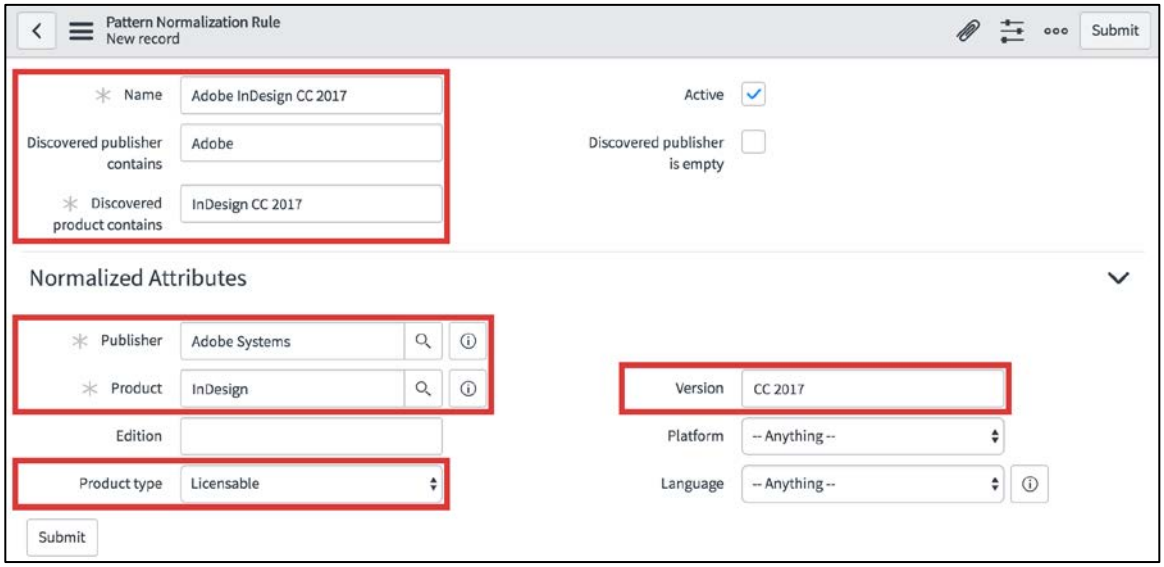
If you discover software that you want to manage in your environment, but ServiceNow does not have a match for it in its known software database, you can create your own rule to recognize the software. Here you'll create a Pattern Normalization Rule to update Adobe InDesign CC 2017 Discovery Models automatically, then apply the rule to the Discovery Model automatically created by business rule during software installation import.

1. Navigate to **Software Asset > Administration > Pattern Normalization Rules**.

2. Click **New**.

3. Complete the form as follows:

   Name: **Adobe InDesign CC 2017**
   Discovered publisher contains: **Adobe**
   Discovered product contains: **InDesign CC 2017**
   Publisher: **Adobe Systems**
   Product: **InDesign**
   Product type: **Licensable**
   Version: **CC 2017**



4. Click the form header menu and **Save**.

5. Click **Apply Rule**.

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6. In the Application Navigator, click the **star** icon and open the Favorite you created for the filtered Discovery Models list.

    - What is different about the list now?

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Lab Goal

Lab 2.1
Reconciliation

One purpose of Software Asset Management is to ensure compliance with the vendor. SAM Premium handles this with a process called Reconciliation. You can reconcile for all software at once or select specific vendors. The process uses installation information to determine rights used and entitlement details to determine rights owned to calculate compliance. The process uses the cost of the entitlements purchased to determine an estimated cost to "true up" and achieve compliance or to let you know by how much you are over licensed.

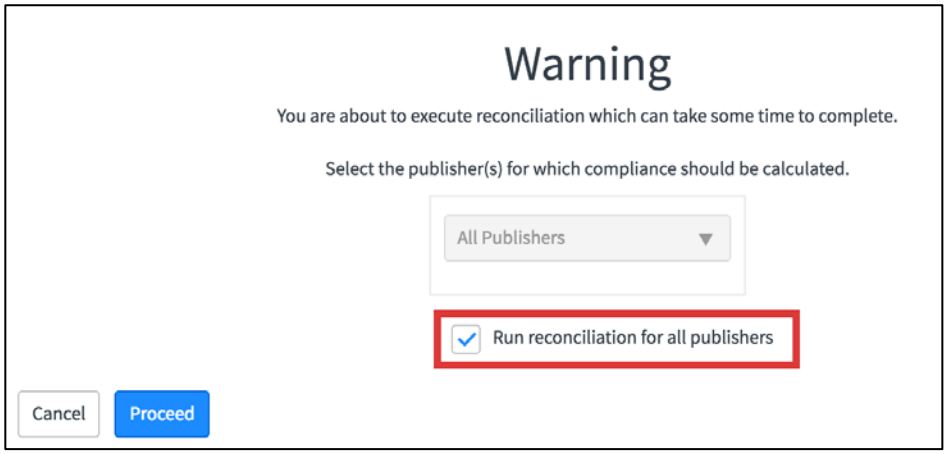
The reconciliation process also determines how many unlicensed installs you have. Reconciliation determines how many unlicensed installations you have regardless of any additional configuration.

Reconcile Software

Regardless of whether you have created Software Entitlements records or not, reconciliation provides an overview of the state software installations in your environment.

