

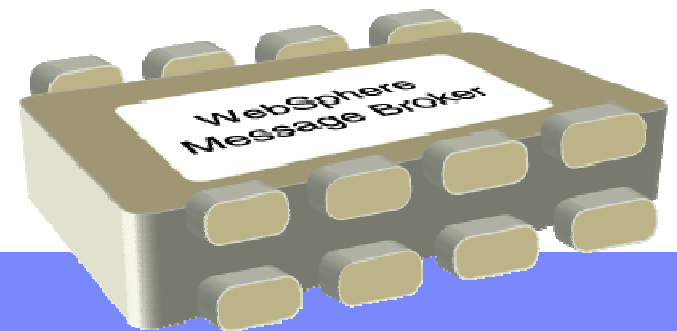


IBM Software Group

What's New in WebSphere Message Broker 6.1

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Agenda

- MB Overview and Roadmap
- Themes and Feature Summary
- Feature Detail

** indicates FP1

WebSphere Message Broker

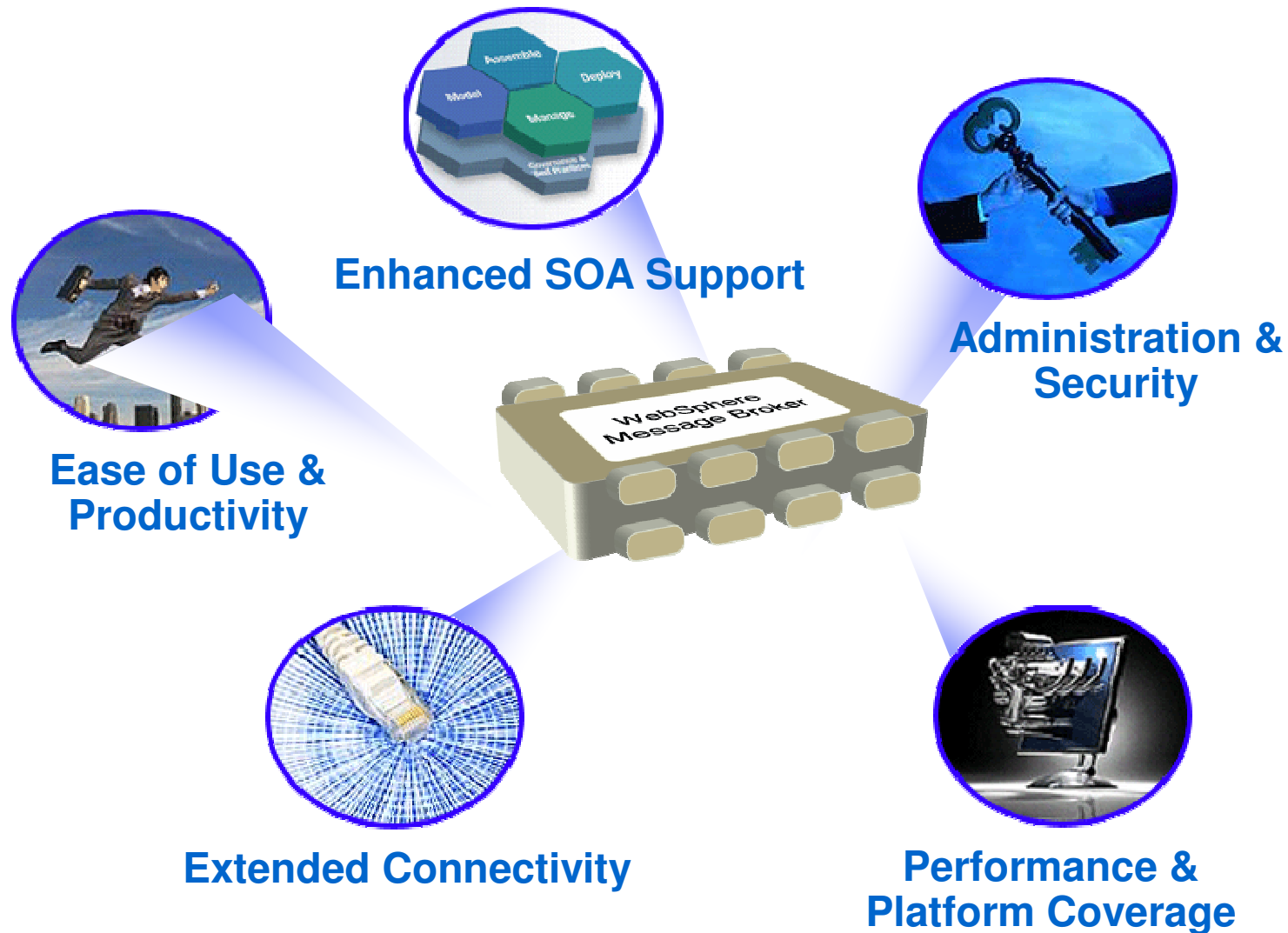
- Universal Connectivity
 - Simplify application connectivity to provide a flexible and dynamic infrastructure

