

TIBCO Enterprise Message Service™

Installation

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Two-Second Advantage®



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Preface



This software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. Please see the readme.txt file for the availability of this software version on a specific operating system platform.

TIBCO is proud to announce the latest release of TIBCO Enterprise Message Service™ software. This release is the latest in a long history of TIBCO products that leverage the power of the Information Bus® technology to enable truly event-driven IT environments. To find out more about how TIBCO Enterprise Message Service software and other TIBCO products are powered by TIB® technology, please visit us at www.tibco.com.

TIBCO Enterprise Message Service software lets application programs send and receive messages according to the Java Message Service (JMS) protocol. It also integrates with TIBCO FTL, TIBCO Rendezvous, and TIBCO SmartSockets messaging products.

Topics

- [Related Documentation, page viii](#)
- [Typographical Conventions, page x](#)
- [Connecting with TIBCO Resources, page xiii](#)

Related Documentation

This section lists documentation resources you may find useful.

TIBCO Enterprise Message Service Documentation

The following documents form the TIBCO Enterprise Message Service documentation set:

- *TIBCO Enterprise Message Service User's Guide* Read this manual to gain an overall understanding of the product, its features, and configuration.
- *TIBCO Enterprise Message Service Central Administration* Read this manual for information on the central administration interface.
- *TIBCO Enterprise Message Service Installation* Read the relevant sections of this manual before installing this product.
- *TIBCO Enterprise Message Service C & COBOL Reference* The C API reference is available in HTML and PDF formats.
- *TIBCO Enterprise Message Service Java API Reference* The Java API reference can be accessed only through the HTML documentation interface.
- *TIBCO Enterprise Message Service .NET API Reference* The .NET API reference can be accessed only through the HTML documentation interface.
- *TIBCO Enterprise Message Service 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. This document is available only in PDF format.

Other TIBCO Product Documentation

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

- TIBCO FTL[®]
- TIBCO Rendezvous[®]
- TIBCO SmartSockets[®]
- TIBCO EMS[®] Client for z/OS (CICS)
- TIBCO EMS[®] Client for z/OS (MVS)
- TIBCO EMS[®] Client for IBM i

Third Party Documentation

- Java™ Message Service specification, available through <http://www.oracle.com/technetwork/java/jms/index.html>.
- *Java™ Message Service* by Richard Monson-Haefel and David A. Chappell, O'Reilly and Associates, Sebastopol, California, 2001.
- Java™ Authentication and Authorization Service (JAAS) *LoginModule Developer's Guide* and *Reference Guide*, available through <http://www.oracle.com/technetwork/java/javase/jaas/index.html>.

Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

| Convention | Use |
|---|---|
| <i>TIBCO_HOME</i> <i>ENV_NAME</i> <i>EMS_HOME</i> | <p>TIBCO products are installed into an installation environment. A product installed into an installation environment does not access components in other installation environments. Incompatible products and multiple instances of the same product must be installed into different installation environments.</p> <p>An installation environment consists of the following properties:</p> <ul style="list-style-type: none"> • Name Identifies the installation environment. This name is referenced in documentation as <i>ENV_NAME</i>. If you specify a custom environment name, on Microsoft Windows the name becomes a component of the path to the product shortcut in the Windows Start > All Programs menu. • Path The folder into which the product is installed. This folder is referenced in documentation as <i>TIBCO_HOME</i>. The value of <i>TIBCO_HOME</i> depends on the operating system. For example, on Windows systems, the default value is <code>C:\tibco</code>. <p>TIBCO Enterprise Message Service installs into a directory within <i>TIBCO_HOME</i>. This directory is referenced in documentation as <i>EMS_HOME</i>. The value of <i>EMS_HOME</i> depends on the operating system. For example on Windows systems, the default value is <code>C:\tibco\ems\8.4</code>.</p> |
| code font | <p>Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example:</p> <p>Use MyCommand to start the foo process.</p> |
| 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] |

Table 1 General Typographical Conventions (Cont'd)

| Convention | Use |
|---|--|
| <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 BusinessWorks Concepts</i>. • To introduce new terms. For example: A portal page may contain several portlets. <i>Portlets</i> are mini-applications that run in a portal. • To indicate a variable in a command or code syntax that you must replace. For example: <code>MyCommand PathName</code> |
| Key combinations | <p>Key name separated by a plus sign indicate keys pressed simultaneously. For example: <code>Ctrl+C</code>.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: <code>Esc, Ctrl+Q</code>.</p> |
|  | The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances. |
|  | 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. |
|  | The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken. |

Table 2 Syntax Typographical Conventions

| Convention | Use |
|------------|--|
| [] | <p>An optional item in a command or code syntax.</p> <p>For example:</p> <pre>MyCommand [optional_parameter] required_parameter</pre> |
| | <p>A logical OR that separates multiple items of which only one may be chosen.</p> <p>For example, you can select only one of the following parameters:</p> <pre>MyCommand para1 param2 param3</pre> |

