



Business Agility in Action.

Innovate. Transform. Grow

Integrating with WebSphere Message Broker Version 8

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21 March 2012 - Melbourne

Agenda

- What is WebSphere Message Broker?
 - History and roadmap
 - Addressing the Service Orient Architecture world
 - Addressing the Enterprise Application Integration world
- Why WebSphere Message Broker?
 - Message Broker makes Integration Easier
- What's new in WebSphere Message Broker V8
 - For the Developers
 - For the Administrators
- Summary

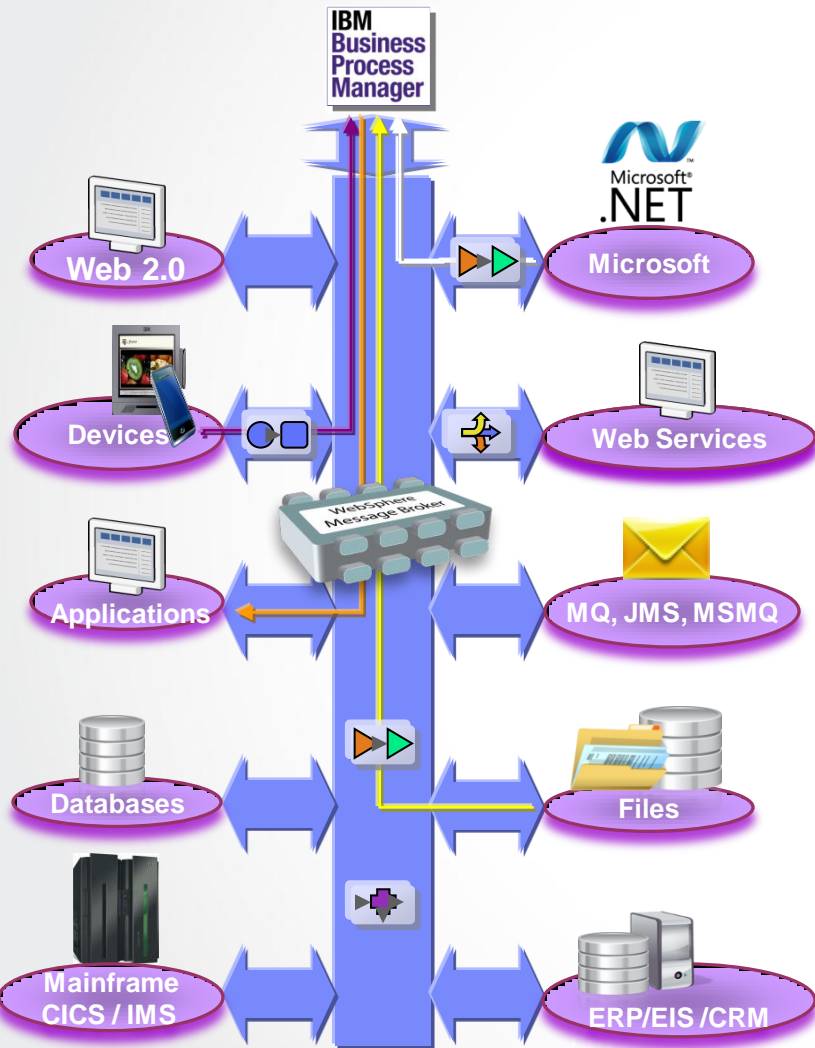
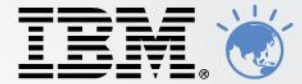




What is WebSphere Message Broker ?



WebSphere Message Broker in a Nutshell



▪ Enterprise Class Integration for Everybody

– Universal & Independent

Universal “Any-to-any” connectivity includes standards, de facto standards, industry and custom systems

Technology neutral supporting all major H/W and S/W platforms, RDBMS, protocols and packaged applications

– Easy to use and manage

Patterns based development

Wizard driven construction

Range of out of the box management tools

– High Performing & Scalable

Industry leading performance and scalability

Up to 50* Biztalk

Up to 10* Tibco

Up to 4* JEE based ESBs

– Broadly adopted and Bullet proof

12 years of market leading pedigree

Over 2000 customers worldwide

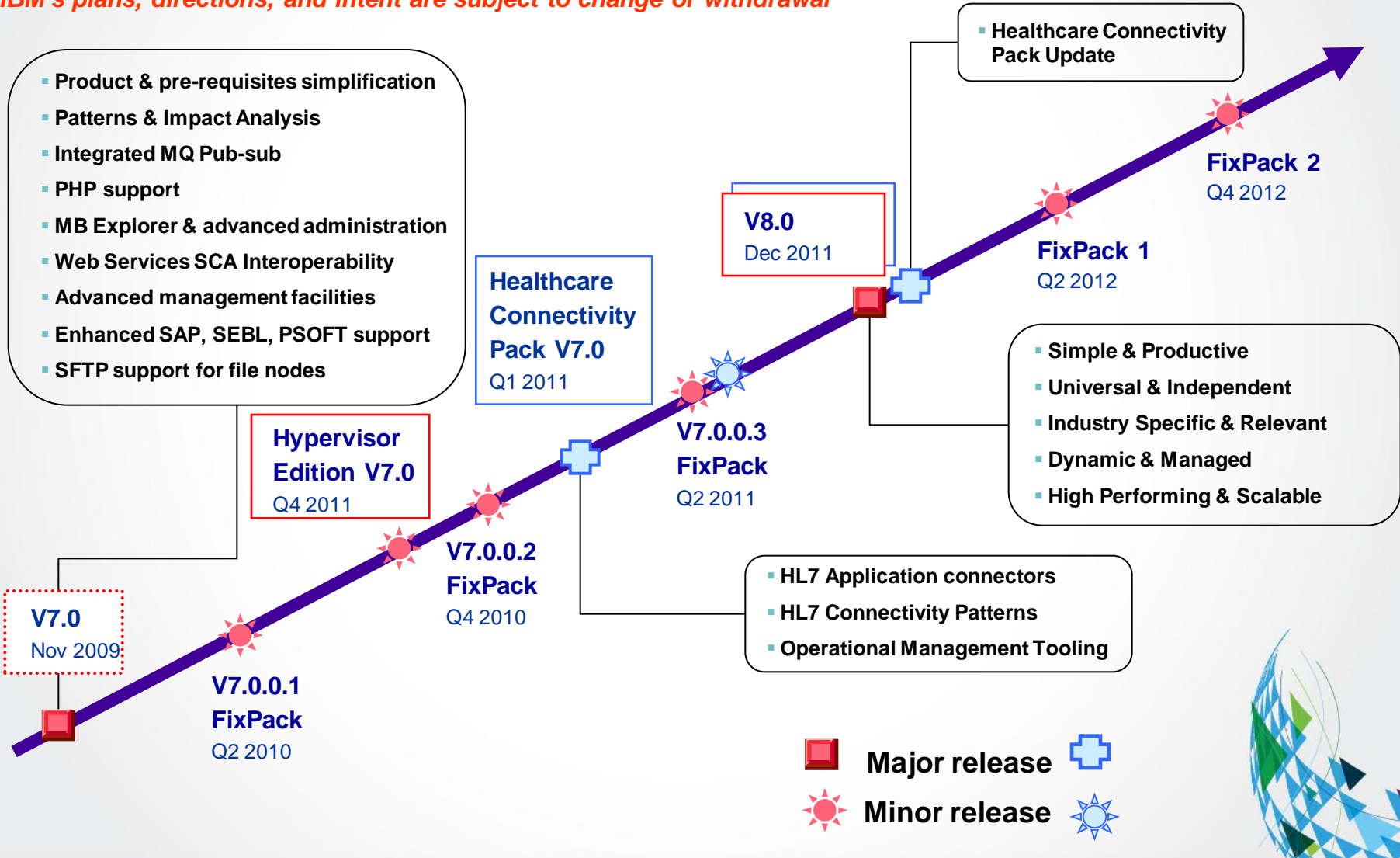
Over 50 customers in Australia/NZ



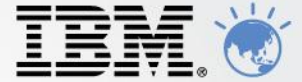
Message Broker Recent History and Roadmap



IBM's plans, directions, and intent are subject to change or withdrawal



SOA/Enterprise Service Bus Characteristics



- **ESB federation capabilities**
 - Native WS-Security and WS-Addressing
 - Native integration with DataPower SOA appliance
 - Built-in integration with WSRR
 - Enterprise wide identity, authentication and authorization through TFIM and LDAP

- **Other Standards**
 - Multiple transports including HTTP(S), any JMS 1.1 provider
 - SOAP 1.1/1.2, WSDL 1.1, MTOM/XOP, SOAP with Attachments
 - WS-Sec, WS-RM, WS-Addressing, WS-Policy (with WSRR)
 - Basic Profile 1.1 compliant

- **Development experience**
 - Patterns Based Development
 - Many “out of the box”, ready to deploy patterns for common integration tasks
 - Pattern Capture and authoring
 - WSDL drag and drop for skeleton flow creation and configuration
 - WSDL import and export includes full Message set round-tripping
 - New Web services parser creates more consumable message tree
 - e.g. Simplified attachment processing

- **Scalable and resilient implementation**
 - Multiple execution groups (processes) to host scalable processing pipeline for web services.
 - Transport listeners within execution groups



Beyond Core ESB Capabilities – EAI Heritage



▪ **Universal Connectivity**

- Simplify application connectivity to provide a flexible and dynamic infrastructure for a truly heterogeneous world.
- Leverage skills and address both the Java and .NET worlds
- Out of the box integration through Patterns Based Development

▪ **Routes and transforms messages FROM anywhere, TO anywhere**

- Supports a wide range of protocols
 - MQ, JMS, HTTP(S), Web Services, File/FTP, MQTT (MQe, Scada), email, TCP sockets, JDBC/ODBC, SMTP, Sterling C:D, Siebel, JDE, SAP, PeopleSoft, User Defined
- Supports a broad range of data formats
 - Binary, Fixed Format (C/COBOL), XML, Industry (SWIFT, EDI, HIPAA...), Tagged Delimited, User Defined
- Interactions and Operations
 - Route, Filter, Transform, Enrich, Monitor, Distribute, Decompose, Correlate...