- Routes and transforms messages **FROM** anywhere, **TO** anywhere
 - Supports a wide range of protocols
 - MQ, JMS 1.1, HTTP(S), Web Services, File, EIS (SAP,SEBL...), TCP/IP, User Defined
 - Supports a broad range of data formats
 - Binary (C/COBOL), XML, Industry (SWIFT, EDI, HIPAA...), User Defined
 - Interactions and Operations
 - Route, Filter, Transform, Enrich, Monitor, Distribute, Decompose, Correlate, Detect...

- Simple programming
 - Message Flows to describe application connectivity comprising...
 - Message Nodes which encapsulate required integration logic which operate on...
 - Message Tree which describes the data in a format independent manner
 - Transformation options include Graphical mapping, Java, ESQL, XSL and WTX

- Operational Management and Performance
 - Extensive Administration and Systems Management facilities for developed solutions
 - Wide range of operating system and hardware platforms supported
 - Offers performance of traditional transaction processing environments

Key Themes for WebSphere Message Broker V6.1



Version 6.1 Feature Overview

- **Ease of Use and Productivity**
 - Reducing the time to get started with Message Broker
 - Simplifying development tasks including debug; reducing the time to create working solutions
- **Enhanced SOA support**
 - Supporting Web Services natively with WS-Security and WS-Addressing
 - DataPower SOA appliance for WS-Security
 - Integration and enhancement of WSRR support
- **Extended Connectivity**
 - Built-in nodes for EIS access: SAP, Siebel and PeopleSoft
 - Native support for very large file processing, including FTP
 - New SMTP and TCP nodes
 - WTX integration including launcher capability
- **Administration & Systems Management**
 - Enterprise-wide identity, authentication and authorization with Tivoli and LDAP
 - MB Explorer Eclipse administration
 - Numerous manageability improvements
- **Platform Support and Performance**
 - 64 bit Linux; JDBC XA support; Java 5
 - Ultra High Performance XML parser including schema validation
 - Compacted memory footprint; Real-time graphical performance analysis
 - Significant performance improvement on ALL platforms

Platform Support

- Simplified Offering
 - Single Message Broker Offering focussing on Advanced ESB functionality
 - Event Broker version 6 customers entitled to Message Broker 6.1
 - Rules and Formatter available for existing users only

- Broad range of operating system and hardware platforms supported
 - AIX, HP-UX (PA-RISC, Itanium), Linux on Intel, Linux on Power, Linux on zSeries, Solaris (x86-64 and SPARC), Windows, z/OS