1. Navigate to **Software Asset > Reconciliation > Run Reconciliation**.

2. Select Run reconciliation for all publishers.

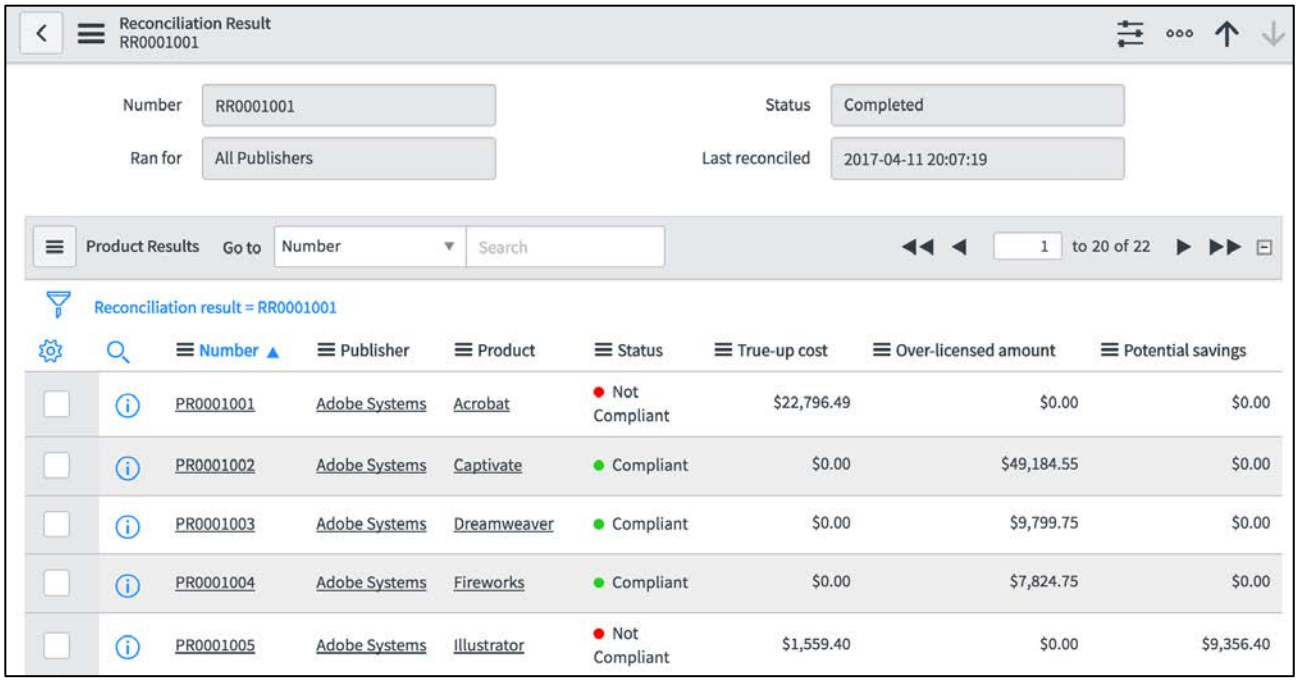


3. Click **Proceed**.

4. Within a minute, the new reconciliation should complete. In the Reconciliation Results list view, click **All** to refresh the list.

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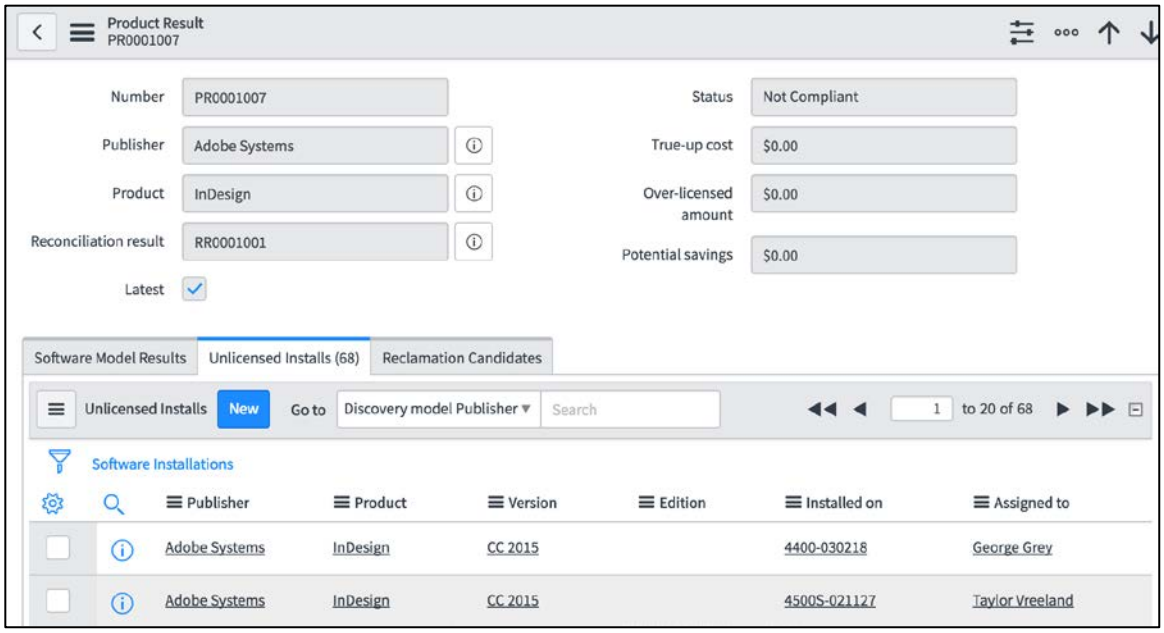
5. Open the Reconciliation Result record.



- Observe the general compliance state of the environment. What information is available to you?

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6. Under **Product Results**, find and open the record for **Adobe Systems InDesign**.



- What is the state of **Adobe Systems InDesign** in the environment?
- What costs are associated to true up the licensing for this product?

Purchase Entitlement

To legally run licensable software, you need to purchase software entitlements. To create Software Entitlement records in ServiceNow, you first need a Software Model record. This record also needs to identify what Discovery Models apply to match against entitlements. This can be done with pre-defined or manually defined Discovery Maps.

With the Software Model record in place, you can create Software Entitlements. In these records, you identify the license metric used to calculate rights utilized, how many rights you purchased, and how much you paid for those rights.

1. Navigate to **Software Asset > Licensing > Software Models**.

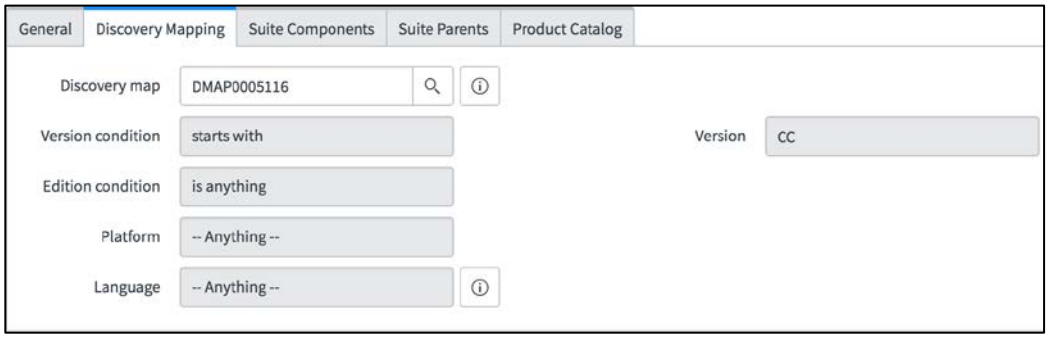
2. Click **New**.

