

TIBCO Silver[®] Fabric Enabler for ActiveMatrix[®] Service Grid

User's Guide

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Preface

Topics

- [Related Documentation, page viii](#)
- [Typographical Conventions, page ix](#)
- [TIBCO Product Documentation and Support Services, page xi](#)

Related Documentation

This section lists documentation resources you may find useful.

TIBCO Silver® Fabric Enabler for ActiveMatrix® Service Grid Documentation

The following documents form the TIBCO Silver® Fabric Enabler for ActiveMatrix® Service Grid documentation set:

- *TIBCO Silver Fabric ActiveMatrix Service Grid Enabler Installation* Read this manual for instructions on site preparation and installation.
- *TIBCO Silver Fabric ActiveMatrix Service Grid Enabler User's Guide* Read this manual for instructions on using the product.
- *TIBCO Silver Fabric ActiveMatrix Service Grid Enabler Release Notes* Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

Other TIBCO Product Documentation

TIBCO Silver Fabric Service Grid Enabler empowers TIBCO Silver Fabric private cloud infrastructure to run TIBCO ActiveMatrix Service Grid.

You may find it useful to read documentation related to the following TIBCO products:

- TIBCO Silver® Fabric
- TIBCO ActiveMatrix® Service Grid
- TIBCO ActiveMatrix BusinessWorks™ Service Engine
- TIBCO ActiveMatrix® Binding Type for Adapters
- TIBCO ActiveMatrix® Binding Type for EJB
- TIBCO ActiveMatrix® Implementation Type for Microsoft CLR
- TIBCO Enterprise Message Service™
- TIBCO Rendezvous®




Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

Convention	Use
<i>TIBCO_HOME</i>	Many TIBCO products must be installed within the same home directory. This directory is referenced in documentation as <i>TIBCO_HOME</i> . The default value of <i>TIBCO_HOME</i> depends on the operating system. For example, on Windows systems, the default value is C:\tibco.
<i>ENV_HOME</i>	
<i>SFSG_HOME</i>	
<i>SILVERFABRIC_HOME</i>	
<i>tibcoHome</i>	Other TIBCO products are installed into an <i>installation environment</i> . Incompatible products and multiple instances of the same product are installed into different installation environments. An environment home directory is referenced in documentation as <i>ENV_HOME</i> . The default value of <i>ENV_HOME</i> depends on the operating system. For example, on Windows systems, the default <i>ENV_HOME</i> value for TIBCO Silver Fabric is C:\fabric.
	TIBCO Silver® Fabric Enabler for ActiveMatrix Service Grid is installed into a directory that is referenced in documentation as <i>SFSG_HOME</i> . The value of <i>SFSG_HOME</i> depends on the operating system. For example, on Windows systems, the default value is C:\tibco\sfs
	TIBCO Silver Fabric is installed into a directory that is referenced in documentation as <i>SILVERFABRIC_HOME</i> . The value of <i>SILVERFABRIC_HOME</i> depends on the operating system. For example, on Windows systems, the default value can be C:\fabric.
	TIBCO Silver Fabric publishes files associated with Components to a specific directory on an Engine instance on either a physical or a virtual machine managed by a Silver Fabric Broker. This Engine directory is referred to as <i>tibcoHome</i> .
code font	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example: Use MyCommand to start the foo process.

Table 1 General Typographical Conventions (Cont'd)

Convention	Use
bold code font	<p>Bold code font is used in the following ways:</p> <ul style="list-style-type: none">• In procedures, to indicate what a user types. For example: Type admin.• In large code samples, to indicate the parts of the sample that are of particular interest.• In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, MyCommand is enabled: MyCommand [enable disable]
<i>italic font</i>	<p>Italic font is used in the following ways:</p> <ul style="list-style-type: none">• To indicate a document title. For example: See <i>TIBCO ActiveMatrix Service Grid Concepts</i>.• To introduce new terms. For example: A portal page may contain several portlets. <i>Portlets</i> are mini-Stacks that run in a portal.• To indicate a variable in a command or code syntax that you must replace. For example: MyCommand <i>PathName</i>
Key combinations	<p>Key names separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.</p>
	<p>The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.</p>
	<p>The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.</p>
	<p>The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.</p>

TIBCO Product Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, or join TIBCO Community.

How to Access All TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website mainly in the HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit <https://docs.tibco.com>.

Documentation for TIBCO Silver® Fabric Enabler for ActiveMatrix® Service Grid is available on the

<https://docs.tibco.com/products/tibco-silver-fabric-enabler-for-active-matrix-service-grid> Product Documentation page.

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit <https://www.tibco.com/services/support>.
- For comments or problems with this manual or the software it addresses, visit the TIBCO Support portal at <https://support.tibco.com>.

To access this website, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in. If you do not have a user name, you can request one by clicking **Register** on the website.

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Chapter 1 **Introduction**

This chapter briefly introduces this product.

Topics

- [Product Overview, page 2](#)
- [Components, page 2](#)
- [Stacks, page 3](#)
- [Supported Platforms, page 3](#)
- [Required and Optional Products, page 3](#)
- [GridLibraries, page 4](#)
 - [Distributions, page 5](#)
 - [Enablers, page 6](#)

Product Overview

TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid allows you to quickly create an ActiveMatrix Service Grid enterprise that has a single ActiveMatrix Administrator instance and multiple TIBCO host instances.

The software includes wizards that step through the configuration pages necessary to create and configure new administration and runtime components.

To build and run a ActiveMatrix Service Grid enterprise, you need to perform the following tasks:

- Create and publish a TIBCO ActiveMatrix Administrator Component. Refer to [Creating a TIBCO ActiveMatrix Administrator Component on page 8](#)
- Create and publish a TIBCO ActiveMatrix Service Grid Runtime Component. Refer to [Creating a TIBCO ActiveMatrix Runtime Component on page 27](#).
- Using the two components, define a TIBCO Silver Fabric Stack that maps to an ActiveMatrix enterprise environment Stack.

TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid provides the following main functionalities:

- It allows you to quickly set up and install TIBCO ActiveMatrix Administrator and TIBCO ActiveMatrix Runtime environments on TIBCO Silver Fabric machines.
- TIBCO ActiveMatrix Administrator can publish Service Grid projects onto this Activematrix Runtime environment using traditional tools, such as TIBCO ActiveMatrix Administrator User Interface or its command-line tools.
- It provides a simplified configuration interface for publishing a TIBCO ActiveMatrix Service Grid Administrator or Runtime component instance to the Cloud.

Components

TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid facilitates creation and configuration of the following components:

- TIBCO ActiveMatrix Administrator Component

Configure and publish an instance of TIBCO ActiveMatrix Administrator.

Only one TIBCO ActiveMatrix Administrator instance may be created from a ActiveMatrix Administrator Component.

- TIBCO ActiveMatrix Runtime Component

The TIBCO ActiveMatrix Runtime Component is configured to publish and start an instance of the TIBCO Host.

Only one TIBCO ActiveMatrix Runtime instance can be created from each TIBCO ActiveMatrix Runtime Component. Each TIBCO ActiveMatrix Runtime Component can have only one running instance.

- A distribution grid library zip file that includes the TIBCO ActiveMatrix Service Grid administration and runtime products.

Stacks

The Stack is a set of components used to quickly create an ActiveMatrix enterprise environment. An ActiveMatrix Service Grid Stack can have two component types: one ActiveMatrix Administrator Component and one or more ActiveMatrix Runtime Components.

The Stack has a one-to-one mapping to a single ActiveMatrix enterprise environment.

Supported Platforms

Refer to the readme file for the supported platforms and versions and required patches.

Required and Optional Products

[Table 2](#) lists the required and optional software products.

Table 2 Software Requirements

Software	Description
TIBCO Software The software products below are distributed and installed separately from this product. See the readme file for the supported versions.	
TIBCO Silver® Fabric	Required. To use TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid, you must install TIBCO Silver Fabric.
TIBCO ActiveMatrix® Service Grid Distribution for TIBCO Silver® Fabric	Required. This distribution is published to the engine instances. You must download and install this product according to instructions in this installation guide.

Table 2 Software Requirements

Software	Description
TIBCO Enterprise Message Service™ Or TIBCO Silver® Fabric Enabler for TIBCO Enterprise Message Service™	Required. If you want to instantiate ActiveMatrix Service Grid applications using the TIBCO Silver Fabric Enabler, the TIBCO Enterprise Message Service (EMS) will be needed to transport messages and data. TIBCO EMS and an associated database product must be installed separately. The configurations of TIBCO EMS product are defined in the TIBCO Enterprise Message Service product documentation.
Third-party Software	
See the readme file for the supported versions.	
Database	Many databases are supported for use with the TIBCO Enterprise Message Service. Refer to the <i>TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid Readme</i> for a list of supported databases.
.NET Framework 3.5 with SP1 or .NET Framework 4.0	Required for use with Implementation Type for Microsoft CLR.
JBoss 4.2.2 or 5.0.1; WebLogic 8.1.6, 9.2.0, 10.0.0, 10.3.0; or WebSphere 6.1 or 7.0	A compatible web server is required if the Binding Type for EJB is used. The implementation details of the user's Distributed Application Archive (DAA) may require installation of one or several of the compatible Web/App servers. It is not advisable to deploy a DAA on a system node.

GridLibraries

During the TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid installation procedure artifacts named `GridLibraries` are copied into the following TIBCO Silver Fabric broker directory:

`SILVERFABRIC_HOME/webapps/livecluster/deploy/resources/gridlib/`

For example, when Silver Fabric is hosted on a Linux platform the directory is:

`SILVERFABRIC_HOME/webapps/livecluster/deploy/resources/gridlib/`

which by default is:

`/opt/tibco/fabric/webapps/livecluster/deploy/resources/gridlib/`

The `griblib` zip files can be divided into two types: [Distributions](#) and [Enablers](#).

Distributions

Distributions are compressed native (classic) products that have been packaged for publishing to TIBCO Silver Fabric. The TIBCO ActiveMatrix Service Grid Distribution for TIBCO Silver Fabric is published to TIBCO Silver Fabric to run TIBCO ActiveMatrix Service Grid on the Silver Fabric Engine.



