

Rational Integration Tester



Reference Guide for Files

Version 8.0.0

Note

Before using this information and the product it supports, read the information in “Notices” on page 16.

This edition applies to version 8.0.0 of Rational Integration Tester and to all subsequent releases and modifications until otherwise indicated in new editions.

© **Copyright IBM Corporation 2001, 2012.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

- About this Publication iv**
 - Intended Audience v
 - Scope v
 - Typographical Conventions v
 - Contacting IBM Support v
- File Transport 1**
 - Creating the File Transport 2
 - Configuring the File Transport. 3
- File Messages 11**
 - Overview 12
 - Publishing. 13
 - Subscribing. 14
- Glossary 15**
- Notices 16**
 - Trademarks and service marks 19

About this Publication

Contents

Intended Audience

Scope

Typographical Conventions

Contacting IBM Support

This guide describes how to configure and use the File transport in IBM® Rational® Integration Tester, which provides access to files as a source for subscription (reading) and publication (writing).

Intended Audience

This document intended to be read by those with a fair understanding and exposure to the concepts involved in both testing and development and in enterprise integration.

Scope

This document discusses the configuration and use of the File transport in IBM Rational Integration Tester. Information about other features and functionality in Rational Integration Tester is beyond the scope of this document.

If you wish to familiarise yourself with Rational Integration Tester, please refer to the online help or any of the documentation that is provided with the product.

Typographical Conventions

The following typographical conventions are observed throughout this document:

Type	Usage
Constant Width	Program output, listings of code examples, file names, commands, options, configuration file parameters, and literal programming elements in running text.
<i>Italic</i>	Document title names in statements that refer you to other documents. Also used to highlight concepts when first introduced.
Bold	Menu items in graphical user interface windows (such as Microsoft Windows-based or UNIX X Window applications) from which you select options or execute macros and functions. Submenus and options of a menu item are indicated with a “greater than” sign, such as Menu > Submenu or Menu > Option .

Contacting IBM Support

To contact IBM Support, see: www.ibm.com/contact/us/en/

File Transport

Contents

Creating the File Transport

Configuring the File Transport

Rational Integration Tester provides access to files as a source of publication and subscription using the File transport. Using the publish and subscribe actions in Rational Integration Tester it is possible to create files for use in triggering a system process and reading files for validating the expected output from a system

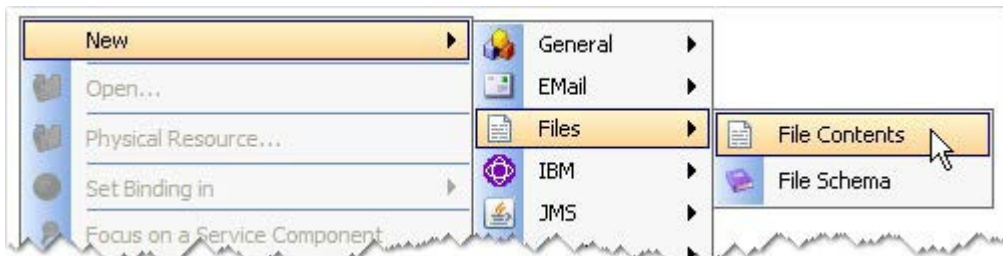
This chapter provides an overview of how the transport can be used and how to configure it.

1.1 Creating the File Transport

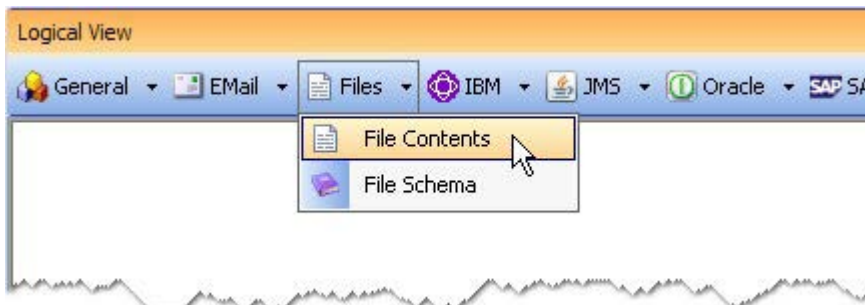
A file transport is created when you create a File Contents resource in the Logical View of Rational Integration Tester's Architecture School.

In Architecture School's Logical View, you can create a new file resource in two ways:

- Right-click on an existing component or on the blank drawing palette and select **New > Files > File Contents** from the context menu.