3. Complete the forms as follows:

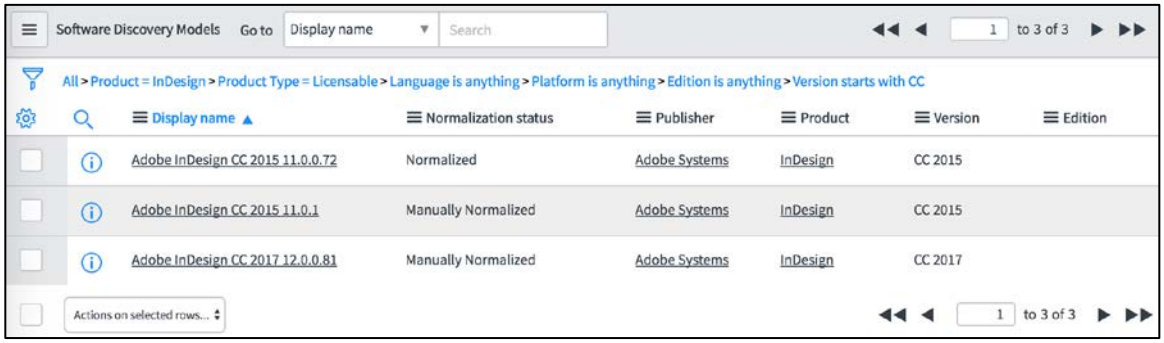
   Publisher: **Adobe Systems**
   Product: **InDesign**
   Cost: **$ | 240**

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4. Click the form header menu and **Save**.
5. On the **Discovery Mapping** form section, click the **magnifying glass** for the Discovery map field.
6. Find the Discovery map with the number **DMAP0005116**.
   - What is the Version for this map?
7. Select map **DMAP0005116**.



8. Click the form header menu and **Save**.
9. Under Related Links, click **Show Matching Discovery Models**.
10. If all is correct, the list displays the three InDesign Discovery Models.

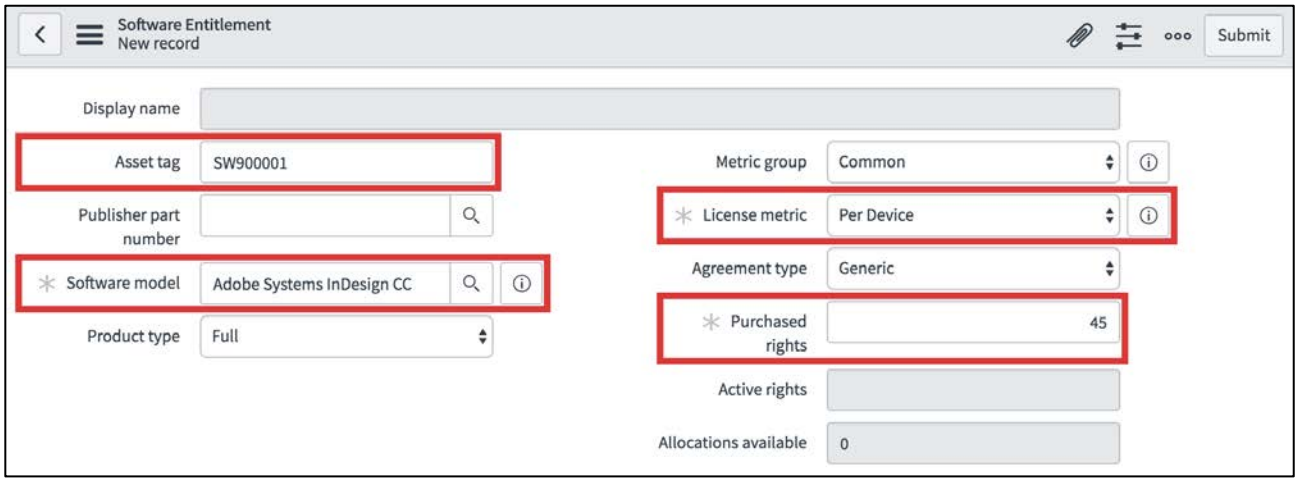


11. Close the Software Discovery Models browser window or tab.
12. Navigate to **Software Asset > Licensing > Software Entitlements**.
13. Click **New**.

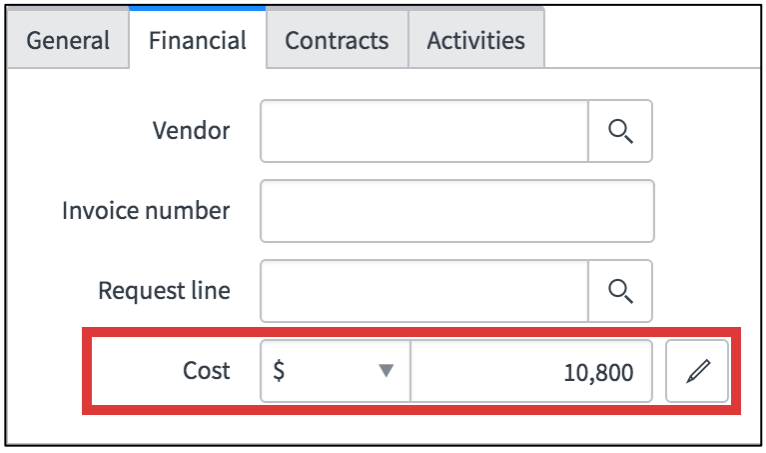
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14. Complete the form as follows:

    Asset tag: **SW900001**
    Software model: **Adobe Systems InDesign CC**
    License metric: **Per Device**
    Purchased rights: **45**



