

System Architecture Extension

System Architecture Extension.....	1
Disclaimer	4
Dependencies	4
Limitations of the trial version.	4
Installation.....	4
Verifying the installation.....	5
Installing the license key file	8
Trial version.....	8
Licensed version.....	8
Adding the User license key	10
Using the MDG Technology	13
System Architecture Elements and Connectors.....	15
Application.....	15
Properties.....	15
Graphical Representation	15
Software.....	16
Properties.....	16
Graphical Representation	16
Technology.....	17
Properties.....	17
Graphical Representation	17
Node (Generic).....	18
Properties.....	18
Default Graphical Representation.....	18
Server	19
Properties.....	19
Graphical Representations	20
Deploying Artifacts.....	20
Feature and compartment visibility	21
Application Server	22

Properties	22
Graphical Representations	22
Database Server	23
Properties	23
Graphical Representations	23
Directory Server	24
Properties	24
Graphical Representations	24
Email Server.....	25
Properties	25
Graphical Representations	25
Printer Server	26
Properties	26
Graphical Representations	26
Web Server	27
Properties	27
Graphical Representations	27
Database.....	28
Properties	28
Graphical Representations	28
Website	29
Properties	29
Graphical Representations	29
Workstation	30
Properties	30
Graphical Representations	30
Device (Generic)	31
Properties	31
Default Graphical Representation	31
Firewall.....	32
Properties	32
Graphical Representations	32
Cloud Zone.....	33

Properties	33
Graphical Representation	33
Network Zone	34
Properties	34
Graphical Representation	34
Network Element	35
Properties	35
Graphical Representations	35
Network Link	36
Properties	36
Graphical Representation	36
Diagram Stereotypes	37
Troubleshooting	38
Support and contact information	38

Disclaimer

The guidelines contained in this document are based on release 12.1 of Enterprise Architect (EA). Version 1.0 of the *System Architecture Extension* has been successfully tested for deployment with EA 12.1.

This deployment, as well as the guidelines, 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 12.1 will work properly. No effort will be made to support earlier releases of Enterprise Architect.

If any problems are encountered, either during 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.

Limitations of the trial version.

The following limitations apply to the trial version:

- The software activation is granted for five (5) consecutive days only. After expiration the System Architecture MDG Technology will no longer be loaded into Enterprise Architect.

Installation

The installation process is the same for both the trial and the full version.

First, **exit any running instances of Enterprise Architect**, then launch the “setup.exe” program 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 an *Addins* folder in the Sparx Systems installation directory, e.g.

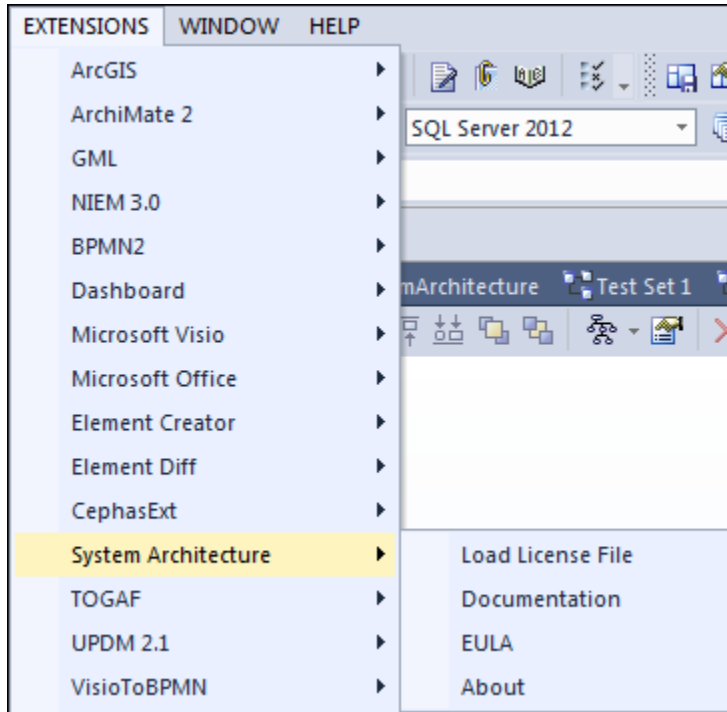
C:\Program Files (x86)\Sparx Systems\Addins.

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.

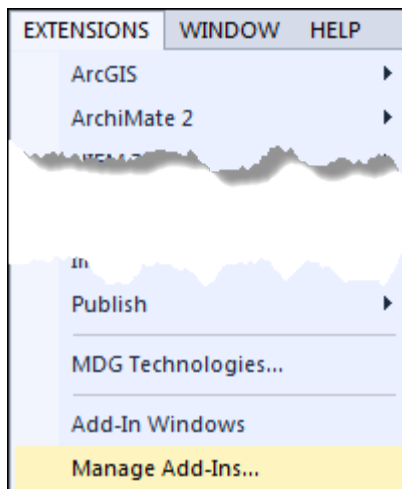
Verifying the installation

Bring up Enterprise Architect, without necessarily opening a repository, and verify that there is an *System Architecture* entry under the Extensions menu:

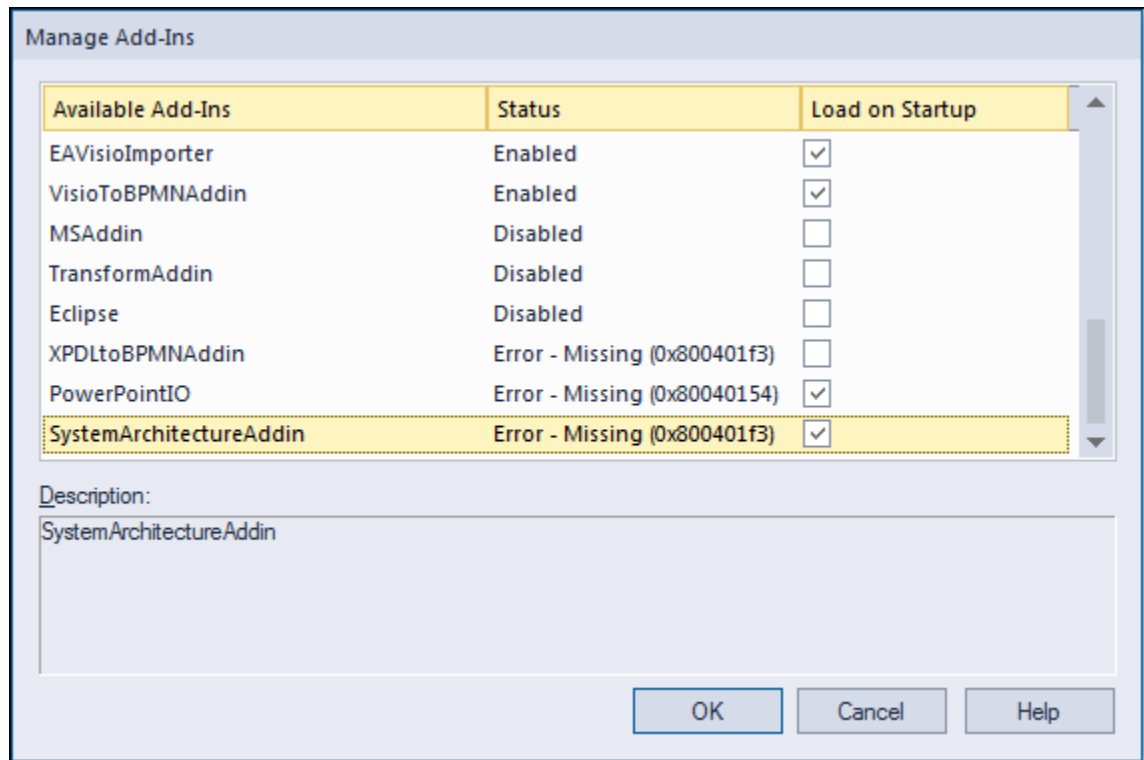


Note that the other extensions shown in the above screenshot may or may not be present, depending on your Enterprise Architect version and configuration.