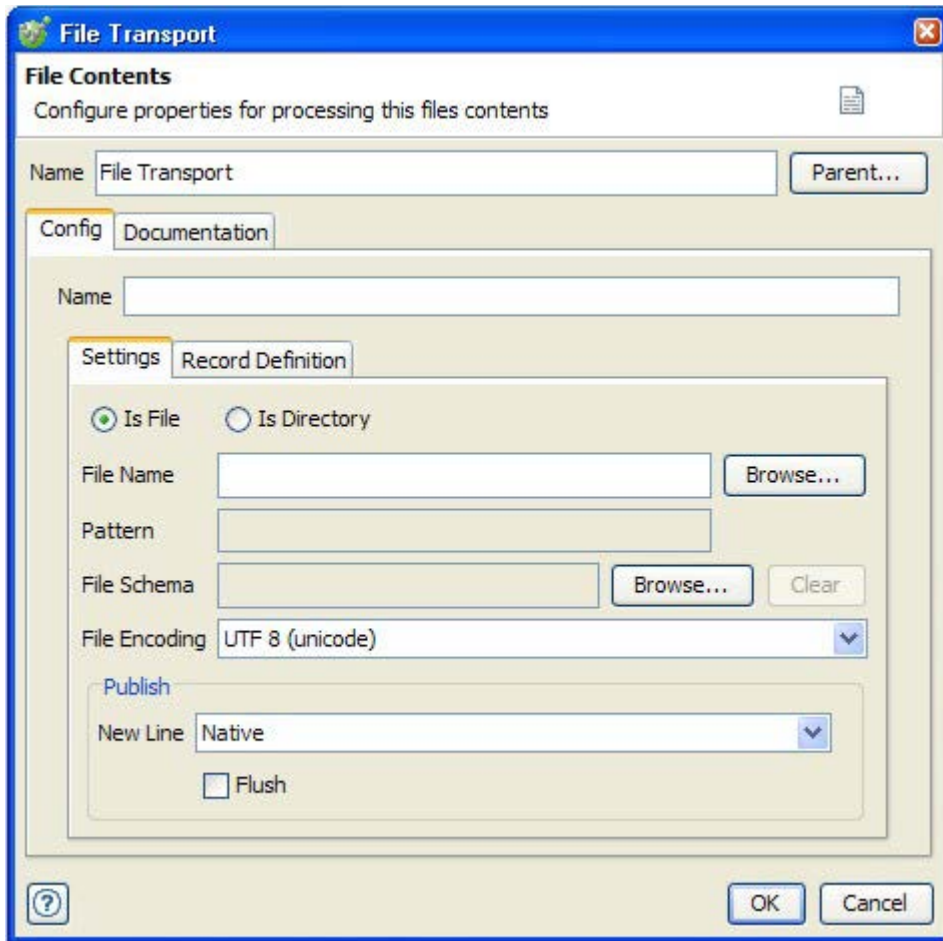
- Select an existing component or click the blank drawing palette and select **Files > File Contents** from the main component toolbar.



Each File Contents resource represents a unique file transport that can be selected and configured later on.

1.2 Configuring the File Transport

The file transport provides read and write access to the contents of a file on the file system. To configure a transport, double-click the appropriate File Contents resource in Architecture School's Logical View.



1.2.1 Transport Properties

The general properties of the transport include its name and parent.

- To change the name of the transport, simply enter the desired name in the **Name** field.
- To change the transport's parent, click **Parent** and select the logical component that should contain the transport.

1.2.2 File Settings

The options under the **Config** tab allow the user to define a specific file or directory of files, the pattern to match for a directory, an optional file schema that should be applied to the file or files, and the encoding type and new line option to use for publishing, which may vary depending on the system under test and the operating system in use.

The screenshot shows a software interface with a 'Config' tab selected. The 'Name' field is at the top. Below it, the 'Settings' sub-tab is active, showing radio buttons for 'Is File' (selected) and 'Is Directory'. The 'File Name' field has a 'Browse...' button. The 'Pattern' field is empty. The 'File Schema' field has a 'Browse...' button and a 'Clear' button. The 'File Encoding' dropdown is set to 'UTF 8 (unicode)'. The 'Publish' section has a 'New Line' dropdown set to 'Native' and a 'Flush' checkbox.