▪ **Advanced Processing and Distribution Capability**

- Provides the industry's richest events processing & management abilities
 - Complex Event Processing
 - Publish and Subscribe
 - Fan-out /Fan-in aggregation
 - Sequencing
 - Record and replay
 - Event Collection

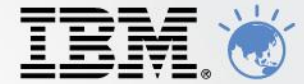


Why Message Broker Version 8?

Easy to Acquire
Easy to Adopt
Easy to Use
Easy to Manage

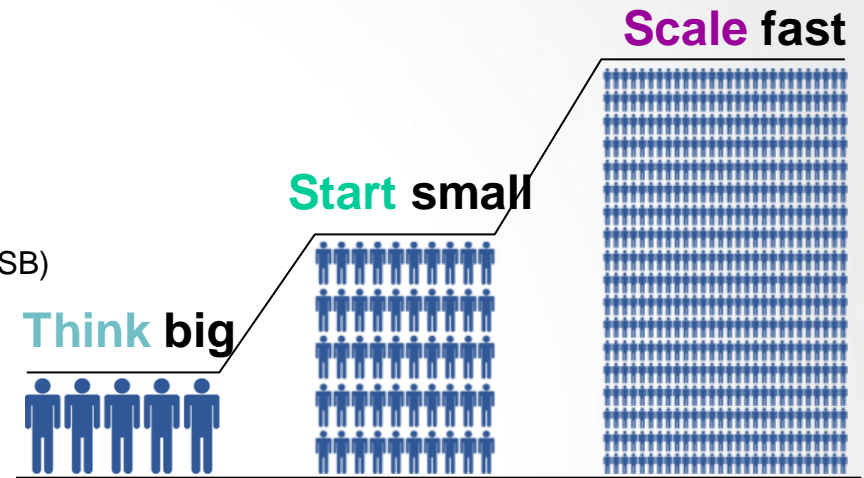


Easy to Acquire



WebSphere Message Broker Editions

- **Trial Edition** - Free 90 day unsupported product trial
- **Express Edition**
 - Ideal for initial projects, Subset of available nodes (Core ESB)
 - Single Execution Group (process)
- **Standard Edition**
 - Ideal for Mid market users, Full function
 - Single Execution Group (process)
- **Advanced Edition**
 - Full capability for Enterprise users. No restrictions
- **Hypervisor Edition**
 - Full function Advanced WMB packaged with Operating system for virtualised environments RHEL x86, IBM AIX
- **Remote Adapter Deployment**
 - Provides affordable connectivity to applications such as ERP/EIS systems
 - 2 execution groups (process), Restricted to the I/O protocol nodes, Java Compute, Timers and select other nodes
- Common runtime, common tooling, one install, no migration. “Golden Screwdriver” to move between editions
- Pay for what you use: Sub-capcity licensing and no charge for Cold Disaster Recovery Environments

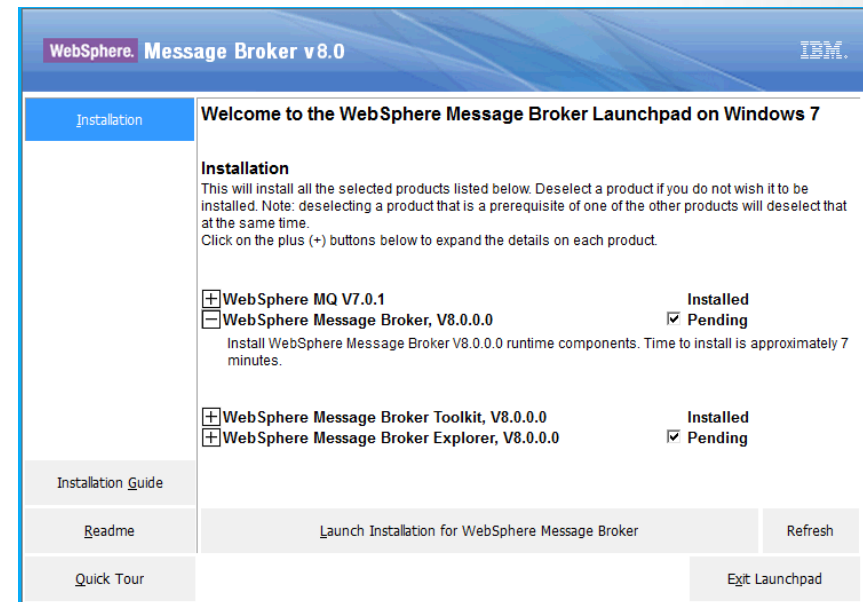


Easy to Adopt (Installation)

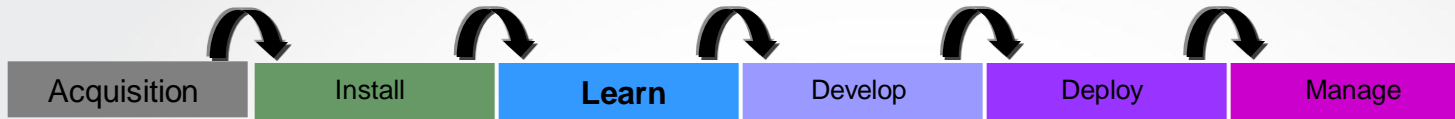


Install in minutes and ready to use.

- **Install on as many developer workstations as you like**
- **Installed and ready to develop in 15 minutes**
- **WMQ the only installation pre-requisites**
- **Select components to install:**
 - **Graphical Toolkit** – visual designer, integrated with Rational and Microsoft Visual Studio
 - **Runtime** – run your business
 - **Explorer** – single management console
- **Launchpad for installation provides:**
 - A view of current install status
 - Selection of optional components
 - Links to installation guides and product tours



Easy to Adopt (Learning)



Simple basic concepts supporting powerful capability

- **Great Samples** for common scenarios
 - Learn by practical example
 - Quickly customize a working flow rather than starting from scratch
- Easy **Graphical tools** help first time users become quickly productive
- WebSphere Message Broker has two key building blocks
 - **Nodes** connect to sources of data and perform route or transform operations
 - **Flows** connect nodes together into processes which achieve desired business results

WebSphere Message Broker Version 8.0.0.0 > Product overview > Samples > Technology samples > File Processing

File Output sample

This sample consists of one message flow that demonstrates one way that you can use a FileOutput node.

Click the following links to find out more about the sample and how to get the prebuilt sample running by using the wizards.

- 🕒 **Import and deploy:** 5 minutes
- 📖 [Read about the sample](#)
- 📄 [Setup instructions](#)

🔗 You can set up the sample in one of the following ways:

- [Import and deploy the sample](#)
This option imports the sample files into your workspace and deploys the sample to the broker. This option also sets up additional resources for the sample, for example, WebSphere MQ queues.
- [Import the sample](#)
This option imports the sample files into your workspace. Additional manual steps might be required to configure the sample for testing.

You can import or import and deploy a sample only when you use the information center that is integrated with the WebSphere Message Broker Toolkit.

- ▶ [Run the sample](#)

🗑️ When you have finished with the sample, you can remove it in one of the following ways:

- [Remove the sample from the broker, but leave its resources in the workspace](#)
- [Remove the sample from the broker and the workspace](#)

* WMB Toolkit runs on Windows and Linux

Easy to Use (Developing)



Patterns Based Development to rapidly create and reuse common integrations

- **Select** a pattern
 - Wide range of built-in patterns to solve common integration problems
 - Take advantage of IBM best practice and field experience
- **Use** a pattern
 - Extensive help guide users through the process
 - As few as 4 clicks to a running solution
- **Create** new patterns
 - Turn your solutions into reusable patterns in less than 5 minutes
- **Reuse** everywhere
 - Achieve consistency and avoid costly duplication

Patterns Explorer

Patterns Explorer Download...

