

Element Diff for Enterprise Architect

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Disclaimer

Version 2.0.x of the *Element Diff* extension has been successfully tested for deployment with Enterprise Architect versions 9.3 up to 14.x.

This deployment, as well as the guidelines included herein, may or may not be applicable to any later version of the tool as released by the vendor, Sparx Systems. If required, updates to this software will be made available to support future versions of Enterprise Architect.

There is no guarantee that versions prior to EA 9.3 will work properly. No effort will be made to support earlier releases of Enterprise Architect.

If any problems are encountered with the installation or operation of this software please [contact us](#) through any of the channels listed at the bottom of this document.

Dependencies

The add-in depends on the following components being installed on the system:

- Interop.EA.dll (part of the standard Sparx installation files).
- Microsoft .Net Framework 4.0 Client Profile (if missing, the installer will detect this and offer to automatically download and install the Framework).

Overview

The 2.0.x version of the *Element Diff* extension provides the ability to compare any two Enterprise Architect elements through a visual interface.

- This interface is non-modal so all other EA windows can be used while the extension is active.
- The context for comparing elements can be:
 - Two elements selected in the Project Browser (within the same Package).
 - Two elements selected in a diagram.
- The free version of this extension compares the following constituents of the two elements:
 - Core element properties (name, alias, visibility, notes, type, stereotype, version, phase, etc.).
 - Element tagged values.
 - Element attributes (matched by their unique name):
 - Core properties (visibility, notes, type, stereotype, initial value, etc.).
 - Attribute tagged values.
 - Element operations/methods (matched by signature):
 - Core properties (visibility, notes, alias, type and stereotype).
 - Operation tagged values.

- Operation parameters (matched by name):
 - Core properties (notes, type, kind, classifier, default value and alias).
- Element (owned) connectors (matched by connector name and/or target role name or target type):
 - Core properties (name, notes, type, stereotype, direction, alias, etc.).
 - Connector tagged values.
- Element parts (child elements of type Property):
 - Core properties (name, notes, type, stereotype, alias, phase, version, status, multiplicity, etc.).
 - Special properties (isReference, isDerived, isOrdered, isUnique, isId, default value, etc.).
- Element ports (child elements of type Port):
 - Core properties (name, notes, type, stereotype, alias, phase, version, status, multiplicity, etc.).
 - Special properties (isBehavior, isDerived, isOrdered, isUnique, isId, isService, isConjugated, default value, etc.).
- The visual comparison interface allows for:
 - The visualization of all differences (properties and features that match are omitted from the display).
 - The location of the element or a feature (attribute, operation, part, or port) in the Project Browser.
 - Opening the element or feature properties dialog.
 - Copying values between elements, features, connectors or tags.
 - Note that certain fields such as classifier and stereotype are not allowed to be changed through this interface.
 - Viewing textual differences (e.g. the notes field) in a larger interface.

Limitations of the free version of the extension

- Child elements are ignored.
- Additional constituents of an element such as its constraints, internal requirements, scenarios, maintenance items and test items are not included the comparison.
- Unique features of a source element (attributes, operations, connectors, parts, ports tagged values) cannot be copied (added) to a target element. Most of these features can be easily cloned in Enterprise Architect, via the Element Browser window or by dragging and dropping across elements in a diagram.

Installation

Exit any running instances of Enterprise Architect, then launch the “setup.exe” program provided by Cephass Consulting and follow the on-screen instructions.

The installation will attempt to update the Windows registry, so the User needs to ensure that s/he has sufficient privileges to run the setup program.

The recommended install path is to place the DLL and any supporting files in the “Addins” folder in the Sparx Systems installation directory, e.g.

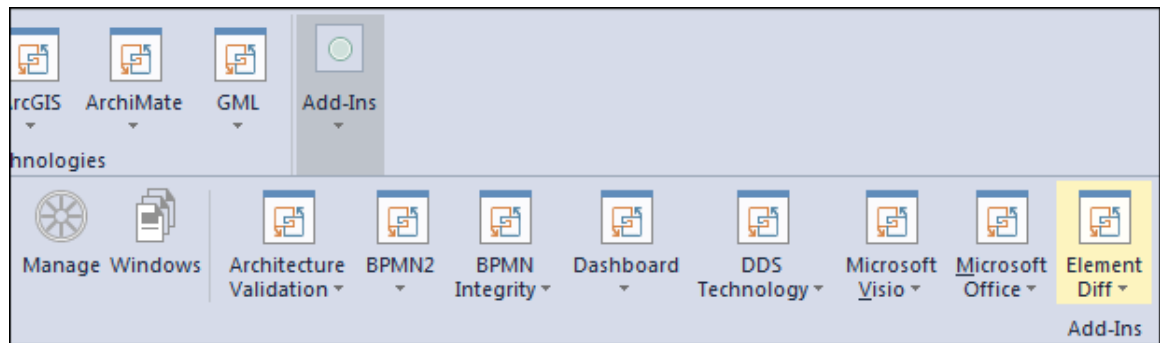
C:\Program Files (x86)\Sparx Systems\Addins.