Each Product Distribution gridlib zip file is created for use with a specific operating system platform. Refer to the TIBCO ActiveMatrix® Service Grid Distribution for TIBCO Silver® Fabric *Readme* for specific information on what operating system platforms are supported.

Table 3 Some gridlib files of TIBCO ActiveMatrix® Service Grid Distribution for TIBCO Silver® Fabric

Target Operating System	Distribution File Name*
Red Hat Enterprise Linux 5.x and 6.x (x86)	SilverFabric_amsg3x_3.2.0_0_linux24gl23_x86_distribution_gridlib.zip or TIB_SilverFabric_amsg3x_3.3.0_2_linux24gl23_x86_distribution_gridlib.zip
Red Hat Enterprise Linux 5.x and 6.x (x86-64)	SilverFabric_amsg3x_3.2.0_0_linux24gl23_x86_64_distribution_gridlib.zip or TIB_SilverFabric_amsg3x_3.3.0_2_linux24gl23_x86_64_distribution_gridlib.zip
Microsoft Windows Servers various releases (x86)	SilverFabric_amsg3x_3.2.0_0_win_x86_distribution_gridlib.zip or TIB_SilverFabric_amsg3x_3.3.0_1_win_x86_distribution_gridlib.zip
Microsoft Windows Servers various releases (x86-64)	SilverFabric_amsg3x_3.2.0_0_win_x86_64_distribution_gridlib.zip or TIB_SilverFabric_amsg3x_3.3.0_1_win_x86_64_distribution_gridlib.zip



Distribution creation and release is independent of TIBCO Silver Fabric Enabler release, the latest release version number and the file name of the distribution may be different from what is listed in the table above.



A different kind of Distribution, the ActiveMatrix **Plug-in** Distribution is also supported for nominally publishing the following ActiveMatrix implementation types and binding types with TIBCO ActiveMatrix® Service Grid Distribution for TIBCO Silver® Fabric:

- TIBCO ActiveMatrix® Binding Type for EJB
- TIBCO ActiveMatrix® Binding Type for Adapters
- TIBCO ActiveMatrix® Implementation Type for Microsoft CLR
- TIBCO ActiveMatrix® BusinessWorks Service Engine (RV Distribution is also necessary)

In contrast with the product distribution, each ActiveMatrix® Plug-in Distribution gridlib is good for use with all supported platforms of the main product distribution.

To get these other TIBCO ActiveMatrix Distribution files you can go to <https://edelivery.tibco.com> and from Products Home you can type "Distribution" in the search box to quickly find and download the needed files. Get the files for the Plug-in Adapters you intend to use and copy them to the TIBCO Silver Fabric broker directory:

`SILVERFABRIC_HOME/webapps/livecluster/deploy/resources/gridlib/`

Enablers

Enablers are control modules for TIBCO Silver Fabric and TIBCO ActiveMatrix Service Grid. They provide all the installation, configuration, and deployment logic for publishing TIBCO ActiveMatrix Service Grid on TIBCO Silver Fabric.



Enablers function independently of Distributions and targeted platforms. Different platforms can have the same enabler.

Chapter 2

Creating a TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid Stack

This chapter explains how to configure and publish TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid Stack.

Topics

- [Creating a TIBCO ActiveMatrix Administrator Component, page 8](#)
- [Creating a TIBCO ActiveMatrix Runtime Component, page 27](#)
- [Component Dependency Requirements, page 32](#)

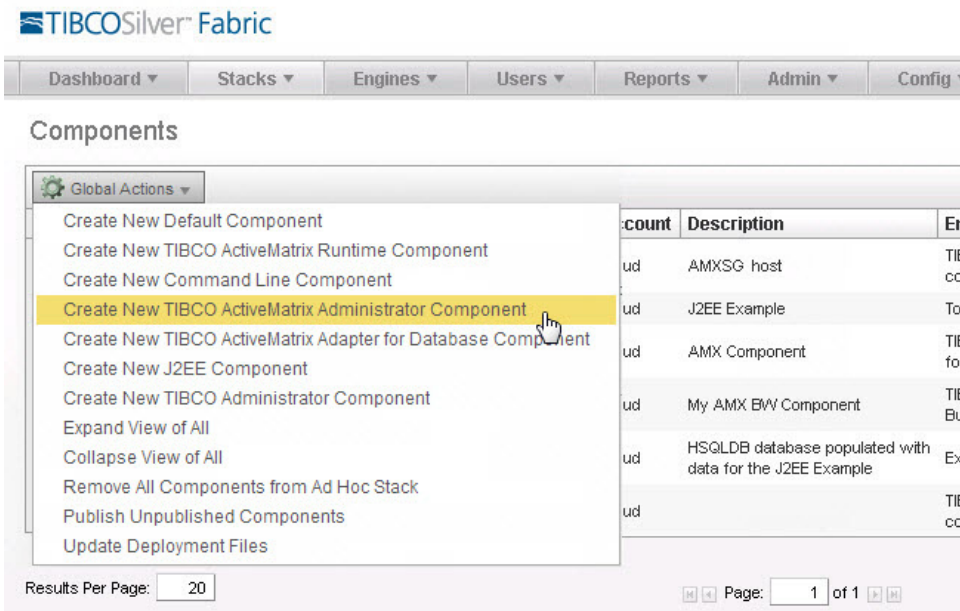
Creating a TIBCO ActiveMatrix Administrator Component

To create and configure a TIBCO ActiveMatrix Administrator Component (also known as the ActiveMatrix® Administrator or just the Administrator Component), you must work through the Component Wizard, described in the following pages.

Task A Create a TIBCO ActiveMatrix® Administrator Component

- 1. In the TIBCO Silver Fabric Administrator GUI, select **Stacks > Components**.
- 2. On the Components page, select **Create New TIBCO ActiveMatrix® Administrator Component** shown in the Global Actions list depicted here in [Figure 1](#).

Figure 1 Creating a TIBCO ActiveMatrix Administrator Component

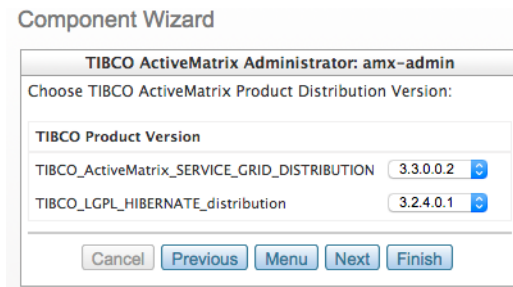


- 3. Select the enabler and the latest enabler version you want for this Component. This option is presented when you have a previous version installed.
- 4. Provide a unique name and optionally a description for your new Component.

5. Choose the TIBCO ActiveMatrix product distribution version.

You can select the latest versions of the installed distribution that are displayed. All versions of the distributions are compatible.

Figure 2 Choosing TIBCO ActiveMatrix Product Distribution Version

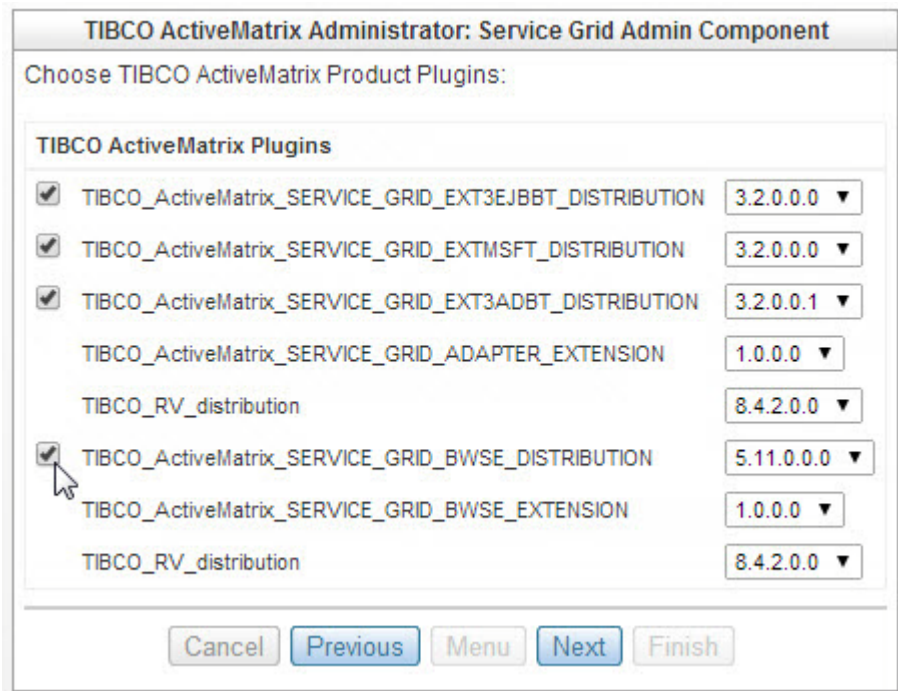


To use TIBCO Hawk ActiveMatrix Plug-in, you need to select the `TIBCO_ActiveMatrix_SERVICE_GRID_DISTRIBUTION` as 3.3.0.0.2.

6. Next choose the Implementation Type or Binding Type "ActiveMatrix Product Plug-ins" you want to publish with your TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid Component. Only the Plug-in extensions that you installed for use with the selected version of TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid are available for selection. If you have previously

installed versions of the same plug-in extensions, you want to use the latest release versions to ensure compatibility.

