



TIBCO® Managed File Transfer Internet Server

Release Notes

*Version 8.4.1
February 2022*



Contents

Contents	2
New Features	3
Changes in Functionality	4
Changes in Platform Support	5
Deprecated and Removed Features	6
Migration and Compatibility	7
Closed Issues	10
Known Issues	17
TIBCO Documentation and Support Services	22
Legal and Third-Party Notices	24

New Features

No new features have been added in this release of TIBCO® Managed File Transfer Internet Server.

Changes in Functionality

No functionality changes have been made in this release of TIBCO® Managed File Transfer Internet Server.

Changes in Platform Support

Supported platforms are not affected in this release. For a complete list of supported platforms, see the [Readme](#) file.

Deprecated and Removed Features

No features have been deprecated or removed as of this release of TIBCO® Managed File Transfer Internet Server.

Migration and Compatibility

When upgrading from a previous release to this release of TIBCO Managed File Transfer Internet Server, follow these guidelines:

- The database should always be backed up prior to an upgrade.
- When migrating from prior releases, you must install TIBCO Managed File Transfer Internet Server 8.4.1 first. Only after all TIBCO MFT Internet Servers are migrated to 8.4.1, you should install TIBCO Managed File Transfer Command Center 8.4.1.
- TIBCO Managed File Transfer Internet Server 8.4.1 cannot run concurrently on the same machine with versions prior to 7.3.0 of TIBCO MFT Internet Server or TIBCO MFT Internet Server sharing the same Java JDK because of improvements in the software. If you are installing TIBCO MFT Internet Server 8.4.1 on a machine that is running a version prior to 7.3.0 of TIBCO MFT Internet Server, it should only be installed if you are upgrading to the new version. You can install TIBCO MFT Internet Server 8.4.1 on the same server only if you use a different Java JDK.
- Alerts added in prior releases (before version 7.3.0) become transfer alerts in this release.
- Versions of the desktop client at release 8.3 and below do not work with version 8.4.1. You must upgrade to version 8.4.1 to use the desktop client. Desktop Client version 4 does not work with MFT Internet Server version 8.3 and below.
- The Promotion Utility only supports REST. The Promotion Utility can work with MFT Internet Server and Command Center version 8.3 and version 8.2 by using REST calls.
- The Command Line Utilities (Admin, Platform Transfer, and File Transfer) only support REST. They can work with MFT Internet Server and Command Center version 8.3 and version 8.2 by using REST calls.

i Note: When you run TIBCO Managed File Transfer Internet Server in BouncyCastle FIPS mode, only Elliptic Curve Diffie-Hellman ciphers are supported. In FIPS mode, RSA keys are not allowed to be used for encrypting/decrypting and then used again for signing/verifying. SSL/TLS is particularly prone to this problem, especially if keys are shared by client and servers. Therefore, only Elliptic Curve Diffie-Hellman ciphers are allowed for FTPS, Platform Server SSL, Platform Server Tunnel, and HTTPS client and server requests. While Elliptic Curve ciphers are supported in recent client and server software, some old software does not support Elliptic Curve ciphers. You must ensure that all client and server software supports Elliptic Curve ciphers. When you use TIBCO MFT Platform Server for Windows or TIBCO MFT Platform Server for UNIX, the following software must be installed to support Elliptic Curve ciphers:

- MFT TIBCO Platform Server for Windows V8.0.0 with hotfix 8.0.0_HF-002 or later
- MFT TIBCO Platform Server for UNIX V8.0.0 with hotfix 8.0.0_HF-001 or later

Enabling the CTEXT Data Type

When you install TIBCO MFT Command Center with a PostgreSQL database, support for the CTEXT data type is required. To enable the CTEXT data type

1. Install the PostgreSQL citext extension.
2. Execute the following SQL command as a superadmin for the PostgreSQL MFT database.

```
CREATE EXTENSION IF NOT EXISTS CTEXT;
```

Migration from a Previous Release

You can migrate to version 8.4.1 of TIBCO Managed File Transfer Internet Server in one of two ways:

1. As a new installation with a new database.
2. As an upgrade from an existing installation.

i Note: If you have an existing installation running TIBCO MFT Command Center 8.4.0 performing this service pack (or hotfix) installation is recommended.

- a. Copy the following files to the install directory of the TIBCO MFT Command Center 8.4.0:
 - fips.sh
 - fips.bat
 - install.sh
 - install.bat
 - installer.jar
 - server.jar
 - SPMFT841.jar
- b. Install the service pack as if it was a hotfix. Enter one of the following commands based on your operating system:
 - For UNIX: `./install.sh SPMFT831` or `./install.sh SPMFT831 silent`
 - For Windows: `.\install.bat SPMFT831` or `.\install.bat SPMFT831 silent`

For more information, see the instructions in the *TIBCO Managed File Transfer Internet Server Installation* document.