Note that older versions of the software are automatically removed and replaced.

Should the installation fail for any reason other than insufficient User privileges, please take appropriate screenshots and email the data to the [support](#) address listed at the bottom of this document.

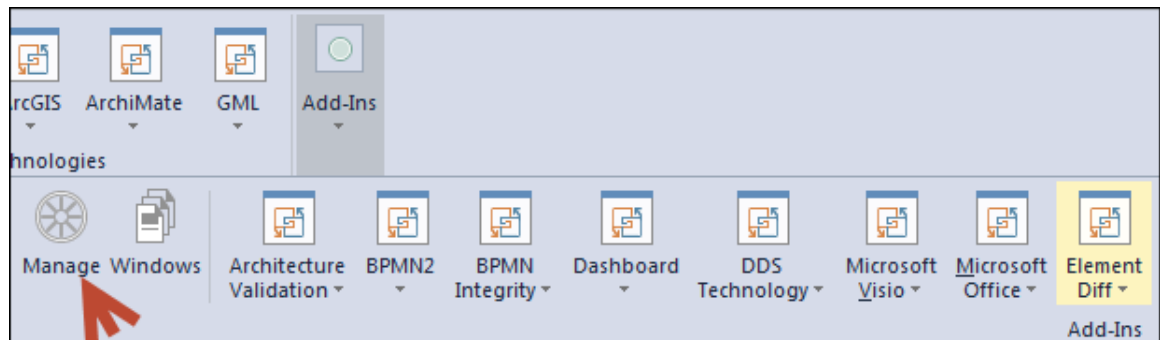
Verifying the installation

Bring up Enterprise Architect and verify that there is an “Element Diff” menu item under the SPECIALIZE → Add-Ins ribbon item (EA version 14.x):

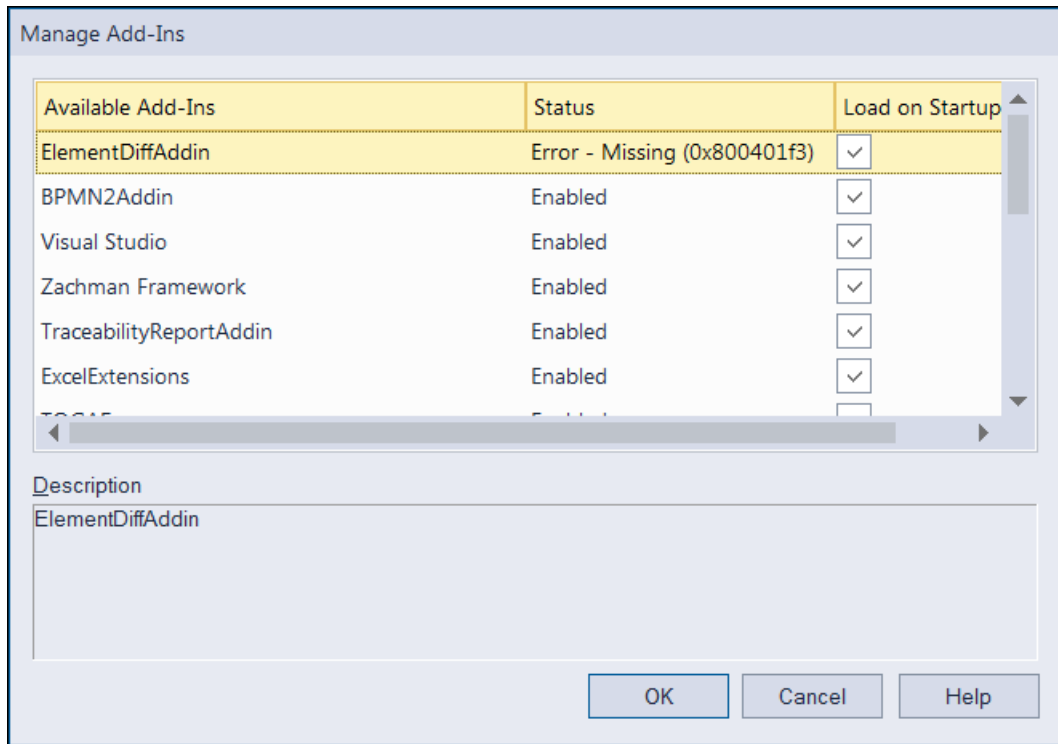


Note that the other extensions shown in the above screenshot may or may not be present, depending on your Enterprise Architect version and configuration.