Figure 3 Choose TIBCO ActiveMatrix® Product Plug-ins



The following Implementation Types and Binding Types (IT/BT) Distributions for TIBCO Silver Fabric are supported:

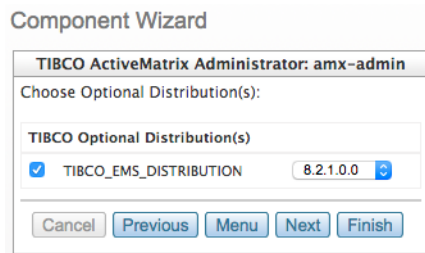
- TIBCO ActiveMatrix® Binding Type for EJB
- TIBCO ActiveMatrix® Binding Type for Adapters
- TIBCO ActiveMatrix® Implementation Type for Microsoft CLR
- TIBCO ActiveMatrix BusinessWorks Service Engine Distribution for TIBCO Silver Fabric



BusinessWorks Service Engine application must be deployed on the node created from the runtime component host where the BusinessWorks Service Engine extension is deployed. The BusinessWorks Service Engine application does not start from the DevNode existing on the ActiveMatrix SystemHost, as the RV libraries are not loaded.

7. Then choose the optional distributions and click **Next**.

Figure 4 Optional Distribution



You must select the EMS distribution version that matches with the version of the EMS that is used for the transport.

8. On "Select the desired Hawk version" page, select the **Enable the Hawk AMX plug-in** check box.

Figure 5 Selecting the Hawk version



TIBCO Hawk ActiveMatrix plug-in provides features to monitor and manage TIBCO ActiveMatrix host and node processes. It also helps to monitor and manage TIBCO ActiveMatrix services and components.

These features can be realized by several Hawk microagents:

- ActiveMatrix Host Microagent
- ActiveMatrix Services Microagent
- Common Logging Event Publisher Microagent

- 9. Review Basic Configuration settings and make changes as necessary according to your implementation environment requirements.

Figure 6 TIBCO ActiveMatrix® Administrator Basic Configurations

TIBCO ActiveMatrix Administrator: Service Grid Admin Component

Basic Configuration

Username (TIBCO ActiveMatrix Administrator username)

root

Password (TIBCO ActiveMatrix Administrator password)

.....

SSL Enabled (Whether enable SSL for all communication)

☐

Use SFEM dependency (Requires a running SFEM for ActiveMatrix)

☒

EMS Connection Factory (Select a new Connection Factory for EMS)

☐

Admin Enterprise Name (TIBCO ActiveMatrix Administrator enterprise name)

amxadmin

Admin Instance Name (TIBCO ActiveMatrix Administrator instance name)

instanceOne

Deployment Directory (Location where the distribution and deployment configuration will be stored)

Deployment Persistence (Deployment is persisted after a shutdown for the next restart)

☒

Use Default Admin Database (Whether administrator database use the default)

☒

Disable MCR (Disable MCR)

☒

Disable CommonLogging (CommonLogging Disabled)

☒

Enable Mediation (Mediation Enabled)

☒

External Admin HTTP Base Port (Admin server external http port)

8120

Internal Admin HTTP Base Port (Admin server internal http port)

19767

System Host Management Base Port (System host management port)

6051

System Node Management Base Port (System node management port)

6021

Dev Node Management Base Port (Dev node management port)

6038

Admin CS Base Port (Credential server port)

6041

Cancel

Previous

Menu

Next

Finish

SSL Enabled

Communications channels between ActiveMatrix Administrator, runtime clients, and TIBCO EMS might be secured with SSL.

Use the SSL Enabled check box on the Component Basic Configuration, when you want to use SSL/HTTPS. This check box adds a page to the Component Wizard to prompt you to enter SSL Configuration details for the Admin and EMS connections and so that keystore types, aliases, and passwords might be set for use of the respective certificates.

If the EMS being used is SSL enabled then, a keystore must be provided to the enabler. Only then the Hawk agent can connect to the EMS and use the logging service.

Figure 7 EMS SSL Configuration

Component Wizard

TIBCO ActiveMatrix Administrator: amx-admin-test

TIBCO EMS SSL Configuration

SSL Server Trusted certificate (Upload SSL Key/Certificate for EMS Server) /emsssl/client_identity.p12

SSL Server keystore password (SSL Server keystore password)

Windows servers have a known limitation that imposes a file path limit to less than 260 characters. Microsoft CLR components can sometimes exceed this limit and cause an error as shown in the following example:

```
java.lang.Exception: com.tibco.clr.clrhost.TException:
nCreateDomain: Critical Error: Check logs to verify the CLR
started , COM HRESULT = 0x80131500, , desc = Target file
'C:\Engine\work\vm1ab01-vm143-0\tibcoConfigHome\tibcohost\Ad
min-amxadmin-instanceOne\data_3.2.x\nodes\testsysNode\work\c
f\2e8cc7e1-5300-4c5c-a66f-f7146587ec80\work\domains\MSFT_97f
a9e91-dfc0-4341-874a-be0392c98f75\MSFT_97fa9e91-dfc0-4341-87
4a-be0392c98f75.config' exceeds windows path length
limitation.
```

To avoid errors, ensure that some best practices are used to keep the CLR Component in compliance with the limitation.

To prevent the Windows path length limitation from becoming an issue, use a combination of the following best practices:

- Use an **Admin Enterprise Name** that is as short as possible, for example, "N1" or "N2" etc.... instead of "testDevNode"
- Use an **Admin Instance Name** that is as short as possible, for example, "i1" instead of "instanceOne"
- Use a **Deployment Directory** with as few characters as possible: "C:\AMX" instead of "C:\ActiveMatrix."

- Install the TICBO Silver Fabric Engine in a directory with a short path and file name, for example, "C:\SF" instead of "C:\Engine"
- Choose host names such that they are as short as possible: 8 characters or less.

Use SFEM Dependency

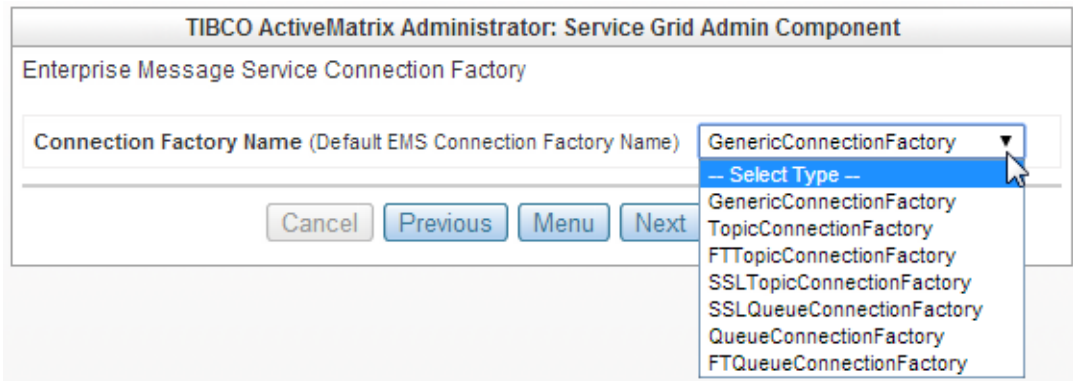
When you select this check box and publish a dependent component using the TIBCO Silver® Fabric Enabler for TIBCO EMS Server (SFEM), the connection and configuration settings are set automatically. The "TIBCO EMS Connection Configuration" page is not displayed unless you select the EMS Connection Factory check box to input connect configurations for a TIBCO EMS instance that was not created as a component dependency with the application stack.

When this setting is used, then make Activematrix Administrator dependent on TIBCO EMS component in stack.

EMS Connection Factory

If the TIBCO EMS instance will be independent of the ActiveMatrix Administrator Stack, then check this box and later enter the EMS Connection Factory name on the *Enterprise Message Service Connection Factory* component wizard page.

Figure 8 The Enterprise Message Service Connection Factory page



Admin Enterprise Name

Enter an ActiveMatrix Administrator Enterprise Name. The Admin Enterprise Name must be unique because only one ActiveMatrix Administrator Component may be run on an Enterprise.

As mentioned above it is a best practice to minimize the length of this name.

Admin Instance Name

Enter the TIBCO ActiveMatrix Service Grid Administration instance name. This is the TIBCO ActiveMatrix Service Grid host name and it must be unique within the enterprise. Multiple ActiveMatrix Service Grid instances may make reference to a single Administrator instance.

The default value for *tibcoHome* is

DSEngine_HOME/work/AMX_ADMIN_COMPONENT_NAME/home

The default value for *tibcoConfigHome* is

DSEngine_HOME/work/AMX_ADMIN_COMPONENT_NAME/configHome

As previously mentioned, it is a best practice to minimize the length of this name.

Deployment Directory

The location where the distributions and the deployment configuration will be stored.

Enter a directory path to where your ActiveMatrix® Administrator should deploy on the target TIBCO Silver Fabric Engine. If that directory is not present then it will be created during the deployment initialization.

As previously mentioned, it is a best practice to minimize the length of this name.

Deployment Persistence

Deployment persistence ensures that restart of an ActiveMatrix Component will maintain deployment configuration continuity for the TIBCO ActiveMatrix Administrator Component and the runtime component instances of TIBCO ActiveMatrix Service Grid. Deployment persistence preserves the *tibcoHome* directory, files, and the configuration for *tibcoHome* so that restart re-establishes the same connections.

When Deployment Persistence is checked the ActiveMatrix Admin URL is preserved, but it does not mean that the IP address of the TIBCO Runtime host instance name will be preserved unless you define a resource allocation preference to make sure the component is attached to a fixed machine.



When Deployment Persistence is enabled and that TIBCO ActiveMatrix Administrator Component is published, then subsequent changes to the Component configuration will not be applied to the existing deployment. Deployed Component settings are protected in a persistent instance that can be restarted on any engine on the same machine.

EXCEPTION: When Deployment Persistence is enabled the following settings can be changed and published to existing published Components:

- SSL Enabled (and almost all SSL configuration settings)
- Use Default Admin Database (and all external database settings)
- External Admin HTTP Base Port

If you wish to change another Component setting that was deployed as persistent, then you have to start a new Component on a new Engine. You should copy the Component and change that copy prior to publishing it within a Stack to a clean Silver Fabric Engine instance.

When Deployment Persistence is enabled and an ActiveMatrix Admin or ActiveMatrix Runtime component are stopped, then they can be restarted on any Silver Fabric engines on the same machine.

When Deployment Persistence is **not** checked then an orderly shutdown of the Component will cleanup and remove the *tibcoHome* directory and the associated database tables.