- Patterns
 - Application Integration
 - SAP
 - MQ one-way (Idoc)
 - File Processing
 - Record Distribution
 - MQ one-way
 - Healthcare
 - HL7 to HL7**
 - Message-based Integration
 - Message Correlator
 - MQ request-response v

Healthcare: HL7 to HL7 pattern

The Healthcare: HL7 to HL7 pattern integrates an application that can send Health Level Seven International (HL7) v2 messages with one or more applications that can receive HL7 messages. The applications must be capable of sending and receiving HL7 messages by using Minimal Lower Layer Protocol (MLLP) over TCP/IP.

The Receiver flow in this pattern supports the following options:

1. Receiving HL7 messages by using MLLP over TCP/IP
2. Validating and parsing of messages
3. Auditing incoming messages
4. Checking and processing of duplicate messages
5. Supporting sequencing options
6. Publishing or sending to a queue, each incoming message for processing outside the pattern
7. Sending output to a transform and route queue
8. Handling exceptions

Pattern Configuration

Configure your groups and pattern parameters and associate the pattern parameters with their target properties. Using pattern parameters and your own logic, you can extend your pattern with [Java and PHP code](#).

Groups and Parameters

- Position
 - Places (pp3)
 - Latitude (pp1)
 - Longitude (pp2)
 - Latitude (hidden) (pp4)
 - Sets property: SolarMessageFlow.SolarUpDown.UserDefinedProperty.Latitude
 - Longitude (hidden) (pp5)
 - Sets property: SolarMessageFlow.SolarUpDown.UserDefinedProperty.Longitude
 - Queue information
 - Input queue name (pp9)
 - Sets property: SolarMessageFlow.SolarUpDown.UTCDateIn.queueName
 - Results queue name (pp10)
 - Sets property: SolarMessageFlow.SolarUpDown.SunsetSunriseTimes.queueName
 - Error queue name (pp7)
 - Sets property: SolarMessageFlow.SolarUpDown.LogErrors.queueName
 - Queue manager name (pp8)
 - Sets property: SolarMessageFlow.SolarUpDown.LogErrors.queueManagerName
 - Sets property: SolarMessageFlow.SolarUpDown.SunsetSunriseTimes.queueManagerName

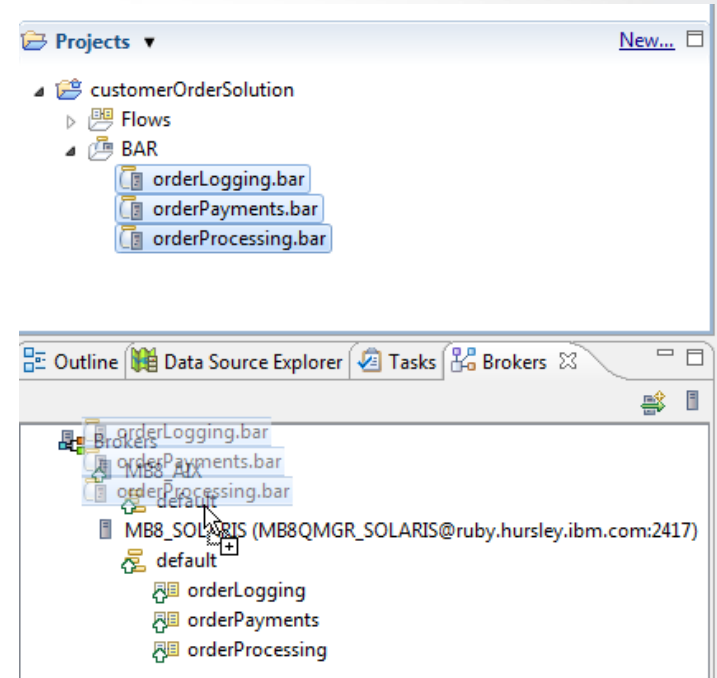
* WMB Toolkit runs on Windows and Linux

Easy to Use (Deploying)



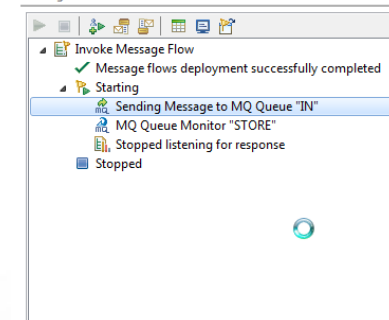
Deploy to a runtime in a single operation and quickly test

- **Drag and drop** to deploy Broker resources to the runtime
 - Choose from a single list of local and remote Brokers
 - Clear view of runtime status and deployment success
- **Develop once, deploy to runtimes on all supported platforms**
- **Built-in test client** for rapid test and debug activities
 - Auto-generate test data or import your own
 - View overall results and drill into individual test events



Events

Message Flow Test Events



General Properties

Detailed Properties

Host: localhost
Port: 0
Queue manager: MB8QMGR
Queue: IN

Message

Header

Body: View as source

Show in hexadecimal viewer (Read Only)

test

* WMB Toolkit runs on Windows and Linux

Easy to Manage (Administration)



Tools focused at the user, not just the technology

- **Web based Administration**
 - Zero footprint, easy to use from anywhere
- **Activity Trace**
 - User centric view of resources:
“File *DailyOrders.xml* is ready for processing”
“Database *Invoices* has gone offline”
- **Simple Monitoring** of performance and resources
 - Graphical analysis of system health and performance information
 - Integrates with ITCAM, BMC, HP OpenView via JMX
- **Industry tailored views***
 - * Via purchase of additional pack

Message ID	Timestamp	Message Summary
BIP12001I	20-Jun-2011 06:28:07.03...	Connected to JMS provider 'WebSphere_MQ'
BIP12002I	20-Jun-2011 06:28:07.06...	Created a 'Transaction_None' session for JMS provider 'WebSphere_MQ'
BIP12004I	20-Jun-2011 06:28:07.17...	Created JMS producer for destination 'ACTIVITYLOG_JMS_REC'
BIP12014E	20-Jun-2011 06:28:07.24...	Failed to send message to 'ACTIVITYLOG_JMS_REC'
BIP12004I	20-Jun-2011 06:28:07.17...	Created JMS producer for destination 'ACTIVITYLOG_JMS_REC'
BIP12014E	20-Jun-2011 06:28:07.25...	Failed to send message to 'ACTIVITYLOG_JMS_REC'
BIP12001I	20-Jun-2011 06:28:09.77...	Connected to JMS provider 'WebSphere_MQ'
BIP12004I	20-Jun-2011 06:28:09.80...	Created JMS producer for destination 'ACTIVITYLOG_JMS_REC'
BIP12014E	20-Jun-2011 06:28:09.81...	Failed to send message to 'ACTIVITYLOG_JMS_REC'
BIP12004I	20-Jun-2011 06:28:07.20...	Created JMS producer for destination 'ACTIVITYLOG_JMS_REC'
BIP12014E	20-Jun-2011 06:28:07.24...	Failed to send message to 'ACTIVITYLOG_JMS_REC'
BIP12004I	20-Jun-2011 06:28:09.81...	Created JMS producer for destination 'ACTIVITYLOG_JMS_REC'

WebSphere Message Broker Version 8

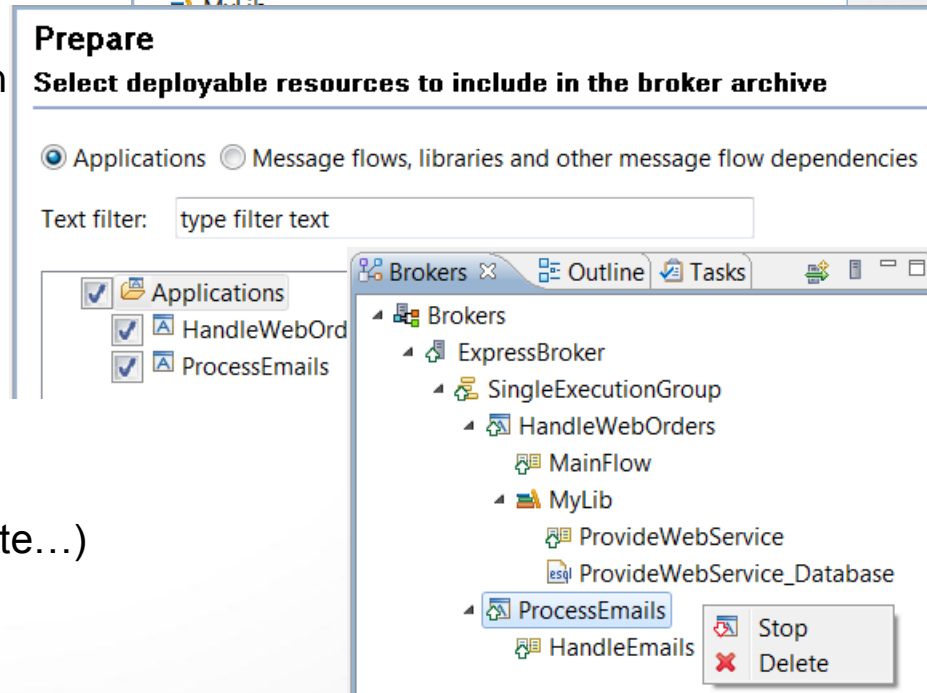
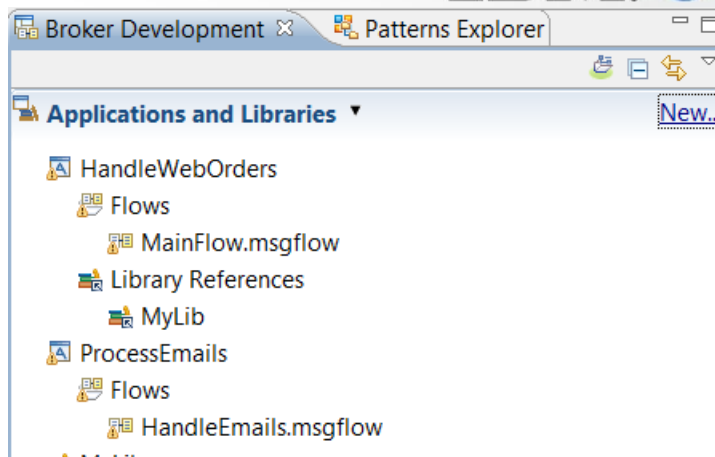
What's new for developers?