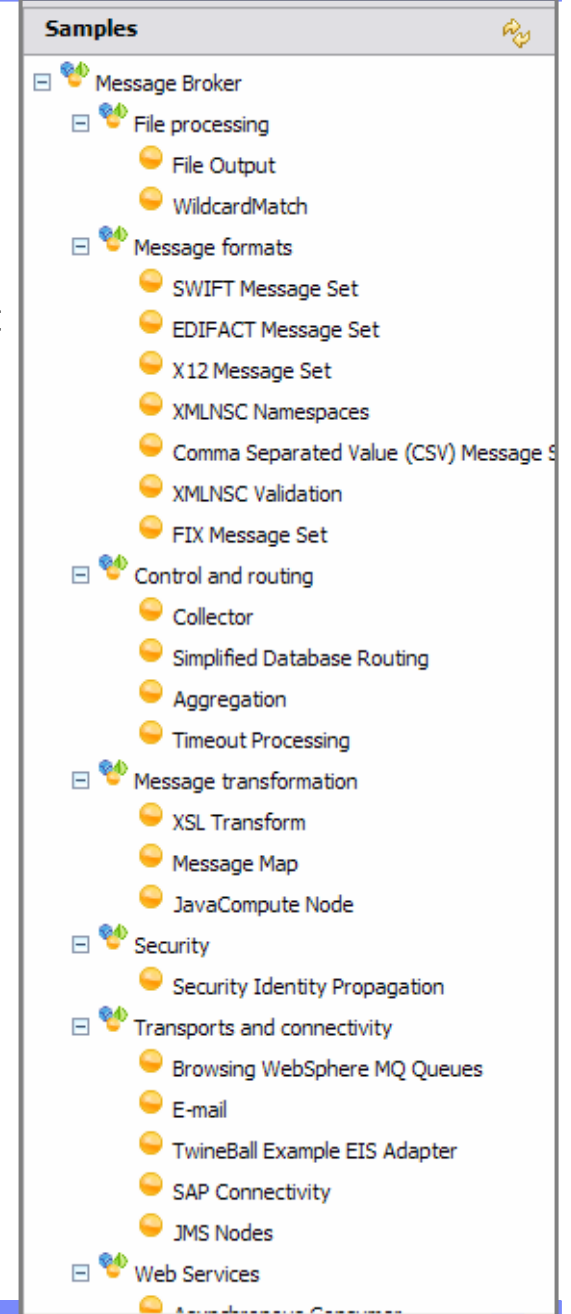
- 64 bit Support
 - All Linux and UNIX platforms have 64 bit capability
 - Default execution group size is 64 bit & commands are all 64 bit
 - Where necessary 32 bit Execution groups remain for migration
 - HP Itanium, Solaris Opteron and Linux pSeries/zSeries are only 64 bit
 - Windows and Linux x86 remain 32 bit and z/OS remains 31 bit for V6.1

- Full range of industry standard databases
 - DB2, Oracle, Sybase, SQL Server, Informix (User database only)

- Java
 - JDBC XA all broker platforms (z/OS RRS support to follow in future release)
 - Java 5 on all platforms

Product Simplification

- Significantly reduced toolkit size
- Removal of RAC prerequisite – native debug
- Install
 - Simple packaging allows easy identification of appropriate install asset
 - Single install DVD for Windows and Linux desktops
 - ISMP installer for all platforms, SMP/E for z/OS
 - Quick start and full hardcopy install guide as necessary
- Default configuration
 - Allows you to understand broker components and configuration
 - Quickly create a working system for development
- Samples gallery
 - Comprehensive “Samples Gallery” for all new and existing function
 - Single click to install and run using default configuration
 - New sample message sets e.g. CSV
 - Learn how to use all 6.1 capabilities using realistic, working samples
- Product Prerequisites
 - MQ V6 or above
 - A production database
 - Cloudscape provided for development and test
 - DB2 supplied as production database