Simply unchecking the Deployment Persistence checkbox and saving the component setting will **not** change a persistent component that was already deployed.

When you no longer want a persistent deployment, the published instance and the associated database must be cleaned manually according to the uninstallation procedure described in the *TIBCO ActiveMatrix Service Grid Installation Guide*.

New component instances can be started on any cleaned TIBCO Silver Fabric Engine.

Use Default Admin Database

The Default Admin Database is used for the Component data unless this check box is deselected. The Component Wizard will display the External Database Configuration page (refer to the section on [External Database Configuration \(optional\) on page 22](#)) for you to change the settings if you have deselected this checkbox and proceed through the Next screens.

Disable MCR

The TIBCO ActiveMatrix Service Grid Metrics Collection Runtime (MCR) is a service used to collect runtime object performance statistics for diagnosis and performance tuning using the TIBCO ActiveMatrix Administrator Infrastructure Dashboard. MCR may prove very useful for development tuning, but using MCR can create a performance drag, so for production and QA benchmarking, it should be disabled.

For more information on using MCR, refer to the chapter on Governance in the *TIBCO ActiveMatrix Service Grid Administration Guide*.

The port settings initially point to the default values. Normally the port settings should be left as it is, unless your implementation environment has port conflicts that require changes. For descriptions of these and other settings refer to the *TIBCO Silver Fabric Users Guide* and *TIBCO ActiveMatrix Service Grid Administration Guide*.

You must click Next to confirm any changes you make on the Basic Configuration page, the EMS Configuration page is displayed.

Disable Common Logging

Checking this box will stop deployment and execution of DDL that creates the Common Logging Service database schema when the component is published on the Engine.

Enable Mediation

Checking this box enables the TIBCO ActiveMatrix Service Grid Mediation Component as part of a Service Oriented Architecture (SOA) for applications. Refer to the *TIBCO ActiveMatrix Service Grid Mediation Component Development* guide for more information on what enabling this will provide.

External Admin HTTP Base Port

Sets the port on which TIBCO ActiveMatrix Administrator clients access the TIBCO ActiveMatrix Administrator server. The default port setting is: 8120.

Internal Admin HTTP Base Port

Sets the HTTP port on which TIBCO ActiveMatrix Administrator communicates with internal processes. The default port is: 19767.

System Host Management Base Port, System Node Management Base Port, Dev Node Management Base Port, and Admin CS Base Port

For information on the systems impacted by changing the default ports for any of the various communication channels, please refer to the *TIBCO ActiveMatrix Service Grid* documentation.

10. Set EMS Configuration

A connection with the TIBCO Enterprise Message Service (EMS) is required for proper functionality of the Silver Fabric ActiveMatrix Service Grid Component.

When you check the Basic Configuration box to "Use SFEM dependency" to set an ActiveMatrix Administrator dependency on an EMS Component, then the Component Wizard EMS Configuration page (shown here below) will not be shown in the UI.

Otherwise, the EMS URL, EMS Username, and EMS Password must be set only when an external EMS server is used.

Figure 9 Setting EMS Configuration

The screenshot shows a dialog box titled "TIBCO ActiveMatrix Administrator: Service Grid Admin Component". Inside, the "EMS Configuration" section contains three input fields: "EMS URL (Notification and Messaging Bus Server)" with the value "tcp://localhost:7222", "EMS Username (The user name of Messaging Bus Server)" with the value "admin", and "EMS Password (The password of Messaging Bus Server)" with masked characters "*****". At the bottom, there are five buttons: "Cancel", "Previous", "Menu", "Next", and "Finish".

EMS URL - EMS uses TCP and the default port used for messaging is 7222. The actual port value used is implementation dependent. EMS can be hosted locally by the same machine hosting the TIBCO Silver Fabric Server or it may be hosted by an external installation.

The EMS username and password should be an EMS Administrator profile to ensure full functionality of the Component.

If the EMS is SSL enabled, then its respective URL must be provided in EMS URL field starting with "ssl://"

The TIBCO ActiveMatrix Enterprise Administrator component is dependent on a dedicated TIBCO Enterprise Message Service server instance.

TIBCO EMS server must be running before the TIBCO ActiveMatrix Administrator Component is started. To ensure that happens [Add Allocation Rules](#) with a Component Dependency for the TIBCO ActiveMatrix Administrator Component so the EMS Component is running before the ActiveMatrix Administrator component is started.



Using EMS with Deployment Persistence - When Deployment Persistence is enabled on the TIBCO ActiveMatrix Administrator component, then the EMS Component must also have an allocation rule specifying that EMS must be run on the same Silver Fabric Engine. This ensures that a restart of the Administrator will make the proper connections with the EMS Component.

When you are deploying an EMS Component that is a dependency of other components running in the stack, make an allocation rule that the EMS Component should be run on the same machine and same engine instance to preserve connections made between the dependent Components.

Refer to the TIBCO ActiveMatrix Service Grid Installation and Configuration documentation for more information on these requirements.

11. Upload Third Party Drivers

When the ActiveMatrix[®] Administrator instance must have access to a third party database you must upload the appropriate drivers so they may be instantiated on the Engine.

Figure 10 Upload Third Party Drivers

TIBCO ActiveMatrix Administrator: Service Grid Admin Component

Upload Third Party Drivers

Oracle 10g JDBC Driver	/oracle10g_driver/ojdbc14.jar	Upload
Oracle 11g JDBC Driver		Upload
Microsoft SQL Server 4 JDBC Driver		Upload
JBoss 4 EJB Driver		Upload
JBoss 5 EJB Driver		Upload
Oracle WebLogic Server 8 EJB Driver		Upload
Oracle WebLogic Server 9 EJB Driver		Upload
Oracle WebLogic Server 10 EJB Driver		Upload
WebSphere 6 EJB Driver		Upload
WebSphere 7 EJB Driver		Upload

Cancel Previous Menu Next Finish

12. External Database Configuration (optional)

If you **deselected** the "Use Default Admin Database" check box on the Basic Configuration page then this page will appear in the Component Wizard configuration workflow.

Database Type - The *TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid ReadMe* lists those data sources and JDBC drivers that are supported for this release.

Database Max Connections - Set the number of database connection threads according to the expected need of the Component.

Figure 11 Setting the External Database Configuration

The screenshot shows a dialog box titled "TIBCO ActiveMatrix Administrator: Service Grid Admin Component". Inside, the "External Database Configuration" section contains the following fields and controls:

- Database Type**: A dropdown menu with the text "(The type of supported external database. Valid values are Oracle 10g, Oracle 11g, Microsoft SQL Server 2008(R2))" and the selected value "Oracle 10g".
- Database URL**: A text input field with the placeholder "<DB_URL>".
- Database Username**: A text input field with the value "DBAdministrator".
- Database Password**: A text input field with masked characters ".....".
- Database Max Connections**: A text input field with the value "10".
- Use different database for logging**: A checkbox with the text "(Use different databases for logging and monitoring)". The checkbox is currently unchecked.

At the bottom of the dialog box are five buttons: "Cancel", "Previous", "Menu", "Next", and "Finish".

The following settings may be changed and published to running instances of the Administrator Component even when Deployment Persistence is enabled:

Database URL

Database Username

Database Password

Database Max Connections

If you select the check box to "Use different database for logging", a page named "Database Logging Configuration" appears next to allow specification of database URLs and logins for Monitoring, Logging, and Payload databases. Refer to the *TIBCO ActiveMatrix Service Grid Installation and Configuration* document for more information on preparing external databases for use with TIBCO ActiveMatrix Service Grid.

13. Configure the SSL Configuration (optional)

If you selected "SSL Enabled" on the Basic Configuration page of the wizard then this SSL Configuration page is displayed as part of the Component configuration workflow.

You can specify use of HTTPS on the TIBCO Silver Fabric Administrator interface. SSL can also be configured for use with EMS messaging traffic.

Figure 12 Setting the SSL Configuration

TIBCO ActiveMatrix Administrator: Service Grid Admin Component

SSL Configuration

Secure Admin Http Connection (Enable SSL on external HTTP communication channel) ☒

Secure EMS Channel (Connect to EMS Server that is SSL enabled) ☒

Secure Database Channel (Connect to databases that are SSL enabled) ☒

Server Keystore Type (Administrator server keystore type) JKS

Server Keystore Password (Administrator server keystore password)

Server Connection Setting Key Alias (Connection Settings keystore alias) mykey

Server Connection Setting Password (Connection Settings key password)

Key Store File Upload

Server Trust Store Type (Administrator server truststore type) JKS

Server Trust Store Password (Administrator server truststore password)

Trust Store File Upload

Cancel Previous Menu Next Finish

All of these settings on the SSL Configuration page may be changed and published to running instances of the Administrator Component even when Deployment Persistence is enabled. All of them, that is, except for the Secure EMS Channel setting.

For more information on using SSL with TIBCO ActiveMatrix Service Grid refer to the Security chapter of the *TIBCO ActiveMatrix Service Grid Administration Guide*.

14. Add or remove log file patterns

Log output directories may be added with paths that are relative to the engine instance work directory (work/host-instance). Path names can contain references to runtime context variables in the form \${variable_name}.

The filename can be a regular expression, using conventions defined in javadoc for java.util.regex.Pattern. The rest of the path cannot be a regular expression.