Should the menu entry not be present, select the “Extensions → Manage Add-Ins” menu option:



And confirm that the *System Architecture* extension is loaded and enabled:



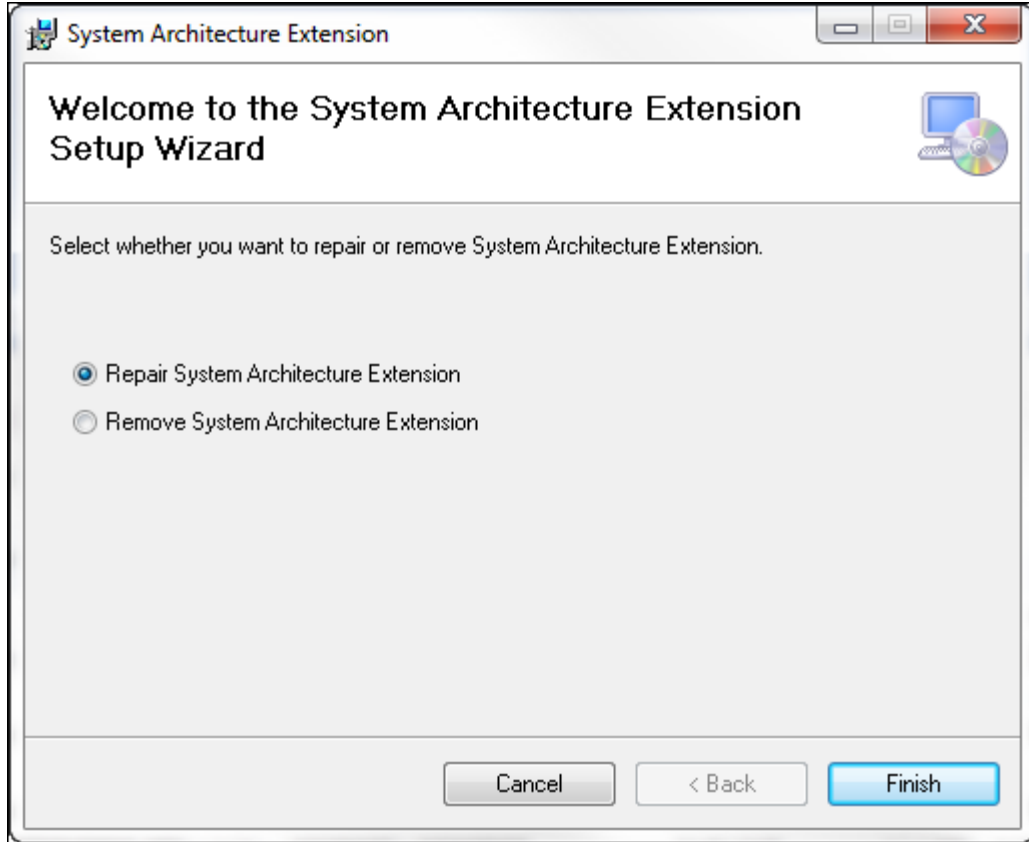
If an error status is shown, as in the example above, this typically means that either:

- The installation process failed and that the DLL cannot be located in the Windows registry, or in the file system.
- The installation did succeed but the DLL file was later moved or deleted.

If the *System Architecture* entry itself is not found then the extension 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 *System Architecture* extension is still not loaded correctly in Enterprise Architect, remove the program through the Windows control panel and start the installation process over.

At the completion of a successful installation the following files are installed in the selected directory:

Name	Type	Size
 Cephas_Software_EULA.pdf	Adobe Acrobat D...	60 KB
 Cephas_Software_EULA.rtf	Rich Text Format	126 KB
 EA.TLB	TLB File	215 KB
 Interop.EA.dll	Application extens...	296 KB
 register_SystemArchitectureAddin.bat	Windows Batch File	1 KB
 SystemArchitectureAddin.dll	Application extens...	1,168 KB
 SystemArchitectureExtension.pdf	Adobe Acrobat D...	559 KB
 Unregister_SystemArchitectureAddin.bat	Windows Batch File	1 KB

Installing the license key file

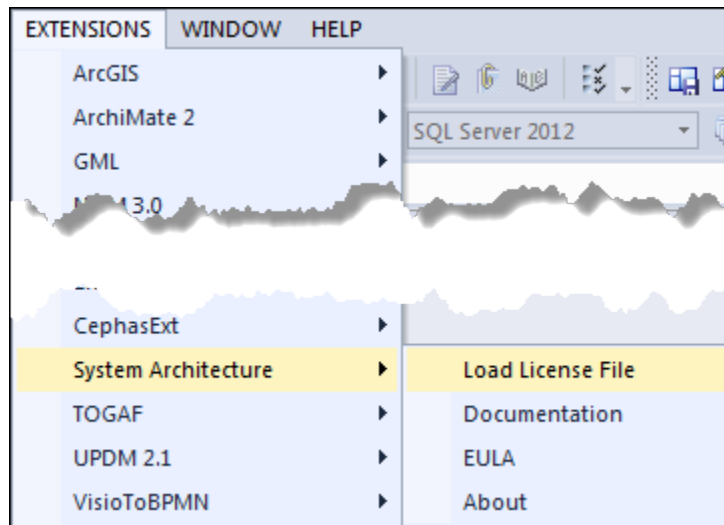
Trial version

The software installation automatically loads the trial version license key. Skip to the [Adding the User license Key](#) section.

Licensed version

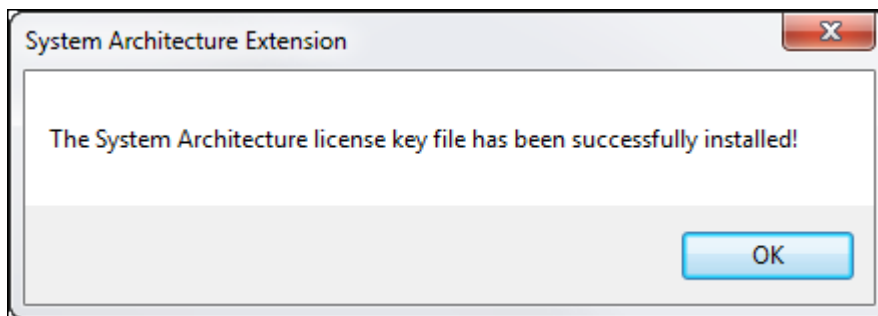
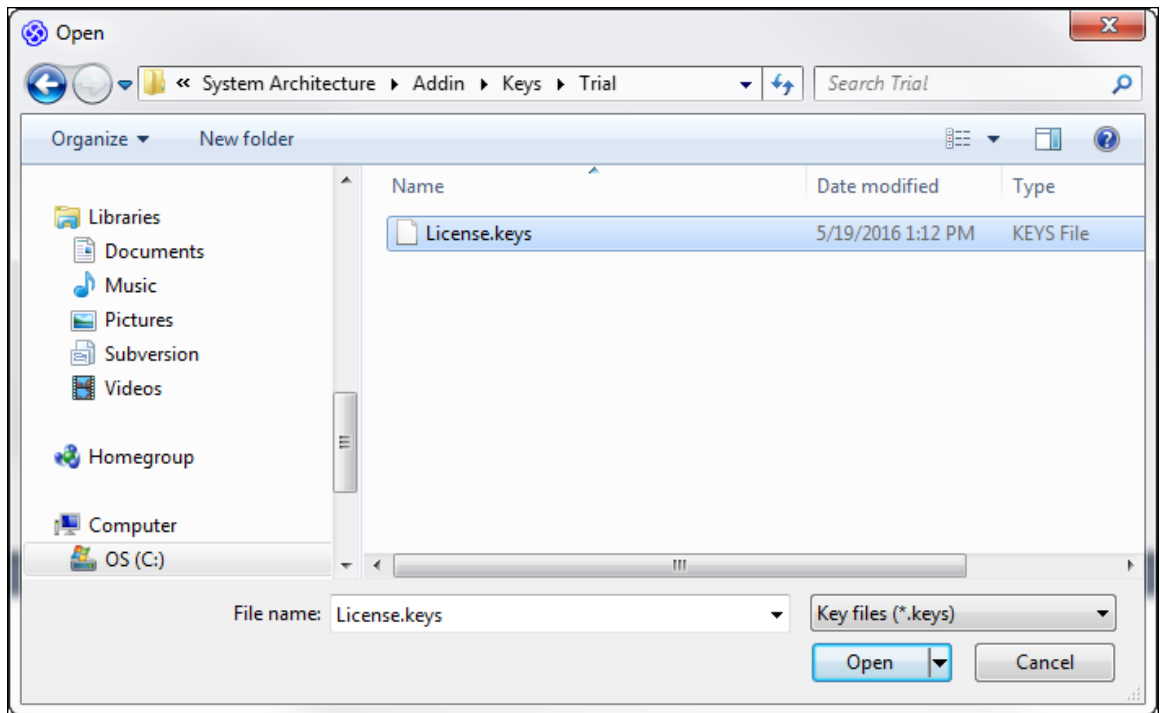
Once the full version of the product has been purchased, a *License.keys* file will be provided by Cephias Consulting which needs to be installed **by each User of the software, even if a site license key is acquired.**