Should the menu entry not be present, select the “Manage” option:



And confirm that the “Element Diff” add-in is loaded and enabled:



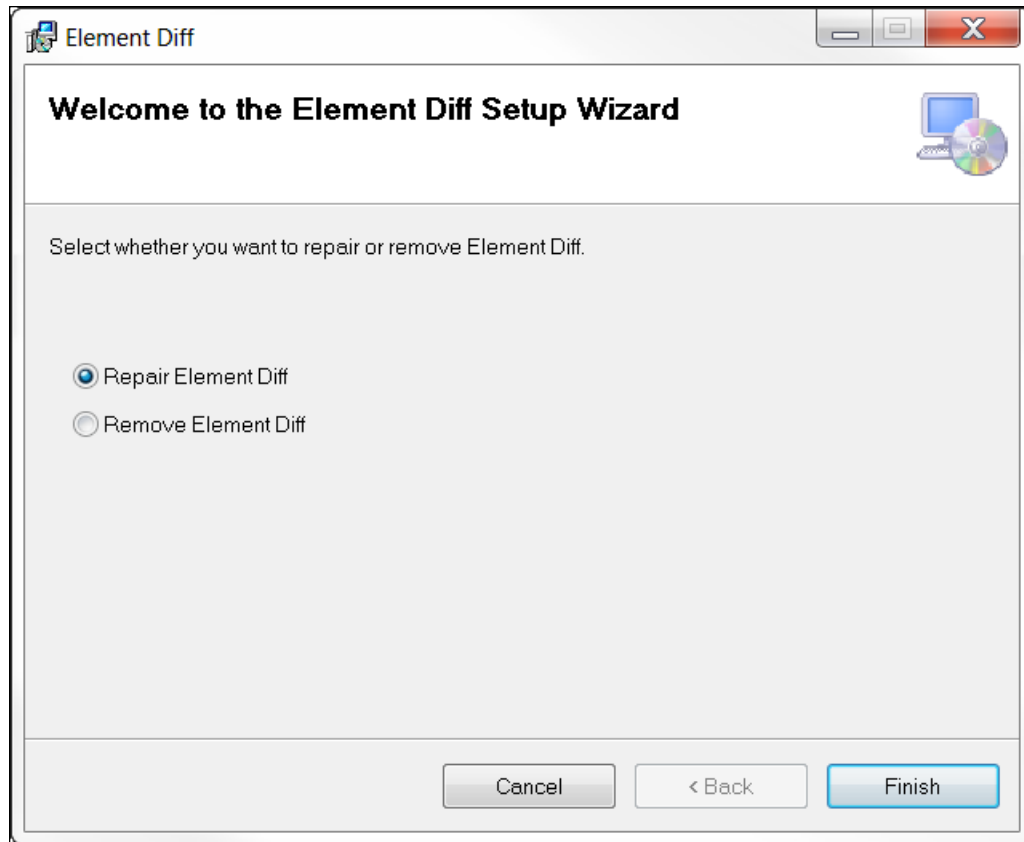
If an error status is shown, as in the example above, this typically means that either:

- The DLL installation process failed and EA cannot locate its reference, either in the Windows registry or in the file system.
- The installation did succeed but the DLL file was later moved or deleted.

If the “Element Diff” entry itself is not found then the add-in installation did not complete successfully.

To fix an incorrect installation:

- Exit out of all instances of Enterprise Architect.
- Launch the setup process again. The installer will automatically provide a repair option:



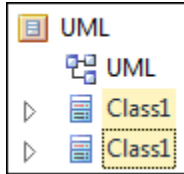
If, after the repair procedure, the *Element Diff* extension is still not loaded correctly in Enterprise Architect, remove the program through the Windows control panel and start the installation process over.