Easy to Move to Version 6.1

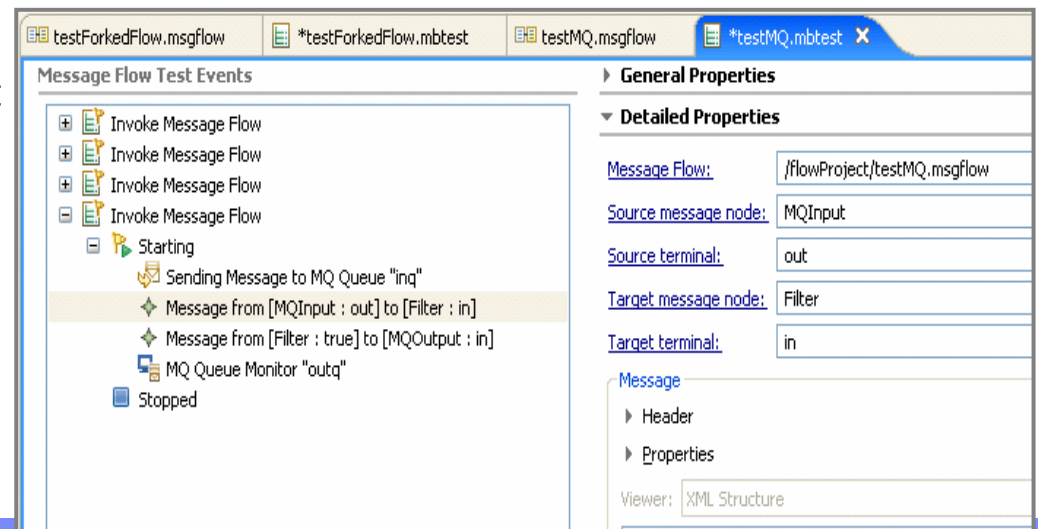
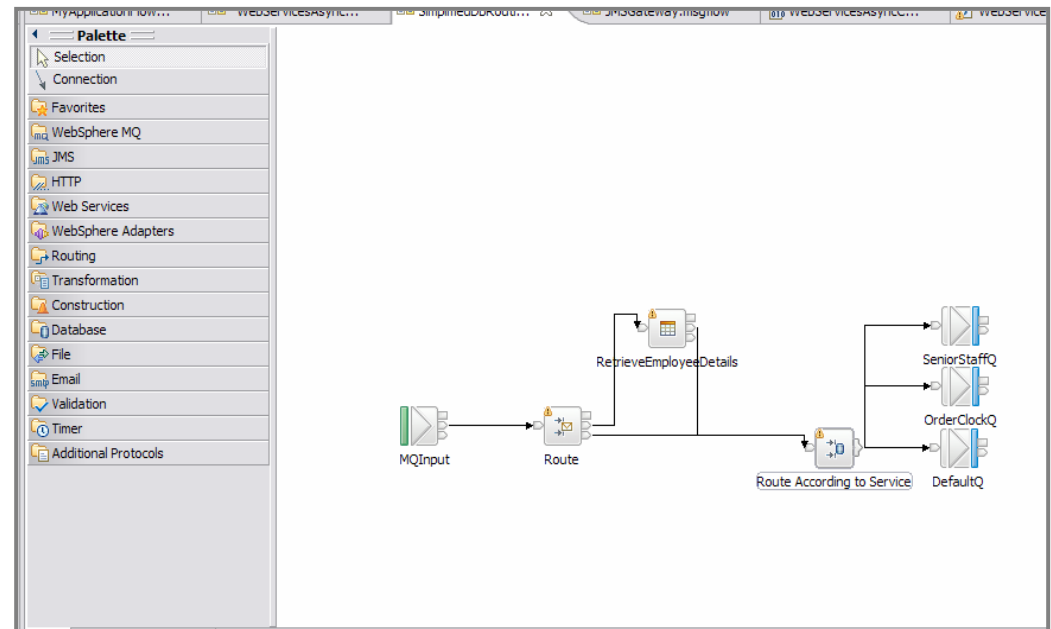
- Migration
 - Support migration from V5 and V6
 - Event Broker V5 and V6 migrated to Message Broker 6.1
 - Compatibility
 - Message flows, message sets, ESQL, Java, Maps and XSLT run without change
 - Including 64 bit execution groups
 - Rollback support
 - Migrate back to previous release with single command if necessary

- Coexistence
 - V6.1 will co-exist with V5 and V6
 - Enables incremental migration

- Quality target is production ready at GA (Nov 2007)
 - Less defects than any existing version of Message Broker
 - Fewer regressions
 - Longer Mean Time To Fail

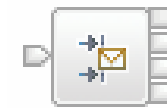
Powerful, Easy to Use Tooling

- Full function Toolkit in smallest ever install
- Builds on advances in Toolkit 6.0.2
- Wizards
 - Guides you through solution creation
 - Novice and expert modes
- WSDL Drag Drop
 - Quickly create Web Services solutions
- Drag and Drop Mapping
 - Now includes calling Java from map
- Many new ease of use features
 - “Message Viewer” visualizes expressions
 - Discovery wizards for SAP, SEBL, PeopleSoft
 - BAR file rebuild
- Integrated Test Facility
 - Unit Test License included
 - Test Client to test flows
 - Direct debug using Java Debug Protocol
 - “Component Trace” to follow message path