Easy to Develop, Deploy & Manage



- Streamlined AD, Deploy & Management
 - Resources grouped into Applications & Libraries
 - Encourages reuse
 - Simplifies deployment & management
- Easy deployment
 - Drag & drop apps to run immediately
 - Simple to package (1-click for each app)
 - Override deployment properties for promotion
- Consistent Operations
 - AD artefacts visible in runtime
 - MBTK, MBX, Web admin all reflect same structure
 - Manage using apps (e.g. start, stop, delete)
 - Commands updated (e.g. `mqsilist`)
 - Full lineage available (e.g. version, deploy date...)



Patterns make building solutions easy



- Fast and Easy
 - Quickly create best practice solutions from pre-built templates
e.g. Web Service façades, Message processing, File to queue...
 - IBM pre-supplied & User Defined Patterns
Create & share user patterns, including community downloads
- New .NET pattern for service façade scenarios
 - Quickly create web service from assembly
 - Creates message flows & WSDL for external consumer
 - Extend pattern for (e.g.) Dynamics to SAP integration

Configure Microsoft .NET service

Configure your .NET assembly that the service invokes.



Assembly file name: Refresh Select...

Assembly Information

Class name:

Methods on the class that the service will invoke:

Method Name	Abstract	Static	Public	Private	Return Type	Nullable
<input type="checkbox"/> get_name	No	No	Yes	No	System.String	No
<input type="checkbox"/> set_name	No	No	Yes	No	System.Void	No

- Pattern Authoring Enhancements
 - Reconfigure pattern preserving user customizations
 - User-defined editors for rich pattern dialogs
e.g. .NET discovery introspects assembly
 - Unbounded repeating group pattern parameters
Allows more open-ended solutions

Configure Pattern Parameters

Provide values for pattern parameters. Click the "Generate" button or click [here](#) to generate a pattern instance.

✖ Configure the .NET assembly that the service invokes.

Pattern Parameters

▼ Microsoft .NET assembly

Configure the .NET assembly that implements the service calls

Class name Configure...

Application domain name

▶ Service information

▶ Logging

Easy Data Modelling with DFDL

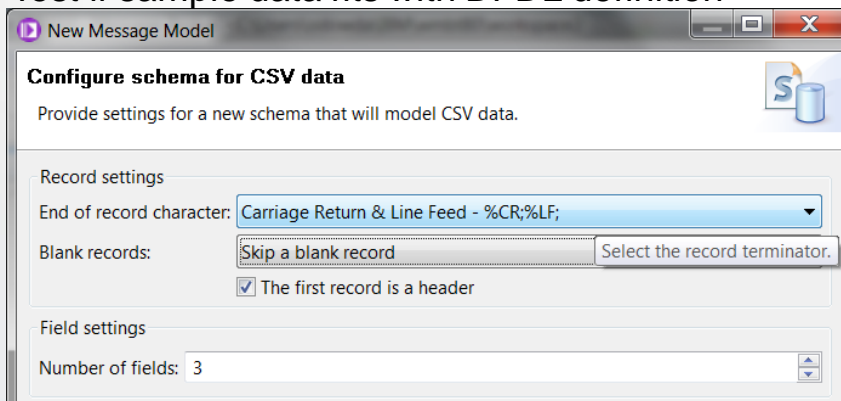
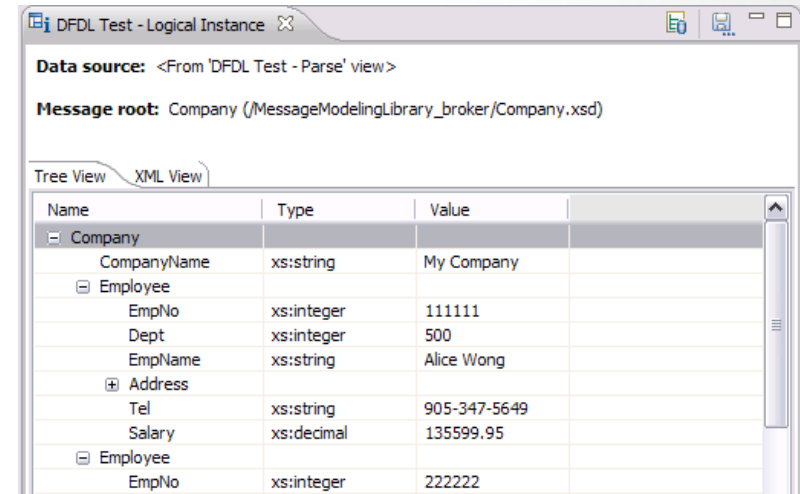
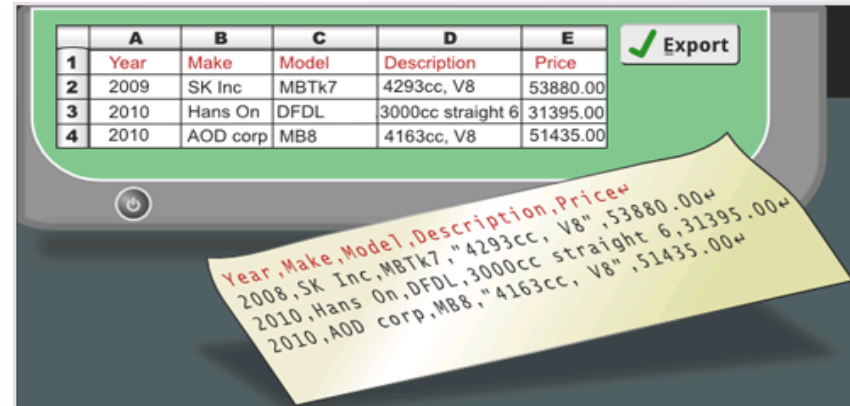


- Simple & powerful standard for data modelling
 - Industry standard for binary, text & industry formats e.g. endian, ASCII/EBCDIC, padding, justify...
 - Data Format Description Language (DFDL) Use in IBM and non-IBM products

forge.gridforum.org/projects/dfdl-wg

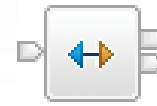
- Model data easily
 - Wizards /Importers for CSV, record oriented data COBOL copybooks etc

- DFDL Editor, Test parsing and test data generation
 - Test if sample data fits with DFDL definition

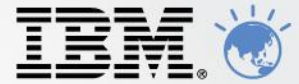
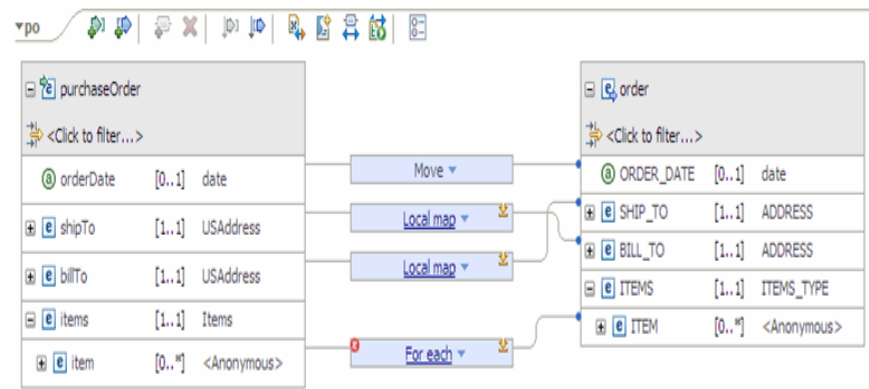