To install the license key file, open Enterprise Architect and click:



System Architecture User Guide

Next, select the provided file from the folder in which you copied it:

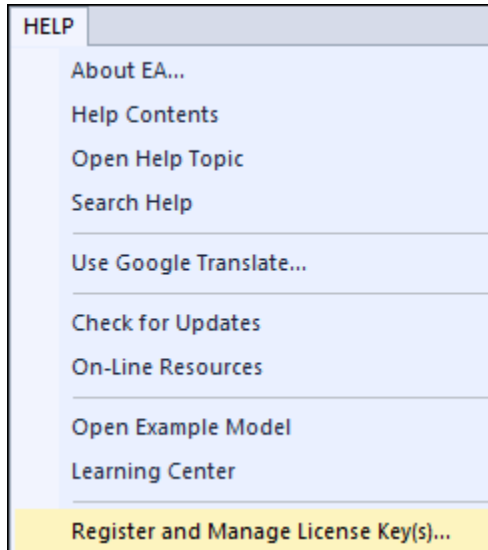


After installing the license key file, continue with the next section.

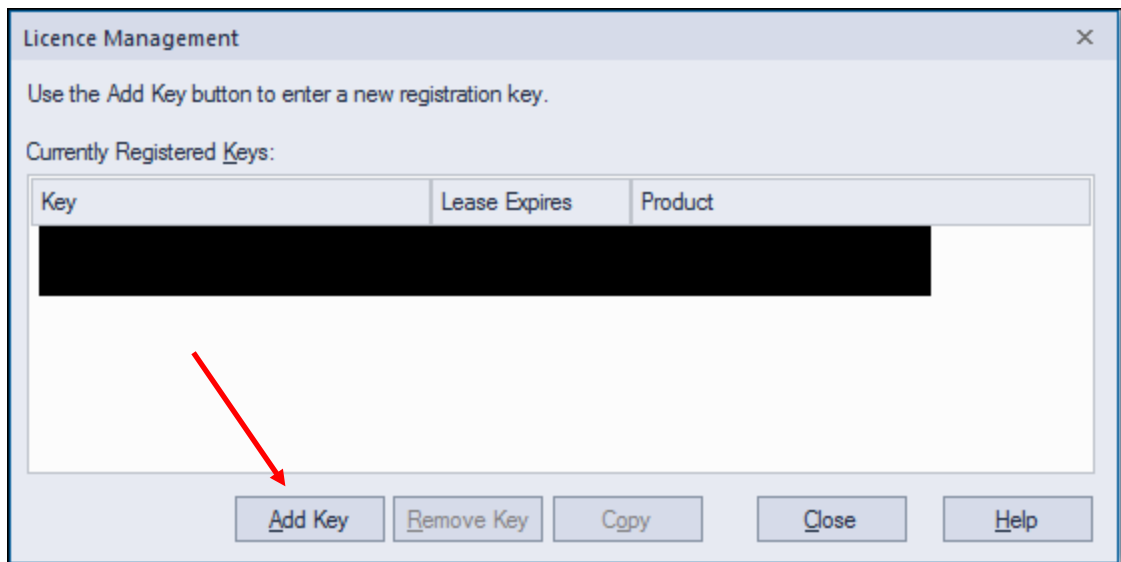
Adding the User license key

The following step is required for both the trial and the full version of the software.

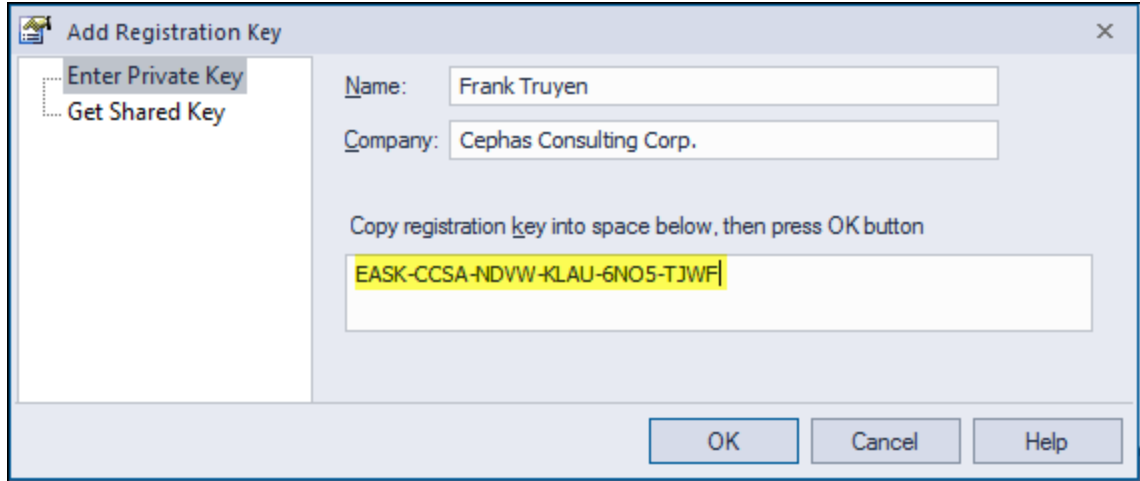
Under the Help menu, select:



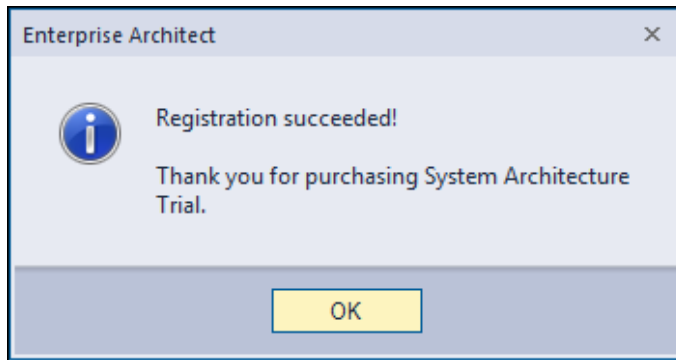
Next, click “Add Key”:



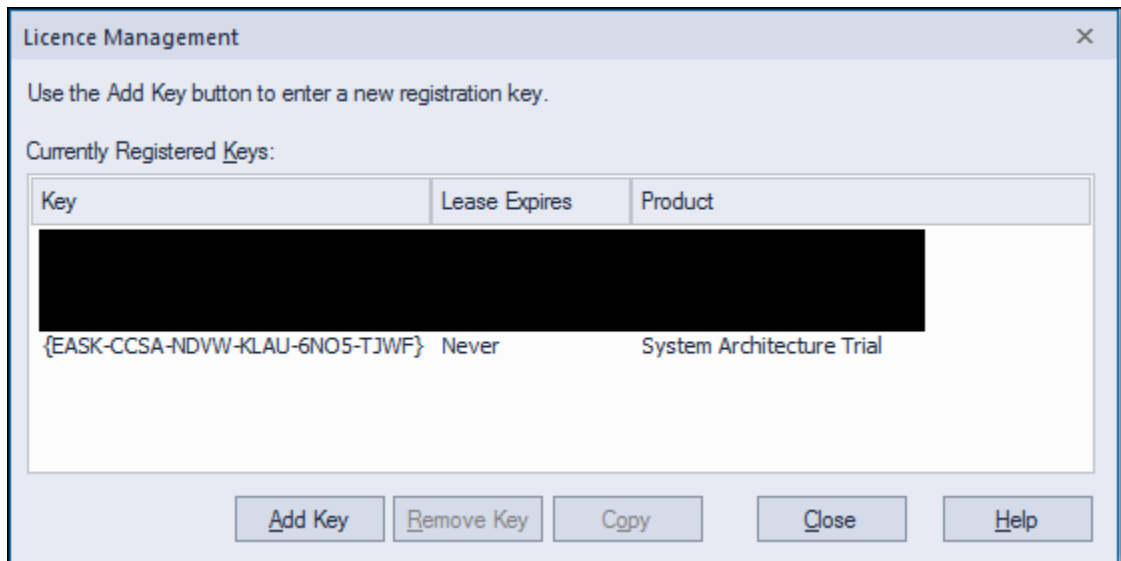
Enter or copy/paste, either the trial key (shown below), or one the full version keys provided as part of the software purchase:



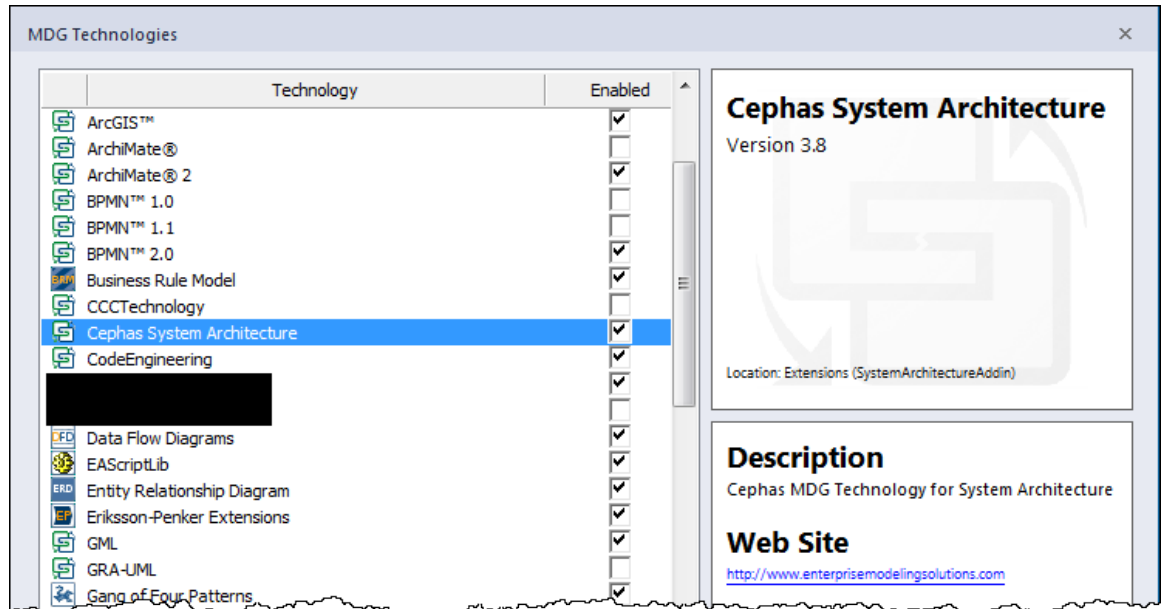
Enterprise Architect will confirm the successful addition of a key:



The license is now added to the registered keys:

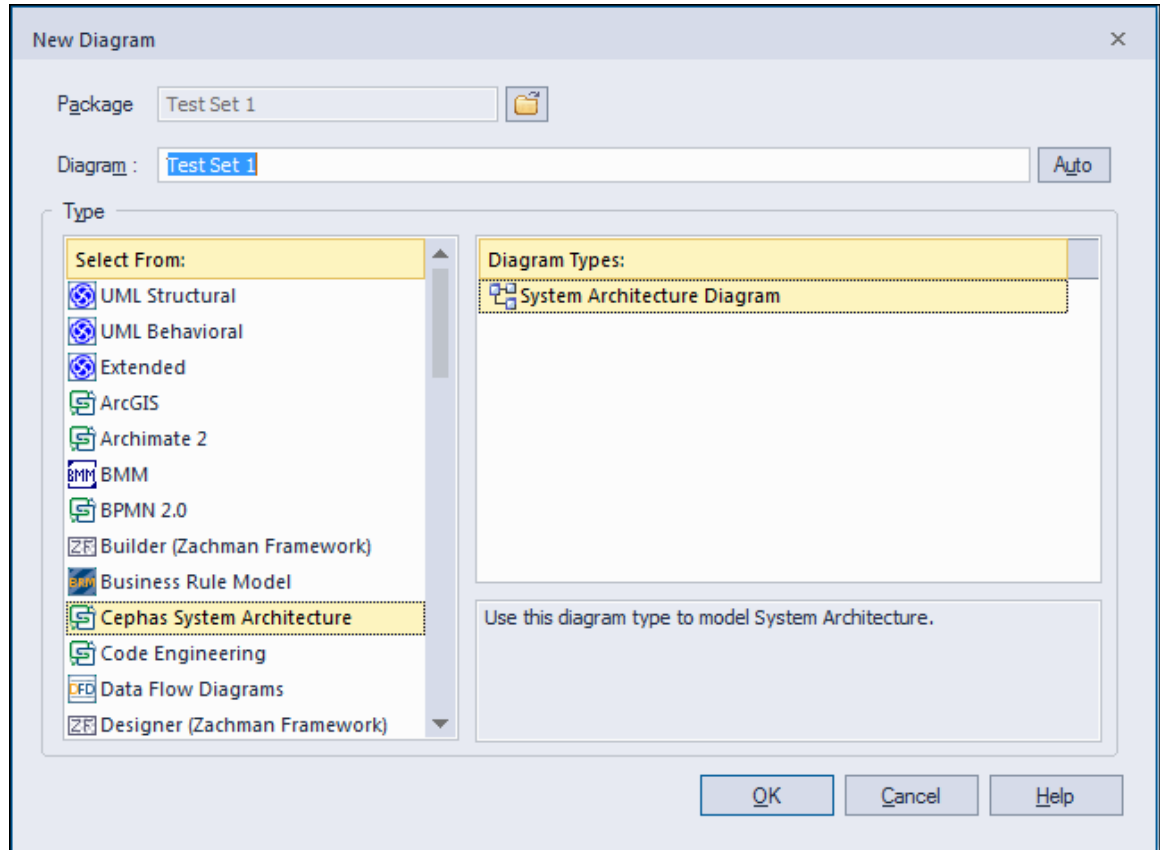


Next **exit the Enterprise Architect tool** and **restart it** in order to load the MDG Technology for System Architecture. You can verify its status from the Extensions → MDG Technologies menu:

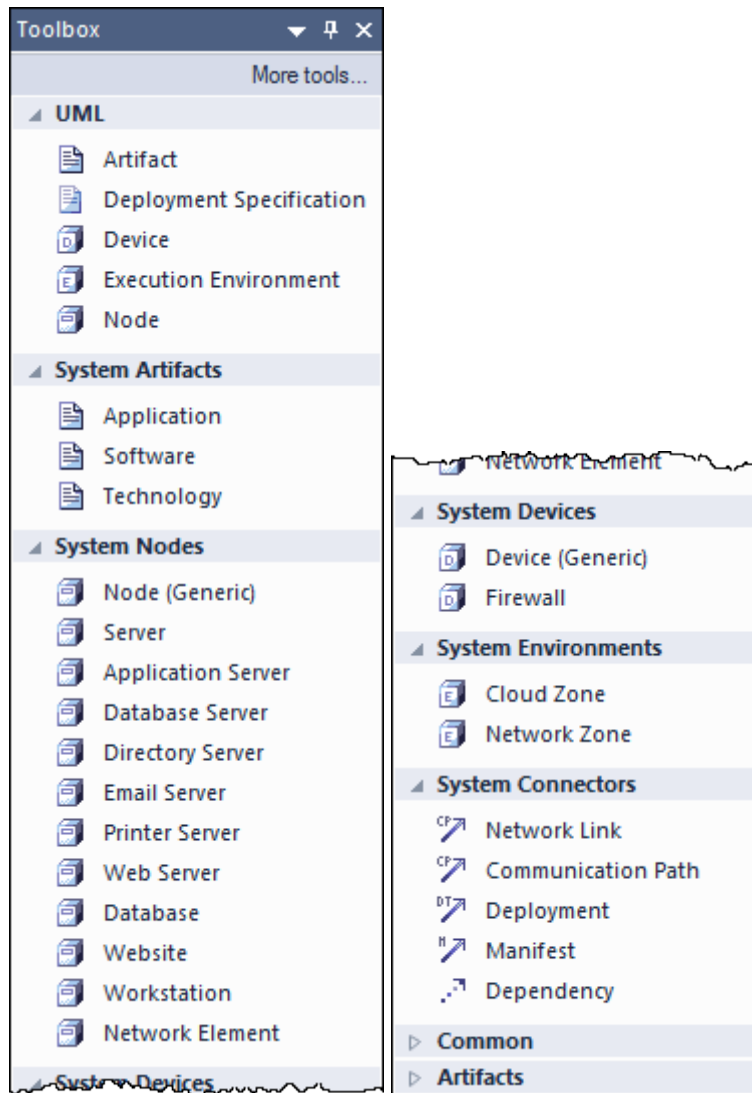


Using the MDG Technology

Once the Technology is loaded you can create System Architecture diagrams:



The toolbox/stencil associated with this diagram provides the following items:



In the top section labeled “UML”, the metatypes most commonly used in a UML Deployment diagram are included for modeling convenience. Standard UML elements can be mixed with the types defined by the System Architecture extension.

Likewise, in the bottom section, a number of standard UML connector types are made available.

The next section describes each of the extension specific toolbox elements in detail.

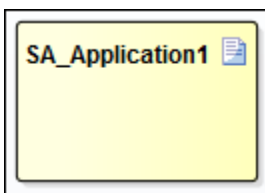
System Architecture Elements and Connectors

Application

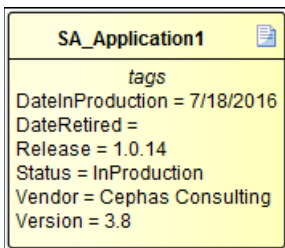
Properties

Name	Description
Base type	UML Artifact. This allows an Application to act as a <i>Manifestation</i> of a logical UML Component, as well as being Deployed on a UML Node .
Tagged Values	
DateInProduction	The calendar date when the Application entered production.
DateRetired	The calendar date when the Application was retired from production.
Release	The current release number [text string].
Status	One of: <div style="border: 1px solid black; padding: 5px; width: fit-content;"> InProduction InDevelopment Retired ScheduledForRetirement </div> Default: blank.
Vendor	Vendor name [text string].
Version	Version number [text string].

Graphical Representation



To make the tagged values visible in the diagram, use the tool's default *Feature and Compartment Visibility* option:



Software

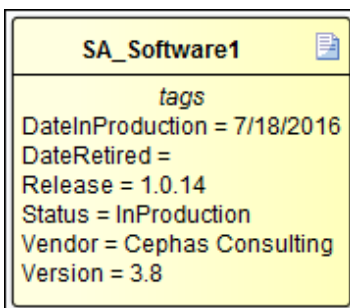
Properties

Name	Description
Base type	UML Artifact. This allows the Software to act as a <i>Manifestation</i> of a logical UML Component, as well as being Deployed on a UML Node .
Tagged Values	
DateInProduction	The calendar date when the Software entered production.
DateRetired	The calendar date when the Software was retired from production.
Release	The current release number [text string].
Status	One of: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> InProduction InDevelopment Retired ScheduledForRetirement </div> Default: blank.
Vendor	Vendor name [text string].
Version	Version number [text string].

Graphical Representation



To make the tagged values visible in the diagram, use the tool's default [Feature and Compartment Visibility](#) option:

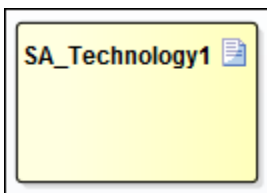


Technology

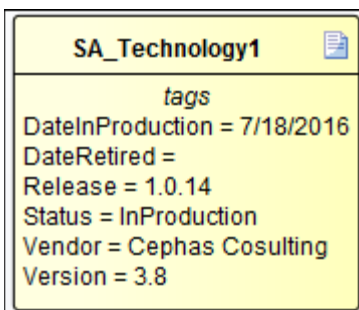
Properties

Name	Description
Base type	UML Artifact. This allows the Technology to act as a <i>Manifestation</i> of a logical UML Component, as well as being Deployed on a UML Node .
Tagged Values	
DateInProduction	The calendar date when the Technology entered production.
DateRetired	The calendar date when the Technology was retired from production.
Release	The current release number [text string].
Status	One of: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> InProduction InDevelopment Retired ScheduledForRetirement </div> Default: blank.
Vendor	Vendor name [text string].
Version	Version number [text string].

Graphical Representation



To make the tagged values visible in the diagram, use the tool's default [Feature and Compartment Visibility](#) option:

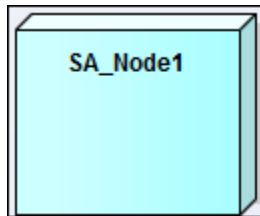


Node (Generic)

Properties

Name	Description
Base type	UML Node. This allows Application , Software , and Technology artifacts to be Deployed on a generic Node .
Tagged Values	None predefined. This allows the User to define System Architecture Nodes with their own custom properties and/or graphical representation.