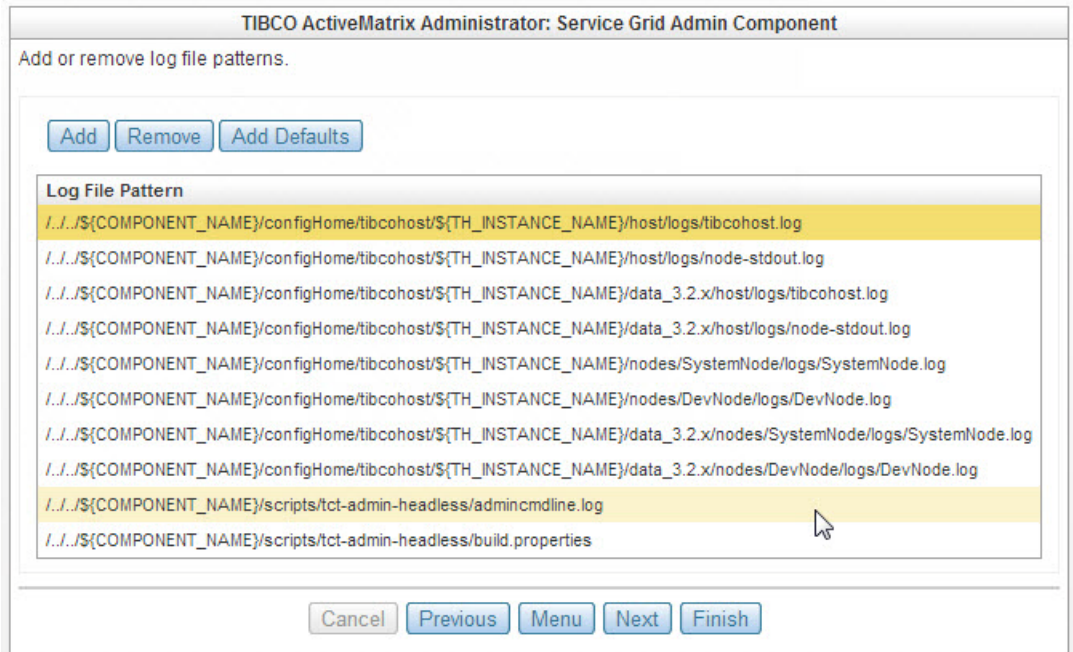
Use a forward slash (/) for the directory separator character.

Log file patterns may also be removed by selecting the directory pattern first and then clicking the Remove button.



If you remove log file patterns, they will not be restored by the Add Defaults button. You can add them back manually at any time.

Figure 13 Add or Remove Log File Patterns

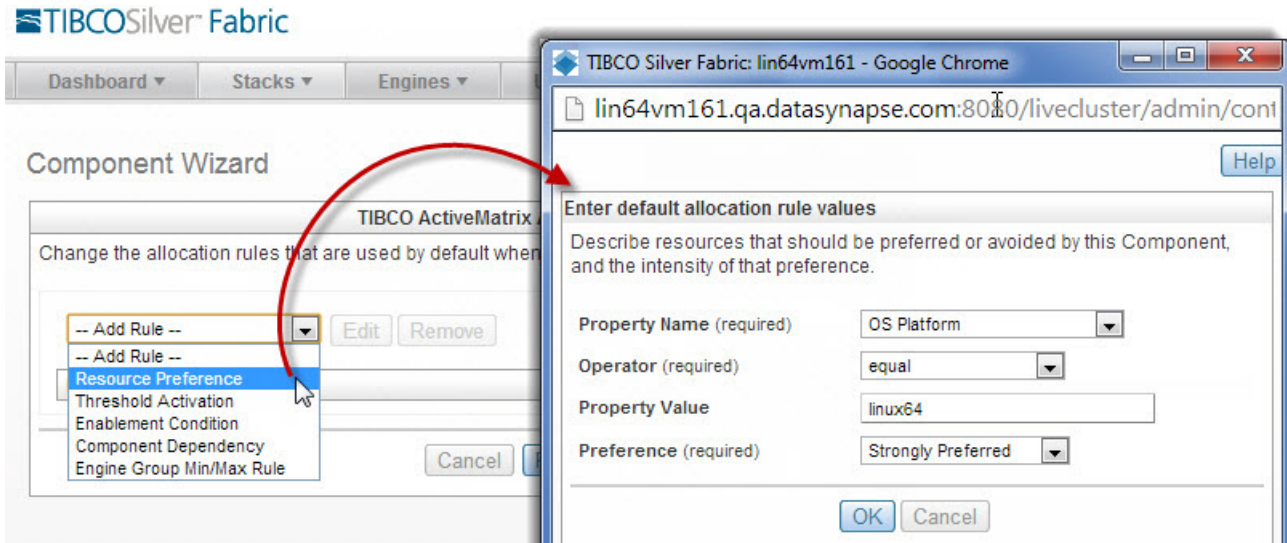


15. Add Allocation Rules

Five different allocation rule types may be used to configure the Component behavior:

- Resource Preference- Shown below. Choose a property, an operator, and a property value to specify a preference or requirement for how engines are allocated to a Component based on the property condition defined.

Figure 14 Adding Resource Preferences for Engine Allocation



Refer to the *Silver Fabric Help* or the *Silver Fabric User's Guide* for more information on controlling the Component behavior.

Component Wizard Options

The TIBCO ActiveMatrix Administrator Component should be added at medium priority or higher to ensure that it is launched early in the Stack. There should only be one instance of ActiveMatrix Administrator started for a single enterprise.

Figure 15 Default Engine Allocation Settings

TIBCO ActiveMatrix Administrator: Service Grid Admin Component

Change the settings that are used by default when adding this Application Component to a Policy (including by activation in Dynamic Policy Mode).

Default Priority (required)

medium

Cancel

Previous

Menu

Next

Finish

All the other screens are generic for all Silver Fabric Enablers. The configuration is optional for TIBCO ActiveMatrix Administrator component.

Refer to *TIBCO Silver Fabric User’s Guide and Administration Guide* for additional information on these configurations.

Figure 16 Configure Component Options

Component Wizard

Help

TIBCO ActiveMatrix Administrator: Service Grid Admin Component

Configure Component Options

Department

-- Select Department --

Location

-- Select Location --

Partition

Enable Engine Blacklisting

☐

Failures per Day Before Engine Blacklist (when blacklisting is enabled)

0

Archive Scaling Up Timeout in seconds

120

Archive Scaling Down Timeout in seconds

120

Maximum Activation Time in seconds

3600

Maximum Deactivation Time in seconds

300

Maximum Capture Time in seconds

180

Minimum Engine Instances per Host

0

Maximum Engine Instances per Host (set to 0 for unlimited instances)

1

Separator Tags

Statistics Collection Frequency in seconds (set to 0 to disable statistics collection)

10

Activation Delay in seconds

0

Engine Reservation Expiration in seconds (set to 0 to disable engine reservations)

300

Cancel

Previous

Menu

Next

Finish

After you click the **Finish** button, the Component is created.

Creating a TIBCO ActiveMatrix Runtime Component

The TIBCO ActiveMatrix Runtime is the runtime component used to start the TIBCO Host instance.

Each TIBCO ActiveMatrix Runtime Component requires a component dependency on TIBCO ActiveMatrix Administrator component.



This configuration step is required. If the dependency is not set, the TIBCO ActiveMatrix Runtime Component will fail to start

The ActiveMatrix Runtime Component will automate the following tasks:

- Add a TIBCO Host to TIBCO ActiveMatrix Enterprise.
- Starts the TIBCO Host instances.

Each ActiveMatrix Runtime Component may only start one runtime instance. If you want more than one ActiveMatrix Runtime instance you must copy the ActiveMatrix Runtime Component so that copy can be instantiated once also.

Create a TIBCO ActiveMatrix Runtime Component

1. In TIBCO Silver Fabric Administrator GUI, select **Stacks > Components**.
2. **Create New TIBCO ActiveMatrix Runtime Component** from the **Global Actions** menu.
3. Provide a name and description for the new ActiveMatrix Runtime Component and click Next.
4. Select the TIBCO ActiveMatrix Product Distribution version you want to publish to the cloud. The TIBCO ActiveMatrix Service Grid Distribution versions available for selection are the version that are installed in TIBCO Silver Fabric *SILVERFABRIC_HOME* gridlib directory. By default, the latest versions of the distributions are displayed. All versions of the distributions are compatible.
5. Define the Basic Configuration

TIBCO Host Instance Name - Enter a unique TIBCO Host Instance name. This is the TIBCO ActiveMatrix Service Grid host name and it must be unique within the enterprise because multiple ActiveMatrix Service Grid instances may make reference to a single Administration instance.

If not specified, the Host Instance Name is derived from the Component name.

Deployment Directory - Defines the relative directory where the TIBCO ActiveMatrix Runtime Host will be installed on the Silver Fabric Engine.



For stacks that will include multiple ActiveMatrix Runtime Components a different and unique Deployment Directory path should be defined by the user for each runtime component intended for deployment on the same machine.

Default for *tibcoHome* is:
DSEngine_HOME/work/TIBCO_HOST_INSTANCE_NAME/home

Figure 17 Setting the Basic Configuration

TIBCO ActiveMatrix Runtime: ActiveMatrix ServiceGrid Component

Basic Configuration

TIBCO Host Instance Name (Tibcohost name which user can define)

instance1

Deployment Directory (Location where the distribution and deployment configuration will be stored)

AMXSG

TIBCO Host Instance Management Base Port (The jmx port of tibcohost instance)

6001

TIBCO Host Communicates with a Server that is SSL Enabled (Enable SSL for all communication)

☒

Create TIBCO Host (Create a TIBCO HOST Instance)

☒

Start TIBCO Host (Start a TIBCO HOST Instance)

☒

CancelPreviousMenuNextFinish

TIBCO Host Instance Management Base Port - It is recommended that you accept the default port setting for TIBCO Host Instance Management Base Port unless you intend to change the Silver Fabric Java Admin API using a different JMX port. Refer to the TIBCO Silver Fabric Developers Guide for more information.

TIBCO Host Communicates with a Server that is SSL Enabled - if you want your ActiveMatrix Service Grid Component to use SSL to communicate with the ActiveMatrix Admin then check the box and the SSL Configuration page appears after you click **Next** to confirm your setting changes.

- 6. Define your SSL Trust Stores (optional) - The SSL Configuration page appears if you have checked the box to use SSL with TIBCO Host communications.