At a minimum the following files should have been installed in the selected installation directory:

- Cephassoftware_EULA.pdf
- Element Diff.pdf (this file)
- Interop.EA.dll
- ElementDiffAddin.dll

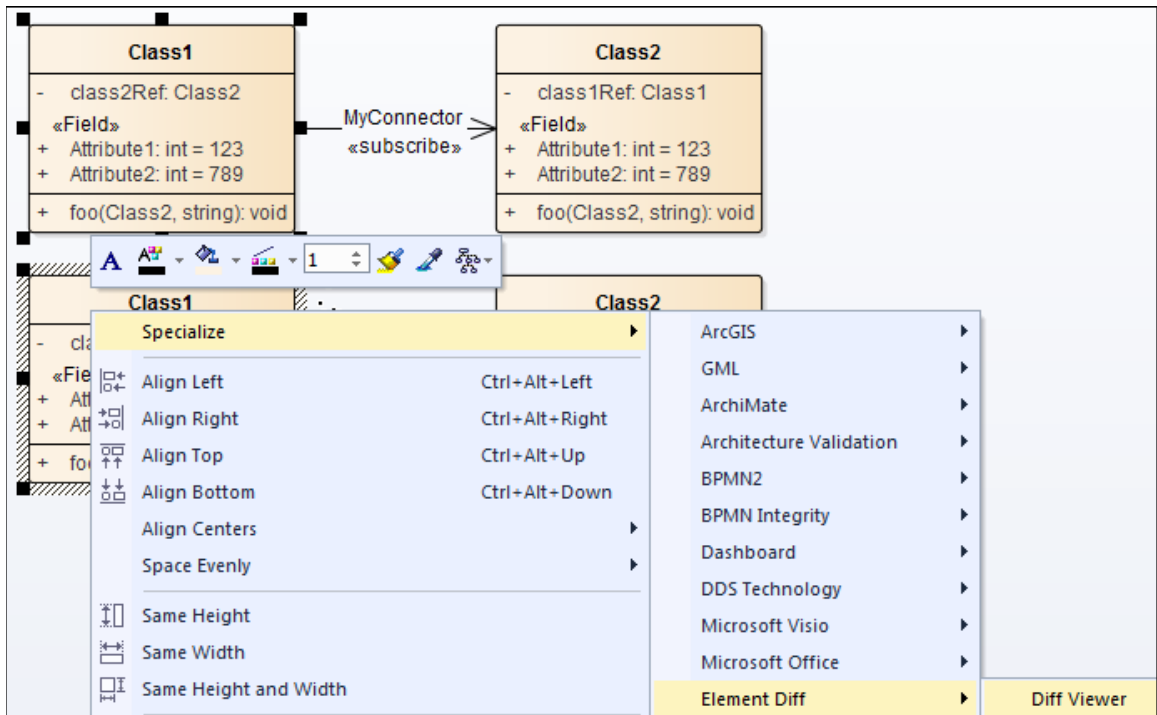
Comparing elements through the extension interface