Default Graphical Representation

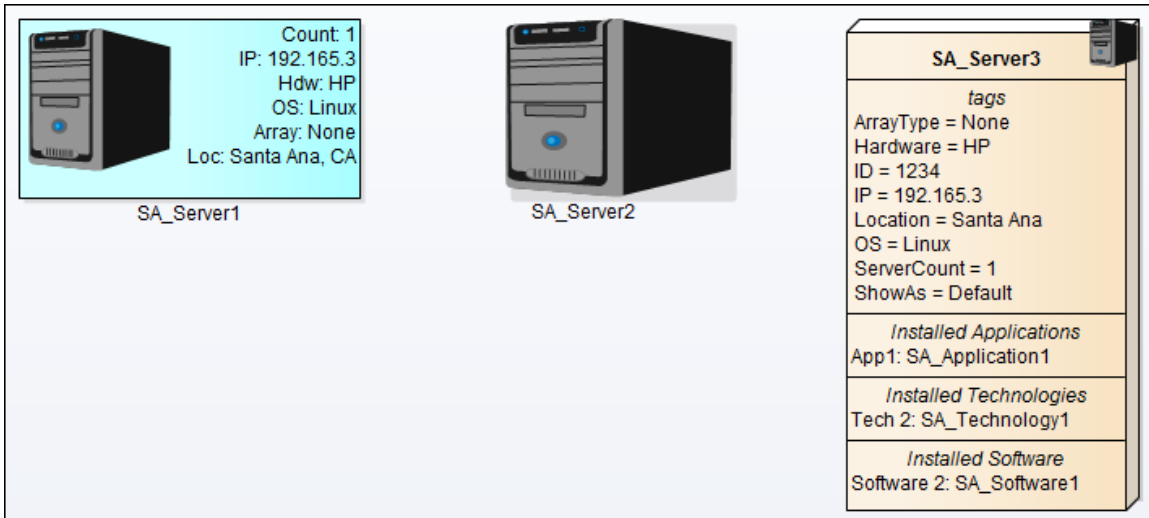


Server

Properties

Name	Description
Base type	UML Node. This allows Application , Software , and Technology artifacts to be Deployed on a Server .
Tagged Values	
ArrayType	One of: <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> None Single Clustered Pooled </div> Default: None.
Hardware	Hardware manufacturer [text string].
ID	User defined identifier [text string].
IP	IP Address [text string].
Location	Physical location of the Server/s [text string].
OS	Operating System of the Server/s [text string].
ServerCount	The number of Servers in case the element refers to a pool or cluster [numeric value]. Defaults to 1.
ShowAs	<ul style="list-style-type: none"> Default: default UML representation, with compartments visible. Image: an image representation. Mix: a combination of image and <u>assigned</u> properties (tagged values). See examples below.
Vendor	Vendor name [text string].

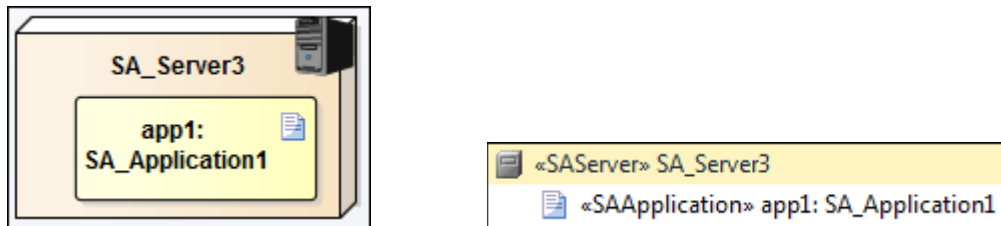
Graphical Representations



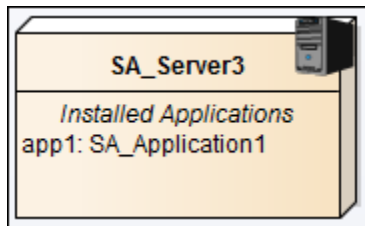
Deploying Artifacts

The default graphical representation (see image on the right) includes three (optional) compartments showing any Applications, Technologies or Software elements which have been added as children of the Server, either as Artifacts or instances of Artifacts.

When adding the Artifact to the Server, ensure it is graphically fully contained inside the Server, and hence becomes a child of it in the Project Browser structure. For example:

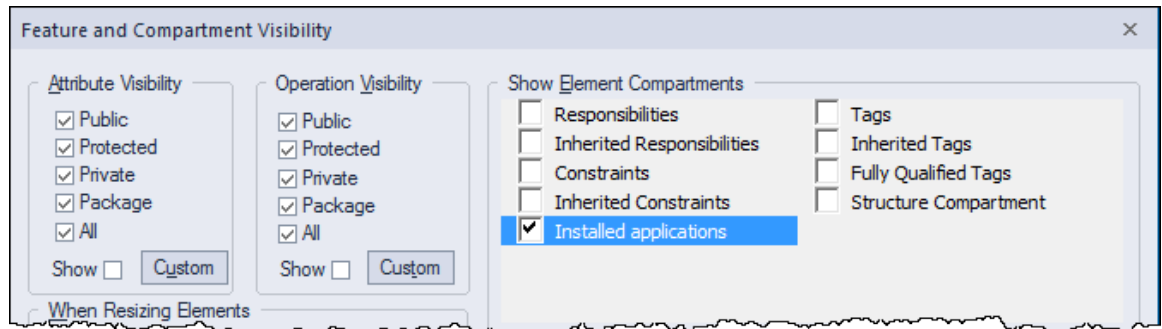


To instead show the Artifact inside the Server in a compartment, simply remove its graphical representation (delete from the diagram, not the model!):



Feature and compartment visibility

Tagged Values and compartment visibility can be toggled through the *Feature and Compartment Visibility* interface:

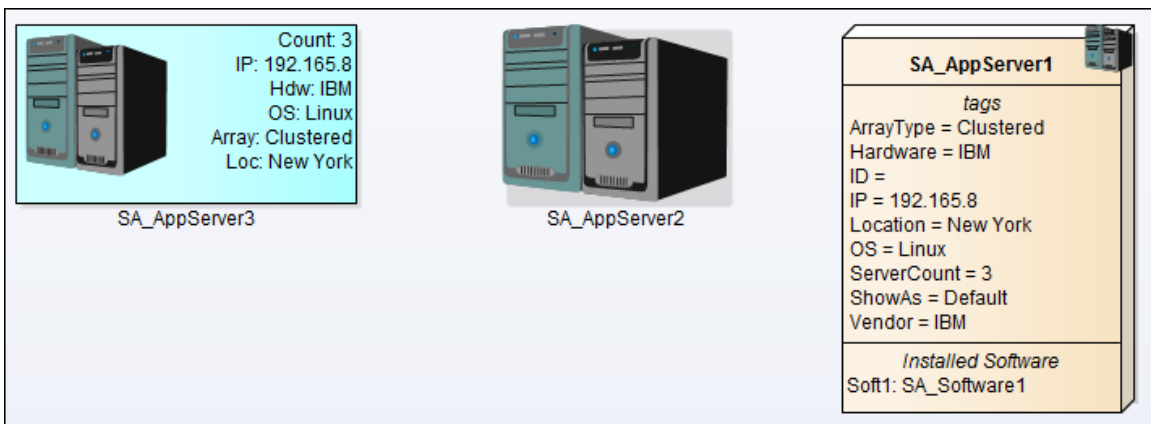


Application Server

Properties

Name	Description
Base type	Server.
Tagged Values	Inherited form Server.

Graphical Representations



The graphical representation shows three server icons. The first icon, labeled SA_AppServer3, is highlighted with a light blue background and includes the following metadata:

- Count: 3
- IP: 192.165.8
- Hdw: IBM
- OS: Linux
- Array: Clustered
- Loc: New York

The second icon is labeled SA_AppServer2. The third icon is labeled SA_AppServer1 and is shown with a detailed property window:

```

SA_AppServer1
tags
ArrayType = Clustered
Hardware = IBM
ID =
IP = 192.165.8
Location = New York
OS = Linux
ServerCount = 3
ShowAs = Default
Vendor = IBM


Installed Software
Soft1: SA_Software1
  
```

Database Server

Properties

Name	Description
Base type	Server.
Tagged Values	Inherited form Server.
StorageType	One of: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> Other Cloud SAN NAS RAID </div> Default: Other.