Table 2 *Syntax Typographical Conventions*

| Convention | Use |
|------------|---|
| { } | <p>A logical group of items in a command. Other syntax notations may appear within each logical group.</p> <p>For example, the following command requires two parameters, which can be either the pair <code>param1</code> and <code>param2</code>, or the pair <code>param3</code> and <code>param4</code>.</p> <pre>MyCommand {param1 param2} {param3 param4}</pre> <p>In the next example, the command requires two parameters. The first parameter can be either <code>param1</code> or <code>param2</code> and the second can be either <code>param3</code> or <code>param4</code>:</p> <pre>MyCommand {param1 param2} {param3 param4}</pre> <p>In the next example, the command can accept either two or three parameters. The first parameter must be <code>param1</code>. You can optionally include <code>param2</code> as the second parameter. And the last parameter is either <code>param3</code> or <code>param4</code>.</p> <pre>MyCommand param1 [param2] {param3 param4}</pre> |

Connecting with TIBCO Resources

How to Join TIBCOCommunity

TIBCOCommunity is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCOCommunity offers forums, blogs, and access to a variety of resources. To register, go to <https://community.tibco.com>.

How to Access TIBCO Documentation

Documentation for this and other TIBCO products is available on the TIBCO Documentation site. This site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, please visit us at:

<https://docs.tibco.com/products/tibco-enterprise-message-service>

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site at <https://docs.tibco.com>.

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support as follows:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:
<https://www.tibco.com/services/support>
- If you already have a valid maintenance or support contract, visit this site:
<https://support.tibco.com>

Entry to this site requires a user name and password. If you do not have a user name, you can request one.

Chapter 1 **Installation Overview**

This chapter presents an overview of the installation process.

Topics

- [Installation Requirements, page 2](#)
- [Before Installing, page 5](#)
- [Installation Modes, page 7](#)

Installation Requirements

Before starting the installation procedure, review the topics in this section to determine that your system meets the basic requirements and that you have the prerequisite software installed.

Required Software

The following software products are required only when the specified optional feature is employed:

- In order to use Java-supported features, such as Java clients, JAAS security, and Central Administration, you must have Java Runtime Environment (JRE) or Java Developer Kit (JDK) installed.
- Hibernate Core for Java and related JAR files are required if you will use the database store feature, which allows the EMS server to store messages in a database. You must install and use the Hibernate assembly provided by TIBCO. You have two options to download Hibernate:
 - **Download during installation** If you select the **Hibernate (For Database Stores)** option in [step 9](#) of the EMS installation process, the TIBCO Universal Installer automatically downloads Hibernate during installation.
 - **Download prior to installation** If your machine will not be connected to the Internet during installation, you should manually download the Hibernate assembly from the TIBCO download site using a connected machine before you start the installation process. Download Hibernate after you download and extract the installer, but before you run the installer. See [step 3 of Install in GUI Mode on page 22](#) for details.

See below for a list of supported databases.

Supported Databases

The database store feature is supported with the following databases:

- MySQL 5.6
- Microsoft SQL Server 2014
- Oracle 12c
- Oracle Real Application Clusters (RAC) 12c
- IBM DB2 Server 9.1

For more information about the database store feature, see Database Store Overview of the *TIBCO Enterprise Message Service User's Guide*.

TIBCO Software

- We strongly recommend TIBCO FTL 5.2.1 if you will use TIBCO Enterprise Message Service to exchange messages with TIBCO FTL.
- We strongly recommend TIBCO Rendezvous 8.4.5 or higher if you will use TIBCO Enterprise Message Service to exchange messages with TIBCO Rendezvous. If Rendezvous is already installed on your network, additional licenses are required only if you are adding additional hosts (client, server, development subnets, and so on) to your network.
- TIBCO SmartSockets 6.8.2 or higher is required if you will use TIBCO Enterprise Message Service to exchange messages with TIBCO SmartSockets. If SmartSockets is already installed on your system, additional licenses are required only if you are adding additional RTclients or RTservers to your network.

Disk Space

Temporary Disk Space Required by the Installer

When a TIBCO Enterprise Message Service package is unpacked, it is extracted into a temporary folder. The installer requires at least 250 MB of free space in the temporary directory. On Microsoft Windows, the temporary directory location is `%SystemDrive%\Documents and Settings\user_name\Local Settings\Temp`.

If your system does not have sufficient free disk space in the default temporary directory, you can run the installer with a different temporary directory by using the following option when starting the installer. For example:

```
TIBCOUniversalInstaller -is:tempdir \new_tmp
```

where `\new_tmp` has sufficient free disk space.

The installer calculates the disk space required in product home location for the selected components. The calculation is done before the actual installation (copying of files to system) begins. The installer will proceed only if sufficient free disk space is available in product home location.

However, if disk space is consumed by another process while the installer is copying the files, and if the required disk space is thereby reduced, the installer may fail and will then give a failure message.

While performing installation, avoid running other processes that consume disk space in product home location.

VMS

To run EMS client programs, user accounts must have NETMBX and TMPMBX privileges.