Figure 18 SSL Configuration

The screenshot shows a dialog box titled "TIBCO ActiveMatrix Runtime: ActiveMatrix ServiceGrid Component" with a sub-tab "SSL Configuration". It contains three fields: "Trust Store Type (Tibcohost truststore type)" with a dropdown menu set to "JKS", "Trust Store Password (Tibcohost truststore password)" with a masked password field showing six dots, and "Trust Store File" with an "Upload" button. At the bottom, there are five buttons: "Cancel", "Previous", "Menu", "Next", and "Finish".

SSL Configuration is required if you have checked the use SSL checkbox. The Trust Store file must be uploaded for use with a valid password or the component will fail to establish a proper connection.

Using Scripts with the Enabler

The next diagram shows how a script may be uploaded. Scripts can be executed at various points in the engine life cycle and uploaded for use with the Component or Enabler. Python, Jython, and JavaScript are supported. Refer to the *TIBCO Silver Fabric Developers Guide* for more information on the methods that may be called.

Figure 19 Upload, Edit, or Remove Scripts

The screenshot shows two overlapping windows. On the left is the "Enabler Wizard" window, titled "TIBCO ActiveMatrix Runtime", with the instruction "Upload, edit, or remove script files." It has buttons for "Add", "Customize", and "Remove", a table with headers "Name" and "Language", and navigation buttons "Cancel", "Previous", "Menu", "Next", and "Finish". On the right is a Mozilla Firefox browser window titled "TIBCO Silver Fabric: Config3080VM2 - Mozilla Firefox" showing the URL "localhost:8080/livecluster/admin/control/wizard/containerWizardForm.jsp". The browser displays a form titled "Upload a script file" with fields for "Language (required)" (set to "python 2.5") and "File (required)" (set to "\samples\jython\applicationDeploy.py"), each with a "Browse..." button. At the bottom of the form are "OK" and "Cancel" buttons, with a mouse cursor clicking the "OK" button.

Scripts can be written to accomplish many tasks. Scripts may be used to automate publishing ActiveMatrix application archives instead of manually publishing them.

TIBCO Silver Fabric has generic support for adding any JSR-223 compliant script engines that support interfaces that can be invoked and compiled. Support for Jython is included and the JDK includes JavaScript. Refer to <https://developer.mozilla.org/en-US/docs/Rhino/Overview> for more information.

The example Jython script included in the installation directory below demonstrates one way to accomplish this:

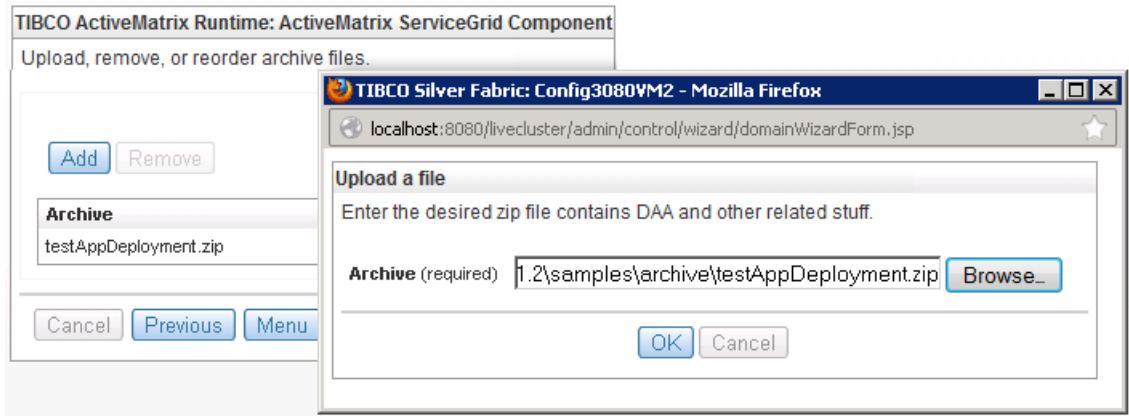
```
SFSG_HOME\sfg\1.3.1\samples\jython\applicationDeploy.py
```

A script can provide a way to add an ActiveMatrix Runtime node and can deploy ActiveMatrix application archives. The example script included with the installation, `applicationDeploy.py`, would unzip and deploy the application in the sample zipped archive:

```
SFSG_HOME\sfg\1.3.1\samples\archive\testAppDeployment.zip
```

If you were to use the example script to deploy an archive you would want to upload the demo data zipped archive for use with the ActiveMatrix Runtime Component as is shown here.

Figure 20 Upload an archive for use with a script



Refer to the *TIBCO Silver Fabric Developer's Guide* on Enabler and Component scripting and methods for a more complete description of what can be done with scripts.

7. Add, edit, or remove script-provided statistics (optional)

If you have implemented the `ScriptStatisticsProvider` class added to this Component by a script or an archive, then this page allows for the addition of archives from that statistics provider.

Figure 21 Add, edit, or remove script-provided statistics

TIBCO ActiveMatrix Runtime: ActiveMatrix ServiceGrid Component

Add, edit, or remove script-provided statistics.

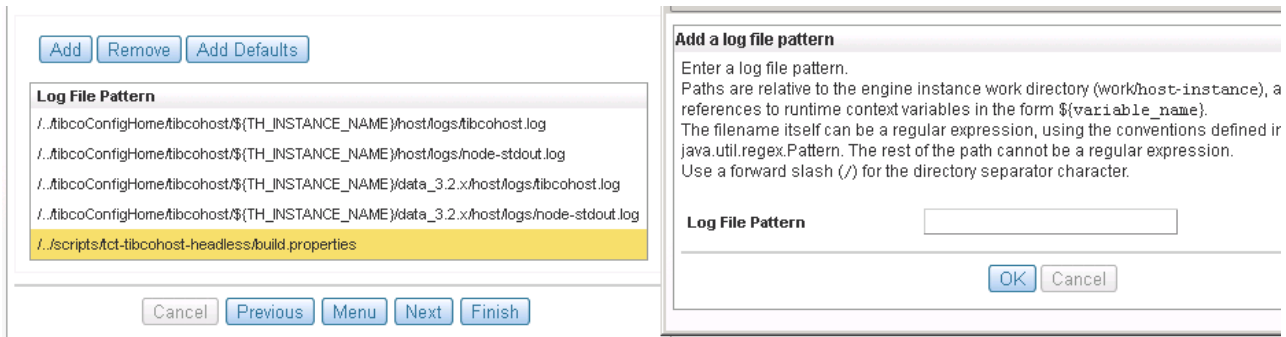
Name	Description	Archive	Units	Aggregator
MinArchiveAggregator	MAA	True	count	MinArchiveAggregator

Refer to the *TIBCO Silver Fabric Developer's Guide* for information on implementing script-provided or archive-provided statistics.

The next diagram shows the log file that will be preserved by default. You should accept the default setting.

8. Add or remove log file patterns.

Figure 22 Adding a Log File Pattern



Component Dependency Requirements

The TIBCO ActiveMatrix Runtime Component is dependent on the TIBCO ActiveMatrix Administrator component and the TIBCO ActiveMatrix Administrator component is dependent on an instance of EMS. Both of those dependencies must be set. The Component Dependency may be set from the Stack definition, see [Dependency Requirements on page 35](#), or you can set it directly on the Component definition as is described here.

To set the Component dependency:

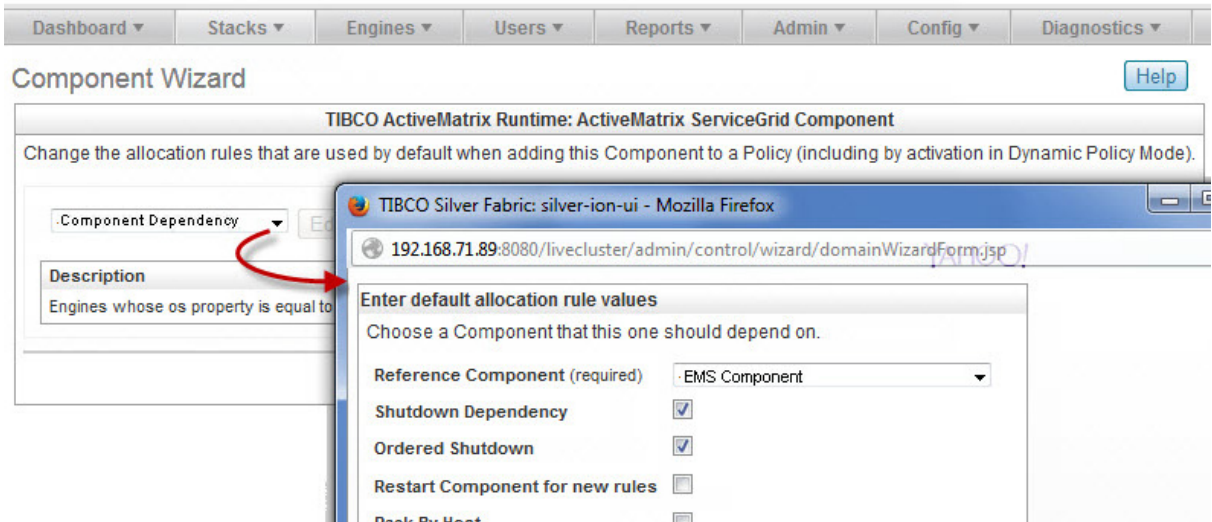
1. Edit the Admin Component and use the menu/task list of the Administration Component Wizard. Select the "Add/edit default rule settings"

Or instead of using the Menu task list, you could step through the Component Wizard until you reach the page that allows you to "Change the allocation rules that are used by default when adding this Component to a Policy (including by activation in Dynamic Policy Mode)." selection link.

2. In the Add Rule drop-down list select "Component Dependency".

Figure 23 Setting a Component Dependency

TIBCO Silver Fabric



3. In the Reference Component drop-down list, select the name of the Component on which the dependence will be set to run inside your Stack.



The Reference Component name must match the value for Name specified in [Provide a unique name and optionally a description for your new Component. on page 8.](#)

4. **Shutdown Dependency** - Uncheck the **Shutdown Dependency** checkbox when you want the TIBCO Hosts to continue running even if contact with the ActiveMatrix Administrator is lost.
5. **Ordered Shutdown** should always be checked to provide for proper cleanup of allocated resources.
6. **Restart Component for new rules** should use the default setting.

