CONFIGURATION MANAGEMENT

USER GUIDE

STIBO SYSTEMS

STEP Trailblazer 8.3

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Configuration Management

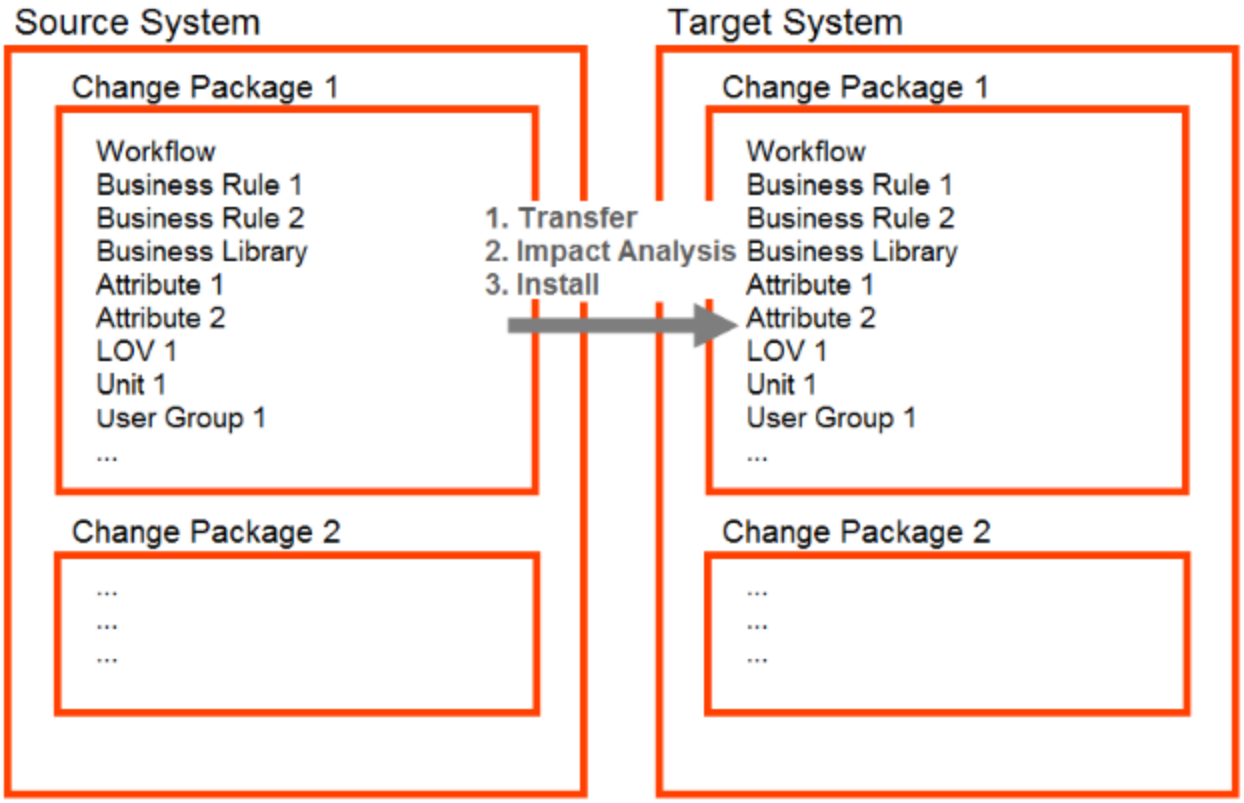
Management of System Setup configurations across multiple systems can be a complex process. In addition to standard import / export functionality, STEP provides several tools to assist in configuration management. Each of these is described in the subsequent sections.

Change Packages

A change package allows for an easy way to prepare, process and migrate STEP configuration changes between systems in a larger system landscape. Change packages are designed to:

- Minimize offline tracking of configuration changes
- Lessen the chance for introducing faulty configuration changes
- Assist system administrators with impact analysis to enable more informed decision making

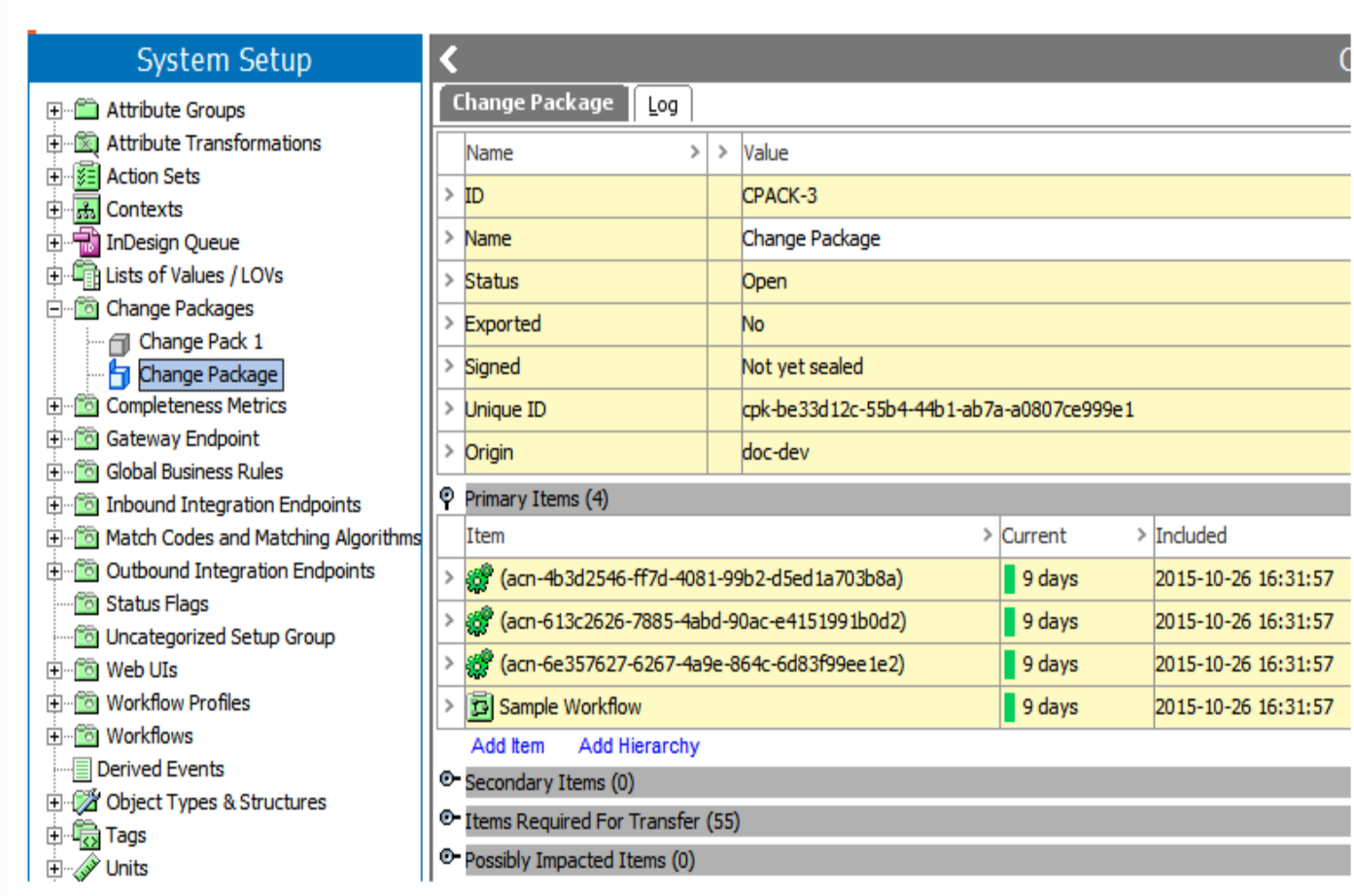
The overall flow of change packages is shown below:



Once created, a user may add or remove items from the package until they are satisfied with the contents. The change package can then be sealed and exported for loading to another system. Upon loading of the change package to the target system, an impact report can be run that helps identify areas that may need to be updated prior to installation and could be impacted upon installation. This provides an indication to the user of how successful the change package will be if applied. The user may then choose to remove or install the change package. If installed successfully, the configurations contained in the change package will be loaded to the system and available for immediate use.

Change Package Objects in STEP

Change packages are system setup objects that act as containers to house a set of configurations.



Note: Change packages can include the following STEP objects: Attributes, Attribute groups, Attribute transformations, Business Rules, Classification Product Link Types, Contexts, Dimensions, Dimension Points, Event processors, Event Queues, Integration endpoints, Link Types, List of Values, Match Codes, Matching Algorithms, Object Types and Structures, PIM Tables, Reference Types, Setup Entities, Setup Groups, Status Flags, Unique keys, Units, Unit groups, Web UI configurations, and Workflows.

Change Package Icons and Statuses

Icon	Status	Description
	Open	• Change package is in an editable state, therefore not final or ready for export yet. Packages are open when created and when re-opened from a sealed state • Can have an impact report run only if previously sealed

Icon	Status	Description
		• Cannot be exported • Items can be added and removed • Packages can be deleted and the items within them are left on the system unchanged
	Sealed	• Change package is locked for editing and ready for export • Can have an impact report run • Can be exported • Items cannot be added or removed • Packages can be deleted and the items within them are left on the system unchanged
	Dormant	• Change package has been imported from another system but not yet installed • Can have an impact report run • Can be exported • Items cannot be added or removed • Packages can be deleted and there is no impact to the items within them. If the package has been previously installed, the items within the package are left on the system unchanged. If the package has not yet been installed, the items within it are no longer available for installation.

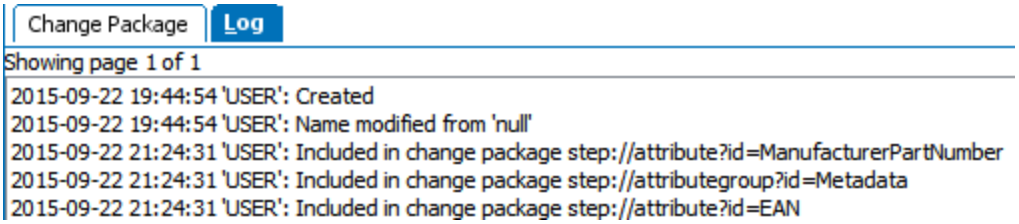
Change Package Tab

Section	Function
Change package information	Provides basic information about the change package, including the Status, whether or not the change package has been exported, whether or not the package has been sealed, and where the package is originally from (e.g. created on the current system or imported from another system). If the package has been sealed or an impact report has been run on the package, additional fields will be present with links to these processes.
Primary Items	Displays a list of objects that have been directly added to the change packages, as well as providing the interface for adding and removing items from the change package. Users can select to add a single object (Add Item), or an object and all of its child objects (Add Hierarchy). Items in this list are part of the change package and will be created and/or updated on the target system when the change package is installed.

Section	Function
Secondary Items	System generated list of objects that are part of the change package due to the addition of a parent using the Add Hierarchy option. This list can only be edited by adding or removing the driving primary item. Items in this list are part of the change package and will be created and/or updated on the target system when the change package is installed.
Items Required For Transfer	System generated list of objects that are required for the change package due to interactions with the selected objects. This list can only be edited by adding or removing the driving primary item. These objects are essentially prerequisites for the transfer as the selected primary objects and/or the secondary objects have some dependency on them. The objects are included in the change package as a means of ensuring that the primary and secondary items are successfully transferred, and will be created and/or updated on the target system when the change package is installed.
Possibly Impacted Items	System generated list of items that might be affected by the transfer of the change package on the new system. This list can only be edited by adding or removing the driving primary item. These objects are dependent in some way on the primary or secondary object, but are not required for configuration of those objects and are therefore not included in the change package. They will only be modified if they already exist on the target system.

Log Tab

The Log allows administrators to monitor modifications to change packages. This information, along with the data displayed directly on the change packages, provides detailed logging and tracking for comprehensive audit trails.

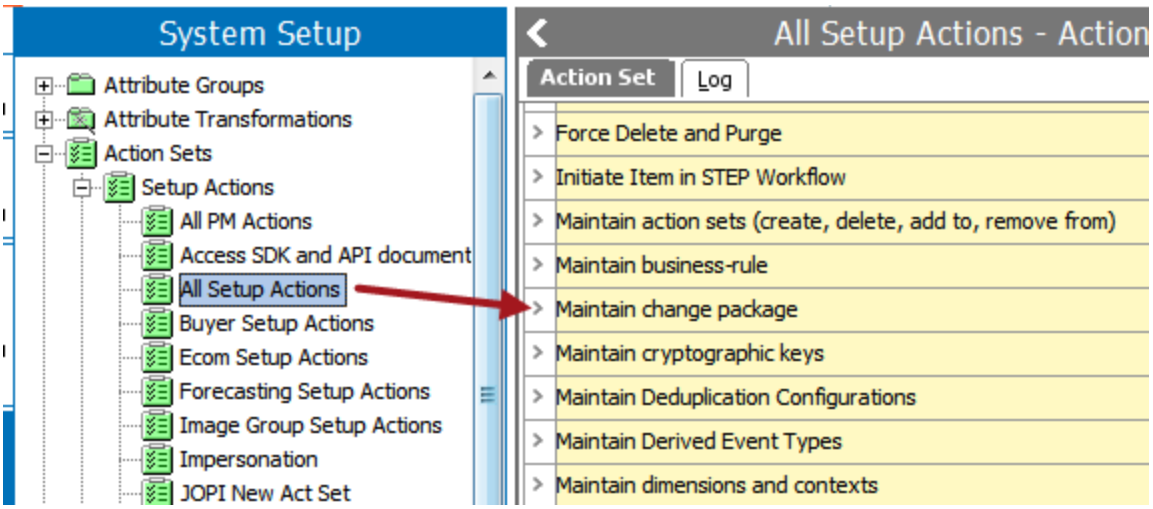


In addition, when an item is added to a change package or removed from a change package, the log of the item itself is also updated accordingly.

Change Package Privileges

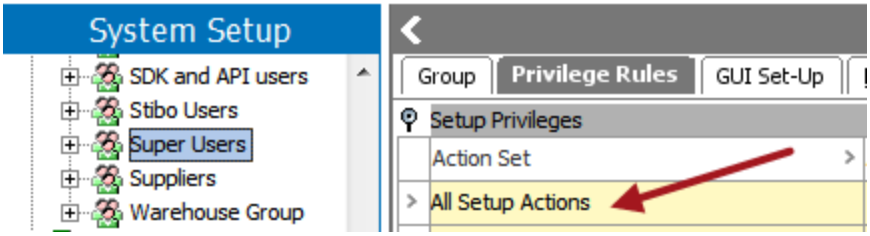
In order to use change packages, the user must be part of a user group that has an unrestricted setup action set applied to it (e.g. has a Setup Privilege defined that includes the 'All Setup Actions' action set. This action set must include *all* setup actions, including the 'Maintain change package' action.