1. Select two elements anywhere in the Project Browser:



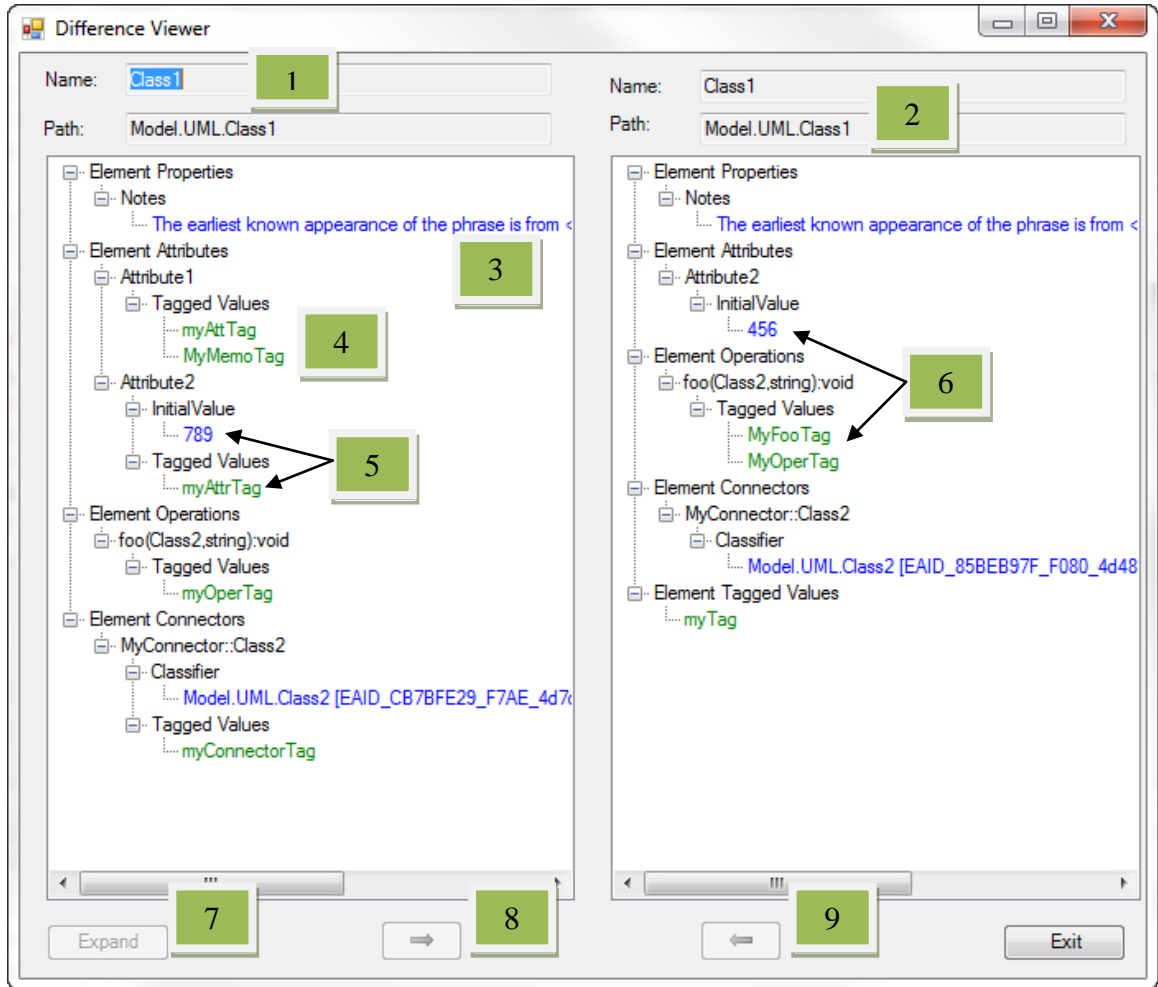
Then use the *SPECIALIZE* → *Add-Ins* → *Element Diff* → *Element Viewer* ribbon item to launch the interface.

2. Or select two elements on a diagram:



Then select the *Diff Viewer* option either through the main *SPECIALIZE* ribbon or by means of the context menu (as shown in the above diagram).

The following User interface is then presented:



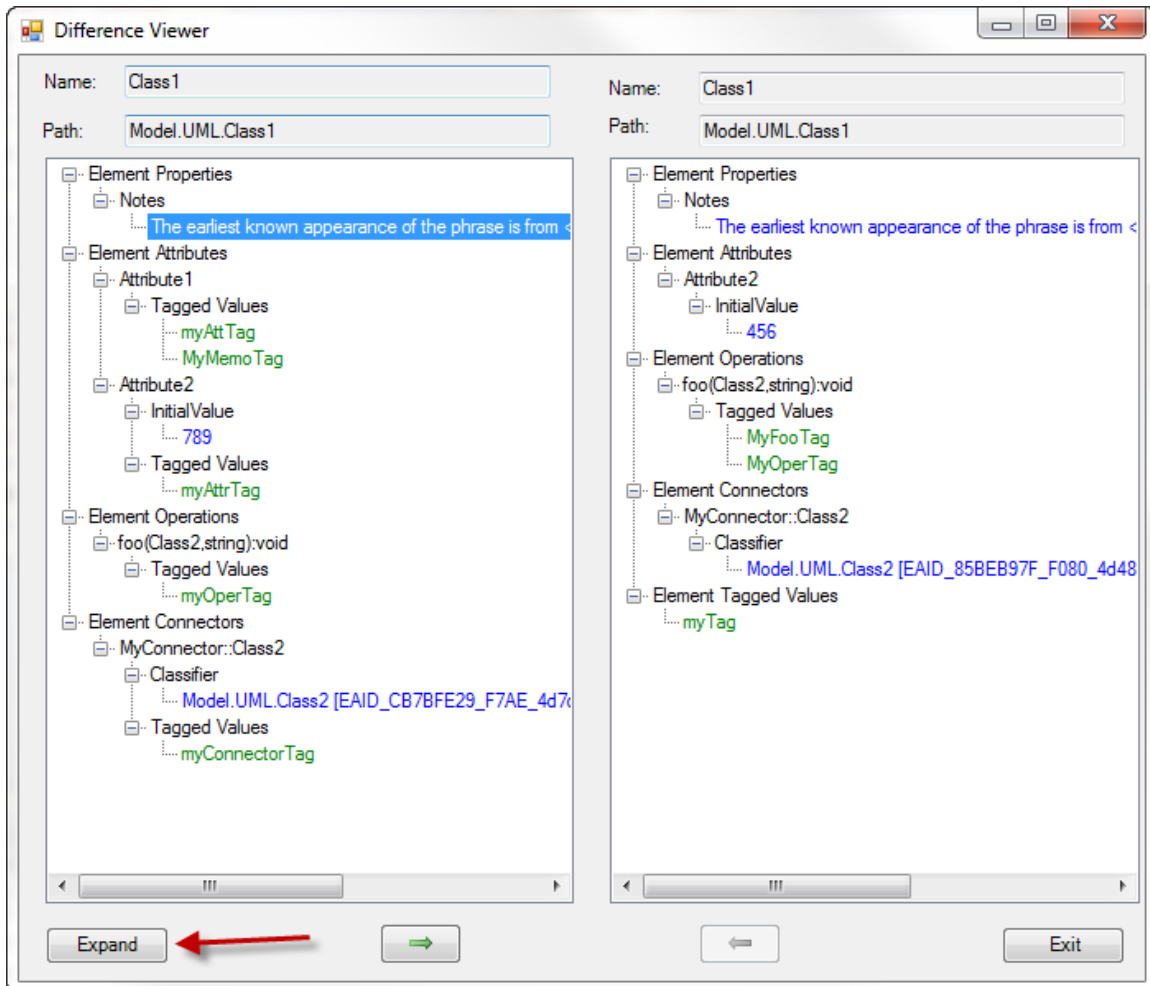
Field descriptions and User actions:

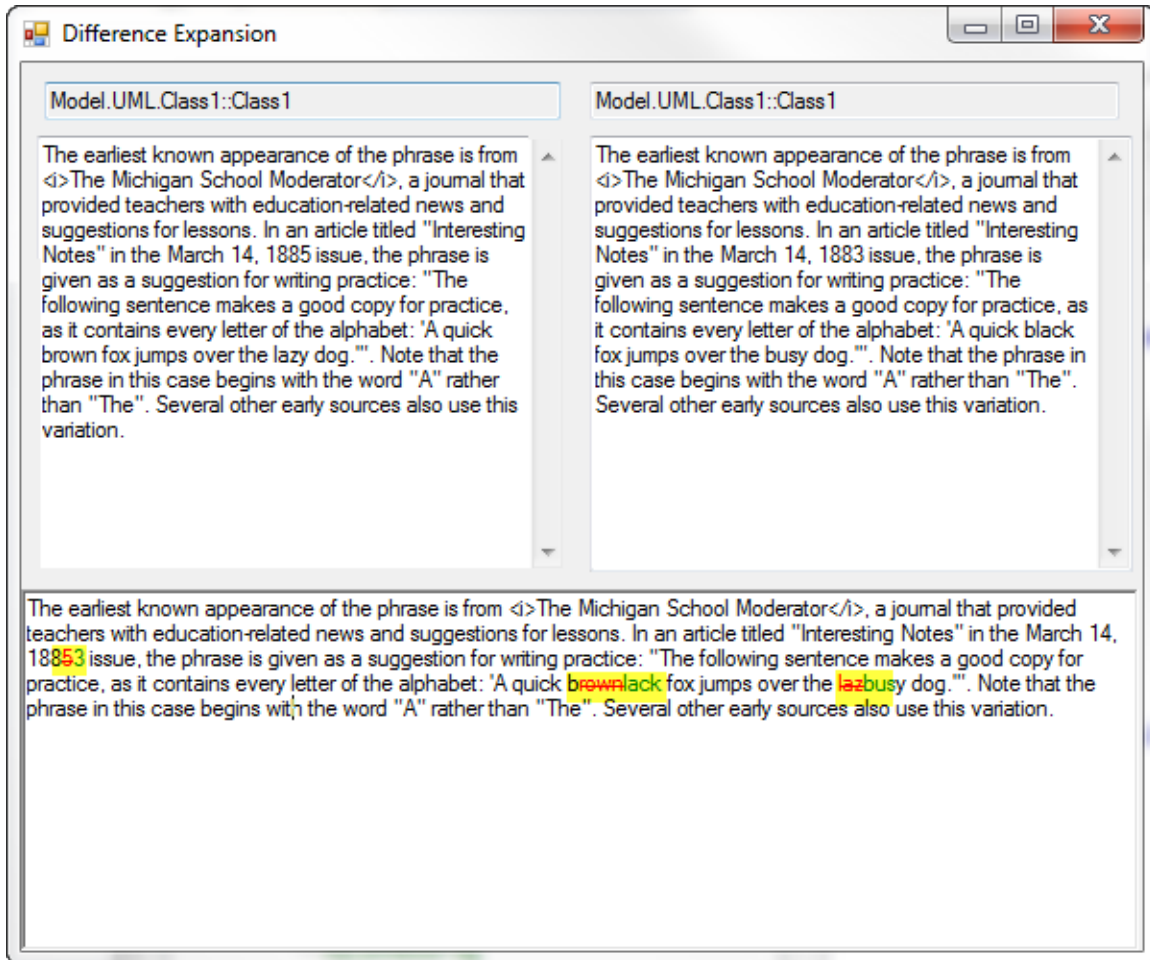
Field	Description
1.	The name of each element. This is a read-only field. If the element names are different their values will be displayed under the respective <i>Element Properties</i> sections.
2.	The full path name in EA for each element. Read-only field.
3.	Value differences are highlighted in blue.
4.	Unique features are highlighted in green.
5.	Single click any difference (blue or green text) to locate the related element, attribute, operation, part, or port in the Project Browser. This feature is not available in EA for connectors.
6.	Double click any difference (blue or green text) to launch the related element, attribute, operation, part, or port properties window. This feature is not available in EA for connectors.