Supported Platforms

Supported platforms are listed in the following sections:

- On UNIX: [Table 3, UNIX Distribution Information, on page 10](#)
- On Windows: [Table 4, Microsoft Windows Distribution Information, on page 13](#)
- On VMS: [Table 5, VMS Distribution Information, on page 16](#)

Central Administration

Central Administration is supported on the following platforms:

- 64-bit Windows
- Linux
- macOS

Before Installing

Before you begin to install the software, do these items first:

- Read the Migration and Compatibility section of the *TIBCO Enterprise Message Service Release Notes*.
- Read the README file for your software release. The README file is located on the TIBCO download site and TIBCO documentation site, at:
<https://docs.tibco.com/products/tibco-enterprise-message-service>
- Read the TIBCO Software Inc. License Agreement included with the product.
- Read the appropriate chapters for your platforms.

If you are upgrading TIBCO Enterprise Message Service, or reinstalling a clean version of the software, you may uninstall the product first or let the installer take care of performing the upgrade or reinstall.

Installer Account

UNIX

To install TIBCO EMS, you can login either as a regular (non-root) user or as super-user (root).

A graphic environment such as CDE or X Windows is required to run the installer in GUI mode.



For information about installing on UNIX systems, see [DISPLAY Variable FAQ on page 31](#).

Microsoft Windows

You must have administrator privileges to install TIBCO Enterprise Message Service. If you do not have administrator privileges, the installer exits. You must then log out of the system and log in as a user with the required privileges, or request your system administrator to assign privileges to your account.

If you intend to install the product on a network drive, you must ensure that the account used for installation has permission to access the network drive.

Installer Log File

The installer writes its log file to the *User_Home/.TIBCO* directory. For example, on Windows, the installer writes its log to the `C:\Documents and Settings\user-name\.TIBCO` directory.

Installation Registry

The installer maintains an installation registry. The registry location depends on the platform. This section explains where the registry files are located. The file names include the prefix *vpd*, which stands for Vital Product Database.



Do not edit, modify, rename, move, or remove any of the registry *vpd* files.

UNIX Platforms

If installation is performed by a regular user (non-root), the installation registry is maintained in the following files in the user's home directory:

`$HOME /INSTALLSHIELD`

If installation is performed by super-user (root), the installation registry is maintained as follows:

- On Solaris and HP-UX, in the root user's home directory (which is `/`) as *vpd* files.
- On Linux, in the `/root` directory as *vpd* files.
- On AIX, in the `/usr/lib/objrepos` directory as *vpd* files.

Microsoft Windows Platforms

On Windows platforms, the installation registry is maintained in the `%CommonProgramFiles%` folder:

`%CommonProgramFiles%\Installshield`

Installation Modes

The TIBCO Universal Installer allows you to run in different modes. Each mode is supported on all platforms.

- GUI Mode
- Console Mode
- Silent mode

GUI Mode

In GUI mode, the installer presents panels that allow you to make choices about product selection, product location, and so on. GUI mode is the installer's default mode, it is used, for example, when you invoke the installer by double-clicking on the icon in Microsoft Windows.

Console Mode

Console mode allows you to run the installer from the command line. This is useful if your machine does not have a window environment.

Silent Mode

Silent mode either installs using the default settings or uses a response file that contains properties you can set for your installation. Silent mode installs without prompting you for information.

The `TIBCOUniversalInstaller-ems.silent` file is packaged in the directory that contains the universal installer. You must edit the file with information for your environment before launching the silent installation. The file includes comments that describe the installation properties you can set.

While you can use the `TIBCOUniversalInstaller-ems.silent` file, it's good practice to copy the file to a different name and use that file for the silent install. Once you have created a `TIBCOUniversalInstaller-ems.silent` for your installation, you can use that file for all your TIBCO EMS version 8.4 installations.

- If you invoke the installer with the `-silent` argument alone, the default `TIBCOUniversalInstaller-ems.silent` file is used.
- If the installer is started with `-silent -V responseFile="responseFileName.silent"` as an argument, the installer uses the properties specified by the file.

Chapter 2 **Platform-Specific Instructions**

This chapter provides installation instructions specific to different platforms. Read this chapter before following the installation procedures outlined in [Chapter 3, TIBCO Universal Installer](#).

Topics

- [Installation on UNIX, page 10](#)
- [Installation on Microsoft Windows, page 13](#)
- [Installation on VMS, page 16](#)

Installation on UNIX

This section gives information that is specific to UNIX platforms.

Supported Platforms and Installation Packages

TIBCO Enterprise Message Service is available on the UNIX operating systems listed in [Table 3](#). For supported versions and the latest changes, see the README file.



As of software release 8.4.0, support for the 32-bit server executables has been removed.

As of software release 8.3.0, the 32-bit versions of client libraries have been deprecated.

Support for the 32-bit client libraries will be removed in a future release.