As an administrator, to make sure that the All Setup Actions action set has 'Maintain change package' in it, go to **Action Sets** in System Setup. Click on **Setup Actions** and then navigate to **All Setup Actions**. In the list to the right, if the **Maintain change package** action does not exist, scroll to the bottom of the list and select **Add Action**. This will populate a list of actions that are available to add to this set.



Note: In addition to the **Maintain change package** action, the **All Setup Actions** action set must contain *all* setup actions. If any actions are present in the **Add Action** pop up, these must also be added to the **All Setup Actions** action set in order to enable full use of change package functionality.

Once it has been verified that the **All Setup Actions** action set does in fact include *all* setup actions, any users needing access to change package functionality must be part of a user group that has the **All Setup Actions** privilege applied.



For more information on user groups see the Users and Groups section Super User Guide/ System Setup documentation.

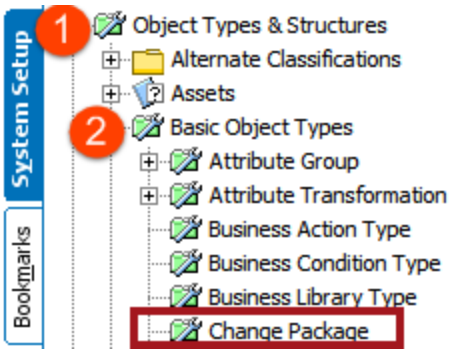
For more information on privileges, see the 'Action Sets' sections of the Superuser / System Setup documentation.

Initial Setup for Change Packages

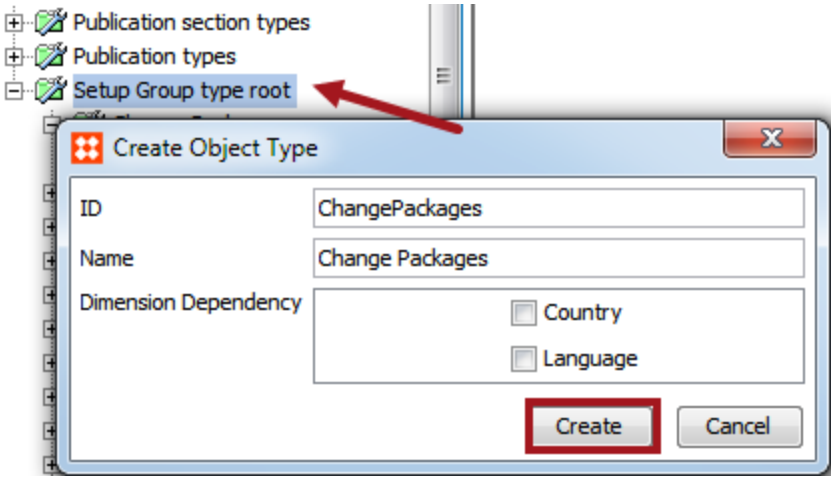
In order to create a Change Package that will process and migrate STEP configuration changes, the basic change package configuration must first be in place.

To set this up:

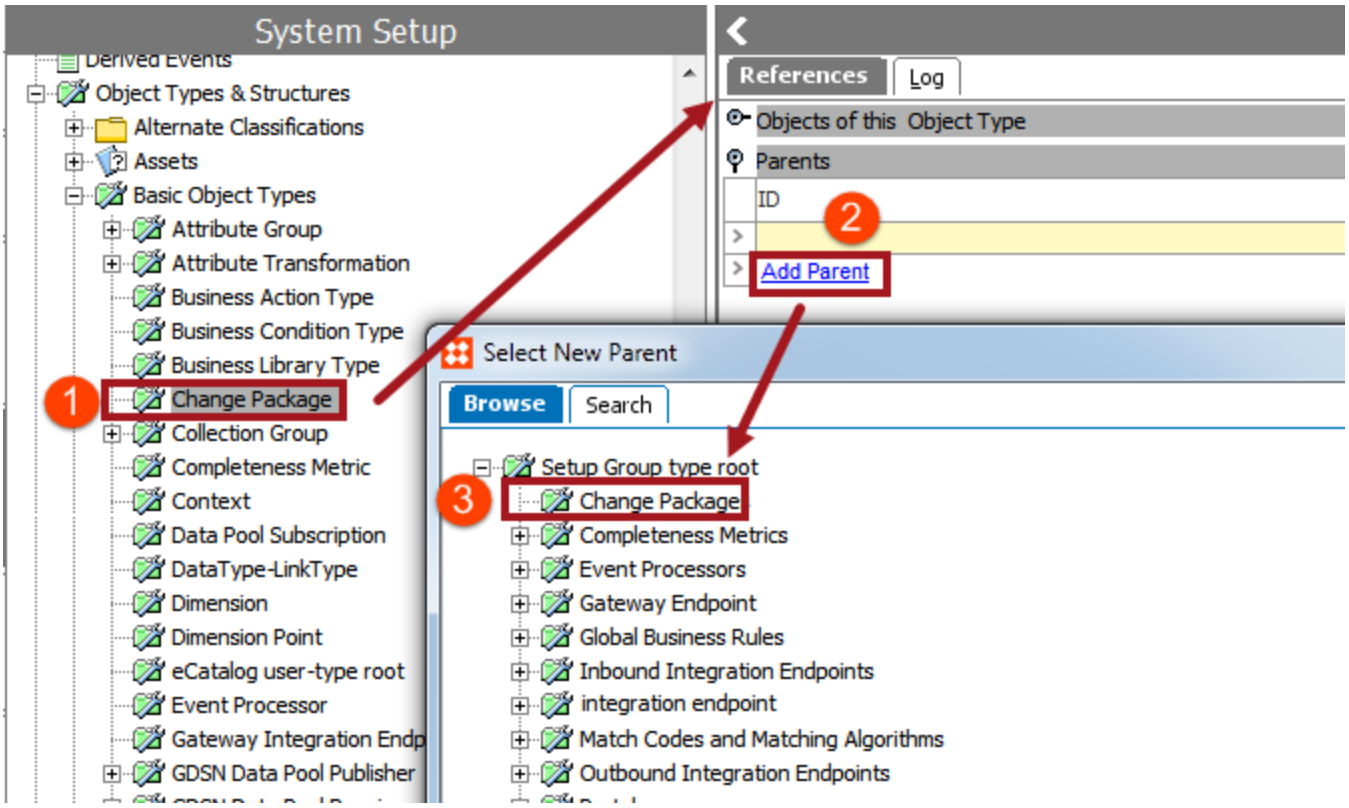
1. Trailblazer 7.4 is the first release to have change package functionality. Any 7.4 or later system includes the **Change Package** Object Type under **Object Types and Structures**. To verify this, go to System Setup and select **Object Types and Structures** > **Basic Object Types** and look to see if **Change Package** exists.



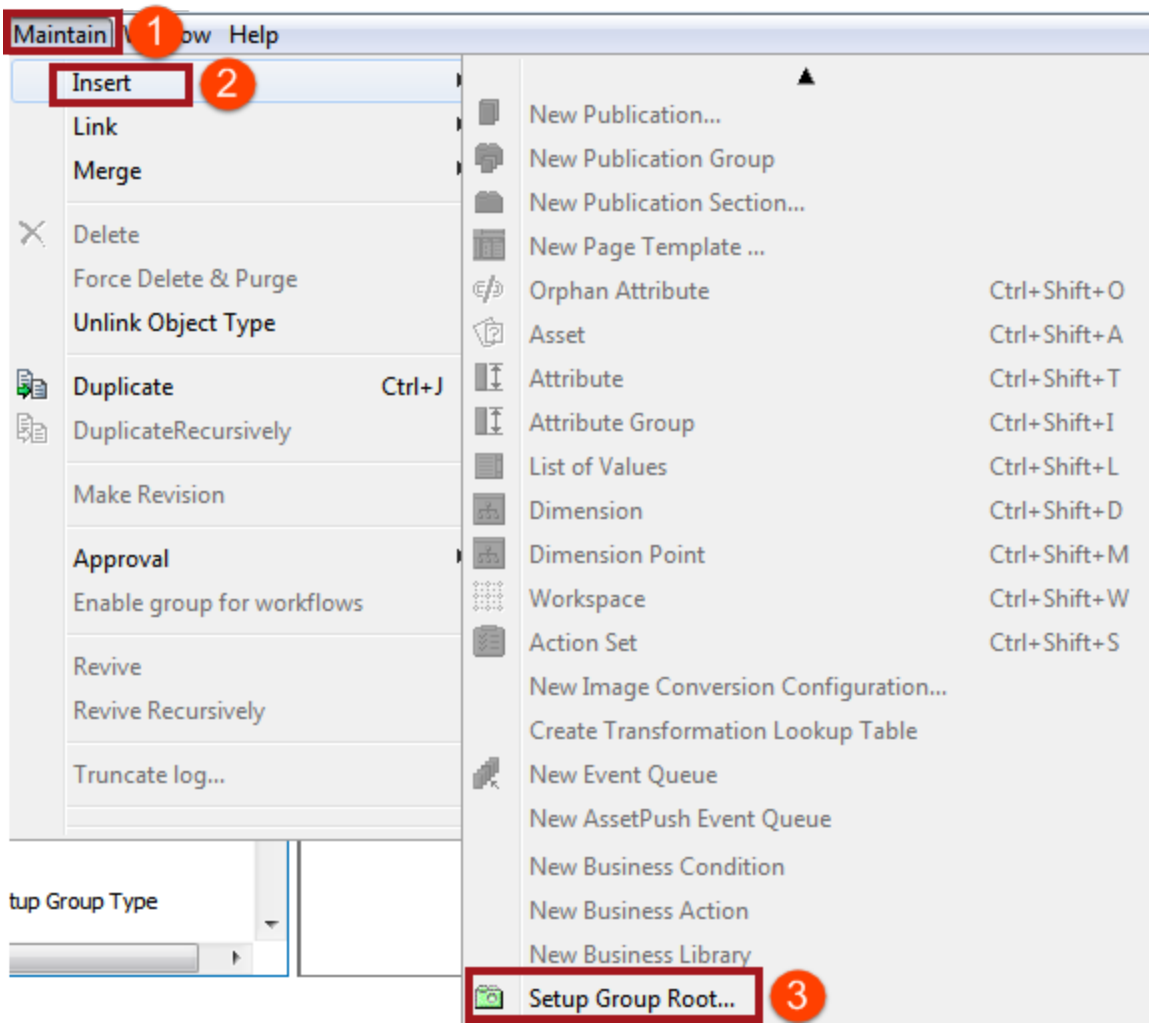
2. After verifying that the Change Package basic object type exists, go to **Setup Group type root** on the System Setup tab and right click to create a **New Object Type**.



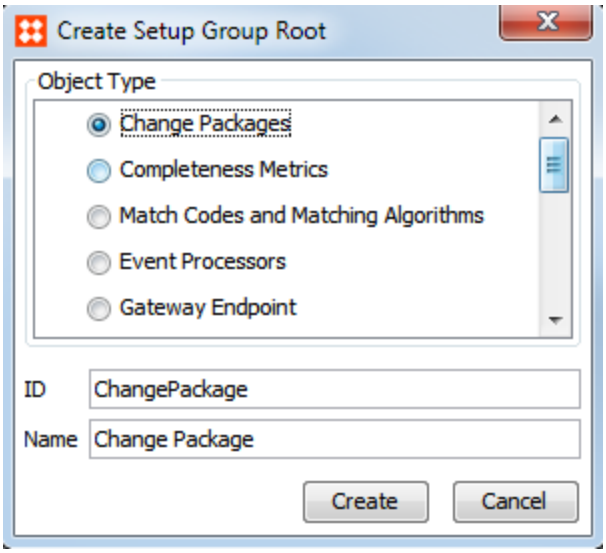
3. Return to the Change Package object under **Basic Object Types** and on the References tab select **Add Parent**. Link this to the folder you created for change packages under **Setup Group type root**.



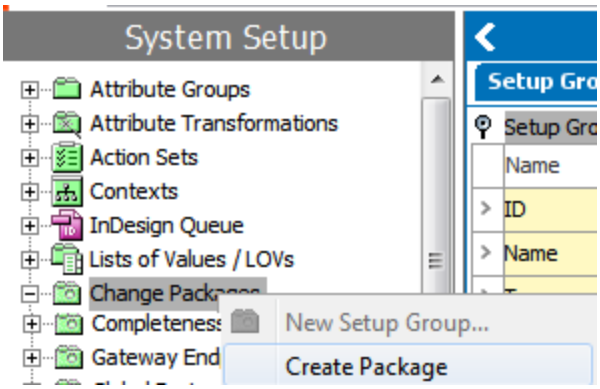
4. To finalize the configuration, go to the **Maintain** menu, navigate to **Insert**, and select **Setup Group Root**.



5. Selection of Setup Group Root opens the 'Create Setup Group Root' dialog. Select the Change Packages object type that you created in Step 2, enter an ID and Name, and click **Create**.



6. This creates a folder in System Setup that you can then create individual change packages under by right-clicking and selecting **Create Package**.

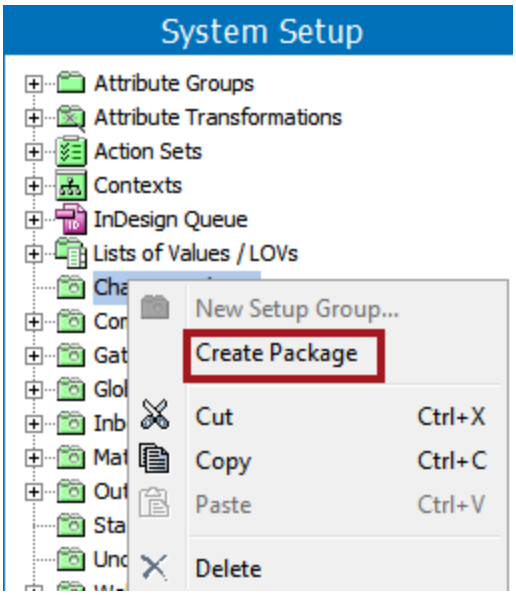


Creating a Change Package

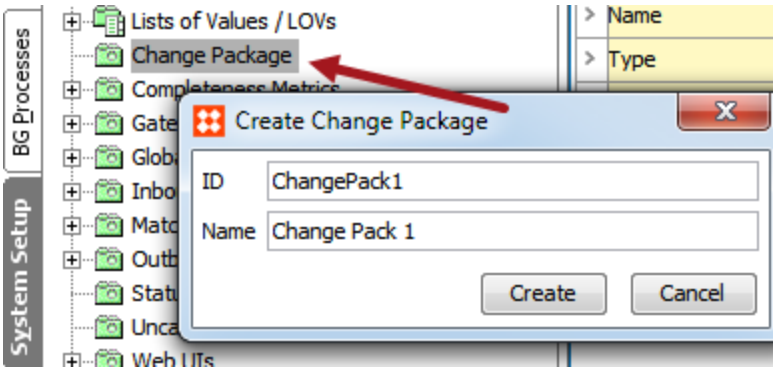
To create a Change Package, go to the System Setup tab and locate the folder established for holding Change Packages.