7.	Click on any value difference (blue text) to enable the <i>Expand</i> button. Clicking the button launches a difference expansion viewer (see next page for an example).
8.	Click on any value difference (blue text) in the left tree view to enable the <i>Left Arrow</i> copy button. If the button is not enabled this indicates that the value is protected (e.g. classifier, type, stereotype). Click the button to copy the value from the left side element and overwrite the value on the right side. After the values are made equal the font color changes to black. Note that EA will prevent updates to locked elements!
9.	Click on any value difference (blue text) in the right tree view to enable the <i>Right Arrow</i> copy button. If the button is not enabled this indicates that the value is protected (e.g. classifier, type, stereotype). Click the button to copy the value from the right side element and overwrite the value on the left side. After the values are made equal the font color changes to black. Note that EA will prevent updates to locked elements!

To exit the interface, simply click the Exit button or close it like any other EA window.

To view large text differences in an expanded interface, select the blue text on either side and click the *Expand* button:

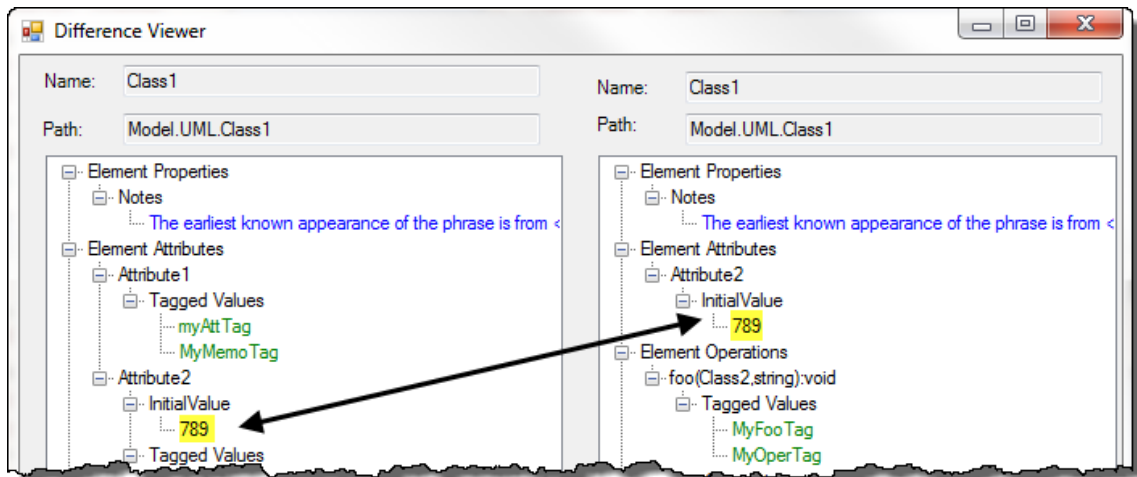
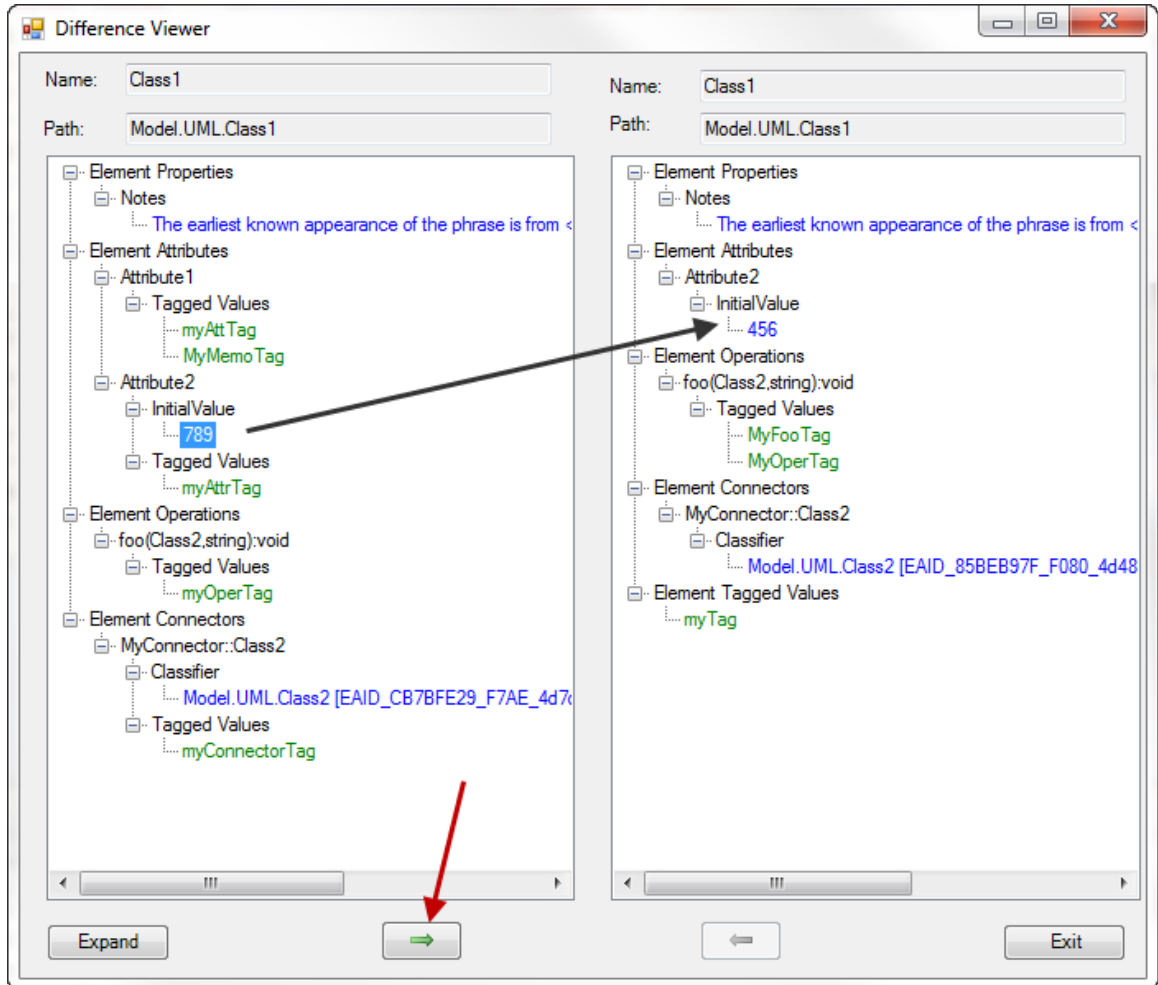




The bottom panel displays the detailed textual differences using color fonts (green for insertions and red for deletions).

Element Diff User Guide

To copy non-protected values from one element, feature or connector to another, select the value (blue text) on the “from” side, and click the *Left Arrow* or *Right Arrow* copy button:



Note the change of font color to black after the update is completed.

Support and contact information

Use the contact information below for any installation or runtime issues with the extension. Feature requests or suggestions for improvement are also welcome!

Contact: Frank Truyen

Email: support@enterprisemodelingsolutions.com

Phone: 714-573-7112.

Web: <https://enterprisemodelingsolutions.com>