Table 3 UNIX Distribution Information

| OS | Hardware | Installer Package Suffix | Notes |
|--|-------------------|-------------------------------|---|
| AIX | IBM PowerPC | <code>aix_power.zip</code> | This platform does <i>not</i> support Central Administration. |
| HP-UX | IA64 (Itanium) | <code>hpux_ia64.zip</code> | This platform does <i>not</i> support Central Administration. |
| Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux Server | Intel | <code>linux_x86_64.zip</code> | 32-bit (client only) and 64-bit. |
| macOS | Intel | <code>macosx_x86.zip</code> | macOS uses the TIBCO Universal Installer (it does not use Apple's installer GUI). |
| Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux Server | IBM System z | <code>linux_s390x.zip</code> | This platform does <i>not</i> support Central Administration |

Table 3 UNIX Distribution Information

| OS | Hardware | Installer Package Suffix | Notes |
|---------|-----------|--------------------------|---|
| Solaris | Sun SPARC | sol_sparc.zip | This platform does <i>not</i> support Central Administration. |
| Solaris | Intel | sol_x86.zip | This platform does <i>not</i> support Central Administration. |

EMS on 64-bit Systems

On UNIX platforms, all TIBCO Enterprise Message Service installations include only the 64-bit version of the server executables. However, both the 32-bit and the 64-bit versions of the client libraries are available.

Installing on 32-bit Linux

Additional steps are necessary to install the EMS client libraries on 32-bit Linux platforms.

On most platforms, the TIBCO Universal Installer bundles a JVM that it uses for its own purposes. On Linux, it bundles a 64-bit JVM that will not run on a 32-bit version of Linux.

In order to install the EMS client libraries on 32-bit Linux, you must have a 32-bit JVM installed on the target machine before running the universal installer. You can then direct the installer to use that JVM by providing it with the path to that JVM through the `-is:javahome` command line parameter.

For example:

```
TIBCOUniversalInstaller-lnx-x86-64.bin -console -is:javahome
/opt/java/jdk1.8.0/jre
```

This allows you to install the 32-bit versions of the C client libraries. The 64-bit versions will also be installed, along with the 64-bit server, depending on the installer options you choose. However, the 64-bit versions won't run on a 32-bit machine.



The 32-bit C client libraries are deprecated.

Root Access and Administrative Privileges

If TIBCO Enterprise Message Service is installed and `tibemsd` is started as root, it drops root permissions after the server starts. This protects the EMS server from security exploits. Once the server has dropped root privileges, it cannot write to the files created during the installation. As a result, it is not able to create configuration and log files. To avoid this conflict, create the necessary directories and assign the appropriate privileges to the regular user ID with which the EMS server is started.

Loading the JVM on AIX

The JVM is required to run certain features, such as extensible security and database storage.

In order to load the IBM JVM on AIX, you must set `module_path` in the `tibemsd.conf` to point to the directories containing the `libjvm.so` and its dependent libraries. These libraries are part of your JRE installation.

Dynamically Linked Libraries

The EMS server dynamically loads the SSL, compression and LDAP shared libraries, rather than statically linking them. If the `tibemsd` executable is executed from the `bin` directory, it automatically locates these libraries. If the server is moved elsewhere, the shared library directory must be moved as well. This also applies to the EMS Administration Tool, `tibemsadmin`, with respect to the SSL and compression shared libraries.

Installation on Microsoft Windows

This section gives information that is specific to Microsoft Windows platforms.

Supported Platforms

TIBCO Enterprise Message Service is available on the Windows platforms listed in [Table 4](#). For supported versions and the latest changes, see the README file.



As of software release 8.4.0, support for the 32-bit server executables has been removed. This renders the 32-bit Windows installer package a client-only package.

As of software release 8.3.0, the 32-bit versions of client libraries have been deprecated.

Support for the 32-bit client libraries will be removed in a future release.

Table 4 Microsoft Windows Distribution Information

| OS/Platform | Hardware | Installer Package Suffix | Notes |
|---------------------------|-------------------|--------------------------|---|
| Windows Windows Server | Intel (32-bit) | win_x86_vc14.zip | Client only. For developers using Visual Studio 2015. |
| Windows Windows Server | Intel (64-bit) | win_x86_64_vc14.zip | Server and client. For developers using Visual Studio 2015. |

Installing on Windows

Windows operating systems have stringent file access control. The access control policies affect all users, even those with Administrator permissions.

Administrator Permissions

In order to ensure that an administrator has permissions to modify configuration and data files, TIBCO Enterprise Message Service now installs these files in a different directory on Windows systems. During installation, you are prompted to enter a Configuration Directory location. After installation, you will find configuration and data files in the specified directory.

The default Configuration Directory is based on the value of your PROGRAMDATA environment variable. For example:

C:\ProgramData\tibco

Executable Prompt By default, Windows prompts for consent before starting `tibemsd` as administrator. You can disable this elevation prompt for administrator users with the Windows Local Security Policy application. For more information, see the section on changing the elevation prompt behavior here:

<http://technet.microsoft.com/en-us/library/cc709691.aspx>

If you elect not to disable the prompt, the User Account Control screen opens each time you attempt to start the EMS server. Click **Allow** to start the application.