You can migrate to version 8.4.1 of the Admin client and the Platform Transfer client utilities in the following way:

1. Copy the AdminClient.tar and the AdminClient.zip files from *MFT install/SPMFT841/cfccroot/obfuscate/AdminClient* to *MFT Install/distribution/AdminClient/* and re-install the client utility.
2. Copy the PlatformTransferClient.tar and the PlatformTransferClient.zip files from *MFT install/SPMFT841/cfccroot/obfuscate/PlatformTransfer* to *MFT Install/distribution/PlatformTransfer/* and re-install the client utility.

Closed Issues

The following issues have been fixed in this release of TIBCO® Managed File Transfer Internet Server.

Closed Issues

Key	Summary
MFCC-6563	After upgrading from version 8.2 and using Postgres, the <code>Checkpt.LocalRespId</code> column was not defined and <code>Files.Aux1</code> was incorrectly set to a 64-byte field.
MFCC-6561	On the Add Department page, the Department name needed to be trimmed to ensure that no spaces were appended to the end of the department name.
MFCC-6560	When a department was created with a trailing space, private users, groups, and servers could not be assigned to a transfer definition.
MFCC-6555	When the Command Center host name contained a ".", the JMS Service Status page did not display the "Service Status", "Start Service" and "Stop Service" buttons.
MFCC-6551	Antivirus scans in Store and Forward mode utilized high memory, causing excessive garbage collection.
MFCC-6547	When an environment variable contained an ESC (0x1b) character, the Command Center Diagnostics page failed with the following error message: "An invalid XML character (Unicode: 0x1b) was found in the element content of the document".
MFCC-6546	The <code>admin.json</code> , <code>admincc.json</code> , and <code>ft.json</code> files did not include parameters required by BW5.
MFCC-6545	When downloading PGP-encrypted files, an Out of Memory

Closed Issues(Continued)

Key	Summary
	Exception could occur.
MFCC-6544	When the GetTransferById REST call was executed using BW, an error was thrown.
MFCC-6539	<p>The Transfers.DateLastProcessed field was not included in the MFT Transfer REST JSON response.</p> <p>Note: This fix created a new REST version: V4.1. In order to use REST V4.1, you must install a new version of the Command Line Interface. Prior versions did not accept version V4.1.</p>
MFCC-6538	After installing MFT 8.4.0, BW Wait for Internet Transfer Completion failed because a new field (VirtualAlias) was included in the Audit Response XML. This case removes the incorrect fix for case MFCC-4458.
MFCC-6534	<p>The "Retrieve Host Status" REST call was updated to return more MFT server performance criteria fields.</p> <p>Note: This fix created a new REST version: V4.1.</p>
MFCC-6533	Mailbox Forward was likely to fail when sent to a combination of defined and undefined users.
MFCC-6529	The Export tab in the Update PGP System Key page used the wrong style for the user input.
MFCC-6527	When a server name is selected from the list displayed in Add Platform Server User Profile > Add From Existing Profile , the header was not displayed.
MFCC-6526	On a Virtual Alias to Virtual Alias directory transfer, when the source file name contains a REGEX, the \$(NoDrive) token created extra directories.

Closed Issues(Continued)

Key	Summary
MFCC-6525	The text on the " Add From Existing Platform Node " button was changed to " Add From Existing Profile ".
MFCC-6524	When a user clicked Manage Alerts Search Criteria > Transfer Status > Search , the result was inaccurate.
MFCC-6521	Log4j was upgraded to log4j-2.17.1.
MFCC-6520	When selecting the Platform Server Management > Add Platform Server User Profile > Add From Existing Platform Node option and the Platform Server Management > Add Responder Profile > Add From Existing Platform Node option, the left navigation panel collapsed.
MFCC-6519	In REST, the Amazon S3 server was created without validating the s3Region field.
MFCC-6517	When an OFTP2 key is retrieved through another MFT server, the following error message was displayed: "Failed to parse from remote server".
MFCC-6514	When a mailbox request expired and the attachments were deleted by the archive server, the mailbox detail page allowed a download, but the download failed.
MFCC-6512	In REST, the JSON response was not valid for ftuser audits.
MFCC-6508	When logging on with OIDC, the first login failed with the following error message: "OIDC authentication failed. Please contact your administrator".
MFCC-6500	On the Configure SAML Service Provider page, the SAML Encrypt Key and/or the SAML Sign Key could display invalid values.
MFCC-6495	If a PGP system key was created with multiple preferred