15. On the **Financial** form section, set **Cost** to **$10800**.



16. Click **Submit**.

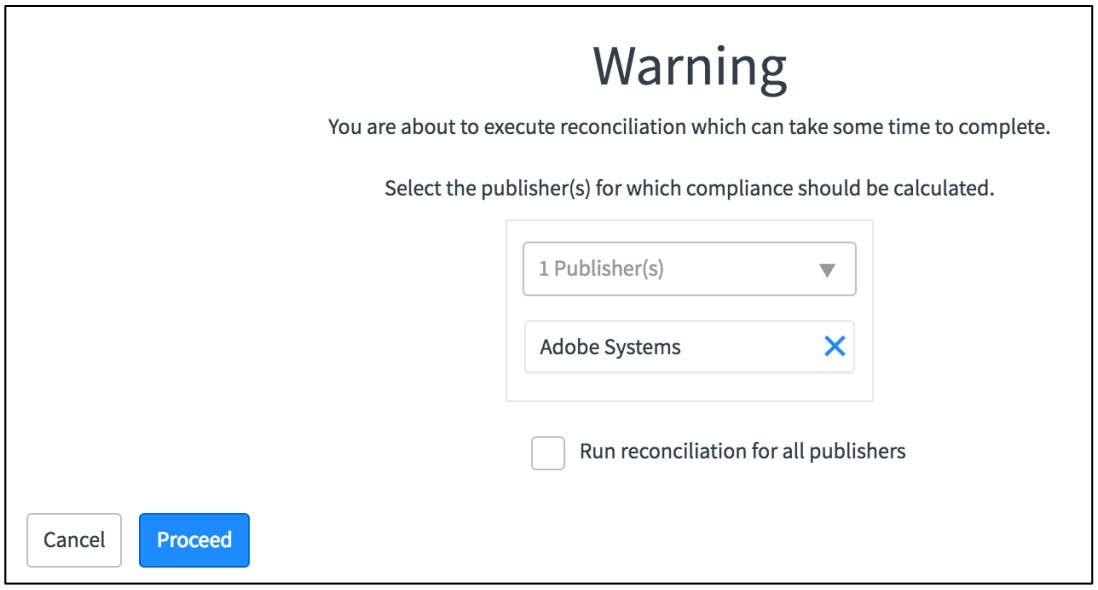
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Reconcile by Publisher

With Software Entitlements in place for Adobe Systems InDesign CC, you need to run the reconciliation again to determine the new compliance state. You can choose to run this just for specific publishers instead of all publishers at once.

1. Navigate to **Software Asset > Reconciliation > Run Reconciliation**.

2. From the Publisher drop-down menu, select **Adobe Systems**.



3. Click **Proceed**.

4. Within a few seconds, the new reconciliation should complete. In the Reconciliation Results list view, click **All** to refresh the list.

5. Open the new **Reconciliation Result** record.
   - What is the current state of **Adobe Systems InDesign**?
   - What is the estimated cost to true up?

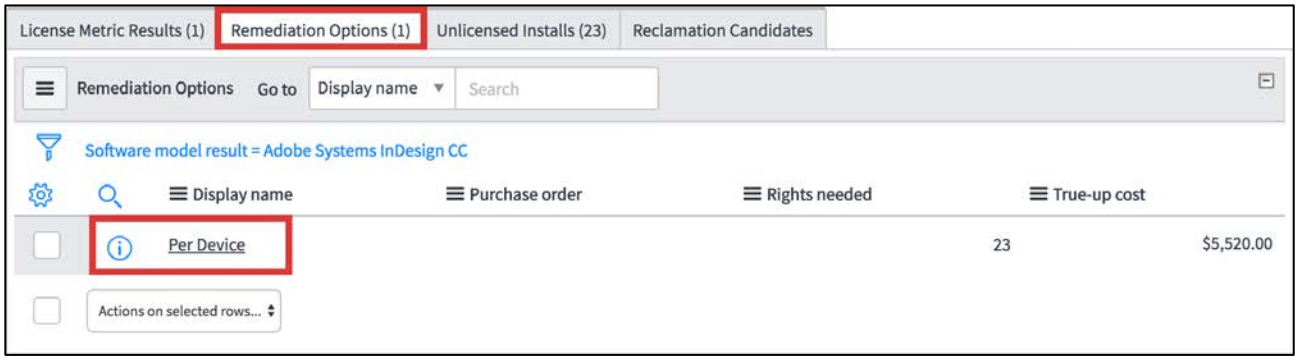
6. Open the **Product Results** record for Adobe Systems InDesign.
   - How many installs are unlicensed?

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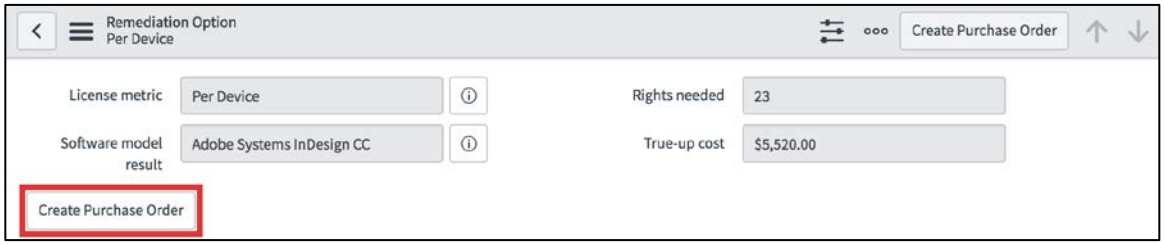
7. Under Software Model Results, click **Not Compliant**.



8. In the **Remediation Options** related list, click **Per Device**.

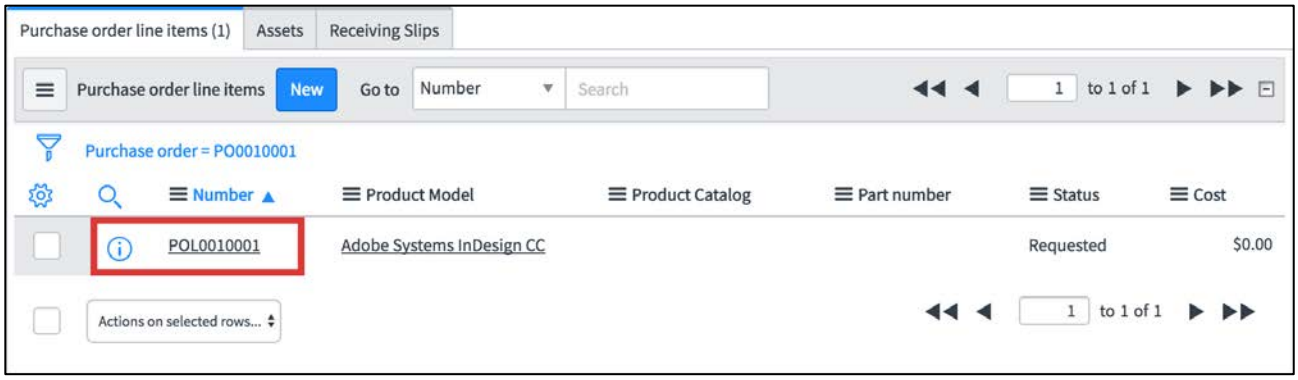


9. Click **Create Purchase Order**.



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10. Under the **Purchase order line items** related list, open the record.