If a Change Packages folder does not exist, see the Initial Setup for Change Packages section of this documentation.

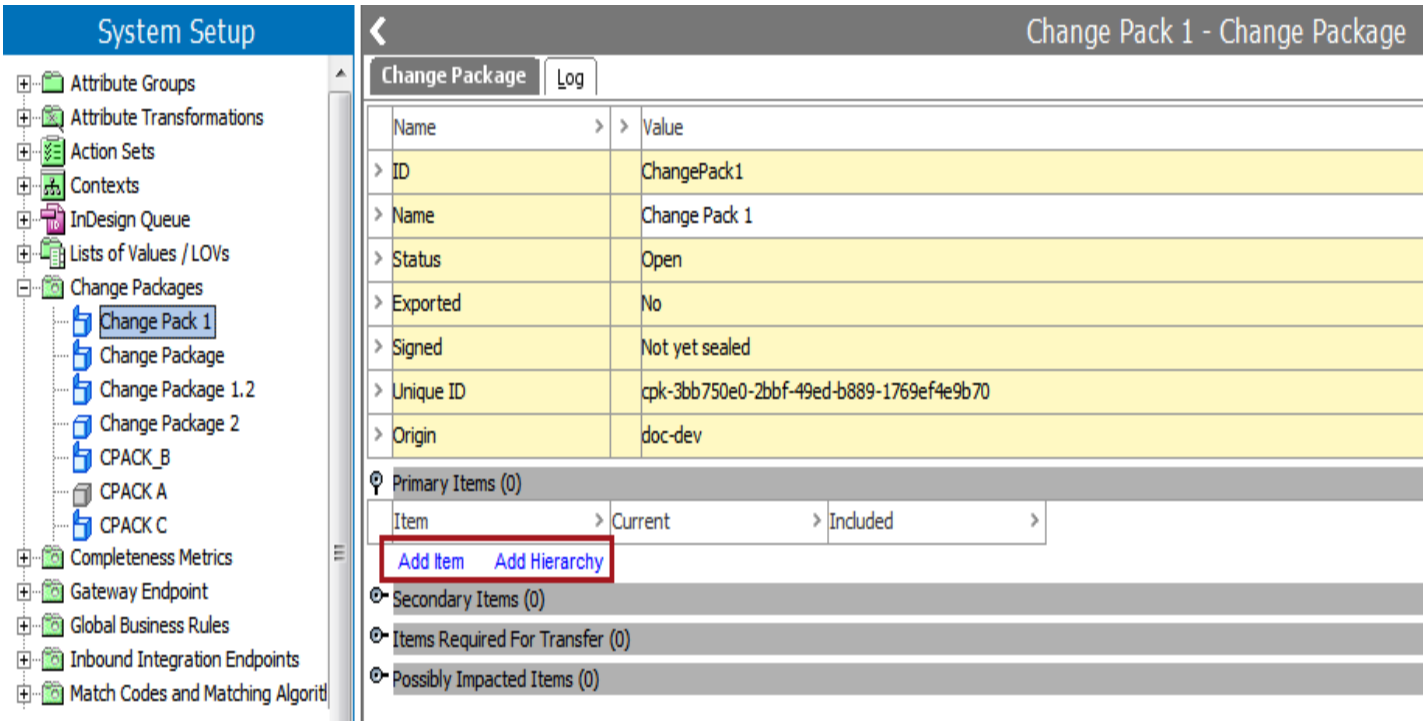
Right click on the folder and select **Create Package**.



A dialog will appear to assign an ID and a name to the package.



New change packages are unsealed and ready to have items added using the **Add Item** and/or **Add Hierarchy** links.



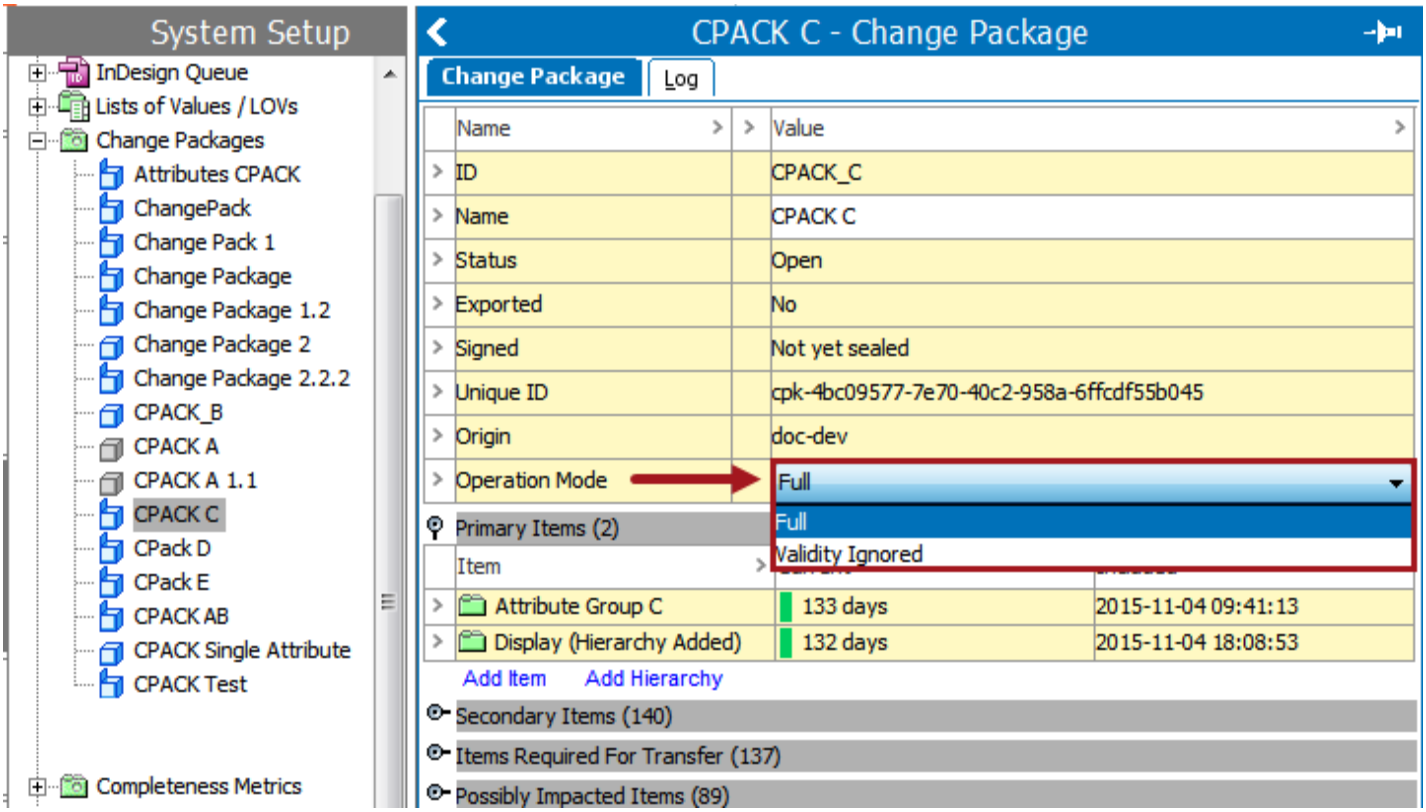
For details on working with change packages, including adding items, see the 'Editing a Change Package' section of the Configuration Management documentation.

Editing a Change Package

A change package serves as a container to store a set of system configurations for migration to another system. Therefore, once a change package has been created, it is considered empty until one or more items have been added to it. When objects have been added, the system then tracks whether or not subsequent changes occur on those items. Information on the change package informs the user of whether or not an item in the change package is up to date when compared to the current system configurations. Users then have the option to resolve discrepancies. Details for working with open change packages are described below.

Deciding On an Operation Mode

To determine how the dependency analysis will function for a given change package, the user must set the Operation Mode to either **Full** or **Validity Ignored**.

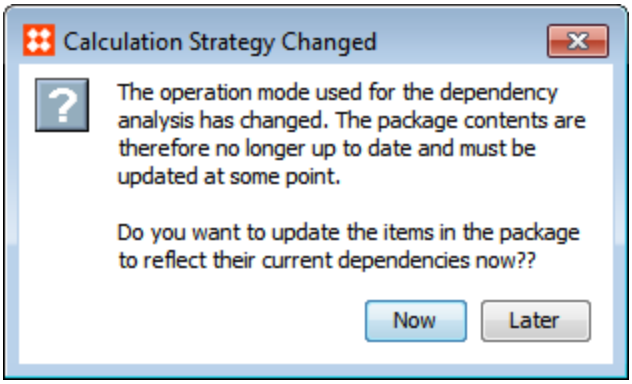


If **Full** mode (default) is selected, all objects manually added to the change package will, in turn, have all of their associated items included in the change package. This automated inclusion pulls in not only items that the object touches (references, workflows, etc.), but also objects touched by those items. For example, if an attribute is valid on two object types, each of those two object types is also added to the package.

If **Validity Ignored** is selected, the change package ignores associations made as a result of valid attributes, object types, and reference types when the dependency analysis is made. For example, when the user adds an attribute in this mode, the object types and references on which the attribute is valid are *not* automatically added, whereas they would be in 'Full' mode.

It is important to note that running a change package in **Validity Ignored** operation mode should be used with caution. By choosing this, it is not certain what the outcome will be when the change package is installed on a target system. For example, if business rules are being moved from one system to another via the change package, any binds associated with those business rules will be ignored. This could result in the business rules having a larger effect than intended on the receiving system. The same holds true for attribute validations.

Whenever a user switches operation mode, a prompt to run the dependency analysis appears. The analysis can be run at the time of the prompt or at a later stage in the change package.



Adding Items to a Change Package

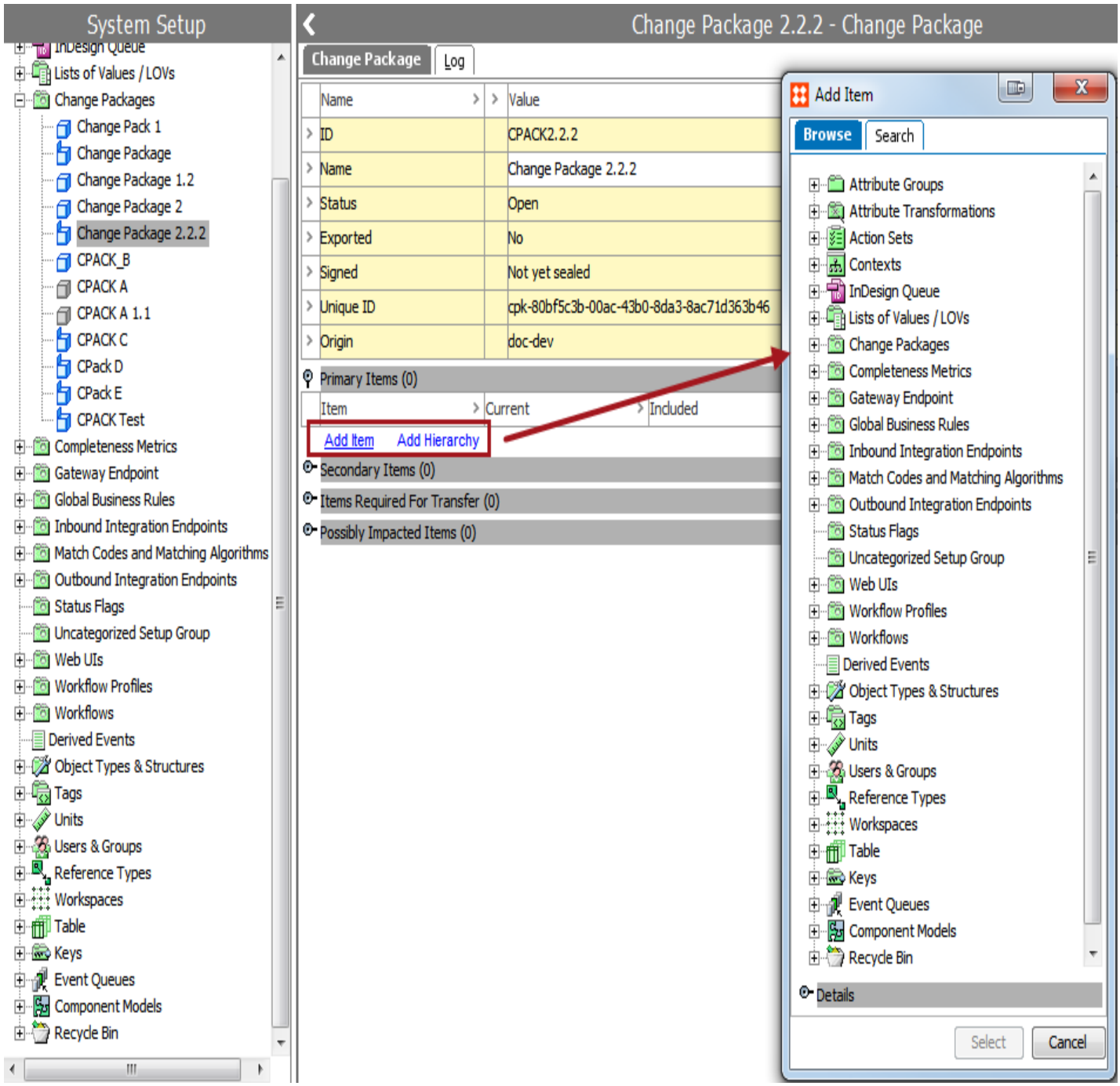
Add items to a change package using the **Add Item** and **Add Hierarchy** links under the Primary Items flipper. Each will open a corresponding dialog (Add Item or Add Hierarchy) where the user can select any number of objects to be added to the package.

