



IBM Software Group

# WebSphere Business Events

## *Introduction to connectors*



@business on demand.

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This presentation will provide you with an introduction to the WebSphere Business Events connectors.

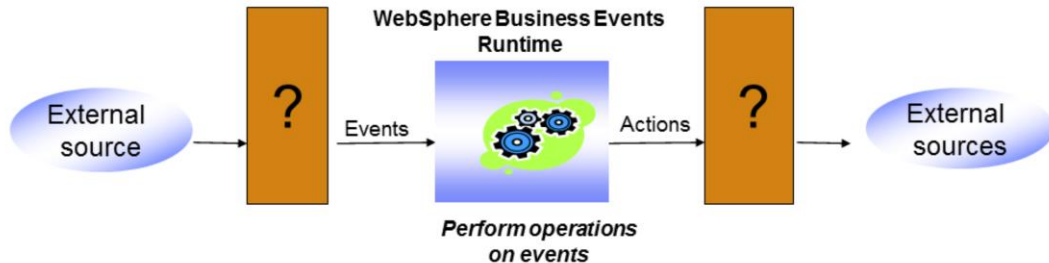
## Agenda

- What are connectors
- How are connectors used
- What are the different type of connectors
- Enterprise Service Bus integration



The purpose of this module is to describe the concept of connectors within WebSphere Business Events. This section will give a definition of connectors and describe how connectors are used in WebSphere Business Events. Furthermore the presentation will discuss how connectors are defined, and the different types of connectors available in the product.

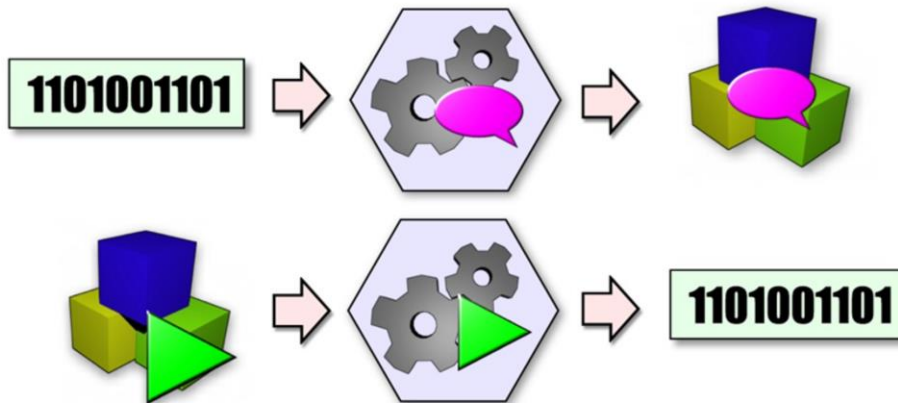
## Background



Previous presentations have already discussed the concepts of WebSphere Business Events' events, actions, intermediate objects, interaction sets and filters. Up until now very little detail has been provided on how physical data arrives at WebSphere Business Events in the form of an event or how action data externalized from WebSphere Business Events manifests itself outside the WebSphere Business Events world. This section will discuss how the actual events and actions are sent to and from their touchpoints within the WebSphere Business Events runtime environment.

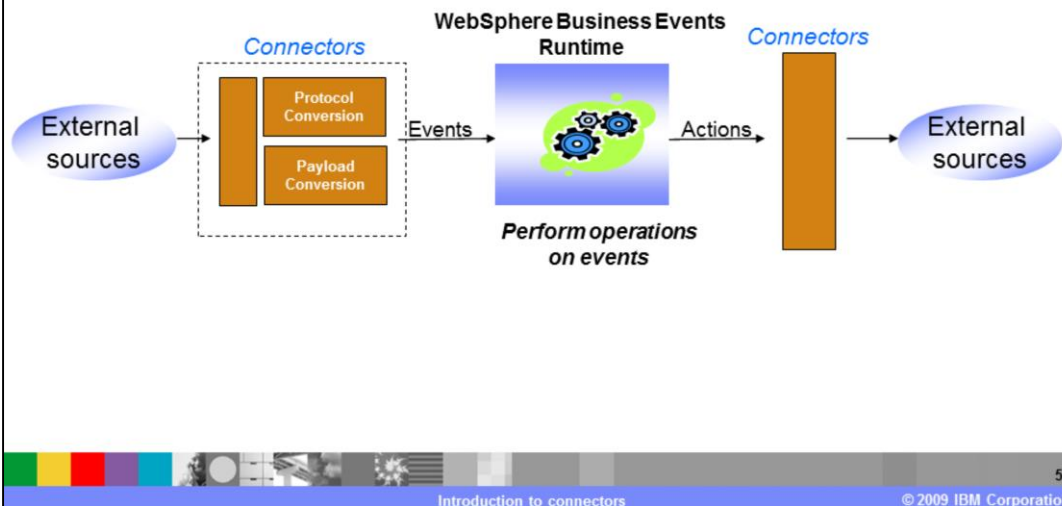
## The gap between the external system and the runtime