- How many rights are listed to order?
  Note: You can change this number if you need to order more rights.

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Lab Goal

Lab 2.2 Entitlement Metrics

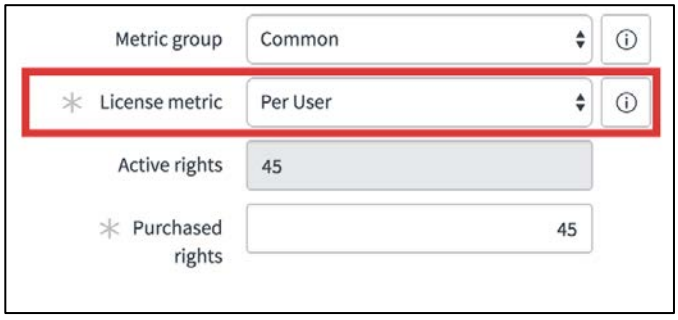
Software Entitlements are counted in different ways. Some are counted per device, where every installation counts as a right used. Some are counted per user, where all the installations for a user count as a right used. Sometimes the number of rights used depends on hardware characteristics, such as how many processors the device has or how many cores are in the processors.

The License metric, defined on the Software Entitlement, identifies how the reconciliation process counts the rights used.

Per User Entitlement

Sometimes software is licensed per device. Other times it is licensed per user. To get a sense of the difference here, change the License metric for the InDesign CC Entitlement to Per User then reconcile to see the differences.

1. Navigate to **Software Asset > Licensing > Software Entitlements**.
2. Find and open the Software Entitlement with Asset tag **SW900001**.
3. Change License metric to **Per User**.



4. Click **Update**.
5. Navigate to **Software Asset > Reconciliation > Run Reconciliation**.
6. From the Publisher drop-down menu, select **Adobe Systems**.
7. Click **Proceed**.

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8. Within a few seconds, the new reconciliation should complete. In the Reconciliation Results list view, click **All** to refresh the list.

9. Open the new **Reconciliation Result** record.
   - What is the current state of Adobe Systems InDesign?
   - How many installs are unlicensed?
   - What is the estimated cost to true up?

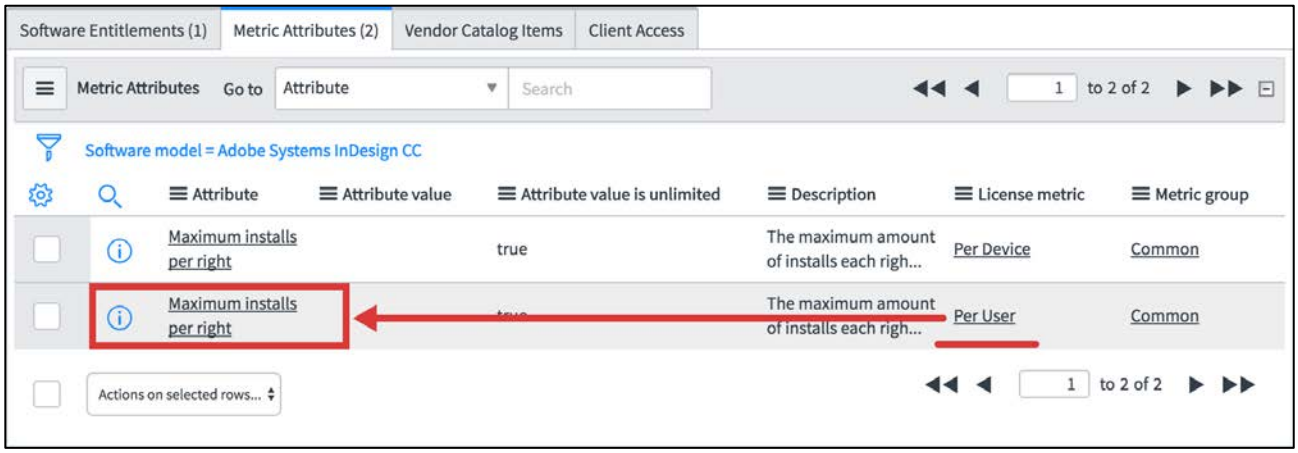
Set Metric Attribute

The Per User License metric allows the user to have an unlimited number of installations. It uses the Assigned to attribute on the Configuration Item to which the software is installed to determine the user to which the right should apply. Many software titles allow for a limited number of installations per user, however. In this lab section, you'll set a metric attribute on the Software Model that allows you to define this limit.

1. Navigate to **Software Asset > Licensing > Software Models**.

2. Find and open the Software Model for **Adobe Systems InDesign CC**.

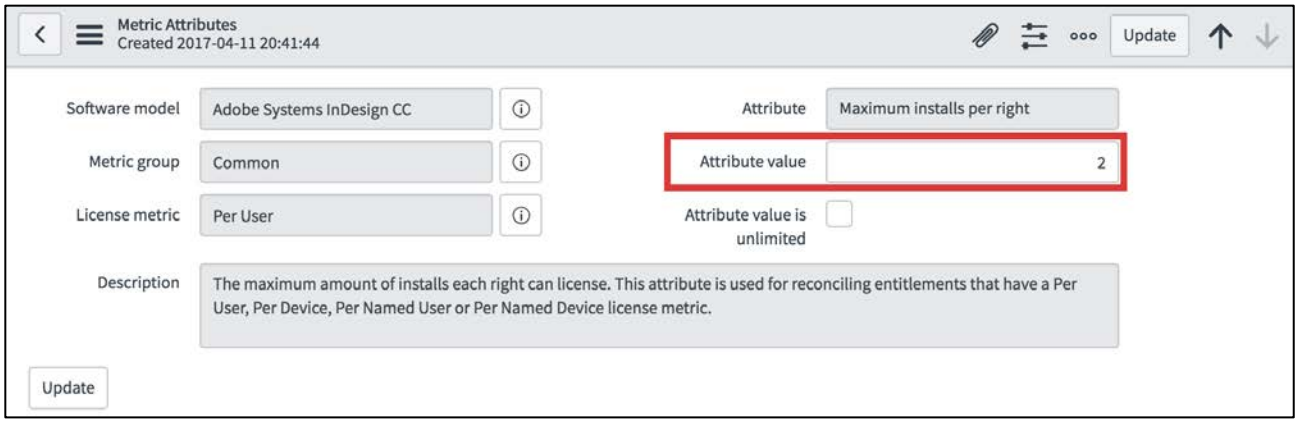
3. Under the **Metric Attributes** related list, find and open the record with the License metric **Per User**.