The configuration options for the transport **Config** tab are described in the following table:

Is File	Select this option if you want to specify a single file for the transport.
Is Directory	Select this option if you want to specify a directory of files for the transport.
File Name	The full path to the default file to be written (publish) or read (subscribe). Enter the path manually or click Browse to locate and select a file.
Pattern	When using the Is Directory option, use this field to specify a matching filename pattern that will determine the files to be used.
File Schema	If desired, click Browse to select an existing file schema that defines the contents of the selected file or files.
File Encoding	<p>The encoding type to apply when using the file. You may select one of the preset types from the dropdown menu, or enter any type supported by Java from the Basic or Extended Encoding Set. Supported types can be found in charsets.jar, located in the <code>jre\lib</code> directory of your Rational Integration Tester installation (by default, <code>C:\Program Files\IBM\RationalIntegrationTester\jre\lib\</code>).</p> <p>If an invalid type is entered, a red border is displayed around the File Encoding dropdown menu. The border disappears once a valid type has been entered.</p>
New Line	<p>For publishing actions (writing), select the new line character to use, as follows:</p> <ul style="list-style-type: none">• native (utilizes the default option according to the platform)• Unix (line feed)• Windows (carriage return - line feed)• Mac (carriage return)
Flush	Enable this option to flush the output buffer before writing to the file.

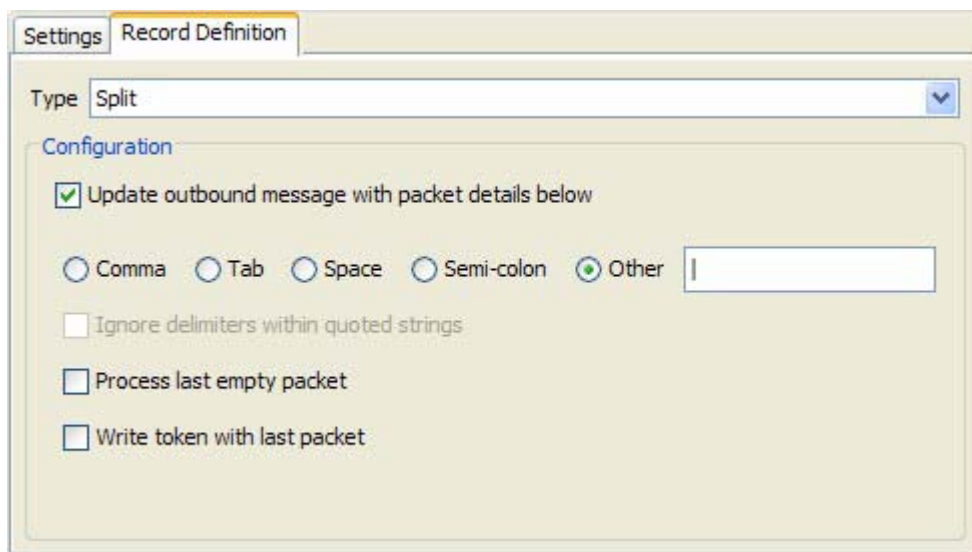
1.2.3 Record Definition

The settings under the **Record Definition** tab let you configure how Rational Integration Tester should treat the contents of the file.

NOTE: For all record definition types, you have the option to update outbound messages with relevant packet information (that is, the length of the remaining data) according to the record type. To include this information in outbound messages (that is, when publishing), enable the **Update outbound message with packet details below** option.

Split

The **Split** option can packetize (split) the contents of files based on a user-defined delimiter.



The screenshot shows the 'Record Definition' tab in a dialog box. The 'Type' dropdown is set to 'Split'. Under the 'Configuration' section, the checkbox 'Update outbound message with packet details below' is checked. Below this, there are radio buttons for 'Comma', 'Tab', 'Space', 'Semi-colon', and 'Other'. The 'Other' radio button is selected, and a text field next to it is empty. Below the radio buttons, there are three unchecked checkboxes: 'Ignore delimiters within quoted strings', 'Process last empty packet', and 'Write token with last packet'.

You can select one of the existing delimiter types (comma, tab, space, semi-colon), or select **Other** and enter the delimiter character(s) in the field provided.

When reading records, use the **Process last empty packet** option depending how the record ends. Enable this option if the record ends with your delimiter and you want to process one more packet as an empty string (that is, ""). Disable this option if the delimiter indicates that there are no more packets.

When writing to a record, enable the **Write token with last packet** if you want the packetizer to write out the delimiter as the last character, so the record ends with a

delimiter. For example: “...|myfieldvalue|” when enabled and “...|myfieldvalue” when disabled.