Closed Issues(Continued)

Key	Summary
	hashing algorithms selected, then the admin changes detail page displayed the number or letters rather than the text.
MFCC-6492	On the Update System Key page, the Alias was not displayed for OFTP2 system keys.
MFCC-6491	The OFTP2 System Key could not be added with the REST Call.
MFCC-6488	When executing a Platform Transfer from the Update/ExecutePlatform Transfer page, the execution failed with the following error message: "System login failed".
MFCC-6487	On the Update/Execute Platform Transfer page, when the " Back to Transfer List " button was pressed, the " Search Criteria " was ignored.
MFCC-6482	The AuditsRequestID index was removed from the Audits table.
MFCC-6481	The oftpAuditId index was incorrectly added to the Audits table instead of the AuditsExtOFTP2 table.
MFCC-6480	The webadmin Log.txt field was missing some fields. Rename and Delete transfers were not written to this file.
MFCC-6477	When executing an AV Transfer for Hadoop server with Store and Forward by using CURL command, a virus was detected.
MFCC-6476	When a SAML logon request was received without an AttributeStatement, the login failed with the following error: <code>IndexOutOfBoundsException</code> .
MFCC-6475	When a SAML user logged out, the <code>jSession</code> was not deleted.
MFCC-6471	nSoftware was upgraded to build 7964 for OFTP2.

Closed Issues(Continued)

Key	Summary
MFCC-6467	When a user was created through a Send File or File Share request, when the Password Rules " Uppercase and Lowercase Required " was set to "Yes", and when the Password Rules " Perform Checking " was set to "Admin", the user was not created.
MFCC-6466	In REST, the OFTP2 servers were created without providing mandatory values.
MFCC-6461	The information in OFTP2 > Virtual File Description was not displayed in the Audit Detail page.
MFCC-6442	In REST, when issuing a Get Status, Start, or Stop for the statusserver service with action as status, the service status returned as Stop.
MFCC-6296	In REST, when the protocolsystemkeys POST request was executed without the mandatory system_key_pwd field, no error message was displayed.
MFCC-6295	In REST, when servertype was set to http, the ipAddressOrName was not validated.
MFCC-6294	In REST, the Update AS2 Transfer Server configuration worked without setting a value to the LocalAS2id field.
MFCC-6293	In REST, as per the Search Criteria for listing users, if the rights were typed in lowercase, the assignedRight field inaccurately returned an empty array.
MFCC-6292	In REST, when adding a new server, the s3CannedASL field did not accept "yes".
MFCC-6291	In REST, the Server Credential POST method worked without providing the remoteUserID field value.

Closed Issues(Continued)

Key	Summary
MFCC-6289	In REST, for the HTTPS keytype, when other key IDs were issued other than the HTTPS keytype, the FTP system public certificate threw an exception error.
MFCC-6288	On the Audit page, the Server Transfer protocol was incorrectly displayed for Email server.
MFCC-6287	Mailbox Transfer PGP settings were not displayed in the Audit page.
MFCC-6285	When using java 15 and above, FTP/SFTP/PS Retrieve Key failed with the following error: "Could not find class: java.lang.ClassNotFoundException: com/sun/security/cert/internal/x509/x509V1CertImpl".
MFCC-6278	On the Update System Key page, the clear text private key was incorrectly displayed.
MFCC-6266	Email addresses in the page source of Browser Client was incorrectly displayed.
MFCC-6265	SameSite=strict was not added to the CFIStartPage, LoginModule.OriginalRequest, ClientType, JSESSIONID, and XSRF-TOKEN cookies created.
MFCC-6229	Mailbox guest user received an error message when accessing the mailbox.
MFCC-6203	When transferring transfer files to different S3 buckets, Amazon S3 transfers could not switch or assume roles.
MFCC-6154	CMA/CMS did not include the version information.
MFCC-5983	CMA/CMS was upgraded to the newest Tomcat version (9.0.54).

Closed Issues(Continued)

Key	Summary
MFCC-5707	There was no defined right to Stop Server, Start Server, or Get Status of Transfer Servers. Stopping and starting services require AdministratorRight.
MFCC-5688	LDAP synced users could not be deleted without first disabling the authenticator.
MFCC-5612	When performing an LDAP Sync with a case-sensitive database, the rights were not synced and an error was displayed.
MFCC-5583	When managing a DNI Daemon, the following error message was displayed: "Authentication failed. Request Rejected: UserId or Password mismatch".
MFCC-5137	The transfer statistics table was no longer available in the Transfer Database report.