Transformations Options

- IBM Graphical Data Mapper (GDM)
 - Standards Based Mapping Specification Language (MSL) format
 - Visually map and transform source to target data
 - Code-free, high performing & scalable
 - Designed for whole IBM product set
 - e.g. Full map exchange with MDM Server V10
- Full support for original mapper continues
- Many choices available for transformation



Mapping



WTX Map

- Portable, embeddable mapping
- Industry Pack support



XSL Transform

- Convert XML to anything
- Uses standard XSL Style sheets



Java Compute

- Embed Java programs
- Ability to use XPath for tree access



.NET Compute

- Use any of the 40+ .NET languages (e.g. C#, VB.NET)
- Access COM objects



Compute

- Describe powerful transformations quickly
- Uses SQL-based language (ESQL)



PHP Compute

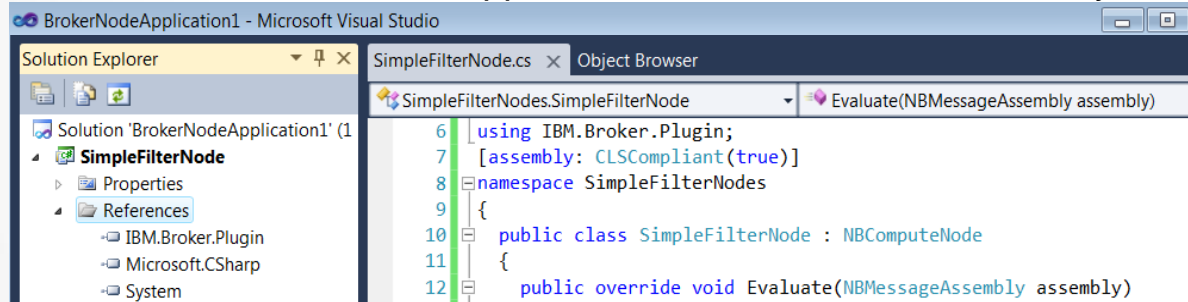
- Transform using PHP scripts
- PHP 5.2 compliant



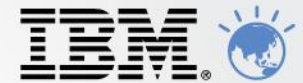
Deep Integration for .NET

- New node for native .NET program invocation
 - Call .NET programs directly via CLR V4; includes app domains for isolation
 - C#, VB .NET (COM), JScript & F# programming available natively in MB
 - Extensive range of .NET data types supported for easy integration
- Integrated Visual Studio Development
 - Create .NET nodes in Visual Studio; Native MB assemblies simplifies process e.g. packages, templates, #using, debug, content assist etc
 - Visual studio compiled resources available without redeploy

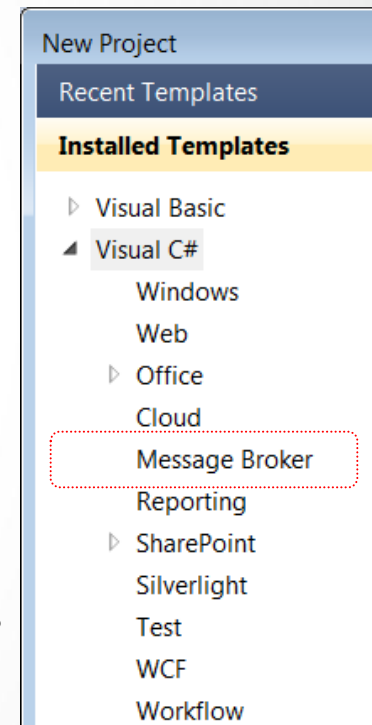
Broker .NET watcher loads App Domain with most recent assembly



- Call .NET programs from new and existing MB nodes
 - Toolkit can introspect .NET assemblies to dynamically discover available methods
 - Automatically create appropriate language signatures to simplify invocation
 - (e.g.) ESQL can now directly invoke .NET programs using simple procedure call
- .NET performance compares favourably with native ESQL & Java transformations
 - .NET resource statistics show behaviour partitioned by app domain (calls, storage...)



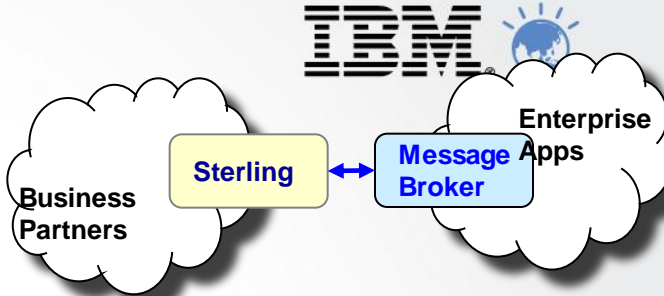
Update Dynamics



Integrate with your Partners

- End-to-End Processing in B2B Scenarios

- C:D backbone enriched by MB - connects partners to Enterprise e.g. Web2File, File2Queue, Database2File, File2Dynamics, .NET
- Sophisticated file processing includes timely inbound and outbound transfers & intelligent metadata
- C:D File input & C:D File output nodes allow MB to use files transferred by C:D
- Complement existing MB file, FTP, SFTP and FTE file capabilities



- C:D File Input node

- Message flow starts processing message as soon as C:D agent notifies of complete file transfer
- C:D metadata provided in `LocalEnvironment` allowing intelligent processing of transfers & scripting
- File can be processed as whole file or record-at-a-time; simple & user records – per existing file nodes



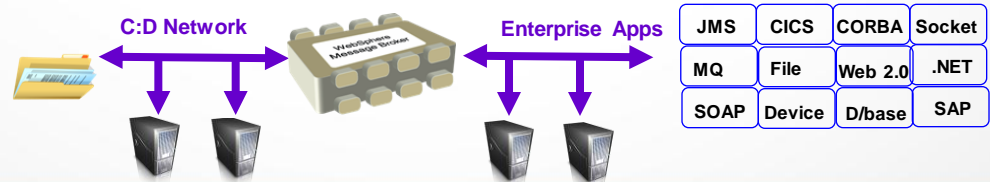
- C:D File Output node

- Creates file output records and requests C:D transfer with appropriate metadata
- `LocalEnvironment` allows users to specify transfer overrides and customizable metadata



- C:D Agents automatically Installed, Configured and Managed

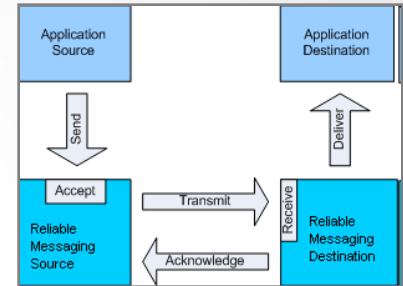
- Installed seamlessly as part of regular install, auto configured CD-R
- CD-R agents are started with MB execution groups when message flows are started and stopped
- Execution Group Properties for custom configuration



WS-Reliable Messaging

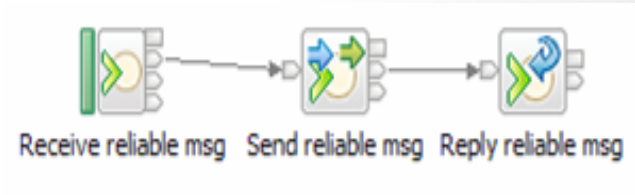


- WS-RM W3C protocol
 - Reliable delivery of messages between applications
 - Multiple classes of service: {AtLeastOnce, AtMostOnce, ExactlyOnce}, InOrder
 - Complements SOAP/JMS reliability & persistence.



- Existing SOAP Nodes now support WS-RM
 - Policy Set editor defines QoS: e.g. InOrder, ExactlyOnce
 - SOAP nodes handle ALL protocol details, programmers simply send or receive WS-RM messages
 - SOAP input type nodes (input, async response) propagates reliably received message
 - SOAP request nodes (reply, request, async request) receive message to be delivered reliably
 - Only for SOAP/HTTP
 - SOAP/JMS, SOAP/MQ are already reliable, persistent and transactional

- Broad Platform support for WS-RM 1.0 & 1.1
 - .NET compatibility option for .NET 1.0 WCF clients
 - Extensive testing to other application servers



- Composable as expected
 - WS-Security
 - WS-Addressing

The screenshot shows the 'Set up Policy Sets and Policy Set Bindings for this broker' configuration panel. The panel is titled 'Set up Policy Sets and Policy Set Bindings for this broker' and includes the subtitle 'This panel configures the inbound and outbound actor roles URI.' The main content area is divided into two sections: 'Policy Sets' and 'Reliable Messaging Settings'. The 'Policy Sets' section shows a tree view with 'WSS10Default', 'WSRMDefault', and 'Policy_Test' expanded, with 'WS-RM' selected under 'Policy_Test'. The 'Reliable Messaging Settings' section includes a checkbox for 'Deliver messages in the order that they were sent' which is checked, and a 'Client Compatibility' dropdown menu set to 'Microsoft .NET WCF'. A tooltip at the bottom right says 'Choose this compatibility option'.