Graphical Representations

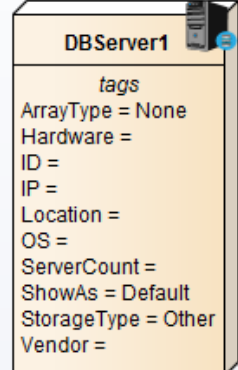


Count: 1
 IP: 192.165.4
 Hdw: Dell
 OS: Windows
 Server 2000
 Array: None
 Loc: Creswick
 Type: SAN

DBServer3



DBServer2



DBServer1

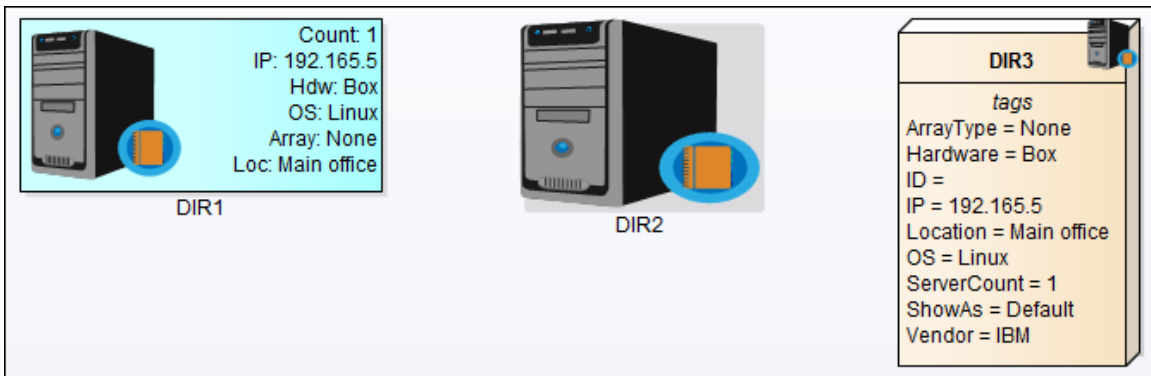
```
tags
ArrayType = None
Hardware =
ID =
IP =
Location =
OS =
ServerCount =
ShowAs = Default
StorageType = Other
Vendor =
```


Directory Server

Properties

Name	Description
Base type	Server.
Tagged Values	Inherited form Server.


Graphical Representations





Count: 1
 IP: 192.165.5
 Hdw: Box
 OS: Linux
 Array: None
 Loc: Main office

DIR1



DIR2

DIR3

tags


ArrayType = None
 Hardware = Box
 ID =
 IP = 192.165.5
 Location = Main office
 OS = Linux
 ServerCount = 1
 ShowAs = Default
 Vendor = IBM

Email Server

Properties


Name	Description
Base type	Server.
Tagged Values	Inherited form Server.

Graphical Representations



Count: 1
 IP: 192.165.6
 Hdw: XXX
 OS: Windows Server
 Array: None
 Loc: Provider

Mail1



Mail2

Mail3

tags


ArrayType = None
 Hardware = XXX
 ID =
 IP = 192.165.6
 Location = Provider
 OS = Windows Server
 ServerCount = 1
 ShowAs = Default
 Vendor = Dell

Printer Server

Properties


Name	Description
Base type	Server.
Tagged Values	Inherited form Server.

Graphical Representations



Count: 1
 IP: 192.165.13
 Hdw: HP XYZ
 OS: Windows 2000
 Array: None
 Loc: Sales

Printer1



Printer2

Printer3


tags
 ArrayType = None
 Hardware = HP XYZ
 ID =
 IP = 192.165.13
 Location = Sales
 OS = Windows 2000
 ServerCount = 1
 ShowAs = Default
 Vendor =

Web Server

Properties


Name	Description
Base type	Server.
Tagged Values	Inherited form Server.

Graphical Representations



Count: 2
IP: 192.165.7
Hdw: YYY
OS: Windows
Server
Array: None
Loc: Main office

Web1



Web2

Web3

tags

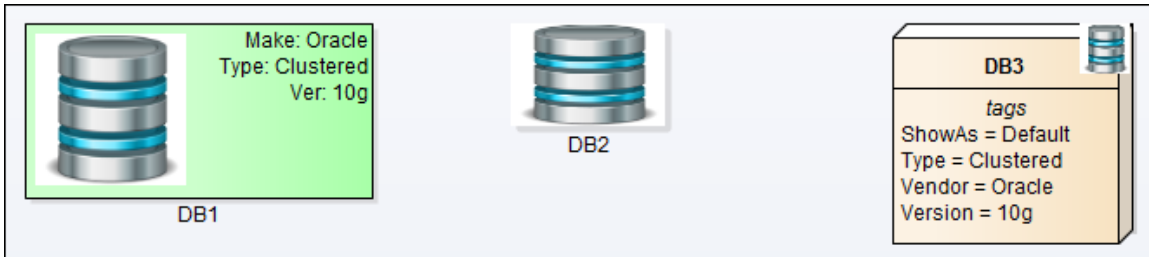
ArrayType = None
Hardware = YYY
ID =
IP = 192.165.7
Location = Main office
OS = Windows Server
ServerCount = 2
ShowAs = Default
Vendor = HP

Database

Properties

Name	Description
Base type	UML Node. This allows Application , Software , and Technology artifacts to be Deployed on a Database .
Tagged Values	
Type	Kind of database (e.g. RDBMS) [text string].
Vendor	Vendor name [text string].
Version	Version number [text string].

Graphical Representations

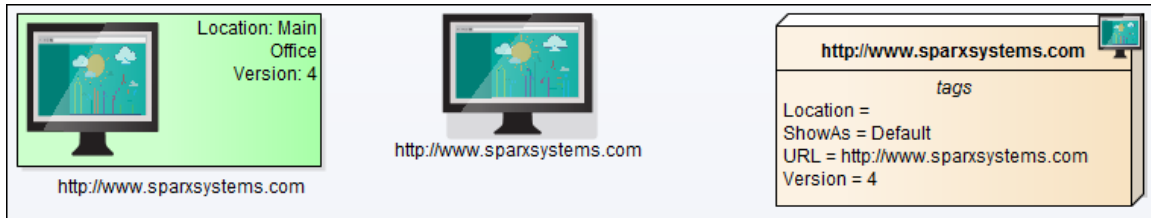


Website

Properties

Name	Description
Base type	UML Node. This allows Application , Software , and Technology artifacts to be Deployed on a Website .
Tagged Values	
Location	Physical location of the site [text string].
URL	Site URL [text string].
Version	Version number [text string].

Graphical Representations



Workstation

Properties

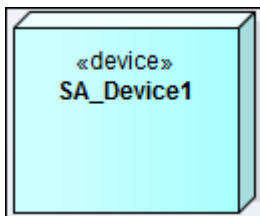
Name	Description
Base type	UML Node. This allows Application , Software , and Technology artifacts to be Deployed on a Workstation .
Tagged Values	
Type	The kind of workstation [text string].
Vendor	Vendor name [text string].
Version	Version number [text string].

Graphical Representations



Device (Generic)**Properties**

Name	Description
Base type	UML Device.
Tagged Values	None predefined. This allows the User to define System Architecture Devices with their own custom properties and/or graphical representation.

Default Graphical Representation

Firewall

Properties

Name	Description
Base type	UML Device.
Tagged Values	
Type	The kind of firewall [text string].
Vendor	Vendor name [text string].
Version	Version number [text string].

Graphical Representations

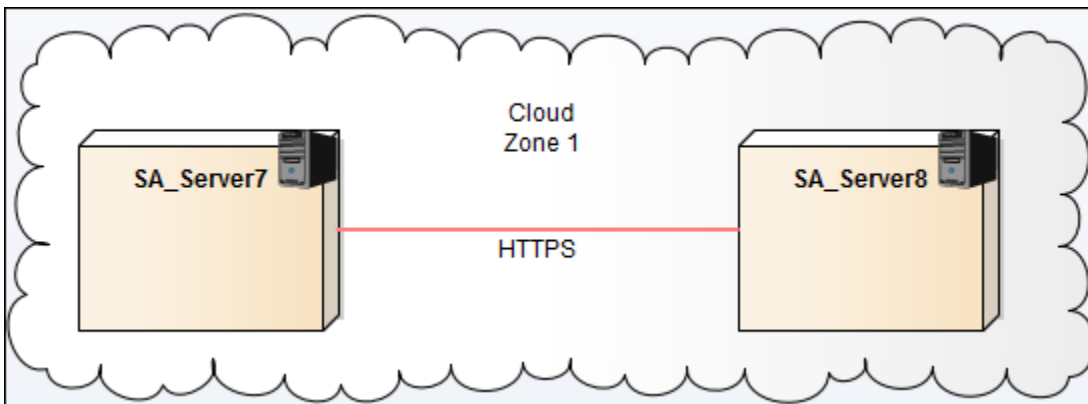
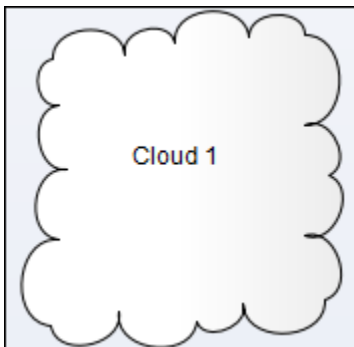


Cloud Zone

Properties

Name	Description
Base type	UML Execution Environment. Optionally other elements, such as Servers, can be placed inside the Cloud Zone.
Tagged Values	None.