4. Read the **Description**. What does this mean?

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5. Set the **Attribute value** to **2**.



6. Click **Update**.
7. Navigate to **Software Asset > Reconciliation > Run Reconciliation**.
8. From the Publisher drop-down menu, select **Adobe Systems**.
9. Click **Proceed**.
10. Within a few seconds, the new reconciliation should complete. In the Reconciliation Results list view, click **All** to refresh the list.
11. Open the new **Reconciliation Result** record.
    - What is the current state of Adobe Systems InDesign?
    - What is the estimated cost to true up?
    - Why is this no longer compliant?
12. Navigate to **Software Asset > Discovery > Software Installations**.
13. Filter on records that have a Display name that contains InDesign. Use ***InDesign** for the filter.
14. Click the column header menu for **Assigned to** and select **Group by Assigned to**.
    - Which users consume more than one right for InDesign?

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Lab Goal

Lab 2.3 Entitlement Allocation

Just because you own enough rights to cover all the installations of a software title in your environment does not mean that the software was authorized for use on all those systems. Entitlement Allocation allows you to identify devices or users authorized to use the software.

Some Software Entitlements may require allocations to be compliant, but more frequently allocations are used to ensure compliance within the organization. Allocation is the first step to optimize software usage in the environment. When you know where the software is authorized to run, you can address the installations that are unauthorized.

Software Entitlement Allocation

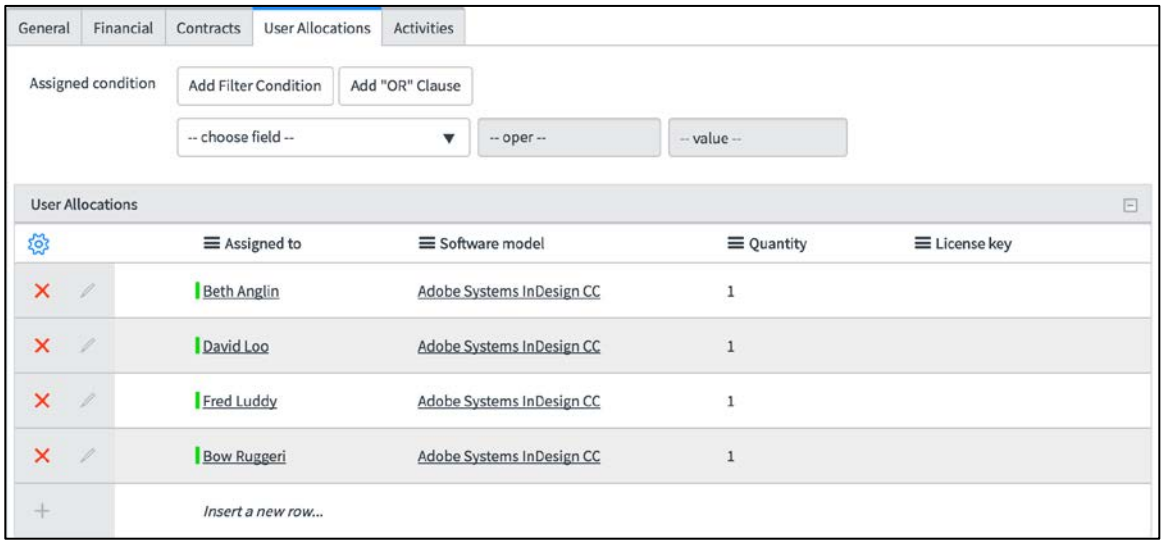
As a best practice, software entitlements should be allocated to a user or a device to indicate the user or device is approved to use the software. Any license metric supports this, and multiple rights may be assigned to a single user or device. Some license metrics also enforce this methodology. Per Named Device and Per Named User both enforce entitlements to be allocated. When you use these metrics, the software is not compliant unless all the used entitlements have been allocated.

1. Navigate to **Software Asset > Licensing > Software Entitlements**.
2. Find and open the Software Entitlement with Asset tag **SW900001**.
3. Change License metric to **Per Named User**.
4. Under the **User Allocations** form section, double-click **Insert new row…** and add **Beth Anglin**.

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5. Repeat this process to add:

   David Loo
   Fred Luddy
   Bow Ruggeri



6. Click **Update**.

7. Navigate to **Software Asset > Reconciliation > Run Reconciliation**.

8. From the Publisher drop-down menu, select **Adobe Systems**.

9. Click **Proceed**.

   - Within a few seconds, the new reconciliation should complete. In the Reconciliation Results list view, click **All** to refresh the list.

10. Open the new **Reconciliation Result** record.

    - What is the current state of Adobe Systems InDesign?
    - Why do you think Adobe Systems InDesign is not compliant?

11. Open the record for Adobe Systems InDesign.

12. Under the **Software Model Results** related list, click **Not Compliant**.

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13. View the details under the **License Metric Results** related list.



- What is the value of Allocations needed?
  Note: Per Named Users enforces allocation. The reconciliation indicates you are not compliant until all users are allocated.

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Lab Goal

Lab 3.1 Software Usage

The single most effective way to optimize software usage in an environment is to capture software usage information. This information can then be used to determine where software is underutilized or unused in the environment to allow it to be targeted for reclamation.

ServiceNow natively supports the import of usage data from Microsoft System Center Configuration Manager (SCCM), but other third-party sources can be leveraged through a standard Import Set.

Software Usage Data

To optimize the use of software licenses in an environment, you must leverage usage information to determine where licensed software is used. When you can use unused entitlements rather than purchase new entitlements, you save money. Optimization begins with usage information, which needs to be imported from third-party sources.