The **Add Item** link is used to add a single primary item to a change package. For example, selection of an attribute group will add the attribute group only and no child attributes of the group.

The **Add Hierarchy** link is used to add an object and *all* children of that object (direct children and beyond). The selected object is added as a primary object, and all children are added as secondary objects. For example, selection of an attribute group will add the attribute group as a primary item, and all children of the group as secondary items. If the group includes other attribute groups, those groups and their attributes will also be included as secondary items.

Change packages can include the following STEP objects: Attributes, Attribute groups, Attribute transformations, Business Rules, Classification Product Link Types, Completeness Metrics, Contexts, Data Containers, Dimensions, Dimension Points, Event processors, Event Queues, Integration endpoints, Link Types, List of Values, Match Codes, Matching Algorithms, Object Types and Structures, PIM Tables, Reference Types, Setup Entities, Setup Groups, Status Flags, Unique keys, Units, Unit groups, Web UI configurations, and Workflows.

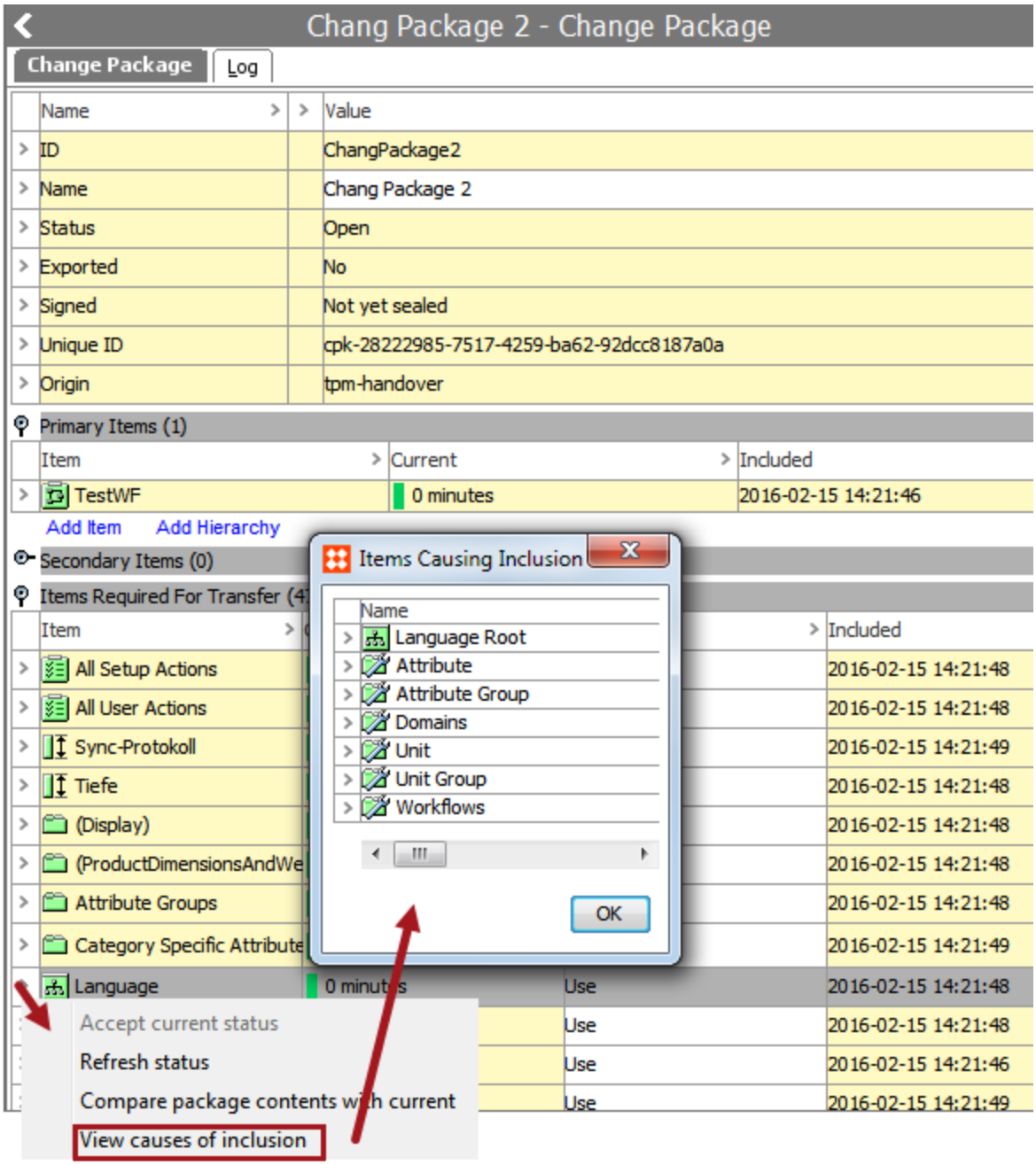
If an invalid object type is selected, the system will report the issue in red text at the bottom of the Add dialog and the Select button will not be enabled.



When adding items to a change package, the user should always select to 'Update Included Items' to ensure they have an accurate report of the dependencies in the package. In order to allow for easy addition of primary objects, full dependency calculations are only applied on demand rather than running a potentially complex analysis for each individual addition or removal of an object.

Understanding Reasons for Included Items

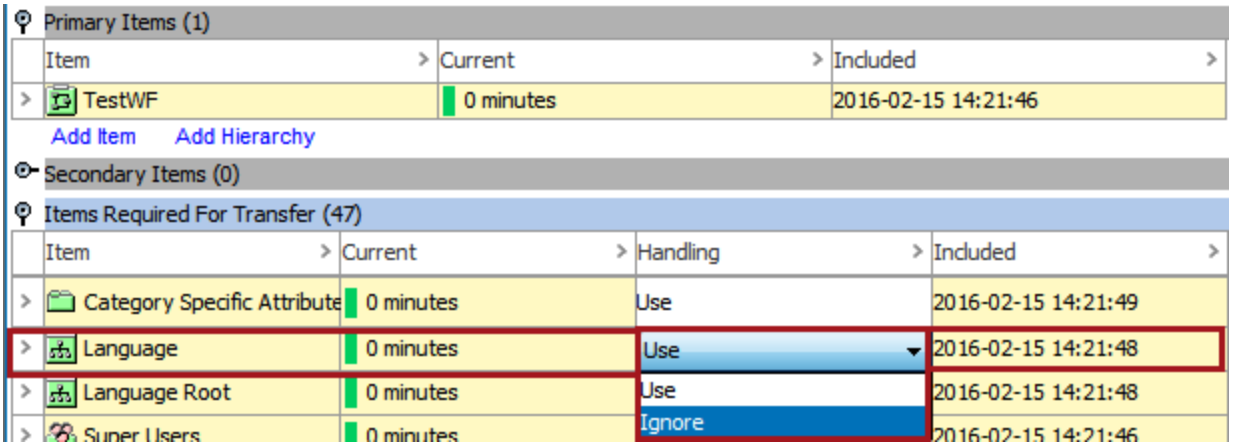
If a user is unsure why an item is included in a change package, they can right-click on the arrow next to the item and select 'View cause of inclusion' to see the results.



Ignore auto-selected objects

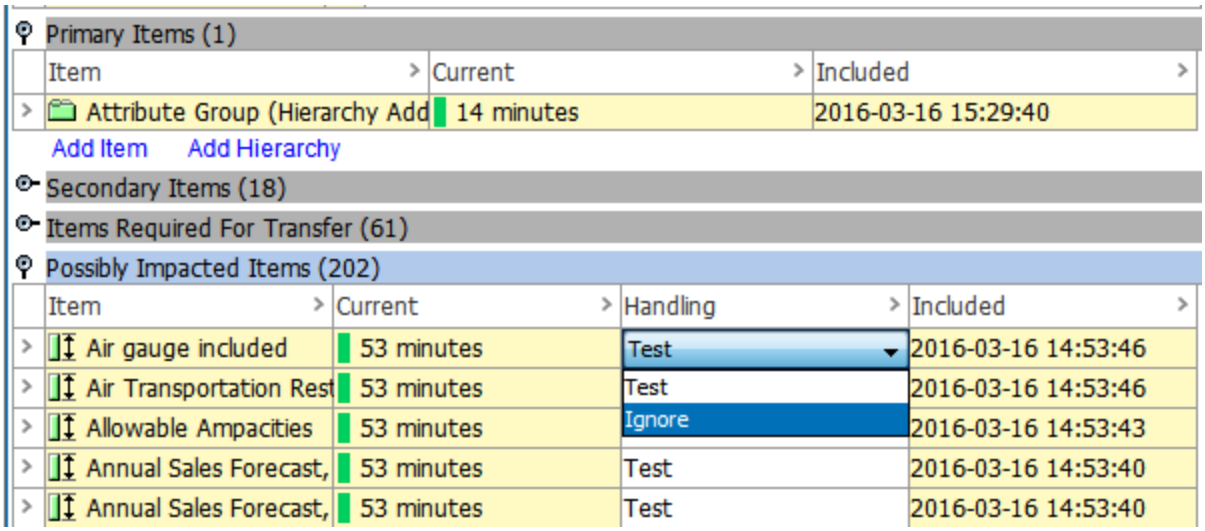
For various reasons, a user might want to ignore items listed in the **Items Required For Transfer** and **Possibly Impacted Items** sections. This can be done by selecting **Ignore** in the **Handling** column for the corresponding unneeded item. However, electing to ignore items appearing in the **Items Required For Transfer** section is different from ignoring items listed under the **Possibly Impacted Items** section.

If an item is listed under the **Items Required For Transfer** section, this means that while the items are still part of the package, when the package is transferred over to the receiving system, these items will not be installed on the target system. In addition, these items are not evaluated or included in the impact report. This is especially useful if a user knows that a particular item is set up correctly on the receiving system and / or wants to isolate a particular set of objects for transfer without accounting for the full dependency analysis.



If the user does want to have the object transfer over to the receiving system, they can select **Use** from the **Handling** column.

For the **Possibly Impacted Items** fields, a Handling column is also available, though the options differ as these items are not ever included when a change package is installed on a target system. In this case, selecting **Test** or **Ignore** is meant as a means of communication between administrators creating change packages and those that are deploying them on target systems.



A Handling selection of **Test** is meant to tell the installer that there are potential impacts to this object and it should be tested accordingly. A selection of **Ignore** indicates that the package creator is confident in the outcome of the deployment and additional testing on the specified object is not needed. The user will not see them reported on the impact report when it is run.

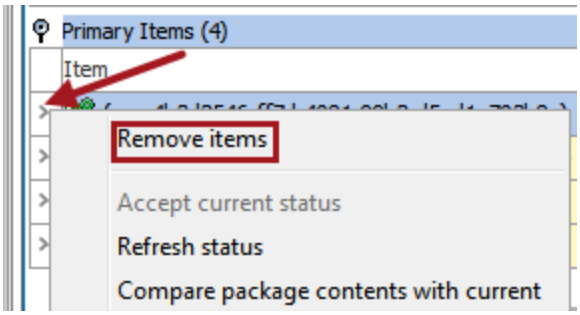
For more information on impact reports, see **Analyzing and Installing Change Packages** in the **Configuration Management** documentation.

It is important to note that if an item is deleted from the **Primary Items** folder and then added back, if there initially were items Ignored in either the **Items Required for Transfer** or **Possibly Impacted Items** sections, the system cannot remember this. The items will be added back again with the re-added **Primary Item**, and must be set to Ignore manually again.

Note: Ignoring an item does not necessarily mean that the number of included items in the change package will diminish.

Removing Items from a Change Package

Items can be deleted from a change package by clicking the row arrow on the item(s) and selecting **Remove items**.



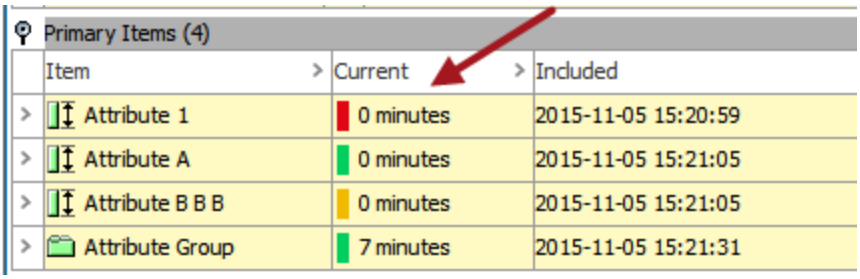
Only **Primary Items** may be removed from a change package. Similar to when adding a primary item, when deleting items to a change package, the user should always select to 'Update Included Items' to ensure they have an accurate report of the dependencies in the package. Also similar, in order to allow for easy removal of primary objects, full dependency calculations are only applied on demand rather than running a potentially complex analysis for each individual removal of an object.

Items may only be removed from an open change package.

Status and Discrepancies in Change Package Items

When an item is placed into a change package, the system tracks the details of the object from that point forward. If the selected object is changed, the change package notes a discrepancy between the stored version and the current version.

Each item in a change package has a color indicator and a notation of how long it has been since the object in the change package has been compared to the current system state.



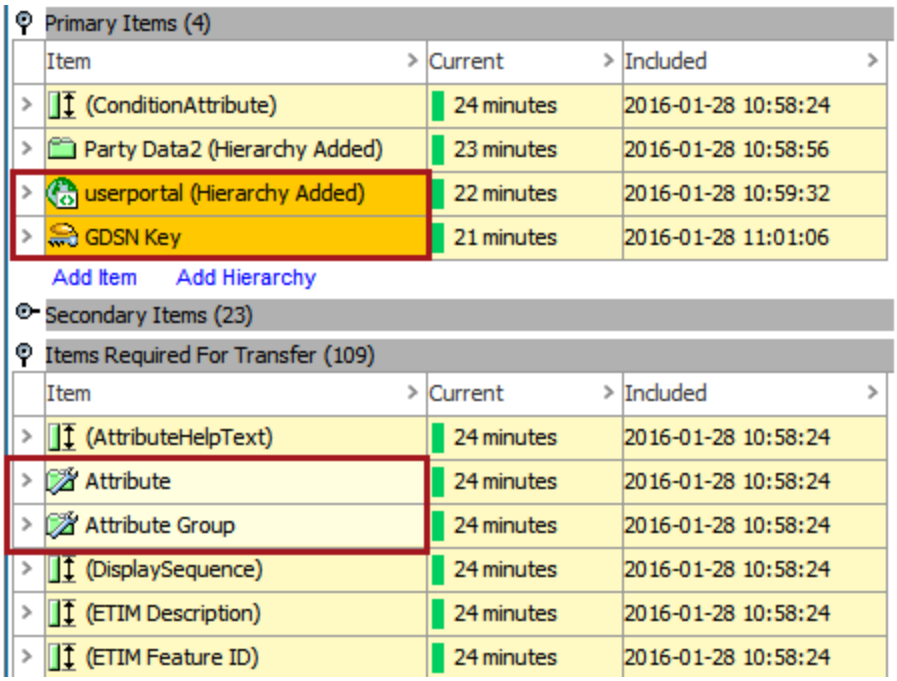
Primary Items (4)

Item	Current	Included
Attribute 1	0 minutes	2015-11-05 15:20:59
Attribute A	0 minutes	2015-11-05 15:21:05
Attribute B B B	0 minutes	2015-11-05 15:21:05
Attribute Group	7 minutes	2015-11-05 15:21:31

- A **Green** indicator means the object reflected current status when it was last compared to the system.
- A **Yellow**indicator means that the object has been changed since it was added to the package, but that the change has been accepted.
- A **Red** indicator means that the object has changed since addition to the change pack and changes to this object have not yet been accepted.