Complete the wizard by accepting the defaults on the remaining screens.

Creating a Stack

Components are published from within a Stack. Any number of Components could be included in your Stack depending on your implementation, but at the minimum, a Service Grid Stack must have a TIBCO ActiveMatrix Administrator Component and an instance of the TIBCO ActiveMatrix Runtime Component. TIBCO ActiveMatrix Runtime component(s) depend upon an instance of the TIBCO ActiveMatrix Administrator Component.

Once you have created Components, you can create a Stack so they will be published to a Silver Fabric Engine as a unit.

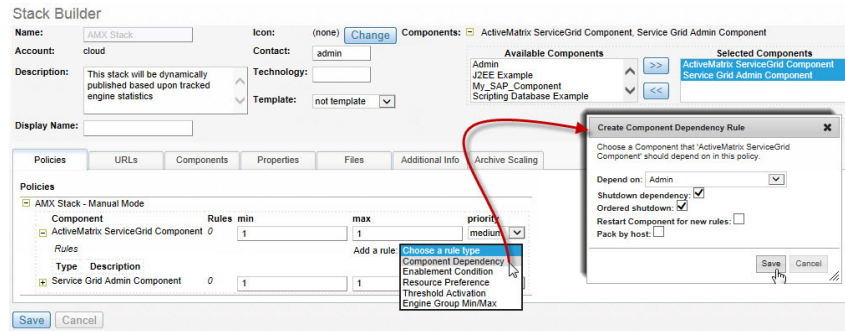
After initially defining a Stack, you can still update it by adding or removing Service Grid Components, but if you have set Deployment Persistence to true then any changes you make will not be propagated to the instances that are persistent and protected.

To create a TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid Stack:

1. In the TIBCO Silver[®] Fabric Administration Tool, select **Stacks > Stacks**.
2. Click the **Create New Stack** button.
3. Enter a Stack name in the "Stack Builder" page as shown in [Figure 24](#).
4. In the Components area, add one TIBCO ActiveMatrix Administrator Component and one or more TIBCO ActiveMatrix Runtime Components.

5. In the Policies area, expand the Component you just added to view the details of the Component.

Figure 24 Stack Builder page - Adding a Component Dependency



Dependency Requirements

Each Service Grid Component, must have a component dependency set on one TIBCO ActiveMatrix Administrator Component. You must set this Component Dependency for each of your Service Grid Components or those components without it will not have enough information for proper publishing.



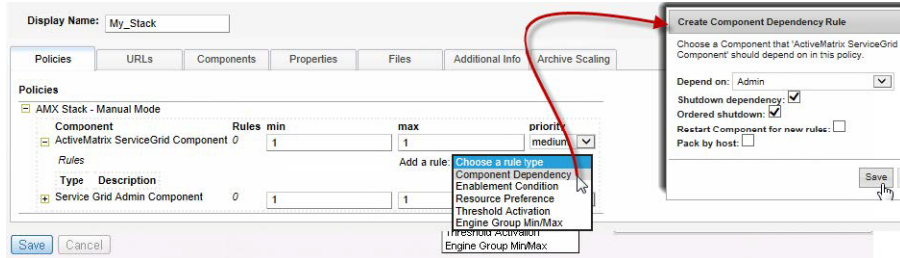
These steps are required. If you do not set the dependency for the TIBCO Silver Fabric Enabler for ActiveMatrix Service Grid, the behavior will be undefined.

The Component must have the TIBCO ActiveMatrix Administrator configuration information so that it may publish, unpublish, and communicate with other components successfully. A connection is supported between a Component and one instance of the TIBCO ActiveMatrix Administrator Component. Connecting with more than one TIBCO ActiveMatrix Administrator Component is not supported. After setting the dependency, the component will start after TIBCO ActiveMatrix Administrator is up and running.

To set that dependency, follow these steps:

1. During creation or during edit of the Component, select "**Add/edit default rule settings**" from the Menu of the Component Wizard.
2. Use the **Add Rule** pull down to select the **Component Dependency** option.

Figure 25 Setting a Dependency on the Administrator Component



In the "**Reference Component**" field, select the name of the TIBCO ActiveMatrix Administrator Component that runs inside your Stack.



Shutdown Dependency - Because TIBCO ActiveMatrix Administrator does not support the Fault Tolerant mode this setting will not apply.

Ordered Shutdown provides for a logical, sequential shutdown so that dependent Components are shut down first. Ordered shutdown is especially important when the domain is hosted on a dependent database. When you have an ActiveMatrix Administrative Component that uses an external database, order of shutdown is less important.

Restart Component for new rules - If new rules are defined for a Component that has already been published, it must be restarted for the new changes to be applied. If you wish to manually restart Components later to propagate changes leave this box unchecked.

If the ActiveMatrix Administrator Component was configured to "*Use dependent EMS server*" then that dependency must be set here as well.

When using a dependent TIBCO Enterprise Message Service™ server, the dependency should be set in the TIBCO ActiveMatrix Administrator Component, which must also have a dependency on TIBCO EMS Server Component.

Pack by Host - Check this to specify that dependent components must run on the same host.

The *TIBCO Silver Fabric User's Guide* has more information on all of these settings.

Publish the Stack

Refer to the *TIBCO Silver Fabric User's Guide* for information on publishing and managing Stacks.

Configuring for Failover - Replicating TIBCO ActiveMatrix Runtime Hosts

TIBCO ActiveMatrix Runtime Hosts can be configured to provide failover replication from one TIBCO Silver Fabric Engine to another to provide a secure transition from an unresponsive host machine. Configure the Components, Stack and Engines with the following settings to be prepared to move TIBCO ActiveMatrix Runtime Hosts from one machine to another using the same TIBCO_HOME:

- a. Create an ActiveMatrix Administrator Component with the following settings:
 - Use a TIBCO ActiveMatrix Service Grid Distribution for TIBCO Silver Fabric version 3.3.0 Hotfix-003 or higher for the ActiveMatrix Administrator Component.
 - Enable Deployment Persistence.
- b. Create an ActiveMatrix Runtime Component that uses TIBCO ActiveMatrix Service Grid Distribution for TIBCO Silver Fabric version 3.3.0 Hotfix-003 or higher.
 - Set Deployment Directory to an accessible shared drive that allows users from other machines to read, write, and execute.
- c. Create TIBCO Silver Fabric Engines making sure the machines will use identical installation directories.
 - Mount the accessible shared drive defined in the ActiveMatrix Runtime Component Deployment Directory with same path on all Engines.

For example if the shared drive were /mnt/shared and the ActiveMatrix Administrator component was called MyAMXComponent, name the shared path: /mnt/shared/MyAMXComponent

TIBCO_Home would be in the directory:

/mnt/shared/MyAMXComponent/<TIBCO_HOME>

ConfigHome would be in the directory:

/mnt/shared/MyAMXComponent/<ConfigHome>

- d. Create a Stack with the ActiveMatrix Administrator and ActiveMatrix Runtime components according to the preconditions set above.
 - Set Resource Preferences on the ActiveMatrix Runtime Component so that it will run on "Strongly Preferred" and "Preferred" TIBCO Silver Fabric Engines that are prepared to act as TIBCO Hosts for the Runtime.
 - Set the ActiveMatrix Administrator to run separately from the Runtime.
- e. Save, Publish and Run the Stack.

TIBCO ActiveMatrix Service Grid Runtime Hosts are monitored and polled by TIBCO Administrator and any prolonged response failure will first trigger attempts to re-establish a connection, if that fails the component will be restarted, and if that fails the TIBCO ActiveMatrix runtime host will be replicated and started on a different preferred host.

Applying a Service Pack or Hotfix to ActiveMatrix Service Grid

When a Service Pack upgrade or hot fix becomes available for your existing ActiveMatrix Administrator and Runtime instances you can easily update them using TIBCO Silver Fabric.

Contact your TIBCO Support representative to get the appropriate gridlib archive files or download the appropriate Service Pack from the edelivery.com before using this upgrade application procedure.



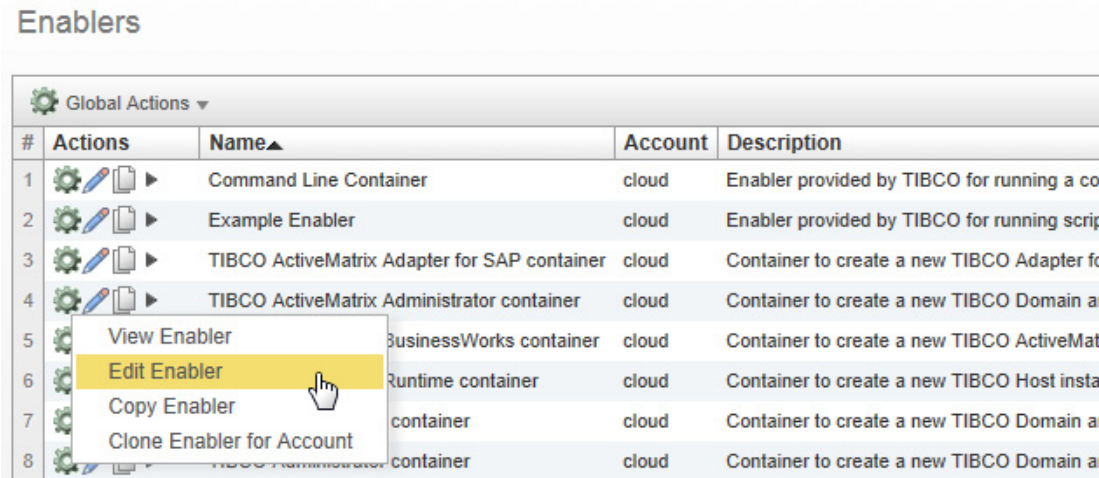
TIBCO ActiveMatrix Administrator should be running in persistent mode prior to Enabler upgrade. It is also recommended as a best practice to back-up both the file system and the database of the TIBCO ActiveMatrix Service Grid installation as is described in the documentation for TIBCO ActiveMatrix Service Grid available on <https://docs.tibco.com>.