.NET DLL Installation

During installation, several DLL files are installed in the global assembly cache:

```
TIBCO.EMS.DLL
TIBCO.EMS.ADMIN.DLL
TIBCO.EMS.UFO.DLL
```

If an earlier release of TIBCO Enterprise Message Service is installed on the computer, the EMS 8.4 DLLs replace those of the earlier version.

To reinstall the previous EMS release DLLs, you must first uninstall the 8.4 DLLs, then reinstall the DLLs from the previous release. Both of these tasks are accomplished using the Global Assembly Cache Tool (`Gacutil.exe`) provided by Microsoft. DLL files are located in the `bin` directory of the EMS installation.

Policy Files Additionally, the following policy files can optionally be installed in the global cache:

```
policy.1.0.TIBCO.EMS.UFO.dll
policy.1.0.TIBCO.EMS.dll
policy.1.0.TIBCO.EMS.ADMIN.dll
```

When installed, these policy files facilitate upgrades by automatically redirecting existing EMS applications from an older assembly to the newest assembly.

See Also For more information, see the section on Assembly Versioning in the *TIBCO Enterprise Message Service User's Guide*.

Dynamically Linked Libraries

The EMS server dynamically loads the SSL, compression and LDAP shared libraries, rather than statically linking them. If the `tibemsd` executable is executed from the `bin` directory, it automatically locates these libraries. If the server is moved elsewhere, the shared library directory must be moved as well. This also applies to the EMS Administration Tool, `tibemsadmin`, with respect to the SSL and compression shared libraries.

Register the Server as a Windows Service

Some situations require the EMS server to start automatically. The installer automatically installs the EMS server as a Windows service, and allows you to choose whether to start the server manually, automatically, or automatically with a delay. After EMS is installed, you can use the `emsnt srg` utility to change the service settings or unregister an EMS server.

See [step 12 of Install in GUI Mode on page 22](#) for more information.

See Also `emsntsrg` in *TIBCO Enterprise Message Service User's Guide*.

Installation on VMS

This section gives information that is specific to VMS platforms.

Supported Platforms and Installation Packages

TIBCO Enterprise Message Service is available on the VMS platforms listed in [Table 5](#). For supported versions and the latest changes, see the README file.

Table 5 VMS Distribution Information

| Platform | Hardware Platform | Installer Package Suffix | Notes |
|----------|------------------------------|--------------------------|-------------------------------------|
| OpenVMS | HP Integrity/Itanium, 32-bit | vms_ia64.zip | Supports the C client library only. |

Installing TIBCO Enterprise Message Service on VMS Platforms

Follow these instructions to install TIBCO EMS software on VMS platforms.

Installation on VMS platforms uses the `VMSINSTAL` utility, which is described in the OpenVMS system management documentation.

Task A Log In as SYSTEM

Log in to the `SYSTEM` account.

Task B Check TCP/IP Services

EMS software will operate properly only if you have installed and started TCP/IP services.

Although you can successfully install the EMS files without running TCP/IP services, the EMS installation verification procedure will fail if TCP/IP services have not been started.

Task C Obtain the Installation Package

The product distribution contains the TIBCO Enterprise Message Service software for VMS platforms, as shown in [Supported Platforms and Installation Packages on page 16](#). These files are also available for download from the TIBCO website.

ZIP Files Installation packages are zipped (compressed) using the VMS free software ZIP utility. To preserve the file attributes, unzip them on a VMS computer (and *not* on a PC or UNIX computer).

Utilities to decompress zip files are available on the HP OpenVMS Freeware distributions, or at the HP web site:

<http://h71000.www7.hp.com/openvms/freeware/index.html?jumpid=/go/openvms/freeware>

File Attributes When copying VMS save sets through a Windows PC or UNIX computer, the resulting files do not retain the proper file attributes. As a result, the VMS BACKUP utility cannot read them to install them.

To rectify this situation, copy the files to a computer running VMS, and use this command to restore the correct file attributes:

```
$ set file /attr = (RFM:FIX, RAT:NONE, LRL:8192) tibems*.*
```

Task D Mount the Distribution Media

Insert the EMS distribution into the drive.

The mount command automatically determines that the drive is formatted according to ISO 9660, but you must specify the record format for the backup save sets. For example:

```
$ mount /override=id/media_format=CDROM -
$_ /undefined=fix:none:8192 CD_device
```

Task E Install the EMS Product Software

The installation procedure requires your input. The most important items you supply are the target location for the TIBCO Enterprise Message Service files, and the environment to install (development or runtime environment).

The installation procedure takes less than 10 minutes.