1. Navigate to **System Import Sets > Load Data**.
2. Complete the form as follows:

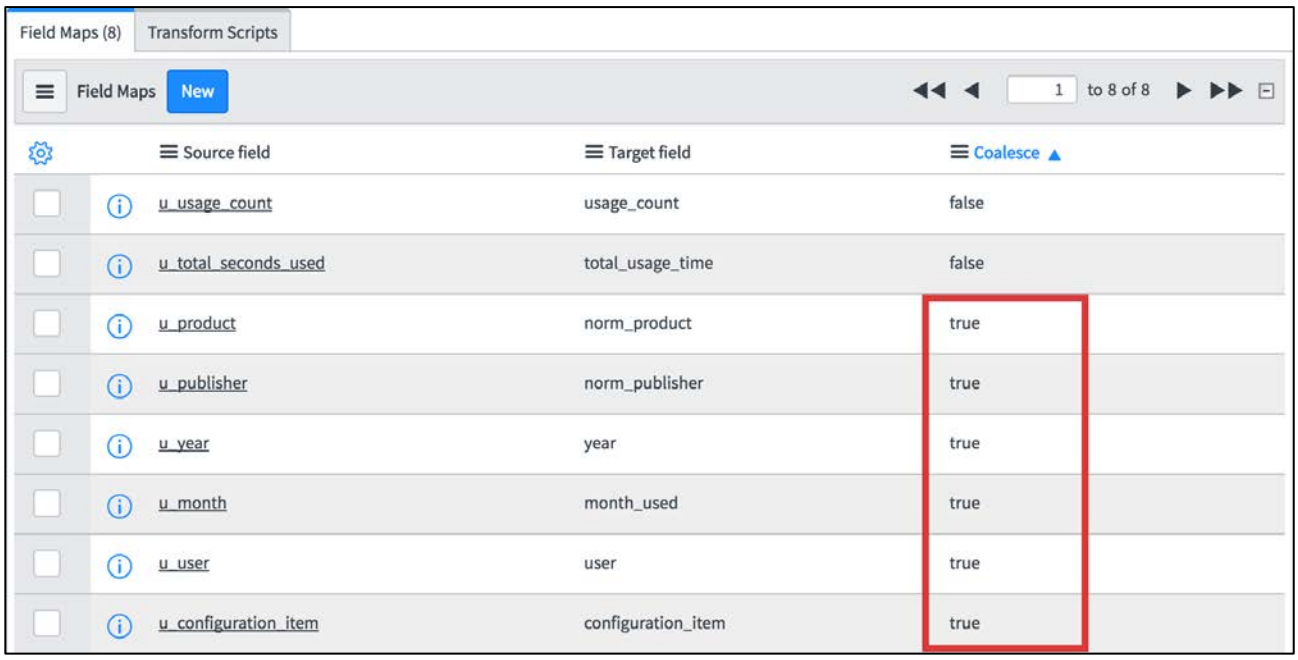
   Create table: **checked**
   Label: **Software Usage Import**
3. For the source of the import, select the **SoftwareUsage.xlsx**.
4. Click **Submit**.
5. Under **Next steps…**, click **Create transform map**.
6. Complete the form as follows:

   Name: **Software Usage Map**
   Target table: **Software Usage [samp_sw_usage]**
7. Under **Related Links**, click **Auto Map Matching Fields**.

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8. Under the **Field Maps** related list, set Coalesce to **true** for these fields (all but u_usage_count and u_total_seconds_used):

   u_publisher
   u_year
   u_product
   u_month
   u_user
   u_configuration_item

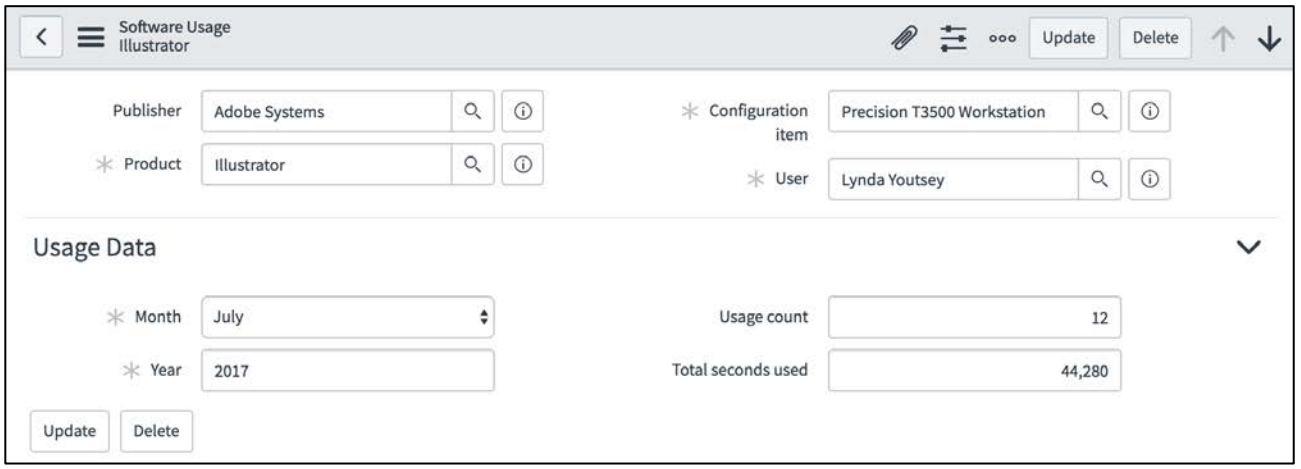


9. Under Related Links, click **Transform**.

10. Click **Transform**.

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11. Navigate to **Software Asset > Optimization > Software Usage**.
    - How many records are there?
    - Open any usage record. What details does it contain?



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With software usage information in the system, you can create rules to determine when to identify potential entitlement rights to reclaim. For example, if software has been run for less than an hour over the course of 2 months, perhaps the user does not require it. Reclamation rules run on a regular basis to identify rights that can potentially be reclaimed.