JMS Receive Node and other JMS Enhancements



- New JMSReceive Node

- Process JMS messages in the middle of a message flow, c.f. MQGET node
- Typical scenarios include request response, routing & augmentation
- Works with any JMS 1.1 provider, MQ is default provider



JMS Receive

- JMS Receive node

- Works on JMS queues: receive paradigm is not applicable to topics!
- Configured for destructive read or browse

- Comprehensive & Flexible options

- Retrieve particular JMS with message properties
 - Many **LocalEnvironment** overrides!
- Per message customization
 - Incoming & received message can be kept

The screenshot shows the 'JMS Receive Node Properties - JMS Receive' dialog box. It has a title bar with the IBM logo and the text 'JMS Receive Node Properties - JMS Receive'. Below the title bar, there is a section titled 'Settings for working with the message selectors.' with a 'More...' link to the right. The settings are as follows:

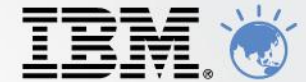
Application property	<input type="text"/>
Timestamp	<input type="text"/>
Delivery mode	All
Priority	<input type="text"/>
Message ID	<input type="text"/>
Redelivered	<input type="text"/>
Correlation ID	= '12'

- Activity Logging

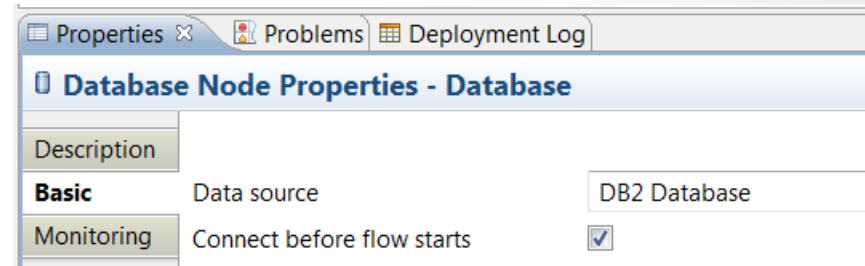
- All JMS nodes updated to provide activity logging
- Allows operators to understand JMS operations without understanding detailed flow design
 - e.g. failed to open or start JMS session, message sent to destination



Extended File & Database Support



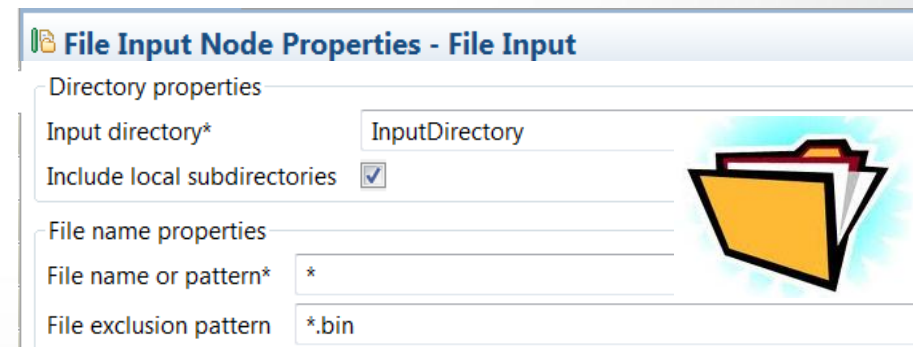
- “Fast first message” processing with pre-emptive database connections
 - New configuration option acquires & maintains database connections before messages processed
 - Default will connect first thread to database at flow start before message processing
 - Extra flow option to start all flow threads at EG start
 - All threads process “fast first message”
 - Immediate reconnect option database after failure
 - Retry once for successful reconnect
 - Exception still thrown to rollback transaction



- Support even more Databases
 - Open Driver Manager allows MB to connect to even more ODBC data sources
 - e.g. MySQL, PostgreSQL, Teradata, Cache, Progress...
 - Product architecture supports third party database drivers
 - Oracle, DB2, SQL Server, Sybase, Informix, solidDB unaffected
 - More options available for other database drivers
 - Formal support requires interlock with IBM – contact IBM for more details



- More File Processing Enhancements
 - Append mode for File Output node
 - Add new records to end of existing file & FTP
 - File input nodes wildcard directory matching
 - Design & configurable service for operators
 - Dynamic (S)FTP file name
 - LocalEnvironment** override



Programmable Message Flows



- Create message flows (and more!) programmatically
 - Full flow creation lifecycle now available via simple Java API
 - Create flow, add/remove node, change properties
 - Extends CMP operational API covering deployment & config
 - Single API for MBTK, MBX, commands, end users & 3rd Party
- Message Broker API
 - Single API allows creation & management of all MB resources
 - Works on familiar MB resources, e.g. rename a message flow

```
File msgFlow = new File("main.msgflow");  
MessageFlow mf1 = FlowRendererMSGFLOW.read(msgFlow);  
mf1.setName(mf1.getName()+"Generated");
```

- Source deployment
 - MB8 engineered to provide source artefact creation, packaging & deployment
 - Flows, XSDs (XML & DFDL), ESQL, Maps, JARs, XSL stylesheet, WSDL, IDL...
 - Source author & deploy has many advantages
 - Easy round tripping for import/export scenarios
 - Enables more environments
 - AD: Eclipse, Web, Visual Studio etc...
 - Operations: load artefacts from other sources, e.g. registry, file systems...
 - Optimizes performance – JIT compilation means technology can improve deployed solutions
- Comprehensive range of samples
 - InfoCenter contains many samples showing how to use Message Broker API

Example code for the Message Broker Java API

- ▢ Loading an existing message flow into memory
- ▢ Renaming a node
- ▢ Adding a node and a subflow node
- ▢ Setting the position of a node
- ▢ Copying a node
- ▢ Removing a node
- ▢ Adding connections between nodes



WebSphere Message Broker Version 8

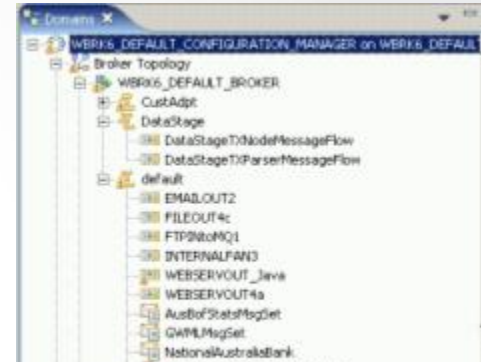
What's new for Administrators?



WMB Administration options

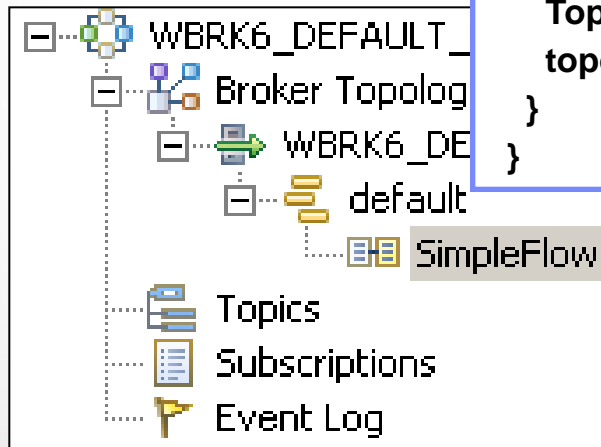


- WebSphere Message Broker Toolkit
- WebSphere MB Explorer
- Command line tools
 - Start/Stop message flows
 - Create/Delete execution groups
- Java administration API (“Configuration Manager Proxy”)
- Runtime versioning
- Browser-based Administration



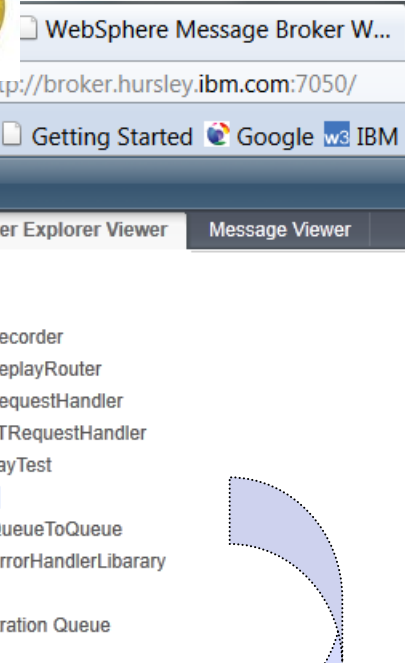
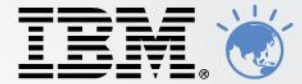
```
import com.ibm.broker.config.proxy.*;

public class CreateBroker {
    public static void main(String[] args) {
        ConfigManagerProxy cmp =
            ConfigManagerProxy.getInstance(...);
        TopologyProxy topology = cmp.getTopology();
        topology.createBroker("MYBROKER", "QMGR");
    }
}
```



Full Name	simpleflow.cmi
Last Modified	24 June 2005 11:22:40 BST
Version	1.0
Keywords	
BAR File Name	C:\student\workspace\Servers\