- Installation Steps
1. Create a disk directory for the installation kit.


```
$ create/directory DKA100:[kits.ems-8-4-0]
```
 2. Set default to the root directory of the release drive, or transfer the installation package zip file to a disk directory and set default to that directory.


```
$ set default DQA0:[000000]
```
 3. Unzip the installation package (see [ZIP Files on page 17](#)).


```
$ unzip installation_package -d DKA100:[kits.ems-8-4-0]
```
 4. Retrieve and read the release notes for the VMS distribution, which are in the `sys$help` directory. For example, to retrieve the release notes without installing EMS software, use these commands as a model:


```
$ @sys$update:vmsinstal tibems084 dka100:[kits.ems-8-4-0] -
$_ options N
```

The release notes are in the file `sys$help:tibems084.release_notes`.
 5. Install the product software. Specify the product name and directory on the command line to `VMSINSTAL`. For example:


```
$ @sys$update:vmsinstal tibems084 dka100:[kits.ems-8-4-0]
```

Task F Verify Installation

We recommend that you verify correct operation of EMS. You can verify installation at any time by invoking the command:

```
$ @TIBEMS:[COM]QUICK_TEST.COM.
```

The test procedure verifies that the sample program images used are available, and displays the output seen in a successful test. Finally, it accepts input of the host name and port of a server running on another system, starts a listening program, and sends three messages. The output of the sender and receiver are displayed on the console.

Visually compare the actual results with the sample above it. If they match in all details except for host and port, then EMS software is installed and operating correctly.

Additional Information for VMS Programmers

Compile

On VMS platforms, EMS programmers must define the C-compile command appropriately.

For the Compaq C compiler:

```
$ CC := CC/FLOAT=IEEE/IEEE_MODE=UNDERFLOW_TO_ZERO -  
/PREFIX=ALL/INCLUDE_DIRECTORY=("/tibems/include", [])
```

Link

EMS API libraries are multi-threaded, so VMS scheduler upcalls can yield significant performance improvements:

```
$ LINK/THREADS_ENABLE=UPCALLS
```


Chapter 3 **TIBCO Universal Installer**

This chapter describes installation and uninstallation using TIBCO Universal Installer.

Topics

- [Installing TIBCO Enterprise Message Service, page 22](#)
- [Uninstalling the Software, page 28](#)

Installing TIBCO Enterprise Message Service

If `TIBCO_HOME` does not exist on the machine, its location must be specified when installing TIBCO Enterprise Message Service. All subsequent TIBCO software will be installed under `TIBCO_HOME`.

Install TIBCO Enterprise Message Service using one of the following modes:

- [Install in GUI Mode on page 22](#)
- [Install in Console Mode on page 25](#)
- [Install in Silent Mode on page 26](#)



The TIBCO Universal Installer installs the .NET DLLs, `TIBCO.EMS`, `TIBCO.EMS.ADMIN`, and `TIBCO.EMS.UFO.DLL` in the global cache. Existing DLLs from a previous TIBCO EMS installation are overwritten. See [.NET DLL Installation on page 14](#) for more information.



The Universal Installer can install only one version of TIBCO Enterprise Message Service at a time. Expanding multiple EMS product packages of different versions into the same location for the purpose of having the universal installer proceed with installing them in one operation is not supported. In such a situation, expand those packages in separate directories and run the installer once for each package.

Install in GUI Mode

The following procedure explains how to install TIBCO Enterprise Message Service in GUI mode.

1. Open the physical media or download the TIBCO Enterprise Message Service product package.
2. Extract the TIBCO EMS product archive file to a temporary directory.
3. If you need Hibernate (in order to use database stores) and if your machine will not be connected to the Internet during installation, you must manually download the Hibernate assembly from the TIBCO download site using a connected machine before you run the TIBCO Universal Installer.
 - A link to the Hibernate assembly is provided next to your TIBCO Enterprise Message Service product distribution on edelivery.tibco.com.
 - To streamline the installation process, download Hibernate to the `assemblies` subdirectory of the temporary directory where you extracted the TIBCO Enterprise Message Service installer package. If you select the **Hibernate (For Database Stores)** option in [step 9](#), the installer

automatically locates the Hibernate assembly. If Hibernate is downloaded to a different directory, you will be prompted for its location.

4. Navigate to the temporary directory that contains the universal installer.
5. Run **TIBCOUniversalInstaller**.
6. The Welcome screen appears. Click **Next**.
7. The License Agreement screen appears. After reading through the license text, click **I accept the terms of the license agreement** and then click **Next**.
8. The TIBCO Installation Home screen appears. In this screen you choose the installation environment (also called *TIBCO_HOME* in the Installation Home screen). An installation environment isolates product installations; a product installed into an installation environment does not access components in other installation environments.

The installation environment consists of a name, description, and path. You can choose a new environment or an existing environment.



If there is a previous installation of a TIBCO product that did not use the TIBCO Universal Installer, then the Universal Installer will not detect the installation directory used by those older products. If you wish to use the existing location as the *TIBCO_HOME*, you must create a new *TIBCO_HOME* and choose the directory where the other products exist.

- **Create a New TIBCO_HOME** To install the product into a new installation environment, specify the **Directory** property: the path into which the product is installed. Type a path or click **Browse** to specify the path or accept the default location.

The path cannot contain special characters such as "*", "#", "?", ">", "<", "%", "&", "\$", "\" or "|". The path cannot be the same as the path of an existing environment.