Known Issues

The following issues exist in this release of TIBCO® Managed File Transfer Internet Server.

Key	Summary
MFCC-6128	<p>Summary: When using some clients for download from Virtual Alias, the virus files are downloaded if AV check is in 'Streaming mode'.</p> <p>See <i>TIBCO Managed File Transfer User's Guide</i> for more information on virus scanning.</p> <p>Workaround: None.</p>
MFCC-5945	<p>Summary: When a new trusted certificate is added, Internet Server or Command Center must be restarted before the trusted certificate is used.</p> <p>Workaround: Restart the Internet Server or Command Center.</p>
MFCC-5942	<p>Summary: When clientAuth is set to true, all multi-server communications fails, including server status.</p> <p>Workaround: Only set clientAuth to true when there is only one MFT instance. For multiple instances, set to "want".</p>
MFCC-5941	<p>Summary: When large files are transferred to target AS2 servers or when using AntiVirus Store and Forward mode, SSH Client connections experienced a timeout.</p> <p>Workaround: None.</p>
MFCC-5714	<p>Summary: When the target server is a Platform Server, new Internet Transfer PPA tokens are added that are not supported.</p> <p>Workaround: Review the Transfer definition help pages for more information.</p>
MFCC-5480	<p>Summary: Installation of TIBCO Managed File Transfer Command Center is successful on IBM DB2 Version 11.5 for Linux, UNIX, or Windows operating</p>

(Continued)

Key	Summary
	<p>system, but an exception is thrown in the Catalina console.</p> <p>Workaround: The exception can be ignored. However, to prevent the <code>java.io.FileNotFoundException</code>, you can take one of the following actions:</p> <ul style="list-style-type: none"> • Edit the <code>MANIFEST.MF</code> file, and remove the following line: <code>Class-Path: pdq.jar</code> or • Edit the <code>context.xml</code> file for Apache Tomcat, and add the following line to set the value of <code>scanClassPath</code> to false: <code><Context> <JarScanner scanClassPath="false" /> </Context></code>
MFCC-5458	<p>Summary: When you sort the Users, Servers, and Transfers definition pages by any column multiple times, a bad token error message is received.</p> <p>Workaround: None.</p>
MFCC-5339	<p>Summary: TIBCO Managed File Transfer Command Center may get the following exception when connecting to MySQL 8.</p> <p>Failed to establish a connection to the database: <code>com.mysql.jdbc.exceptions.jdbc4.MySQLNonTransientConntionException: Public Key Retrieval is not allowed-error-in-java/</code></p> <p>Workaround: There are 3 possible workarounds for this issue (ranked most secure to least secure):</p> <ol style="list-style-type: none"> 1. Use a TLS connection from MFT to MySQL. 2. Change the MySQL <code>default_authentication_plugin</code> section to <code>mysql_native_password</code>. 3. Add the following parameter to the database connection URL: <code>&allowPublicKeyRetrieval=true</code>

(Continued)

Key	Summary
	<p>Note: allowPublicKeyRetrieval=true could allow a malicious proxy to perform a man in the middle attack to get the plaintext password, that is why it is false by default.</p>
MFCC-5103	<p>Summary: A user is unable to delete or rename files from download definitions when '/' is the virtual alias.</p> <p>Workaround: None.</p>
MFCC-5121	<p>MFT Reports receive an exception when using Java 11 that runs in FIPS mode.</p> <p>Workaround: None.</p>
MFCC-5144	<p>Summary: Dashboards do not work in Internet Explorer.</p> <p>Workaround: None.</p>
MFCC-4847	<p>Summary: When the MFT browser client is used for file transfers, the following issues occur:</p> <ul style="list-style-type: none"> • Folder drag and drop does not work in Internet Explorer. • With NODRIVE token, the folder structure of the files uploaded in Edge is different from that in Firefox or Chrome. <p>Workaround: None.</p>
MFCC-4588	<p>Summary: When the server.xml HTTPS connector has been configured to accept only TLSv1.3, hotfix installations may fail because the installer supports TLSv1, TLSv1.1 or TLSv1.2.</p> <p>Workaround: The user must add TLSv1.3 to this parameter in the install.bat or install.sh: -Dhttps.protocols="TLSv1,TLSv1.1,TLSv1.2,TLSv1.3"</p>
MFCC-4564	<p>Summary: When the Oracle database password length is less than 14 characters, a user cannot enable or disable FIPS mode in TIBCO Managed File Transfer Command Center installed on Oracle database.</p>