Length

The Length option can be used to iterate over the contents of a file to extract multiple records.

The screenshot shows a 'Record Definition' dialog box. The 'Type' dropdown is set to 'Length'. Under the 'Configuration' section, four radio buttons are present: 'Fixed Length' (set to 24), 'Token' (empty), 'Offset' (selected, set to 16), and 'Prefix' (empty). Below these, there is a 'Size' field set to 4, a 'Format' dropdown set to 'Bytes', and an unchecked 'Swap Bytes' checkbox.

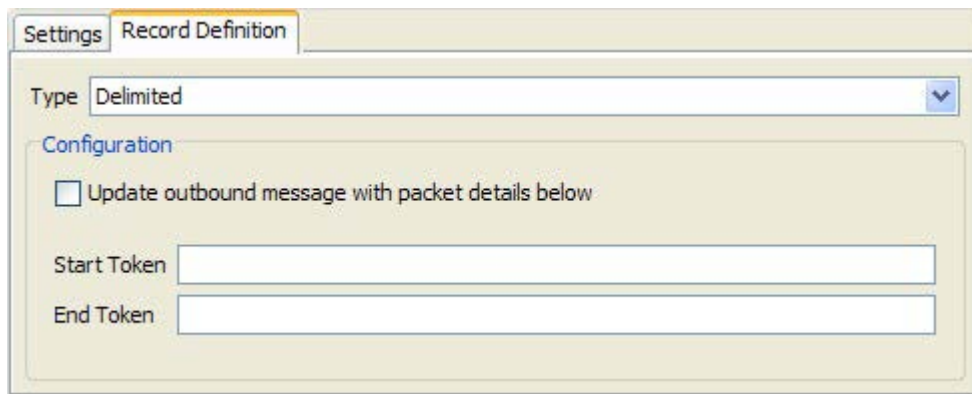
Fixed Length	Each record will be the same designated size.
Token	The string of characters that marks the start of each record.
Offset	Each record starts after the entered number of bytes. In the above example, 16 bytes of data precede the length information.
Prefix	A number of bytes / characters at the start of the record that denote the length of the record.

When using the **Token**, **Offset**, or **Prefix** modes, the following options control how the actual packet length will be read from the stream of information.

Size	The number of bytes or characters that contain the length information.
Format	Indicates whether the prefix values should be treated as raw values (Bytes) or translated from their ASCII equivalent (ASCII).
Swap Bytes	Indicates whether the transport should swap the order of the bytes before treating the data as the length of the record.

Delimited

The **Delimited** option can be used to iterate over the contents of a file to extract multiple records that are designated by a start and end token.



The screenshot shows a software interface with two tabs: 'Settings' and 'Record Definition'. The 'Record Definition' tab is active. It contains a 'Type' dropdown menu set to 'Delimited'. Below this is a 'Configuration' section with a checkbox labeled 'Update outbound message with packet details below' which is currently unchecked. At the bottom of the configuration section are two text input fields, one labeled 'Start Token' and one labeled 'End Token'.

Start Token	A series of characters that denotes the start of a record.
End Token	A series of characters that denotes the end of a record.

Token

The **Token** option is similar to the Delimited option, but can be used when you need to specify additional data after the end token.

The screenshot shows a dialog box with two tabs: 'Settings' and 'Record Definition'. The 'Record Definition' tab is active. Under the 'Type' dropdown, 'Token' is selected. Below this, there is a 'Configuration' section. It contains three input fields: 'Start Token' with the value '<Record>', 'End Token' with the value '</Record>', and 'End Token Data Length' with the value '12'.

Start Token A series of characters that denotes the start of a record.

End Token A series of characters that denotes the end of a record.

End Token
Data Length An optional quantity of data that can be present following the end token.

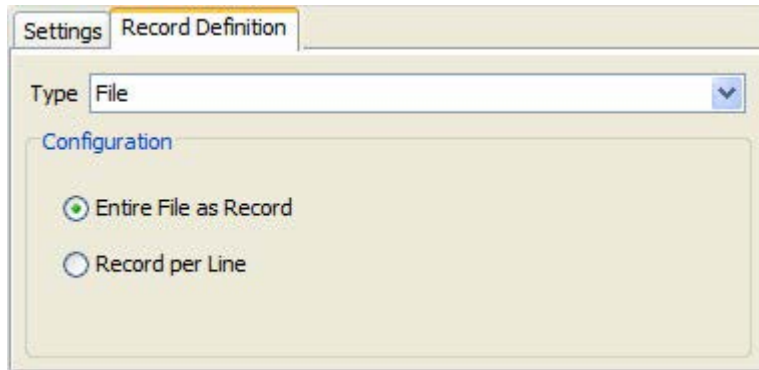
Swift

The Swift option can be used to break up the contents of the file into a Swift message based on simple Swift rules (that is, {n:...}).