- **Use an Existing TIBCO_HOME** To install the product into an existing installation environment, select the environment directory from the Environment drop-down list.

Click **Next**.

9. The Installation Profile Selection screen appears. This screen allows you to install the default features, or select specific features for installation. TIBCO Universal Installer provides the following installation profiles:

- **Development** Includes the EMS server (unavailable on 32-bit Windows), Central Administration (on platforms where it is supported), EMS client, development kit, and all supporting samples..



Hibernate Core for Java is required to use the optional database store feature. To use database stores, you must install and use the Hibernate assembly provided by TIBCO. To install Hibernate with TIBCO Enterprise Message Service, check **Customize Installation** and select the **Hibernate (For Database Stores)** option. This feature is unavailable on 32-bit Windows.

- **Server** Includes the EMS server (unavailable on 32-bit Windows), Central Administration (on platforms where it is supported).
- **Client** Includes the EMS client only.
- **Central Administration** Includes Central Administration only (on platforms where it is supported).

To customize the profile feature settings, check the **Customize Installation** checkbox and use the feature tree on the right.

To install the features selected in the right panel, click **Next**.

10. If a version of TIBCO Enterprise Message Service or related components have already been installed in the target directory, a warning message appears.

If you wish to reinstall TIBCO Enterprise Message Service, click **Yes**. To cancel the installation, choose **No**.

11. Specify a directory for the Configuration File (unavailable on 32-bit Windows). The configuration file directory determines the location where TIBCO Enterprise Message Service stores user data, including the sample server configuration files. The default location is:

- On UNIX systems, the user home directory. For example:

```
$HOME/TIBCO_HOME
```

- On Windows systems, the ProgramData environment variable. For example:

```
C:\ProgramData\TIBCO_HOME
```

Accept the default location, or click **Browse** to select a different location and click **Next**.

12. If you are installing on a Windows platform and selected the EMS Server Baseline component in [step 9](#) above, the TIBCO EMS Server Service Setting screen appears. Specify a EMS Server service startup type.
 - Click **Manual** to start the EMS server manually.
Click **Automatic** to have Windows start the server automatically.
Click **Automatic (Delayed Start)** to have Windows start the server shortly after the machine starts.
 - Click **Browse** if you would like to specify a different server configuration file.
13. If you elected to install Hibernate Core for Java in [step 9](#) above, the Hibernate software license agreement appears. Read through the Hibernate license text, click **I Accept The Terms Of the License Agreement**, and then click the **Next** button.
14. If you elected to install Hibernate Core for Java, the Download Hibernate page appears. Note that this page does not appear if the Hibernate assembly has already been downloaded during an earlier run of the installer, or if you downloaded Hibernate to the `assemblies` subdirectory as described in [step 3](#).
The download options are as follows:
 - **Download Hibernate Assembly From TIBCO** The Hibernate assembly is automatically downloaded and stored into the folder where you extracted this product.
 - **Select The Hibernate Assembly Previously Downloaded From TIBCO** Click the **Browse** button to navigate to the location where a Hibernate assembly that was previously downloaded is stored.

Click the **Next** button.
15. The installer prepares the components for installation. A pre-install summary screen appears. Click **Install**.
Click **Yes to All** to close any pop up windows that display during installation.
16. Click **Finish** to close the installer window.

Install in Console Mode

The following procedure explains how to install the software in console mode.

1. Open the physical media or download the TIBCO Enterprise Message Service product package.
2. Extract the TIBCO Enterprise Message Service product archive file to a temporary directory.

3. If you need Hibernate (in order to use database stores) and if your machine will not be connected to the Internet during installation, you must manually download the Hibernate assembly from the TIBCO download site before you run the TIBCO Universal Installer. A link to the Hibernate assembly is provided next to your TIBCO Enterprise Message Service product distribution on edelivery.tibco.com.
4. Using a console window, navigate to the temporary directory that contains the universal installer.
5. Run the installer using this command line:

```
TIBCOUniversalInstaller -console
```
6. Complete the installation by responding to the console window prompts.

Install in Silent Mode

The following procedure explains how to install TIBCO Enterprise Message Service product in silent mode. The `TIBCOUniversalInstaller-ems.silent` file is packaged in the directory that contains the universal installer. You must edit the file with information for your environment before launching the silent installation. The file includes comments that describe the installation properties you can set.

While you can use the `TIBCOUniversalInstaller-ems.silent` file, it's good practice to copy the file to a different name and edit that file for the silent mode.

If errors occur during installation, they will be listed in the installation log file (see the `User_Home/.TIBCO` directory).

1. Open the physical media or download the TIBCO Enterprise Message Service product package.
2. Extract the TIBCO Enterprise Message Service product archive file to a temporary directory.
3. If you need Hibernate (in order to use database stores) and if your machine will not be connected to the Internet during installation, you must manually download the Hibernate assembly from the TIBCO download site before you run the TIBCO Universal Installer. A link to the Hibernate assembly is provided next to your TIBCO Enterprise Message Service product distribution on edelivery.tibco.com.
4. Using a console window, navigate to the temporary directory that contains the universal installer
5. Copy the `TIBCOUniversalInstaller-ems.silent` file and rename the file.