Lab 3.2
Reclamation

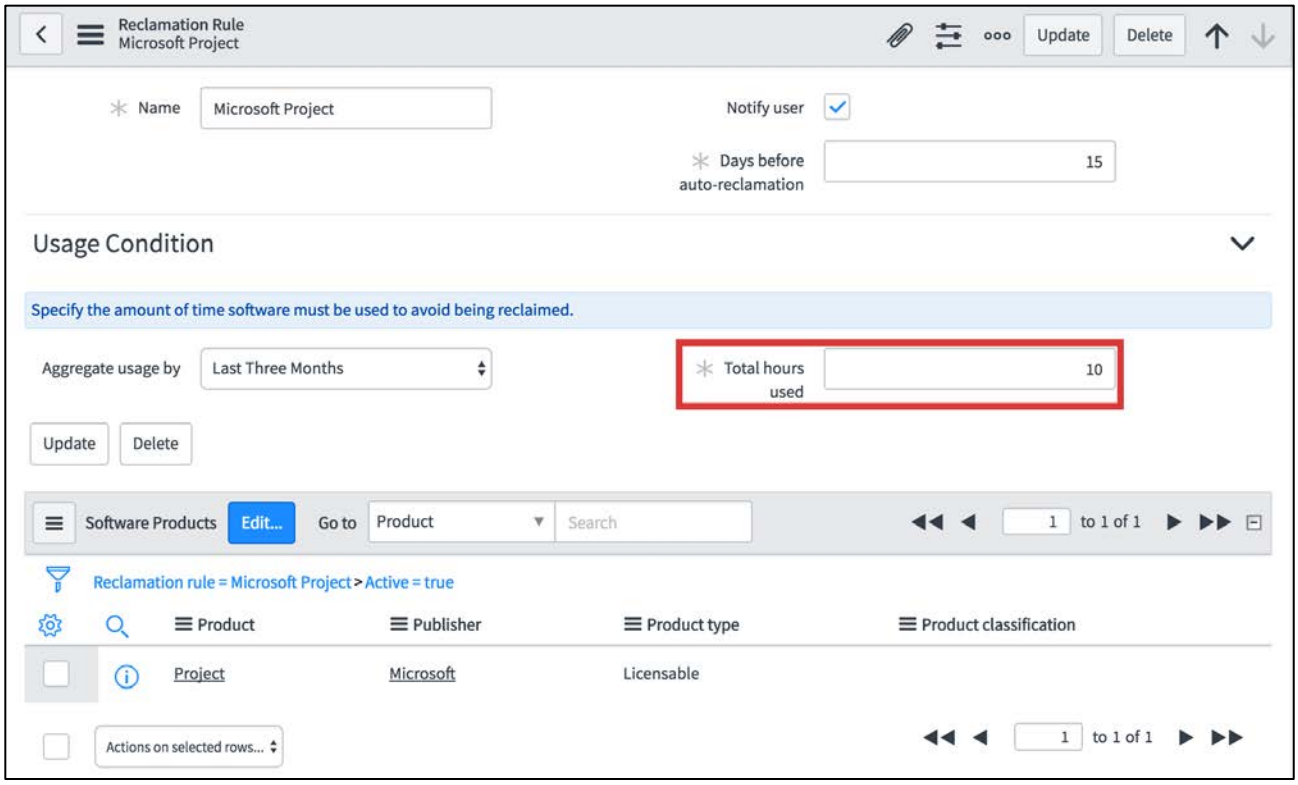
Reclamation Rule

Create a Reclamation Rule that actively finds Microsoft Publisher installations that have run for less than 10 hours in the last three months. The result is a collection of tasks to reclaim the license through the removal of an installation. These tasks are called Reclamation Candidates.

1. Navigate to **Software Asset > Administration > Reclamation Rules**.
2. Open the Microsoft Project rule.
   - What information do you specify on a reclamation rule?

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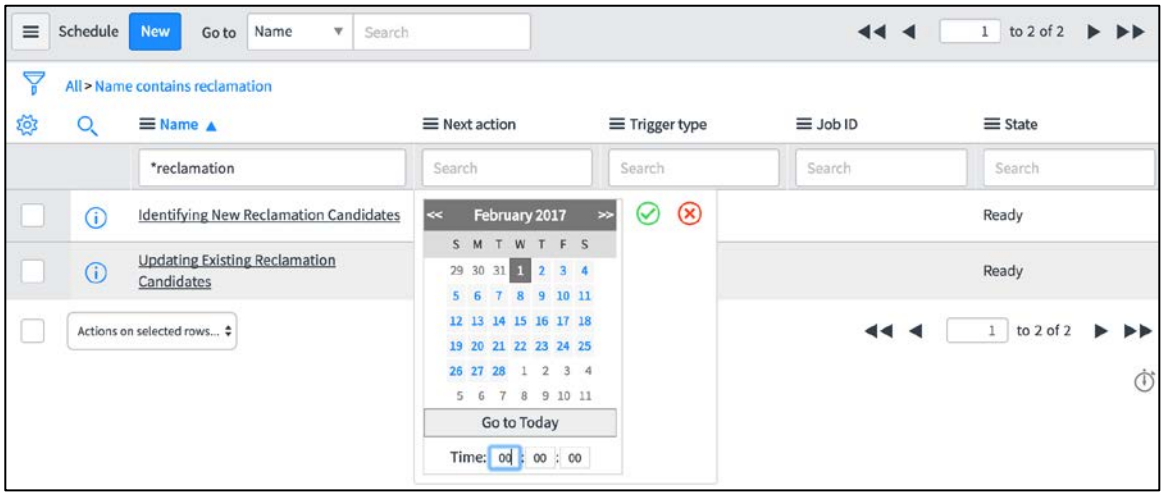
3. Set Total hours used to 10.



4. Click **Update**.
5. Navigate to **System Scheduler > Scheduled Jobs > Scheduled Jobs**.
6. Search for jobs that contain **reclamation**. Use ***reclamation** to perform the contains search.

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7. Set the **Next action** date for the **Identifying New Reclamation Candidates** job to some date in the past.



8. Refresh the list until the **State** displays Ready in black text.

9. Navigate to **Software Asset > Optimization > Reclamation Candidates**.

   - What information displays for the reclamation candidates?

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Lab Goal

Lab 4.1 Overview Dashboard

With Reconciliation, Remediation, Reclamation, and other aspects of Software Asset Management, you need a central location to manage and track what is happening. The Software Asset Overview provides this view of the software environment. It shows overall true-up costs, the compliance situation, products with the highest true-up costs, and potential savings opportunities from reclamation. This overview also calculates actual savings based on the removal of unused installations.

Overview Dashboard

View the Software Asset Overview to see the information available and how you can filter the details to see more specific information.

1. Navigate to **Software Asset > Overview**.

   - What is the estimated cost to true-up all software?
   - How many Publishers are out of compliance?
   - How many Products are out of compliance?
   - What is the estimated savings from reclamation of unused entitlements?

2. Under **Filter by**, select the Publisher **Adobe Systems**.

3. Click **Apply**.

   - What Product has the highest estimated true-up cost?

4. In the Top 10 Products for True-up Costs chart, click the bar for **Acrobat**.

5. Open the Product Results record.

   Note: This is an alternate way to get to the reconciliation details for an individual Product.

6. Navigate to **Software Asset > Overview**.

7. Click the number for Potential Savings.

   - Where does this click take you?

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