Web Administration for Universal Access

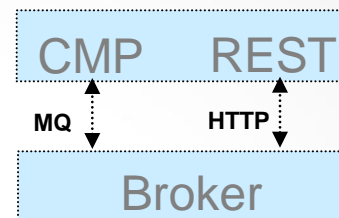


View Details

Name	Value
Bar File Name	20110818_0407_20
Deploy Time	Thu Aug 18 16:08:43 BST 2011
Long Description	
Modification Time	Thu Aug 18 16:07:20 BST 2011
Name	App1
Running	true
Short Description	

- Web Administration Console
 - Objective is to provide comprehensive web management interface
 - Focus on non-administrators to understand brokers & resources
 - Supports all major browsers Firefox, IE, Opera, Safari, Chrome
 - Designed as a complement to MB Explorer
 - MB Administrators can continue to use MB Explorer
- Easy to configure
 - No extra moving parts - uses internal HTTP server to serve data
 - Just start a port for web admin, and go!
 - Can reconfigure to listen on user port or disable
 - SSL connector configured via `mqsichangeproperties`
 - View resources only for V8 GA
 - Design allows for future role based access to modify resources
- Using Web Admin
 - Intuitive tree view shows hierarchy of MB resources
 - View resource details with click or button
 - Includes full suite of resources
 - Apps, Libs, Flows, Configurable services etc.
- Web Admin & MB Explorer
 - MBX & web admin designed for concurrent use
 - Web admin requires MB8 broker
 - Explorer can manage both MB8 & MB7 brokers

Open Management with REST



- REST based management API
 - MB now supports HTTP/REST management API
 - Complements & compatible with existing CMP interface
 - HTTP client can manage MB independent of CMP
 - Includes new interface for message record & replay

```
GET /admin/eg/MYEGNAME HTTP/1.1
From: machine@ibm.com
User-Agent: MyApp/1.0
```

- URI for all MB Resources
 - New ATOM data format for payload describes MB resources & related entities
 - ATOM service documents & feeds map intuitively mapped to MB artefacts
 - Provides very natural navigation of MB resources
 - e.g. Execution group document contains EG properties & per-message flow ATOM feed

HTTP/1.1 200 OK

Date: Sun, 1 Oct 2011 21:46:59 GMT

Content-Type: text/html

Content-Length: 426

```
<?xml version="1.0" encoding='utf-8'?>
<service xmlns=http://www.w3.org/2007/app xmlns:atom="http://www.w3.org/2005/Atom">
  <workspace>
    <atom:title>Execution group feeds</atom:title>
    <collection href="http://my.broker.com/admin/eg/MYEGNAME/resources" >
    </collection>
  </workspace>

  <executiongroup description.long="" description.short="" ... >
  </executiongroup>
</service>
```

- Fully open interface can be exploited by 3rd party tools
 - HTTP REST/ATOM formats published & maintained for use by external users



Making it Easier to Understand Broker Behaviour



- New Activity Logging Allows users to understand what a message flow is doing
 - Complements current extensive product trace by providing end-user oriented trace
 - Can be used by developers, but target is operators and administrators
 - Doesn't require detailed product knowledge to understand behaviour
 - Provides qualitative measure of behaviour
- End-user oriented with external resource lifecycle
 - Focus on easily understood actions & resources
 - “GET message queue X”, “Update DB table Z”...
 - Complements quantitative resource statistics
- Flow & resource logging
 - User can observe all events for a given flow
 - e.g. “GET MQ message”, “Send IDOC to SAP”, “Commit transaction”...
 - Users can focus on individual resource manager if required
 - e.g. SAP connectivity lost, SAP IDOC processed
 - Use event filters to create custom activity log
 - e.g. capture all activity on JMS queue REQ1 and C:D node CDN1
 - Progressive implementation as with resource statistics, starting with JMS, C:D and SAP resource
- Comprehensive Reporting Options
 - Reporting via MB Explorer, log files and programmable management (CMP API)
 - Extensive filtering & search options, also includes save data to CSV file for later analysis

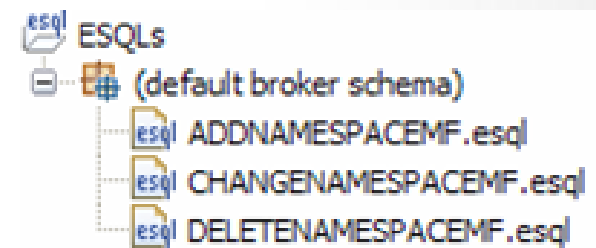
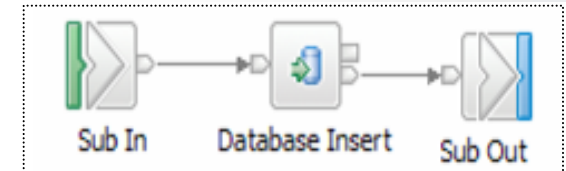
Message...	Timestamp	Message Summary
i BIP12001I	17-Jun-2011 10:10:50.85...	Connected to JMS provider 'WebSphere_MQ'
i BIP12002I	17-Jun-2011 10:10:50.85...	Created a 'Transaction_None' session for JMS provider 'WebSphere_MQ'
i BIP12004I	17-Jun-2011 10:10:50.93...	Created JMS producer for destination 'ASYNCREQUESTQ'
i BIP12007I	17-Jun-2011 10:10:50.93...	Sent a JMS message to queue 'ASYNCREQUESTQ'
i BIP12004I	17-Jun-2011 10:10:50.52...	Created JMS producer for destination 'ASYNCRECEIVEQ'
x BIP12014E	17-Jun-2011 13:47:51.65...	Failed to send message to 'ASYNCRECEIVEQ'
i BIP12001I	17-Jun-2011 13:47:54.99...	Connected to JMS provider 'WebSphere_MQ'
i BIP12004I	17-Jun-2011 13:47:55.00...	Created JMS producer for destination 'ASYNCRECEIVEQ'



Dynamic Deployment of AD Artefacts



- Allow sub-flows to be deployed independently of main flow
 - Additional to existing build-time sub-flow; no performance impact
 - New “Route to sub-flow” allows dynamic addition of new/changed logic
 - Intuitive Drag and drop deploy & simple BAR file packaging
 - Sub-flow is fully visible as development artefact c.f. message flow
- Independently deployable ESQL
 - Particularly useful for dynamic transformation scenarios
 - Allows new/changed transformation without whole-flow redeploy
 - Intuitive Drag and drop deploy & simple BAR file packaging
- Deploy Flow Stopped provides fine grained initialization control
 - Important in “order-of-initialization” type scenarios
 - Allows operator to declare initial state for deployed flow resources
 - Manual: always needs to be started by user
 - Automatic: always started by broker
 - Maintained: remember
 - Persists over expected or unexpected restarts
- Deployable Maps & Schemas
 - Graphical maps & XSDs (XML and DFDL) can now be deployed independent of flow
 - Simplifies change management for incremental solutions
 - Just deploy changed artefacts rather than whole flow!

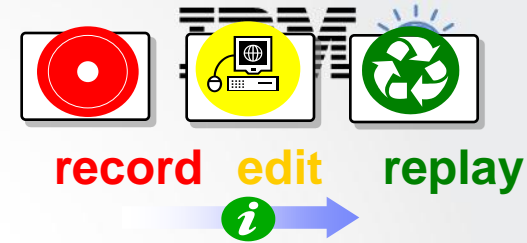


Start Mode	Maintained
Start additional instances when flow starts	Maintained
	Manual
	Automatic



Record & Replay

- Enable Record and Replay of In-flight Data
 - Comprehensive audit of messages, web, ERP, file & other data
 - Flexible topology: single or multiple brokers for recording, capture & replay



- Data Recording, Capture & Store
 - Graphically configure binary, text, XML payload capture, including whole, partial & multi-field data
 - Source data is currently limited to MB flows, including MB6.1, MB7 & MB8
 - Monitor tab or monitoring profiles identify captured events
 - Capture events on *any broker*, local or remote
 - Any broker EG can be configured as capture agent
 - Configurable service identifies topic, target database
 - Agent stores data in a database

- Web Tooling to View, Query data
 - Friendly editors to view and query payloads
 - Key data fields, including application data
 - Independent web admin & capture for scalability
 - Configure multiple EG listeners for web

- Replay for redelivery or flow reprocessing
 - Replay selected data to flows or applications
 - MB admin configures logical destinations
 - Maps to physical protocol, e.g. MQ: {Qmgr, Q}
 - User selects destinations from auto-populated drop-down list

CD Input Node Properties - CD Input

Configure monitoring events

Events

Enabled	Event Source	Event Source Address
<input checked="" type="checkbox"/>	Transaction start	CD Input.transaction.Start
<input checked="" type="checkbox"/>	Transaction end	CD Input.transaction.End