- Connectors provide conversion between protocols and formats
  - ▶ Data to an event
  - ▶ Action to data



A connector is a bridge between the external world of bits and bytes and the internal world of WebSphere Business Events. Connectors are defined as part of an event or action and are designed to translate WebSphere Business Events XML packets to and from the appropriate protocols. A connector gets data from an external system which results in an incoming event. In addition, when WebSphere Business Events generates an action, a connector can be called which externalizes data to an external system. The connectors can interact with a wide variety of transport protocols and technologies.

## WebSphere Business Events Architectural overview



Looking at the WebSphere Business Events architectural overview, events are published by the event sources over a variety of communication protocols. The connectors have two main functions. Firstly, they convert the incoming event's protocol and secondly they convert the payload of the event. The end result is to put the event into a format which WebSphere Business Events can consume. After the events have been processed and the appropriate actions are created, the exiting connectors will also convert the proprietary action format into a consumable form for the external sources.

## Format of event and action data

- The format of event and action data is XML
- XML data well defined and XML schema definition provided or generated
- Data that is not in this format can be transformed using:
  - ▶ XSLT
  - ▶ WebSphere Enterprise Service Bus
  - ▶ WebSphere Message Broker
  - ▶ Others



The data that is received by the runtime as events and the data that is sent out as actions is physically formatted and transmitted as an XML document. The structure of this XML is described by an XML schema that is supplied by the product, or generated for you in the case of custom data. If the incoming data you want to work with is either not XML or not appropriately formatted XML for WebSphere Business Events usage, then it needs to be modified into a conforming format. The data can be modified inside the WebSphere Business Events connectors through XSLT transforms or before arriving at WebSphere Business Events through technologies such as WebSphere ESB, WebSphere Message Broker, WebSphere Transformation Extender or others. The same story is also true for action data that is sent out for consumption by external applications. The data is sent out as an instance of an XML document. You will see later that the source and destination of the XML can be configured to transmit over a variety of protocols.

In summary, incoming event data is expected in a specific XML format. Outgoing action data is sent in a specific XML format. The format of the XML is documented by an XSD schema. If the data sent in is not the right format or the XML generated is not what is required, it must be transformed before use.

## Supplied connectors



Web  
Service



Message  
Queue



HTTP / REST



User  
Console



RDBMS



E-Mail



File  
System



FTP

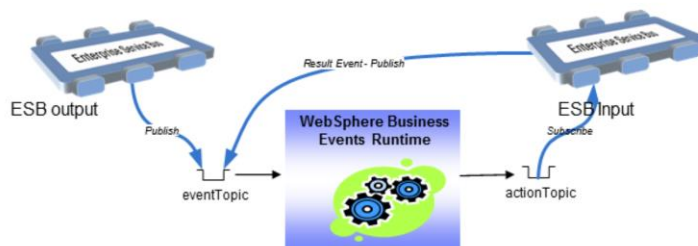


WebSphere Business Events provides a set of pre-supplied connectors for a variety of different technologies and data. The supplied connectors are shown in the slide.

These codeless connectors are defined and configured in the WebSphere Business Events design data tool and associated with an event or action.

## Enterprise service bus integration

- ESB output
  - ▶ Send events to the WebSphere Business Events runtime
- ESB input
  - ▶ Receive actions from the WebSphere Business Events runtime
  - ▶ Automatically reply with the appropriate result event
- Communicates directly with the JMS topics
  - ▶ Configured with the appropriate defaults



Additional connectivity options are offered by the enterprise service bus products. WebSphere Business Events provides tight integration with WebSphere Message Broker and WebSphere Enterprise Service Bus. These enterprise service buses are able to do their own conversion into the WebSphere Business Events format and place the event messages directly for consumption by the WebSphere Business Events runtime, bypassing the connectors. Similarly, the enterprise service bus products can also receive actions emitted by WebSphere Business Events. The enterprise service buses can receive the actions and then convert them into consumable format for their external resources.



## Summary

- What are connectors
- How are connectors used
- What are the different type of connectors
- WebSphere Enterprise Service Bus and WebSphere Message Broker integration



This presentation discussed the definition of connectors and how they are used in WebSphere Business Events to transform arriving events into a consumable format for WebSphere Business Events to process. Connectors are also used to transform actions as they are sent to their external sources. Additionally, the presentation described where connectors fit into the overall WebSphere Business Events architecture. Finally, the presentation introduced the different connectivity options available.

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