Additionally, some objects are treated differently in regards to how they are tracked. This is indicated by the background color of the objects in the Items column.

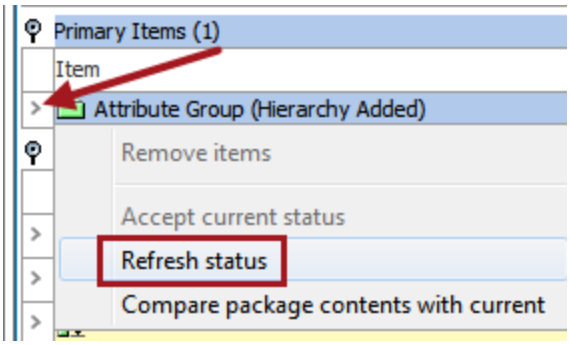
- A **Dark Yellow** highlight indicates that the objects needs to be verified manually. These are objects that can not have their contents or details tracked, such as a Web UI, and are not reported on in the impact report.
- A **Light Yellow** highlight indicates that the object is part of the system's base configuration, and cannot be moved from one system to another via a change package.



Important: At the time of sealing, the change package pulls the current system version of all objects included in the change package. Therefore, all objects will have a green indicator upon sealing of the package. Following sealing, objects can still be refreshed and if a subsequent discrepancy arises, the object will have a red indicator. However, the option to accept the change will not be available as the package has been sealed and an export of the change package will include all objects as they were at the time the package was sealed.

Refresh Status

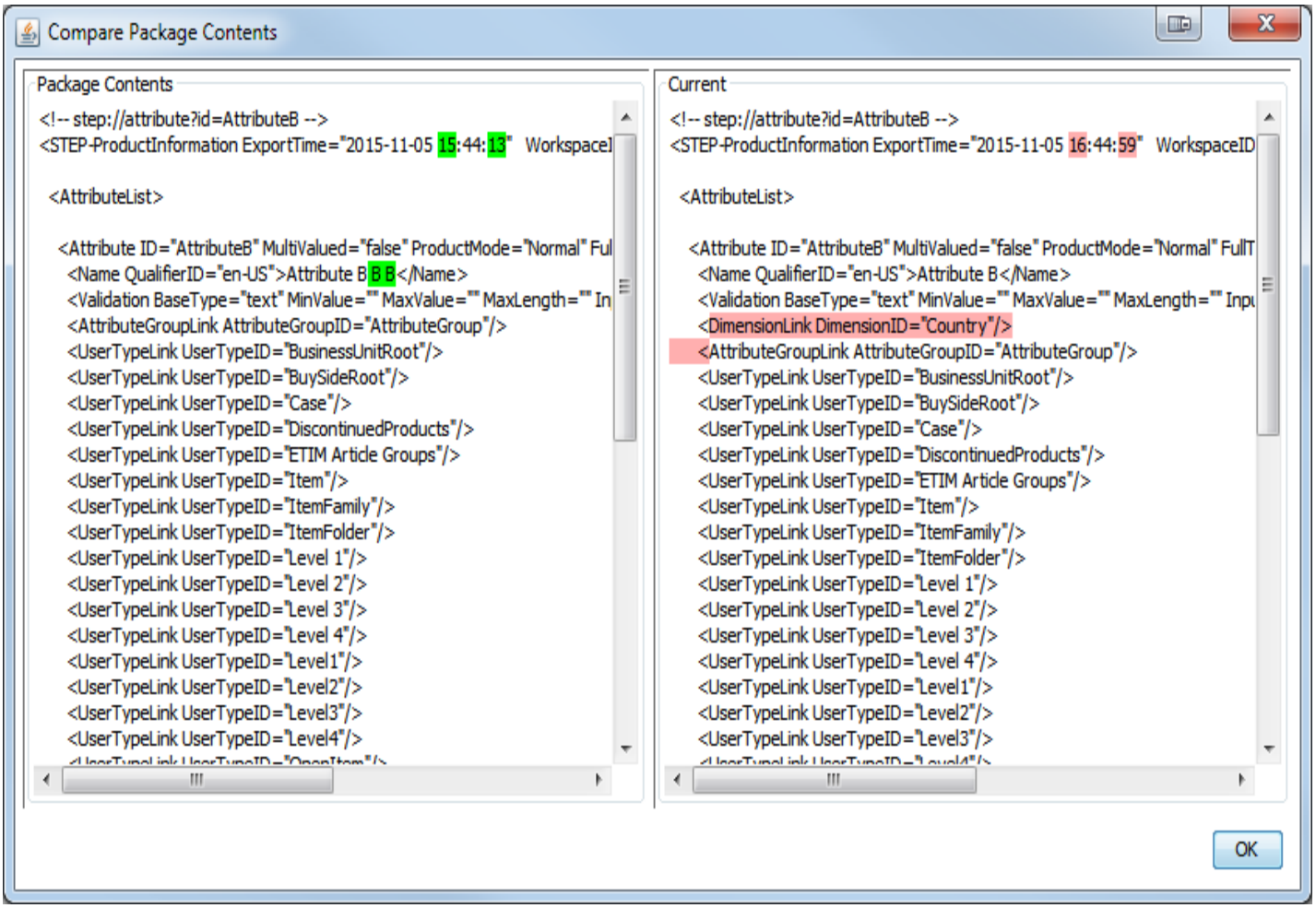
To check the status of items in the change package, click on the row arrow in the item(s) and select **Refresh Status**.



Refreshing an item sets the counter back to zero and updates the color indicator on the object. The refresh option is available on all change package objects, regardless of their current status or the status of the change package.

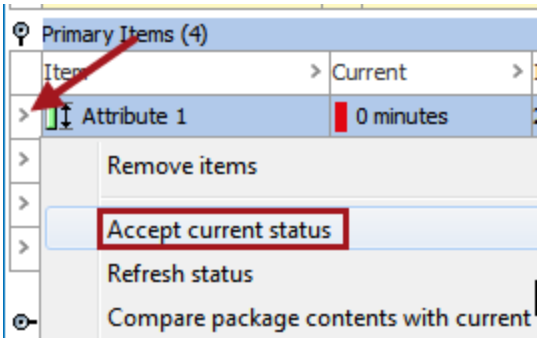
Compare Package Contents with Current

Users can access a detailed comparison of a change package object or objects and the current system by right-clicking and selecting the 'Compare package contents with current' option.



Accept Current Status

If an object has changed since addition to the package, it has a red color indicator and the **Accept Current Status** action is available when right-clicking on the row arrow.



Accepting the current status of an item turns the color indicator yellow. This informs the user that the object has changed since addition to the package, but that the change has been verified and the current object is accepted as part of the package.

Note: This option is only available for objects that are *not* up to date and are part of an open change package. If the package has been sealed this option is not available, regardless of object status.

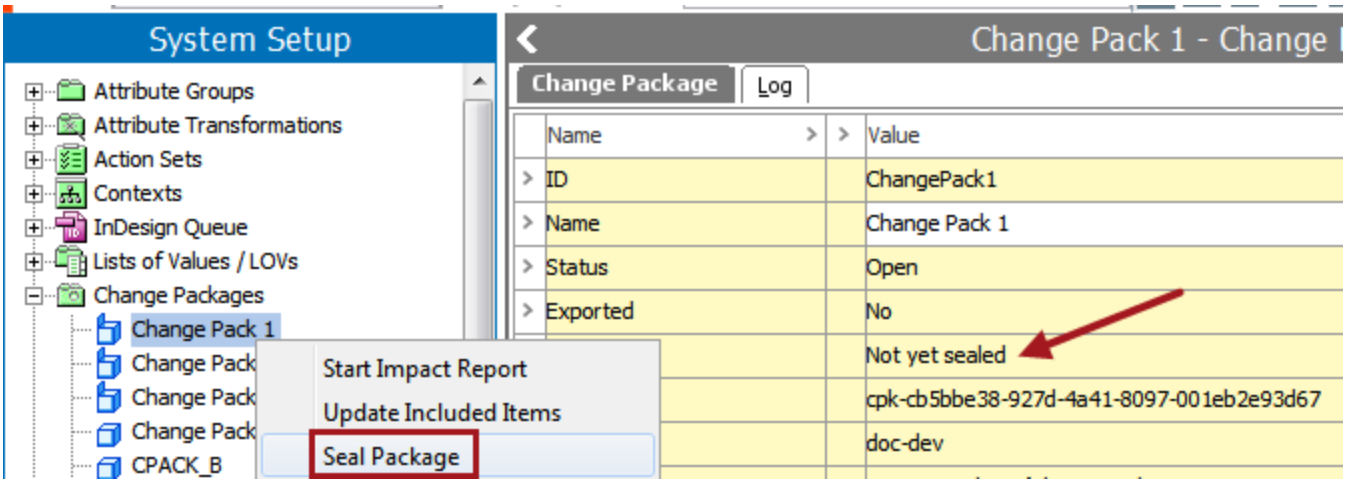
Finalizing a Change Package

When the contents of a change package have been confirmed, it should be sealed, indicating that no further edits will be made and the package is ready for export.

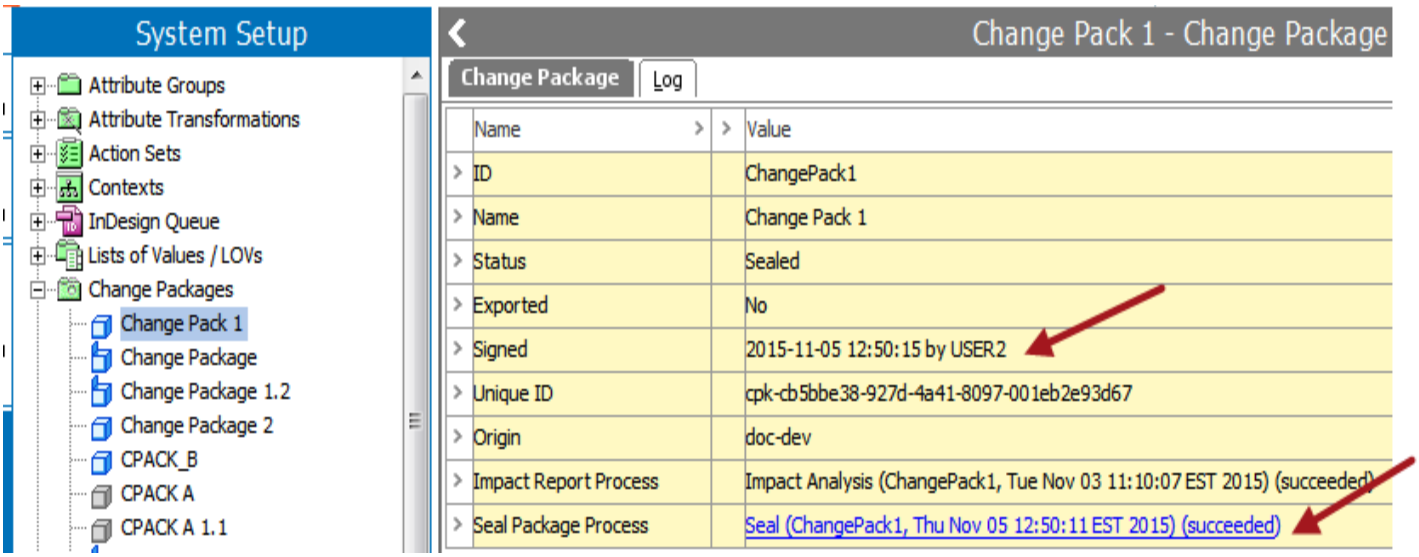
Sealing a Change Package

Once a change package has been determined as ready for export, it must be sealed. A change package is sealed by right-clicking on the package and selecting **Seal Package**.

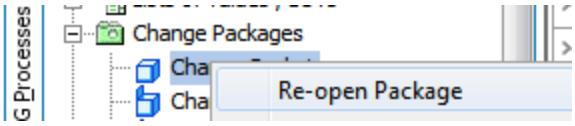
Important: At the time of sealing, the change package pulls the current system version of all objects included in the change package.



Prior to a change package being sealed, it has a blue open box icon ( ) and the 'Signed' field is populated with 'Not yet sealed'. Once a package has been sealed, it has a closed box icon ( ) and the Signed field indicates the date, time, and user responsible for the sealing. In addition, a link to the sealing background process is provided.

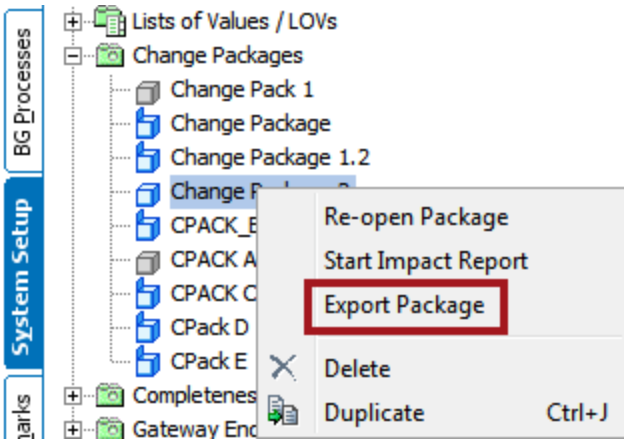


If a change package needs to be reopened after it has been sealed, it can be reopened by right-clicking and selecting **Re-open Package**. This allows the user to further edit the change package.



Exporting a Change Package

After a Change Package is sealed, it can be exported. To do so, right click on the package and select **Export Package**.



Change packages are exported using the standard Export Manager functionality, and can be imported to target systems using the Import Manager.