The screenshot shows a dialog box with two tabs: 'Settings' and 'Record Definition'. The 'Record Definition' tab is active. Under the 'Type' dropdown, 'Swift' is selected. Below this, there is a 'Configuration' section. It contains a single checkbox labeled 'Update outbound message with packet details below', which is currently unchecked.

File

When using a file as a single record, the record definition can be configured to use the entire file as a single record, or to treat each line as a record.



File Messages

Contents

Overview

Publishing

Subscribing

This chapter provides information about using the File transport to write (publish) and read (subscribe) file contents.

2.1 Overview

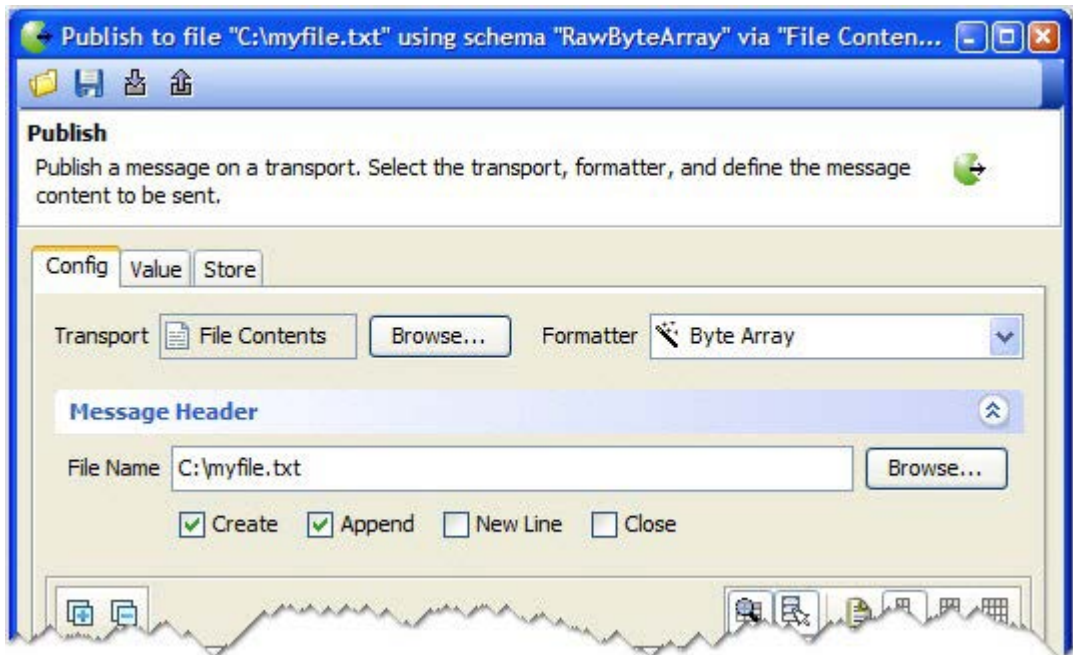
When publishing or subscribing to files as a part of an automated test, the file transport can be used like a message source from a queue, topic or other endpoint. A publisher can utilize Rational Integration Testers message formatters to write XML, SOAP, or other formats to disk, and a subscriber follow the same mechanism to validate content and format when reading.

The standard field options (filtering, validation, tag storage) are available when publishing or subscribing with the file transport. For more information about this, refer to *IBM Rational Integration Tester Reference Guide*.

- [Publishing](#)
- [Subscribing](#)

2.2 Publishing

You can use the file transport in a publish action to write data to a file.