6. Using a text editor, open the copied file and update the install location and features to install.
7. Run the installer using this command line:

```
TIBCOUniversalInstaller -silent -V responseFile="myfilename.silent"
```

If you are using the `TIBCOUniversalInstaller-ems.silent` file (rather than a copy), you need not supply the file name and can use this command line:

```
TIBCOUniversalInstaller -silent.
```

A line similar to the following is written to the installer log file when installation completes:

```
Install, com.tibco.installer.util.TIBCOInstaller, dbg.Debug,  
The installation has completed. Please check the log file for  
additional information.
```

```
... Install, com.tibco.installer.util.TIBCOInstaller,  
dbg.Debug, Executing Event:::OnEndInstall
```

Uninstalling the Software



Before uninstalling TIBCO EMS, save a backup copy of any files you have modified.

Use the following procedure to uninstall TIBCO Enterprise Message Service.

1. Stop all TIBCO Enterprise Message Service processes.
2. Run the uninstaller:

Navigate to *TIBCO_HOME*\tools\universal_installer and run the **TIBCOUniversalInstaller** executable.

On Windows systems, you can also access the universal uninstall program from the Start menu, following the path **Programs > TIBCO > Uninstall**.

3. The TIBCO Installation Manager screen opens.
 - a. Select **Uninstall Products from Selected TIBCO Home Location**.
 - b. From the drop-down box, select the *TIBCO_HOME* location where TIBCO Enterprise Message Service is installed.
 - c. Click **Next**.
1. The Welcome screen appears. Click **Next**.
2. To uninstall only TIBCO Enterprise Message Service, click **Custom Uninstall**. To uninstall all TIBCO products in the specified *TIBCO_HOME* (installed using the universal installer), select **Typical Uninstall**. After making your choice, click **Next**.
3. If you selected Custom Uninstall, then in the next screen select the specific products to uninstall. The choices include only TIBCO products that you installed using the universal installer. Unselect the check box next to any products you do not want to uninstall, and click **Next**.
4. The Pre-Uninstall Summary screen appears. Click **Uninstall** to remove the listed products.
5. Click **Finish** to close the uninstaller window.

Chapter 4 **Installation FAQs and Troubleshooting**

This chapter lists answers to questions and potential issues.

Topics

- [Running Out of Disk Space, page 30](#)
- [DISPLAY Variable FAQ, page 31](#)

Running Out of Disk Space

The installer calculates the disk space required in product home location, for the selected components. The calculation is done before the actual installation (copying of files to system) begins. The installer will proceed only if sufficient free disk space is available in product home location.

However, if disk space is consumed by another process while the installer is copying the files, and if the required disk space is thereby reduced, then the installer may fail, then the installer may fail and will give a failure message.

Solution

While performing installation, avoid running other processes that consume disk space in product home location.

DISPLAY Variable FAQ

- Q** Should I set the DISPLAY variable on macOS platforms for GUI mode?
- A** No. In macOS, Java is integrated with the native Macintosh graphics system, rather than with X11. As a result, you must have physical access to the machine's graphic display in order to install EMS on Macintosh platforms.

- Q** Why and how should I set the DISPLAY variable on other UNIX platforms for GUI mode?

- A** The installer on UNIX, must open an additional window, generally for graphics. It uses the DISPLAY environment variable to tell it on what computer to open the window. If the environment variable is not set, the installer will either wait or abort after displaying:

```
InstallShield Wizard
Initializing InstallShield Wizard...
Preparing Java(tm) Virtual Machine...
.....
.....
.....
```

The DISPLAY variable must be set to the IP address or name of the computer (on which the installer graphics window are to be displayed), followed by a screen address, which can be :0.0. For example:

```
# Bourne shell
DISPLAY=<ip_address>:0.0; export DISPLAY

# Korn shell
export DISPLAY=<ip_address>:0.0

# C-shell
setenv DISPLAY <ip_address>:0.0
```

For example, consider a scenario where you need to install the adapter on a remote HP-UX machine (named *itaska*). Because you have a Solaris 5.6 machine (named *alaska*) that has a video card and monitor installed, you can run an X-Window application on it. So you decide to telnet to *itaska* from *alaska*.

When you telnet to *itaska*, you will not get access to *itaska*'s monitor and will be unable to display an X-Window application. That is why you must set the DISPLAY variable, which instructs the X-Server to redirect all windows to the computer set in the variable. Before doing so, the computer (specified in the DISPLAY variable) must give permissions to share its monitor.

```
alaska> xhost + # give permission for all to its share monitor
alaska> telnet itaska
```

```
Welcome to HP-UX itaska 11.00
User:
Password:
itaska> export DISPLAY=alaska:0.0 # set display on alaska
itaska> ./TIBCOUniversalInstaller-hpux-hppa.bin
```

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