Analyzing and Installing Change Packages

As the main purpose of a change package is to transfer configurations between systems, once a change package has been sealed and exported from a source system, it is expected that it will then be imported to a target system. Upon import, the change package can be analyzed against the target system data set, and subsequently installed if desired.

Importing a Change Package

Change packages are exported as encoded STEPXML files and are therefore easily imported using the Import Manager. For more information on the Import Manager, see the Import Manager documentation.

Note: It is required to create the setup group for change packages manually on the target system before you can import a change package. For more on creating the setup group, see the 'Initial Setup for Change Packages' section of the Configuration Management documentation.

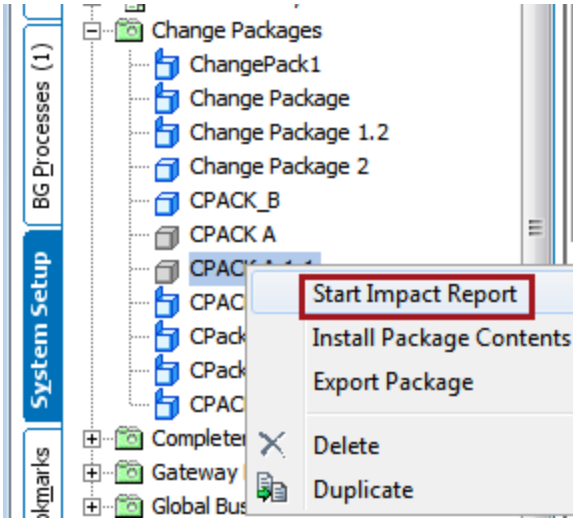
Upon import, the new change package is found in the same location on the System Setup tab as it existed on the source system. Imported change packages have a status of 'Dormant' and a gray icon:

Note that the *contents* of the change package have not yet been applied at this point. Only the change package itself has been imported, and no system configurations will be updated unless the change package is installed.

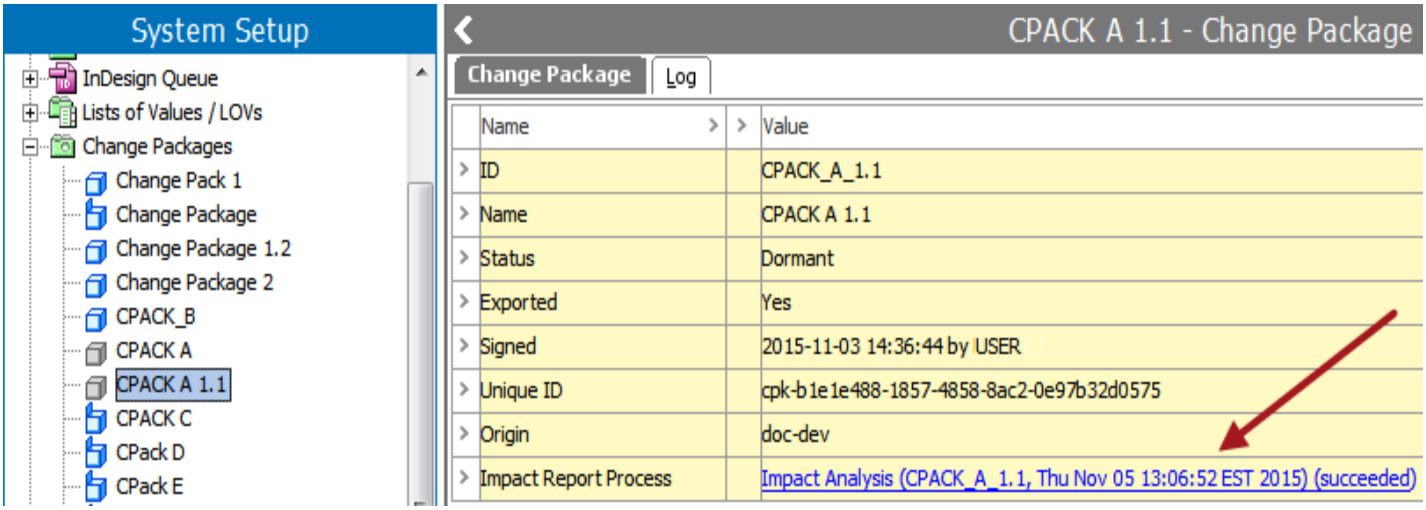
Analyzing a Change Package

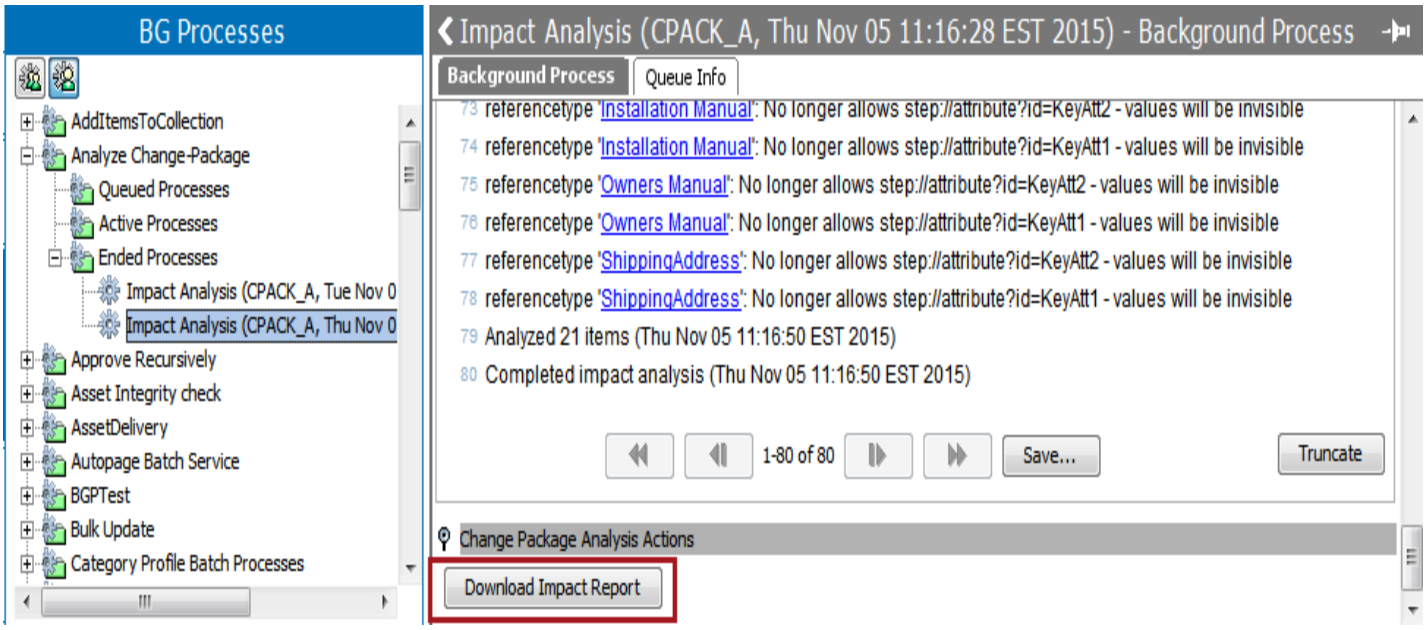
Once a change package has been imported, an impact report can be run. The impact report provides the user with a variety of information they can use to assess whether or not the change package should be installed, and what the system impacts are likely to be upon installation.

To run an impact Report, right click on the Change Package and select **Start Impact Report**.



The impact report is run as a background process, which is then accessible on the **BG Processes** tab under **Analyze Change Package**. The contents of the report can be viewed directly in the execution report, or can be downloaded for viewing offline (e.g. in Excel). A link to the background process is also provided on the change package object.





A	B	C	D	E	F	G	H	I
Origin	Message Type	Inclusion Type	URL	Object Type	Object ID	Message	Current Status	Status Time
Detection	IdentifiedChangedItem	Precondition	step://cplinktype?id=WebsiteLink	cplinktype	WebsiteLink	Identified changed item	Out of sync	11/5/2015 11:16
Detection	IdentifiedChangedItem	Precondition	step://cplinktype?id=SupplierLink	cplinktype	SupplierLink	Identified changed item	Out of sync	11/5/2015 11:16
Detection	IdentifiedNewItem	Derived	step://attribute?id=Size	attribute	Size	Identified new item	Out of sync	11/3/2015 14:39
Detection	IdentifiedChangedItem	Precondition	step://referencetype?id=MSDS	referencetype	MSDS	Identified changed item	Out of sync	11/5/2015 11:16
Impact	MissingAttribute	Precondition	step://cplinktype?id=MerchandisingLink	cplinktype	MerchandisingLink	No longer allows step://attribute?id=KeyAtt2 - values will be invisible	Out of sync	11/5/2015 11:16
Impact	MissingAttribute	Precondition	step://cplinktype?id=MerchandisingLink	cplinktype	MerchandisingLink	No longer allows step://attribute?id=KeyAtt1 - values will be invisible	Out of sync	11/5/2015 11:16
Impact	MissingAttribute	Precondition	step://referencetype?id=PrimaryProductImage	referencetype	PrimaryProductImage	No longer allows step://attribute?id=KeyAtt2 - values will be invisible	Out of sync	11/5/2015 11:16
Impact	PropertyMismatch	Precondition	step://cplinktype?id=Classifications	cplinktype	Classifications	Changed from externally maintained to internally md. - may enter single	Out of sync	11/5/2015 11:16

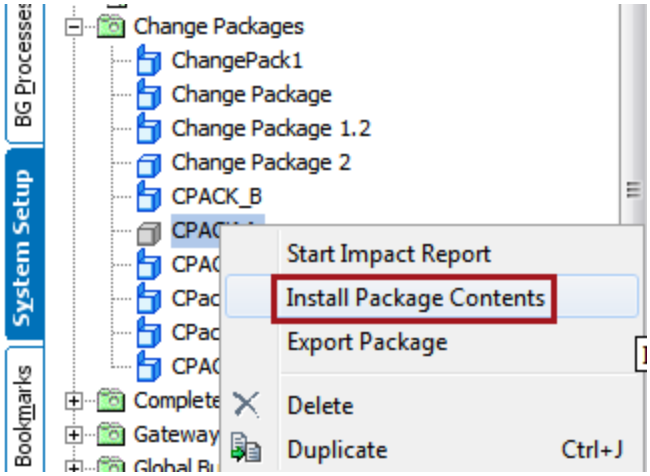
The impact report should be analyzed to determine whether or not the change package should be installed, and if any changes should be carried out on the target system prior to installation. If system changes occur, it may be useful to re-run the impact report.

If it is determined that the change package should not be installed, it can be removed from the system by right-clicking on the change package and selecting **Delete**.

Note: Deleting a change package removes it from the system entirely. It is not available in the Recycle Bin and can only be accessed again via re-import of the package.

Installing a Change Package

When the impact report has been reviewed and the change package determined acceptable, it is installed by right-clicking and selecting **Install Package Contents**.



Installation of the change package means that all objects within the change package are added to the system. If objects in the change package existed previously on the system, they will be updated to reflect the contents of the package.

Note that deletion of system configurations is not supported. Import of change packages supports configuration additions only.

Note: Event queues and IEPs will be imported as disabled and must be manually enabled.

Export Configuration Definitions as Comments

Workflows, Web UIs, Integration Endpoints (IEPs), and Business Rules definitions can be exported as comments using Advanced STEPXML. These exports are intended to be used for submission to external source control systems for comparison purposes. Users can import them into source code repository systems where they can be compared from version to version. Editing and/or import of these files is not supported (e.g. users may not export, edit the comments, and re-import).

Inclusion of configuration definitions as comments is accomplished by setting the DefinitionsAsComments tag to 'true' in an Advanced STEPXML template.

For example:

```
<?xml version='1.0'?>
<STEP-ProductInformation DefinitionsAsComments="true">
<STEPWorkflows ExportSize="All"/>
</STEP-ProductInformation>
```

For more on exporting Workflow definitions as comments, see the **Exporting Workflow Definitions as Comments for External Comparison** section of the **Exporting Workflow Definitions** documentation.

For more on exporting Web UI definitions as comments, see the **Exporting Web UI Definitions as Comments** section of the **Web UI Getting Started** documentation.

For more on exporting integration endpoint definitions as comments, see the **Exporting Inbound Integration Endpoint Definitions as Comments** documentation or the **Exporting Outbound Integration Endpoint Definitions as Comments** documentation.

For more on exporting Business Rule definitions as comments, see the **Exporting Business Rule Definitions as Comments** section of the **STEP Business Rules** documentation.

Note: The content of the comment field is not part of the STEPXML XSD and therefore Stibo Systems reserves the right to change the format of the output content at any time.

STEPXML Comparison Tool

Note: The STEPXML Comparison Tool has been superseded by the change packages functionality available in the STEP Workbench and therefore may be removed in a future release. It is recommended that users transition to using change packages, which are described in the **Change Packages** section of the **Configuration Management** documentation.

STEP has a tool for comparing system setup on different instances of STEP. The comparison tool requires an XML file to be exported from the source system and the target system.