After specifying the transport, select the formatter to be used, as follows:

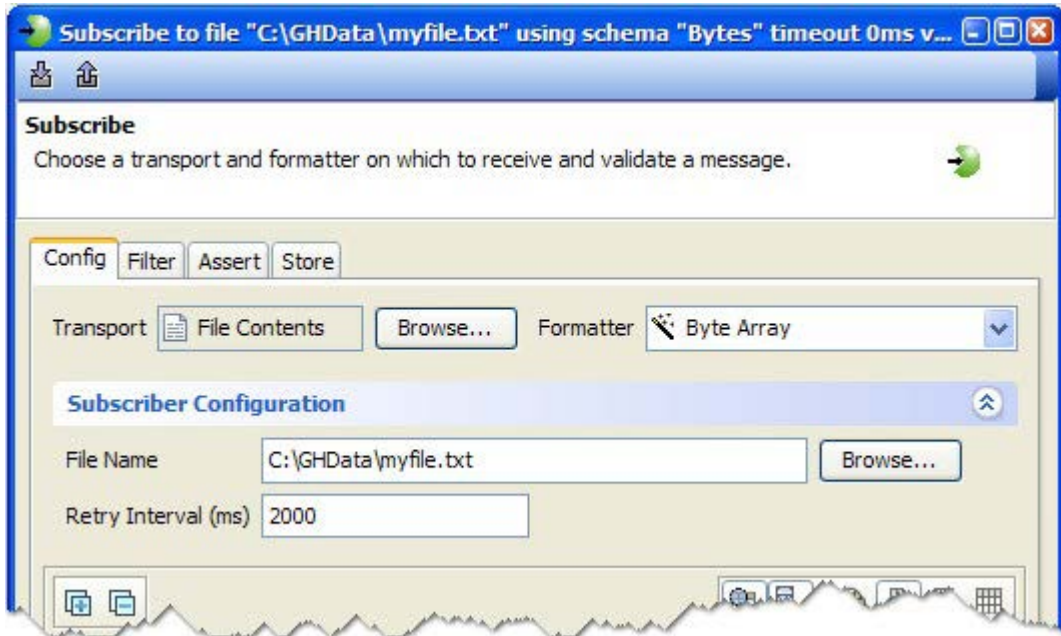
- **Byte Array** - used for fields that contain non-encoded strings
- **Text** - used for text-based fields

You can override the file location that is defined in the transport under **File Name**, and tags can be used to select the file location and name dynamically. The following options can be enabled or disabled when writing to a file using the publish action.

- **Create** will create the specified file if it does not currently exist.
- **Append** leaves existing file contents intact and appends new data to the end of the file when writing.
- **New Line** appends new line characters to the end of the file after writing, using the New Line option specified in the transport.
- **Close** explicitly closes the file after writing, releasing the file handle between test iterations. If left unchecked, the file will be closed only at the end of the test.

2.3 Subscribing

You can use the file transport in a subscribe action to read data from a file.



After specifying the transport, select the formatter to be used, as follows:

- **Byte Array** - used for fields that contain non-encoded strings
- **Text** - used for text-based fields

You can override the file location that is defined in the transport under **File Name**, and tags can be used to select the file location and name dynamically.

Retry Interval is used in conjunction with the subscriber **Timeout** setting to control how often Rational Integration Tester will attempt to read the file and for how long it should try.

- In **Retry Interval**, set the amount of time (in milliseconds) that Rational Integration Tester should wait between attempts to read from the file. Retries will be attempted until the file is read successfully or until the timeout period expires.
- Under **Timeout**, enter the amount of time (in milliseconds) after which the test action should fail if Rational Integration Tester is unable to read from the file.

NOTE: You can validate an empty file (that is, one that contains zero bytes) by selecting the **Byte Array** formatter and leaving the **data (ByteArray)** field empty.

Glossary

The following table below lists some of the key terms used in this document, and provides a description of each.

Term	Description
Field	A bit of data constituent to a message. Most fields are scalar and therefore unitary, equivalent to data attributes. Vector fields are an aggregation of fields both scalar and vector, and are usually referred to as Messages. See also Message.
Message	A unit of information made up of a header consisting of meta-information and a body consisting of the message data.
Host	The computer on which a software process runs.
Publisher-Subscriber	A messaging paradigm whereby a messaging network consists of Publishers and Subscribers.
Transport	Informally, the messaging software in use. For instance, TIBCO Rendezvous, TIBCO ActiveEnterprise, IBM WebSphere® MQ (JMS).
Publishing	Making a message (data) available on a message channel.
Subscribing	Receiving a stream of messages (data) on a given message channel.
Server	A host computer on a network shared by more than one user.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
1623-14, Shimotsuruma, Yamato-shi
Kanagawa 242-8502 Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT,

MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM United Kingdom Limited
Intellectual Property Law
Hursley Park
Winchester
SO21 2JN
Hampshire
United Kingdom

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the

capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corporation 2001, 2012.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks and service marks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at “Copyright and trademark information” at www.ibm.com/legal/copytrade.shtml.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