Applying a Service Pack or Hotfix to an Enabler for ActiveMatrix Service Grid

Once you have the appropriate gridlib archives put copies of those files onto the TIBCO Silver Fabric Broker.

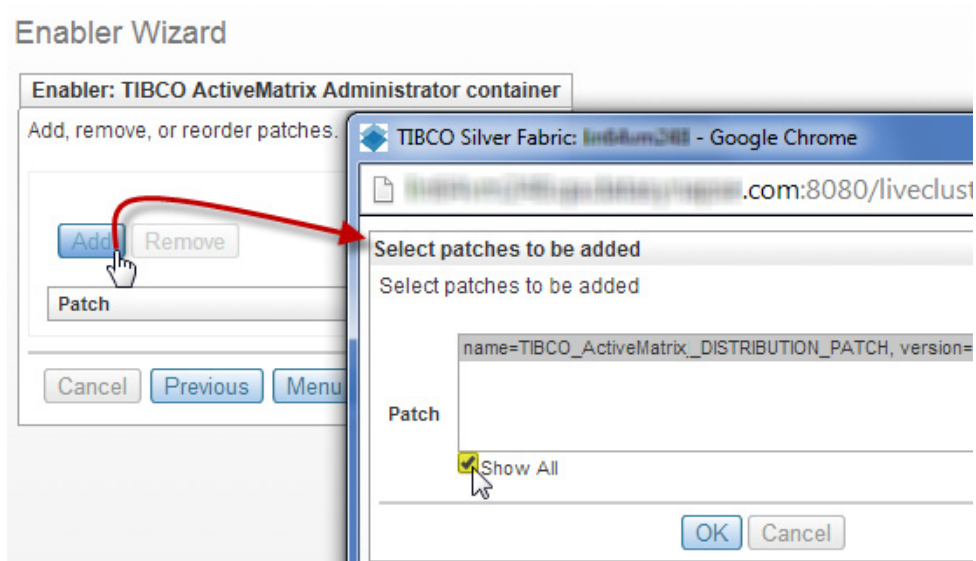
- 1. Put the Service Pack (or Hotfix) gridlib.zip archive into the broker directory: **SILVERFABRIC_HOME/webapps/livecluster/deploy/resources/gridlib**
- 2. From the TIBCO Silver Fabric Administrator - Enablers page edit the TIBCO ActiveMatrix [Runtime or Administrator] Container. Both may need update or fix and the procedure for applying a service pack or a hotfix is the same.

Figure 26 TIBCO Silver Fabric Administrator - Enablers page



3. From the Enabler Wizard Menu select the option to "Add, remove, or reorder patches".
4. On the Add, remove, or reorder patches page click **Add** and a window opens to allow loaded patches to be selected.
5. On the "Select Patches to be added" window check the **Show All** checkbox to display the service pack or hotfix that was added to the Broker in Step 1. Select the patch to be applied and click **OK**.

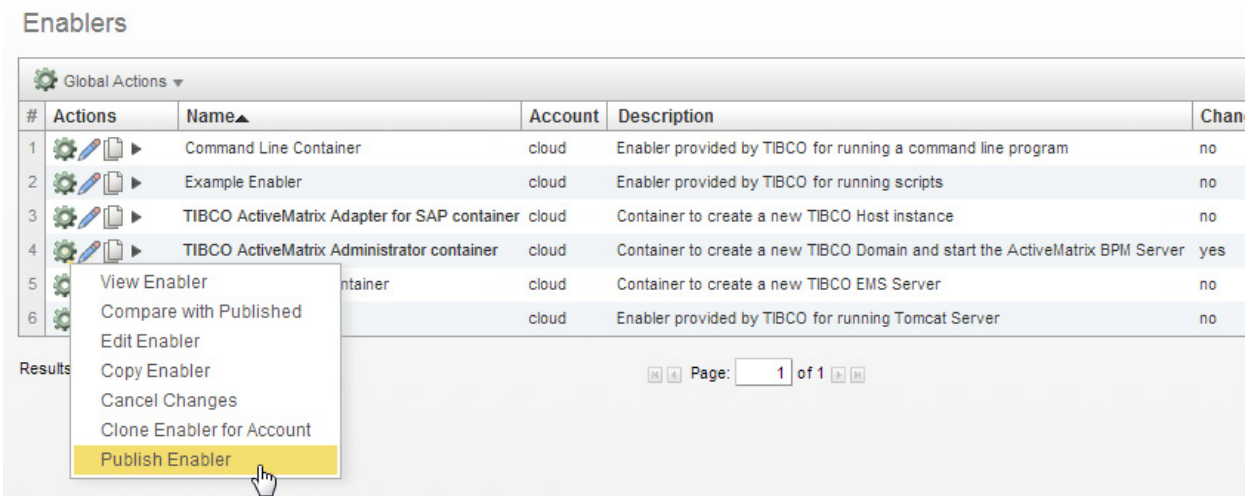
Figure 27 Adding a patch to the Enabler



6. Click **Finish** to save your changes to the Enabler. The Enablers page is shown.

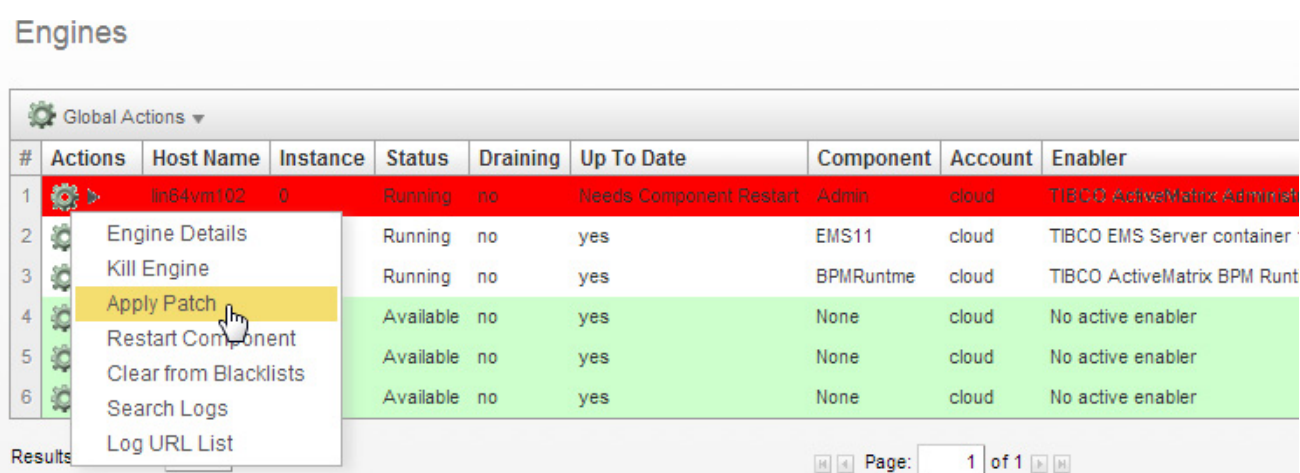
7. From the Enablers page **Publish** Enabler changes from the Actions menu.

Figure 28 Publish the changed Enabler



8. Go to the Engines page. When the Engine(s) that is using an Enabler without the upgrade is shown in red then you are ready to Apply the patch. Use the Actions menu for the Engine(s) you want to update and **Apply Patch** as is shown below.

Figure 29 Apply Patch to upgrade Engines running TIBCO ActiveMatrix Server



After the patch has been applied (this can take significant amount of time due to upload delivery speeds into expanded archive directories) you can verify the upgrade was successful by checking the TIBCO Silver Fabric Engine log. The Engine log will show that the gridlib package is delivered and unzipped in the directory:

```
/[Engine_Home]/work/[Engine_instanceName]/fabric/patch-[index]
```

9. Restart the Component.



It is recommended that the TIBCO Host and ActiveMatrix Component restart should be performed when the server is in a quiescent period to minimize any potential for in-flight messaging loss.

To ensure that Component configuration or Enabler upgrade changes are properly applied to existing Components published and running on TIBCO Silver Fabric, the TIBCO Host and Components must be restarted.

After restart of the Component the Service Pack (or Hotfix) is applied.

Chapter 3 **VirtualRouter with TIBCO ActiveMatrix Administrator**

TIBCO Silver Fabric VirtualRouter acts as a proxy between Web clients and instances of virtualized HTTP-enabled Components, such as Web Applications and Web Services. By default, an instance of VirtualRouter runs alongside every Silver Fabric Broker in the same application server.

Topics

- [Overview, page 45](#)
- [VirtualRouter and TIBCO ActiveMatrix Administrator, page 45](#)

Overview

In a private cloud, when you run an ActiveMatrix Service Grid or a TIBCO ActiveMatrix Administrator instance, you do not necessarily know in advance the address of the machine where it will run unless you set resource preferences in the rules.

The VirtualRouter resolves that connection difficulty by routing web service administration requests to the correct TIBCO ActiveMatrix Administrator machine or IP address when you first attempt connection through the VirtualRouter.

VirtualRouter and TIBCO ActiveMatrix Administrator

The following URL redirects to TIBCO ActiveMatrix Administrator:

`http://BrokerMachineName:BrokerPort/Admin_Enterprise_Name/amxadministrator/`

- *BrokerMachineName*: The Machine name or IP Address where you installed TIBCO Silver[®] Fabric and the TIBCO VirtualRouter.
- *BrokerPort*: The port of the Silver[®] Fabric Administrator GUI. The default value is 8080.
- *Admin_Enterprise_Name*: The value of the Enterprise Domain Name you entered when you configured TIBCO ActiveMatrix Administrator component.

For example: `http://10.107.172.95:8080/N1/amxadministrator/`



This URL will be redirected to the right machine name and port number where TIBCO ActiveMatrix Administrator is running. After the connection with the actual machine where the TIBCO ActiveMatrix Administrator is running the browser URL will show the machine name or IP address of the host machine and not the VirtualRouter.