This can be used to identify:

- Configuration that is different
- Compare collections, bulk update configurations and export / import configurations
- Configuration that only exists on the source system
- Configuration that only exists on the target system to identify what needs to be deleted
- Configuration that is identical

Once the differences have been identified the system compare tool can then be used to do the following:

- Generate an XML file of just the differences they wish to add to another STEP system.
  This data can then be imported to the target system
- Generate an XML of all the differences and import onto the target system

The comparison tool should be not be used to migrate assets, products, classifications and entities from one system to another. It should only be used to compare two STEP systems and from this comparison generate STEPXML to move this configuration from a source system to a target system

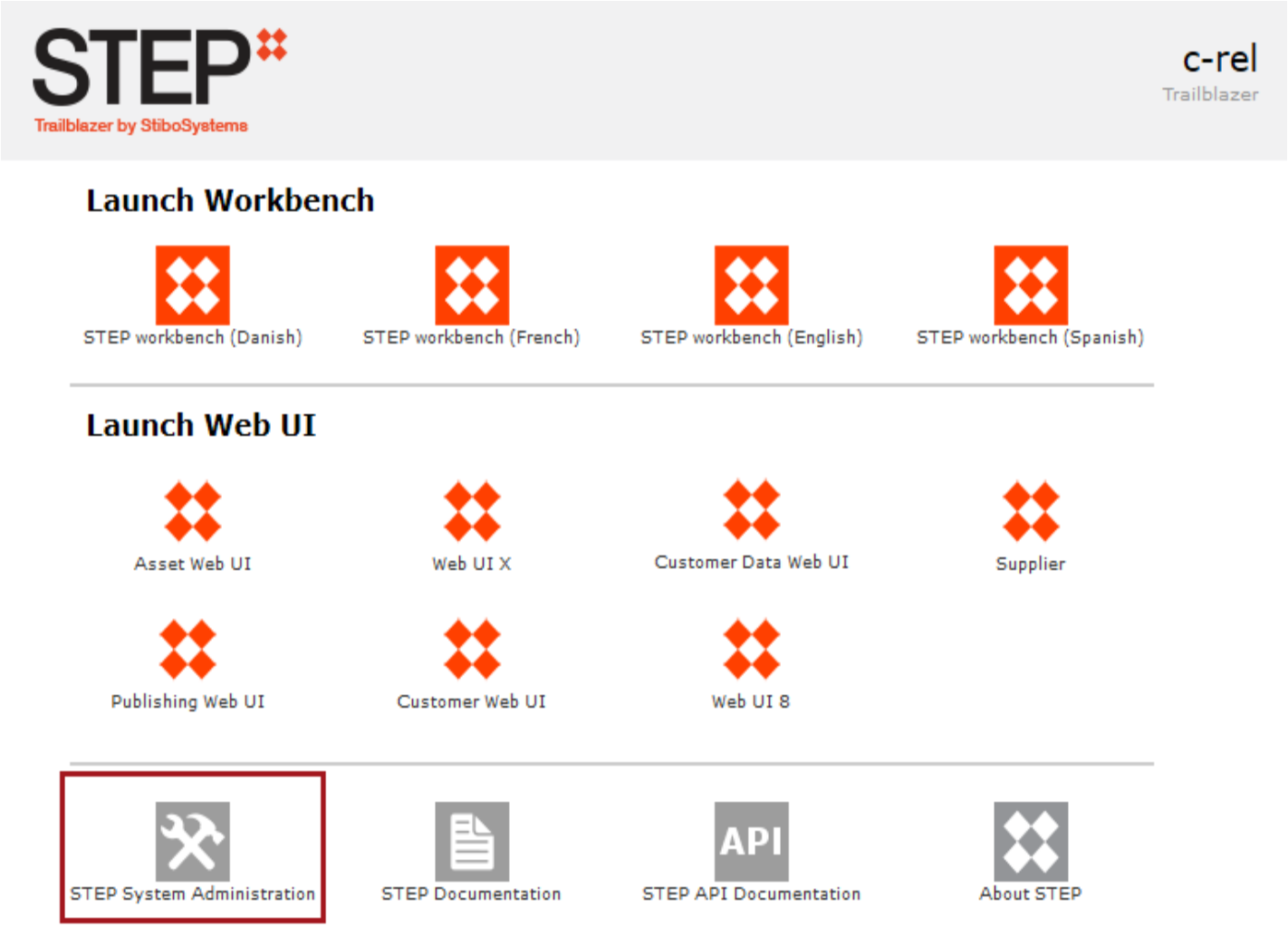
The tool will only add / modify configuration on target systems it will not delete what should not exist on the target system. It will not make updates that require user input; this is explained in the document in more detail later in the document.

Prerequisites

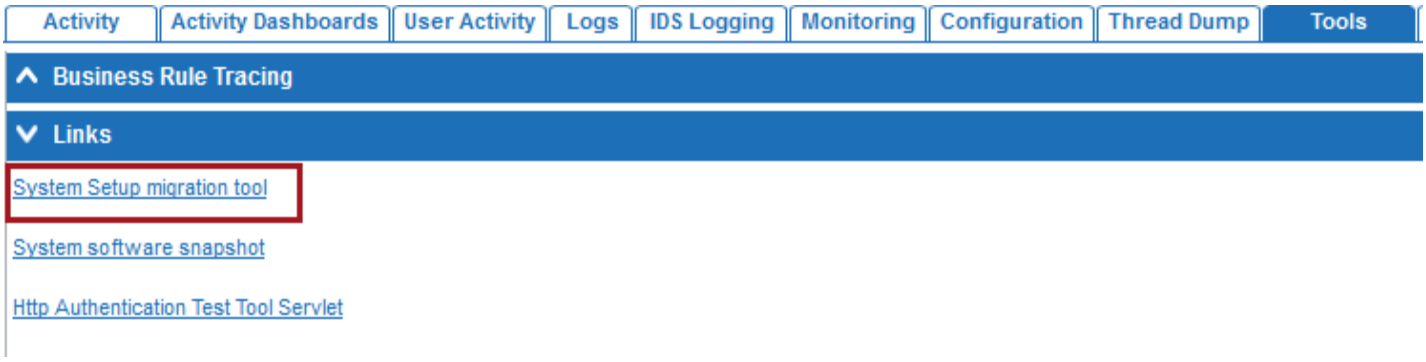
Typically this type of work requires a STEP Super User to carry out the task. The user would require in depth knowledge of STEPXML, System Setup, and how to use export and import manager.

Accessing the System Compare Tool

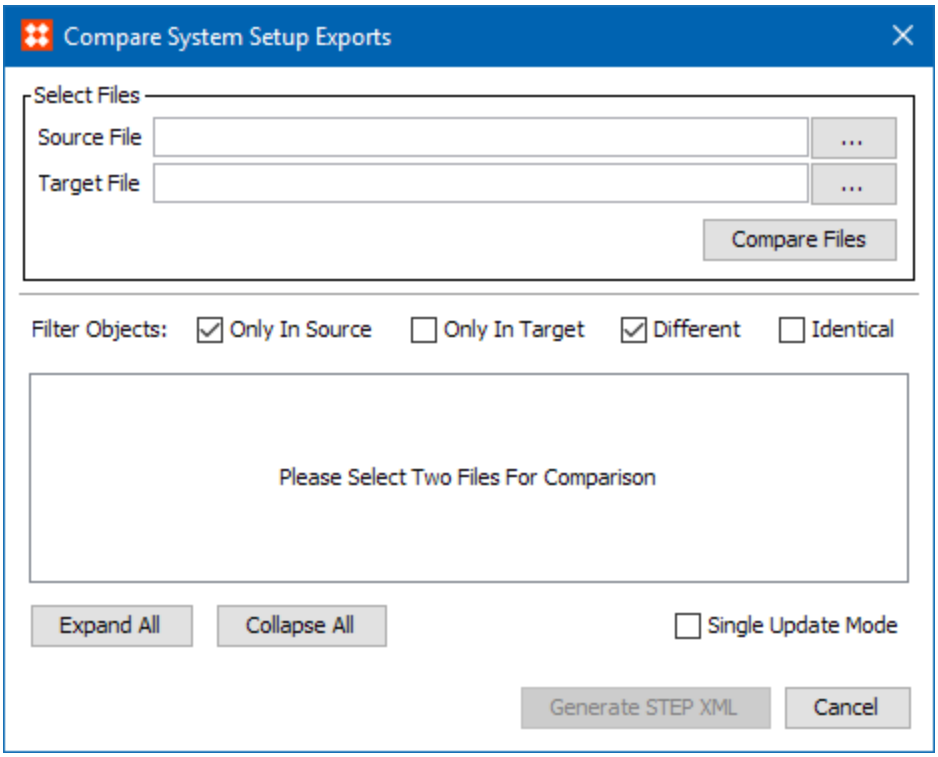
The system compare tool can be accessed through the workbench but due to the amount of memory required to run this tool it should be accessed via the STEP System Administration link on the WebStart page.



To access the STEP System Administration data, the user will require Super Users privileges i.e., administrator of the system. The user will require all the privileges necessary to make the updates the imported XML requires. Once on the system admin page, select the Tools tab, and select the 'System Setup migration tool' link.



Log in as normal to display the **Compare System Setup Exports** dialog.



Moving configuration without using the STEP comparison tool

It is possible to move configuration from one STEP instance to another without using the comparison tool. This process will only add / modify configuration loaded onto a target system. If you then need to identify what is different from the source and target machines the comparison tool will need to be used.

Move all configurations from one STEP system to another

- Back-up target system
- Export XML from Source system excluding assets, classifications, products, and entities
- Run a Cross Context export if configuration is stored in more dimension points i.e. LOVs, attribute names etc

- Import onto target system
- Check execution report for errors and resolve

What configuration can be moved from one system to another?

Before a user can use the comparison tool the STEP export manager needs to be used to export STEPXML from the source and target systems.

When configuring the export the following will need to be selected:

- Add the parent node for configuration files being which need to be moved from the source to the target
  If this is not done the import will fail on import the configuration files as the folder it resides in will not exist
- Select the STEP configurations that need to be exported

Below is a list of different types of configuration that can be exported from STEP. For details on each parameter, see the **STEPXML Outbound Parameters** topic in the **Data Exchange** documentation.

STEPXML Configuration Parameter	Can these be exported?
Global Settings > Include Schema Reference	No
Data Objects > Include Keys as IDs	Yes – Keys on target system will be inactive
Data Objects > Include Entities	Comparison tool not used to export data
Data Objects > Include Products	Comparison tool not used to export data
Data Objects > Include Product Attribute Values	Comparison tool not used to export data
Data Objects > Include Classifications	Comparison tool not used to export data
Data Objects > Include Tables	No
Data Objects > Include Assets	Comparison tool not used to export data
Configuration > Include Action Sets	Yes
Configuration > Include Attributes	Yes
Configuration > Include Attribute Groups	Yes
Configuration > Include Attribute Transformations	Yes
Configuration > Include Bulk Update Configurations	Yes - Reliant on the classification to exist

STEPXML Configuration Parameter	Can these be exported?
Configuration > Include Business Rules (Global) and Libraries	Yes
Configuration > Include Collection Definitions	Yes
Configuration > Include Contexts	Yes
Configuration > Include Context Qualifiers	Yes
Configuration > Include eCatalogs	Yes – Product Selection based on a collection will exist, but search would need to be run to add products on target Any other type of Product Selection will not exist
Configuration > Include Event Queues	Yes – Event Queues and Consumers will not be active
Configuration > Include Export Configurations	Yes - Reliant on the classification to exist
Configuration > Include Import Configurations	Yes – Reliant on the classification to exist
Configuration > Include Integration Endpoints (Receivers: hotfolders, REST, API, JMS)	Yes
Configuration > Include Link, Reference and Object Types	Yes
Configuration > Include List of Values	Yes
Configuration > Include Setup Groups	Yes
Configuration > Include System Settings	Yes
Configuration > Include Table Types	No
Configuration > Include Tags	Yes
Configuration > Include Transformation Lookup Tables	Yes - Reliant on the classification to exist
Configuration > Include Units	Yes
Configuration > Include Users and User Groups	Yes – Cannot migrate new users as you require a password when creating a new user

STEPXML Configuration Parameter	Can these be exported?
Configuration > Include Web UI Configurations	Yes - Reliant on the classification to exist
Configuration > Include Websites	Yes
Configuration > Include Workflows	Yes

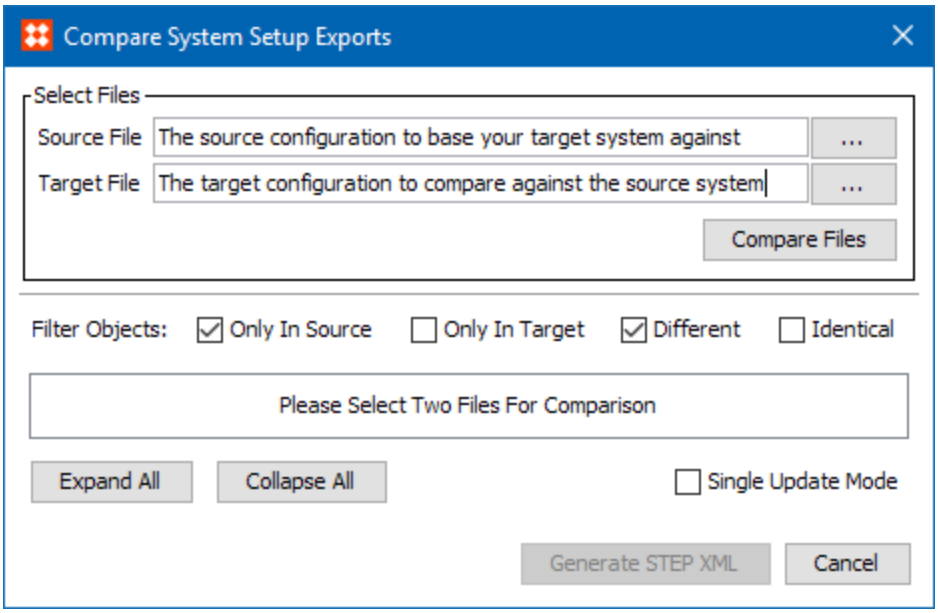
Using the STEPXML Comparison Tool

The information below outlines how you can use the comparison tool to compare a source and target system.

Select Source and Target configuration file

Once a user has logged into the comparison tool they will firstly need to select XML exported from the source system and XML exported from the target system as illustrated below:

1. Select the exported XML file from the source system
2. Select the exported XML file from the target system



Select how you want to filter the configurations

Once the XML files have been selected the user will need to select how the comparison tool should filter the differences.