(Continued)

Key	Summary
	Workaround: The Oracle database password length must be more than 14 characters.
MFCC-4403	<p>Summary: In the database reports, the heading fields are not displayed after exporting to .docx format.</p> <p>Workaround: None.</p>
MFCC-4386	<p>Summary: [G11N] Filename with multilingual characters gets garbled after it is uploaded to the transfer client in SSH server type.</p> <p>Workaround: Add UTF-8 in the SSHFileNameEncoding parameter in the web.xml file. Here is an example:</p> <pre><context-param> <param-name> SSHFileNameEncoding</param-name> <!-- use UTF-8 if default (ISO-8859-1) not working --> <param-value>UTF-8</param-value> </context-param></pre>
MFCC-3872	<p>Summary: A TIBCO® Managed File Transfer Platform Server upgrade is required to enable the StopOnFailure parameter in TIBCO MFT Platform Server transfer Data Properties section. This issue will be resolved in version 8.1 of TIBCO® Managed File Transfer Platform Server for UNIX , TIBCO® Managed File Transfer Platform Server for Windows , TIBCO® Managed File Transfer Platform Server for IBM i, and TIBCO® Managed File Transfer Platform Server for z/OS.</p> <p>Workaround: None.</p>
MFCC-2934	<p>Summary: TIBCO MFT Command Center uses Kerberos authentication to connect to the remote HDFS server even if simple authentication has been specified in the server definition.</p> <p>Workaround: Restart TIBCO MFT Command Center.</p>

(Continued)

Key	Summary
MFCC-2916	<p>Summary: When upgrading TIBCO MFT Command Center from version 7.2.5 or 7.3.0 to version 8.4.0, if you use IBM DB2 database, the upgrade fails with an error of SQLCODE=-668, SQLSTATE=57016 when creating the DB2 database tables.</p> <p>Workaround: When this error occurs, issue the following command to reorganize the DB2 CONFIG table:</p> <pre>db2 connect to <your_database_name> db2 REORG TABLE DB2ADMIN.CONFIG</pre>
MFCC-2750	<p>Summary: When selecting a user folder from the Server File Name list in a File Share transfer definition, if the name of the folder shared by another user is the same as the folder that you created, only the shared folder is displayed.</p> <p>Workaround: None.</p>

TIBCO Documentation and Support Services

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

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the [TIBCO Product Documentation](#) website, mainly in HTML and PDF formats.

The [TIBCO Product Documentation](#) website is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

The following documentation for TIBCO® Managed File Transfer Internet Server is available on the [TIBCO® Managed File Transfer Internet Server](#) Product Documentation page.

- TIBCO® Managed File Transfer Internet Server *Managed File Transfer Overview*
- TIBCO® Managed File Transfer Internet Server *Installation*
- TIBCO® Managed File Transfer Internet Server *Quick Start Guide*
- TIBCO® Managed File Transfer Internet Server *User's Guide*
- TIBCO® Managed File Transfer Internet Server *Utilities Guide*
- TIBCO® Managed File Transfer Internet Server *API Guide*
- TIBCO® Managed File Transfer Internet Server *Transfer and File Share Clients User's Guide*
- TIBCO® Managed File Transfer Internet Server *Desktop Client User's Guide*
- TIBCO® Managed File Transfer Internet Server *Security Guide*
- TIBCO® Managed File Transfer Internet Server *Container Deployment*
- TIBCO® Managed File Transfer Internet Server *Release Notes*

How to Contact TIBCO Support

Get an overview of [TIBCO Support](#). You can contact TIBCO Support in the following ways:

- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the [TIBCO Support](#) website.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to [TIBCO Support](#) website. If you do not have a user name, you can request one by clicking **Register** on the website.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, go to [TIBCO Community](#).

Legal and Third-Party Notices

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO, the TIBCO logo, the TIBCO O logo, and Slingshot are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

This document includes fonts that are licensed under the SIL Open Font License, Version 1.1, which is available at: <https://scripts.sil.org/OFL>

Copyright (c) Paul D. Hunt, with Reserved Font Name Source Sans Pro and Source Code Pro.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only.

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. See the readme file for the availability of this software version on a specific operating system platform.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

This and other products of TIBCO Software Inc. may be covered by registered patents. Please refer to TIBCO's Virtual Patent Marking document (<https://www.tibco.com/patents>) for details.

Copyright © 2003-2022. TIBCO Software Inc. All Rights Reserved.