IBM WebSphere Message Broker

Administration | **Data viewer**

dataCaptureStoreName | Page 1 of 49

Filter data

Event time from: YYYY-MM-DD HH:MM:SS.ss | Event time to: YYYY-MM-DD HH:MM:SS.ss

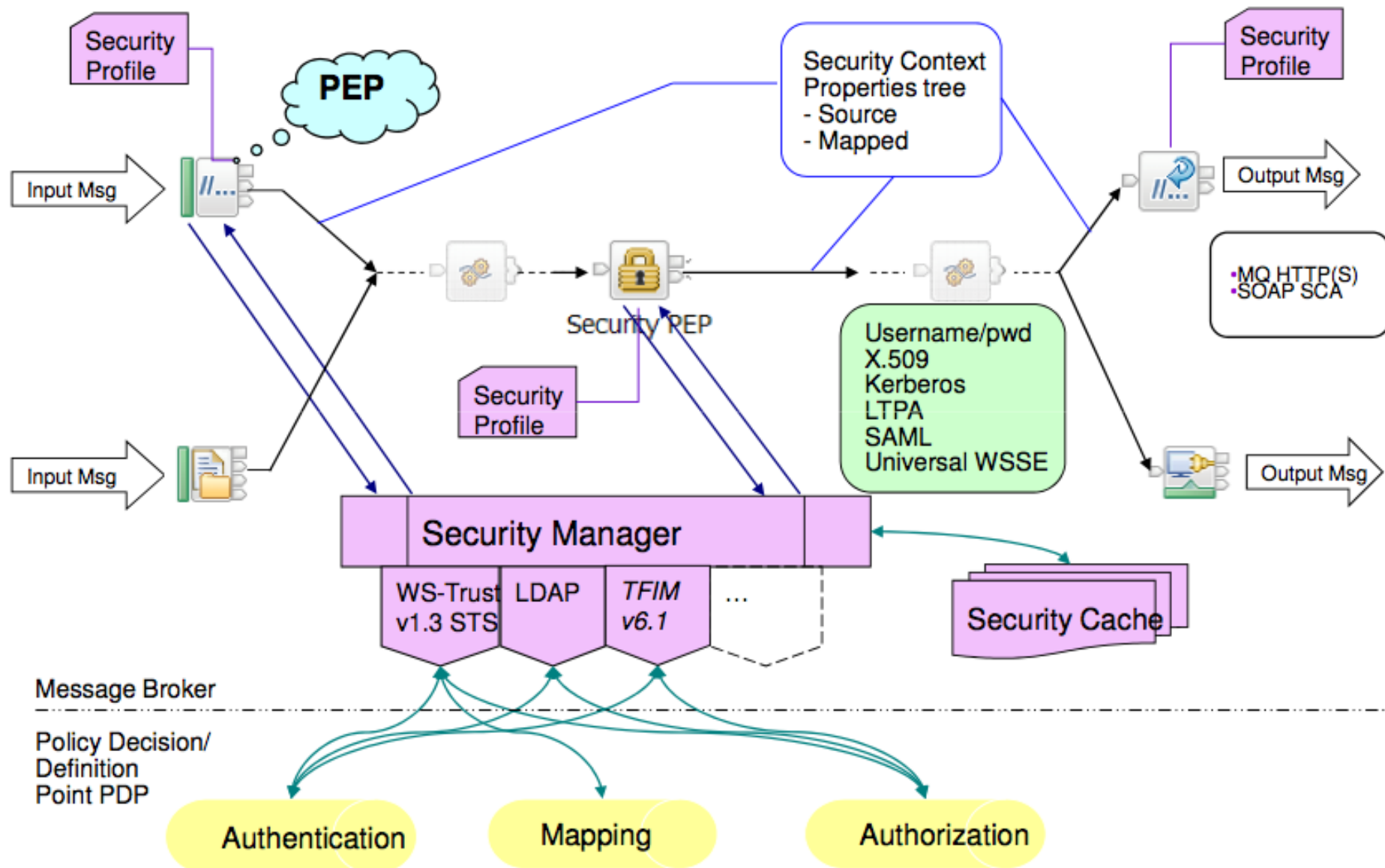
Bit stream: | Flow Name: | Broker name: | Broker UUID:

IBM WebSphere Message Broker

Administration | **Data viewer**

Event time	Local Transaction ID	Parent Transaction ID	Global Transaction ID
2011-11-25 15:35:11.606	d80281fd-0556-41e1-8e0e-26b232f6cd24-1		
2011-11-25 15:35:11.696	d80281fd-0556-41e1-8e0e-26b232f6cd24-1		

Securing your applications and Services



High Availability with MQ Multi-Instance Brokers



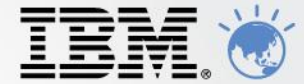
- MB Exploits New MQ7.0.1 Multi-instance queue manager capability
 - MQ7.0.1 provides basic failover without HA coordinator
 - HACMP, VCS, HA Linux no longer required in many scenarios to restart MQ and MB!
 - MB SAP Input node exploits for state management to give multi-broker and HA SAP support
- Active and Stand-by Queue Manager and Brokers
 - Start multiple instances of a queue manager on different machines
 - One is “active” instance; other is “standby” instance
 - Shared data is held in networked storage (NAS, NFS, GPFS) but owned by active instance
 - Automatic MQ Client reconnect will attempt to make failures transparent as possible

V53	Unknown	Unknown	Unknown	Stopped	Unknown
V7	2414	V7_2009-04-21_12.3...	Yes	Running	rockall(Active)
V7B	2415	V7B_2009-04-21_12....	Yes	Running	rockall(Active)
V7C	Unknown	Unknown	Unknown	Running as standby	llareggub(Active), rockall(Standby)

- MB Exploitation
 1. Standby MB not running; MQ will restart MB once MQ recovery complete
 2. Standby MB is running, but not fully initialized until MQ recovery complete
- Operating system level clustering supported – HACMP , MSCluster etc.



Easy Migration and Co-existence



- Migration from V6.1 and V7
 - Message flows, message sets, ESQL, Java, Maps and XSLT run without change
 - Automatic migration of existing MB V6.1 32 bit execution groups to 64 bit

- Migration commands for in-place migration
 - All configuration data including broker databases, queues and registry
 - Forward and backward migration of existing components, in situ
 - `mqsimigratecomponents` command (includes `-t` option for rollback)

- Co-existence for incremental migration
 - MB8 co-exists with MB6.1 & MB7 to enable incremental migration
 - MB6.1, 7.0 will support MQ7.1 as part of standard service lifecycle
 - MQ7.1 supports queue manager co-existence
 - MB8 Explorer can administer MB7 and MB8 brokers
 - New web admin MB8 or higher

- Publish Subscribe migration
 - MQRT clients migrated to MQ7 clients with new MQ7 facilities for message streaming
 - MQTT and multi-cast clients use native MQ nodes with MQ7.0.1 & MQ7.1 respectively

- Version 8 is Production ready
 - At General Availability
 - Extensive Alpha, Beta and IBM testing from Jan 2011



Summary



Message Broker Makes Integration Easier

- Message Broker Version 8
 - Major release containing architectural, functional & operational advances
 - Heavily influenced by user requirements, participation and feedback
 - Continuous improvement beyond general availability
- Message Broker is a key IBM technology delivering diverse connectivity requirements
 - Unparalleled connectivity options and capabilities
 - Supports users' range of experience & needs
 - Managed & Dynamic with control
 - High Performance & Scalable to maximize hardware and grow with you
- Message Broker makes integration easier and lowers cost
 - Simple and Productive - WMB samples & patterns for most common scenarios
 - WMB drag & drop to build integrations, transformation mappings and deploy
 - WMB Express is 1/8th and Standard is 1/2 of historical WMB pricing
 - Small footprint with high throughput for BPM Express, Standard and Advanced
 - Industry leading performance, throughput up to 50x BizTalk, 10x TIBCO
 - Smaller footprint and faster start time
 - WMB “hot deploy” capability to visually update flows w/o restart
 - Engine starts/stops in seconds (e.g. 3-5 seconds)
 - Runtime footprint comparable to a web browser (e.g. 70MB for common scenarios)



Thank you and I'll leave you with "What the analysts say"



In **Gartner's** last Magic Quadrant report on application Infrastructure for Systematic Application Integration Projects, the analyst ranked IBM in the Leader's, listing various strengths such as, *"IBM brand recognition, global reach, market share in key application infrastructure middleware segments... and mind share, and a huge installed base of hardware and software products..."* and *"Comprehensive product line, including market- leading products (e.g., WebSphere MQ, WebSphere Message Broker and WebSphere DataPower) and large installed base and deployment successes for integration and SOA..."*

Info-Tech evaluated seven competitors in the Application Integration Middleware market, including IBM, Microsoft BizTalk, Red Hat, and Oracle. **IBM is the ONLY vendor positioned in the Champion quadrant.** According to InfoTech, *"IBM WebSphere Message Broker has evolved and matured into a comprehensive middleware portfolio with a strong product focus. Backed by IBM, a leader in innovation, WebSphere Message Broker has a solid sales and support network."*