- Only in Source – Filter on configurations that only exist on the source system
- Only in Target – Filter on configurations that only exist on the target system
- Different – Filter on what is different between the source and target system
- Identical – Filter on what is identical between the source and target system
- Compare Files – Once selected the relevant configuration will be highlighted depending on the filter options selected above

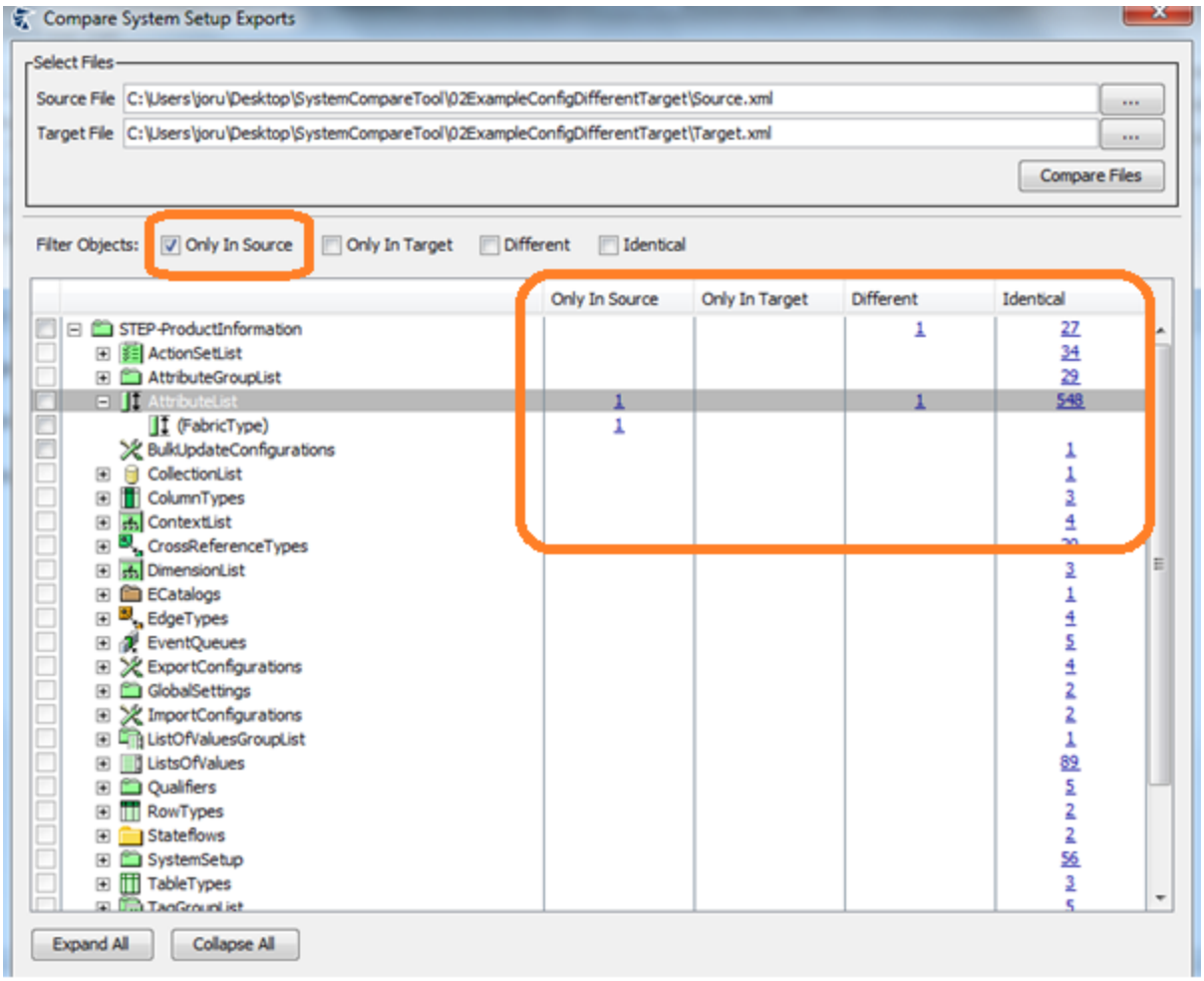
If you need to change the filter options selected, change them and hit Compare Files to update

Viewing configuration differences when 'Only In Source' is selected for example

Outlined below is an example of how to filter what is only in the source XML file.

The comparison tool will give an overview of the following:

- Only In Source
- Only in Target
- Different
- Identical



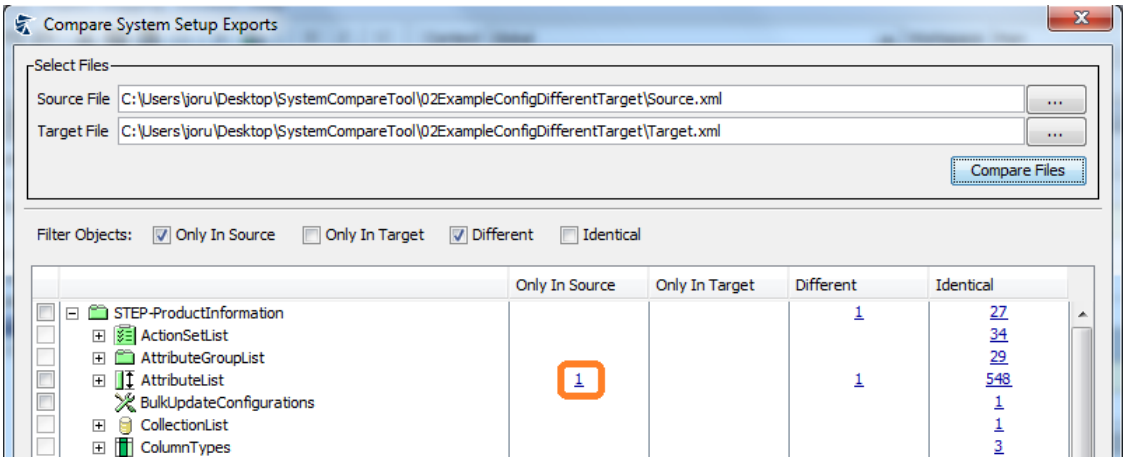
In this example the user has selected to filter on 'Only In Source', when the user opens the attribute list configuration which indicates one attribute the user is shown the attributes that appear in the source system only.

Note: If you select the Expand All option the user is shown all configurations related to the filter selected i.e. Only In Source.

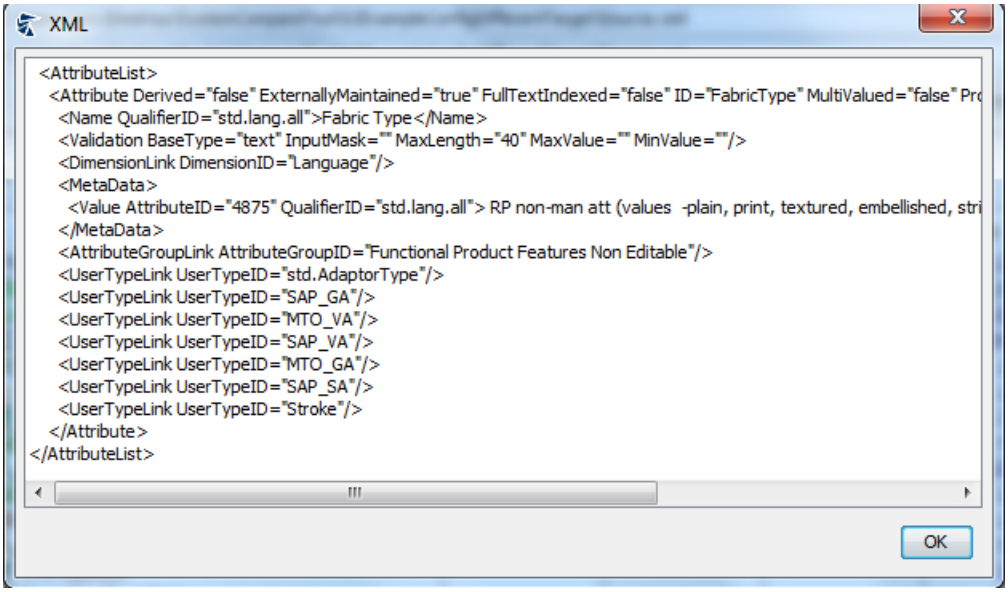
Viewing the differences in the comparison tool

Within the comparison tool users are able to view what the difference is between the XML files from source and target systems.

If there are differences for each of the filters between the source and target systems users are able to view these differences by selecting the hyperlink for each difference



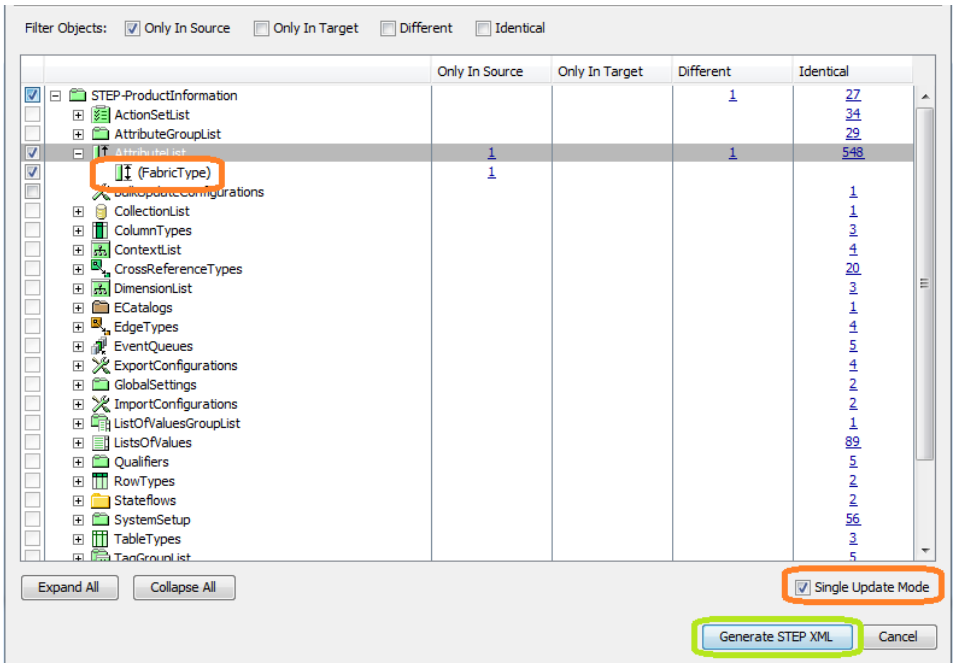
If you select the hyperlink highlighted in screen-shot above you will be shown the STEPXML for the attribute that only exists in the source system as follows:



Generate STEPXML with the configuration differences

Finally the user will need to select the check boxes to identify the configuration required to be exported and then generated an XML file based on this selection.

1. Select the configuration that needs to be moved to the target system, in this case I have selected the attribute FabricType
2. Check Single Update Mode option
3. If STEPXML generated needs to make updates that require single update mode this option must be checked. Examples of what puts a system into Single Update Mode are given later in the document
4. Generate STEPXML by hitting the Generate STEPXML button



5. Save XML file and name appropriately

Scenarios

The following examples highlight how the STEPXML Comparison Tool can be used.

Running and loading STEPXML generated via the comparison tool

It is advisable to run the STEP comparison tool when no-one is using the system. The reason for this the XML being loaded may require 'Single-Update Mode' and if the process loading the XML is allowed to enter Single-Update Mode users will only have read-only access to the system.

If you load XML which requires Single-Update Mode and it cannot enter this state due the fact that there is an active process on the server. The import will enter a 'wait' state and will enter 'Single-Update Mode' when there are no active processes on the server.

If the XML being loaded is not set to go in to Single-Update Mode when imported the process will highlight it required to go into Single-Update Mode but was not able to.

Create Export configurations for exporting the data

When doing the first export where you select the configurations you required to be exported it is advisable to save a configuration file. The reason for this is there are a number of configurations and it could be very easy to miss a vital configuration if a user sets this every time they do a configuration export.

Scenario 1

In this scenario we need to identify what is different between our source and target systems and update the target with the necessary updates.

Checking what is different between system to generate STEPXML to update target system

- Back-up target system
- Export XML from Source system excluding Assets, Classifications, Entities and Products
- Run a Cross Context export if configuration is stored in more dimension points i.e., LOVs, attribute names etc.
- Export XML from Target system as above
- The compare tool will highlight what is on the Source system only and what is different
- Generate STEPXML tool
- Load into target system
- Check execution report for errors and resolve
- Use compare tool to see what is different or only on the target system to remove or update

Scenario 2

In this scenario we need to identify what only exists on the target system which will have to be manually removed or updated.

Removing configuration from a target system

- Back-up target system
- Export XML from Source system excluding Assets, Classifications, Entities and Products
- Export XML from Target system as above
- The compare tool will highlight what is on the Target system only
- STEP user will need to manually remove the specific configurations from the target system

Scenario 3

In this scenario we need to compare the system only.

Compare configurations to see if the source and target systems match each other

- Export XML from Source system excluding Assets, Classifications, Entities and Products
- Run a Cross Context export if configuration is stored in more dimension points i.e. LOVs, attribute names etc
- Export XML from Target system as above
- The compare tool will highlight what is not identical

Scenario 4

In this scenario, use the compare tool to generate XML for specific object types. For example, to move two product types from source system to the target, choose to compare the same file and decide the objects to generate XML for.

Generating valid STEPXML

- Export XML from Source system excluding Assets, Classifications, Entities and Products
- Run a Cross Context export if configuration is stored in more dimension points i.e. LOVs, attribute names etc
- Re-use the source XML in the target
- The compare tool will highlight what is identical and you can choose to view the XML via the hyperlinks for the appropriate objects

Considerations for STEPXML imports

Single-Update Mode

- Configuration updates made within can require STEP to go into ‘Single-Update Mode’. The updates that require Single-Update Mode that are allowed via the comparison tool are listed the **Limitations** section:
- Change attribute to / from being free text searchable - Yes
- Change attribute to / from being multi valued - Yes
- Activate / Deactivate unique keys - Yes but only the configuration

- Change reference type to / from being multi valued
- Modify or Move classification-product link types
  (e.g. move from one type to another type)
- Change classification-product link type to / from being multi valued
- Remove child object type in product, classification, entity, or publication object type hierarchy

Removing valid object types from an attribute

If object types are being removed as being valid for an attribute which contains data for products this will not be removed. A warning within the execution report will highlight the

Users have to manually insert the XML tag OnlyAllowValidUserTypes='true' in the STEP-ProductInformation tag

Issues that could occur when during STEPXML import

- If attribute changes from Text to Number validation this may not be allowed as there is data within the system for products that do not conform to Number validation
- If the configuration being loaded is reliant on another object that does not exist within STEP, a warning will be displayed in the execution report to highlight this.

  For example:

  - Loading attributes requires the object types they are valid for to exist
  - Loading contexts requires the dimension points they are linked to exist
  - Loading privilege rules requires the objects they refer too to exist
  - Loading Stateflows requires the user groups they refer too to exist

Limitations

The comparison tool can be used to create STEPXML to modify and add relevant configuration. It will not delete or modify configuration that is already in use within STEP. It will also not make updates that require user input.

Listed below are the configurations within STEP that cannot be updated using this tool:

- Cannot change a list of value unless it has a non auto-generated ID
- If attributes have been merging on the source system the redundant attribute on the target system will need to be manually removed
- If List of values have been merged on the source system these redundant values will need to be removed / merged on the target system
- Swapping attribute ids
- Cannot change an attribute from internal to externally maintained as this requires user input –i.e. where to take the values from Main / Approved workspace
- Cannot remove dimension dependencies as this requires user input to determine which values to keep after removing the dependency
- Remove Workspaces – manual task
- Cannot change an attribute to have LOV validation or not to use LOV validation
- Cannot change reference types to / from being externally maintained as this requires user input
- Cannot change classification-product link type to / from being externally maintained as this requires user input
- Cannot change "Owns Product Links" setting on classification object type
- Cannot change Revisability of an entity object type