Graphical Representation

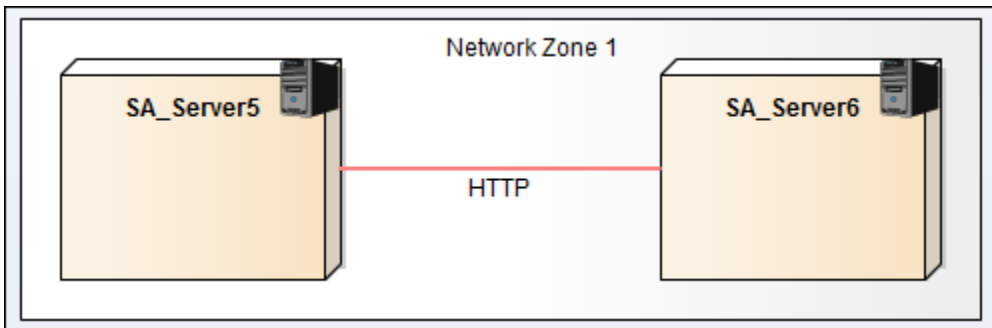


Network Zone

Properties

Name	Description
Base type	UML Execution Environment. Optionally other elements, such as Servers, can be placed inside the Network Zone.
Tagged Values	None.

Graphical Representation



Network Element

Properties

Name	Description
Base type	UML Node. This allows Application , Software , and Technology artifacts to be Deployed on a Network . Allows a network to be represented as an element in the model, instead of (or in addition to) a connector.
Tagged Values	
Protocol	One of: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> FTP FTPs HTTP HTTPS HTTPS/SOAP TCP-IP SOAP SSH SSL </div> Default: HTTP.

Graphical Representations



Network Link

Properties

Name	Description
Base type	UML Communication Path.
Tagged Values	
Protocol	One of: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> FTP FTPs HTTP HTTPS HTTPS/SOAP TCP-IP SOAP SSH SSL </div> Default: HTTP.

Graphical Representation

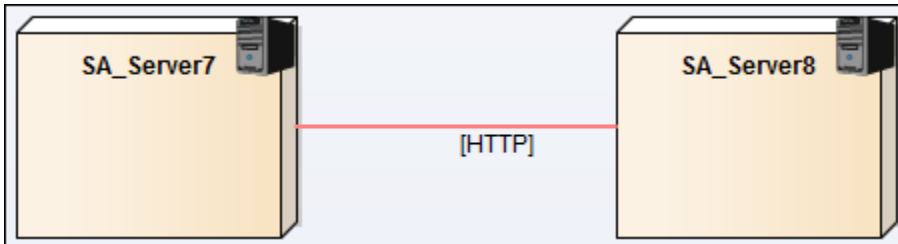
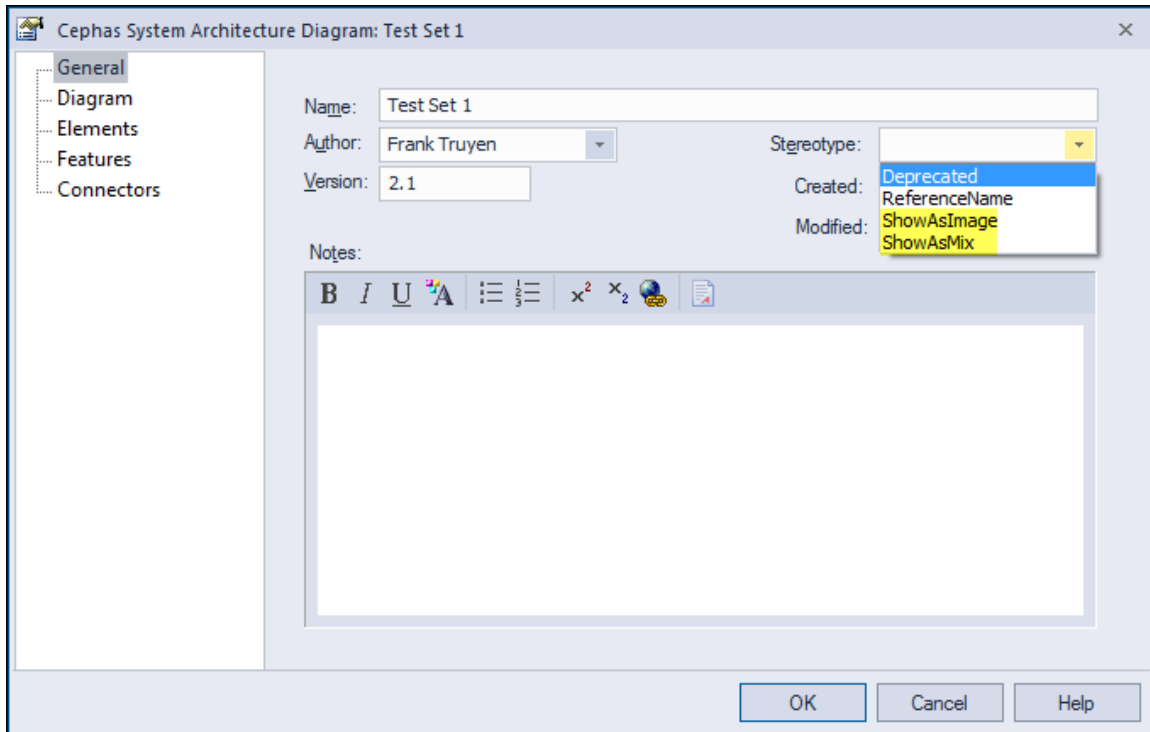


Diagram Stereotypes

Two diagram level stereotypes are provided which can be used to switch the graphical representation of all the Service Architecture elements that support such an option (i.e. any of the elements documented above with a “Show As” tagged value):

1. *ShowAsImage*: change all elements on the diagram to an image representation.
2. *ShowAsMix*: change all elements on the diagram to the mixed image and properties representation.



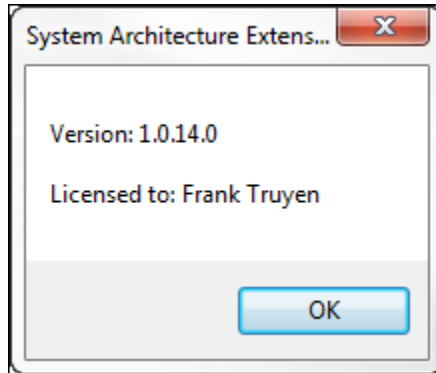
Setting the diagram level stereotype overrides any “Show As” property value set at the element level.

To return to the representation as specified at the element level, simply clear the diagram stereotype value.

Troubleshooting

If any error is encountered while [installing](#) or using this extension, please follow this procedure:

- Take a screenshot of the error message or error condition.
- Provide the version of the System Architecture extension (using the *About* menu item). For example:



- Supply the version of Enterprise Architect being used.
- Include your operating system and any other execution environment information that may be relevant.

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 always welcome!

Contact: Frank Truyen

Email: support@enterprisemodelingsolutions.com

Phone : 714-573-7112.