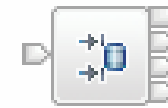


Simple Routing and Filtering

- Simplified Message and Database Filter, Route and Retrieve nodes
 - Message filter node
 - Multiple condition routing of message based on message content
 - Database filter node
 - Multiple condition routing of message based on database content
 - Database lookup node
 - Retrieve database row using a message key and store in message
- New nodes do not require any “programming” – configuration driven
 - “Message Viewer” simplifies identification of source/target message elements
 - Available on all new nodes
 - Dynamic terminals pass expressions to different parts of the flow
 - “Fire first true” and “Fire all true” modes of operation



Route



DatabaseRoute



DatabaseRetrieve

Route Node Properties - Route		
Filter table*		
	Filter pattern	Routing output terminal
	\$Root.MyFilter > 20	Match
	\$Root.MyField > \$Root.OtherField	Terminal5

The screenshot shows the 'Add Filter table entry' dialog box. The 'Filter pattern*' field is empty. Below it, a tree view displays the message structure:

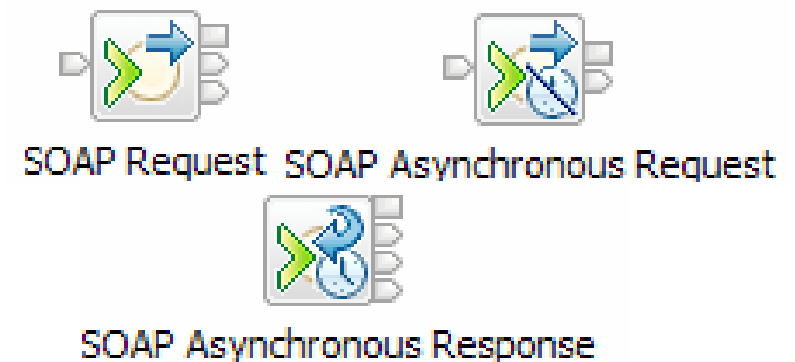
- [-] (\$) \$Root
 - (Add Data Type ...)
 - [+] soapenv:Fault : Fault
 - [-] OrderResponse : complexType2
 - [+] Status : string
 - [+] AMT : int
 - [+] PartNo : string
 - [+] PartQuantity : int
 - [+] soapenv:Header : Header
 - [+] soapenv:Body : Body
 - [+] OrderMessage : complexType1

The 'PartNo : string' element is selected. An 'Edit...' button is visible in the top right corner. At the bottom, it says 'Press 'Ctrl+Space' to show Function and Operator Proposals'.

Support for Web Services

- Support provider and consumer scenarios
 - Provider:
 - SOAP input & SOAP reply
 - Consumer:
 - Synchronous SOAP request
 - Asynchronous SOAP request and reply
 - Can be combined to provide Web Service intermediary
 - SOAP Extract and SOAP Envelope nodes
 - Simplify processing of SOAP payload and headers

- Support WS-Security and WS-Addressing “out of the box”
 - Support for WS-Addressing Endpoint References and Message addressing properties
 - Support for WS-Security authentication, encryption and signing
 - Username password, X509 certificates for authentication
 - Comprehensive encryption and signing algorithms (from JSSE/JCE)
 - Configuration using Policy Sets
 - Policy Set editor enables declaration of WS-Security capabilities



Support for Web Services (cont.)

- Other Standards
 - Multiple transports starting with HTTP(S)
 - SOAP 1.1/1.2, WSDL 1.1, MTOM/XOP, SOAP with Attachments
 - Basic Profile 1.1 compliant

- Explicit SOAP and WSDL Support
 - WSDL drag and drop for skeleton flow creation and configuration
 - WSDL import and export includes full Message set round-tripping
 - New SOAP parser provides significant benefits
 - e.g. Simplified attachment processing
 - Obeys **SOAPAction** inbound and outbound if set in WSDL

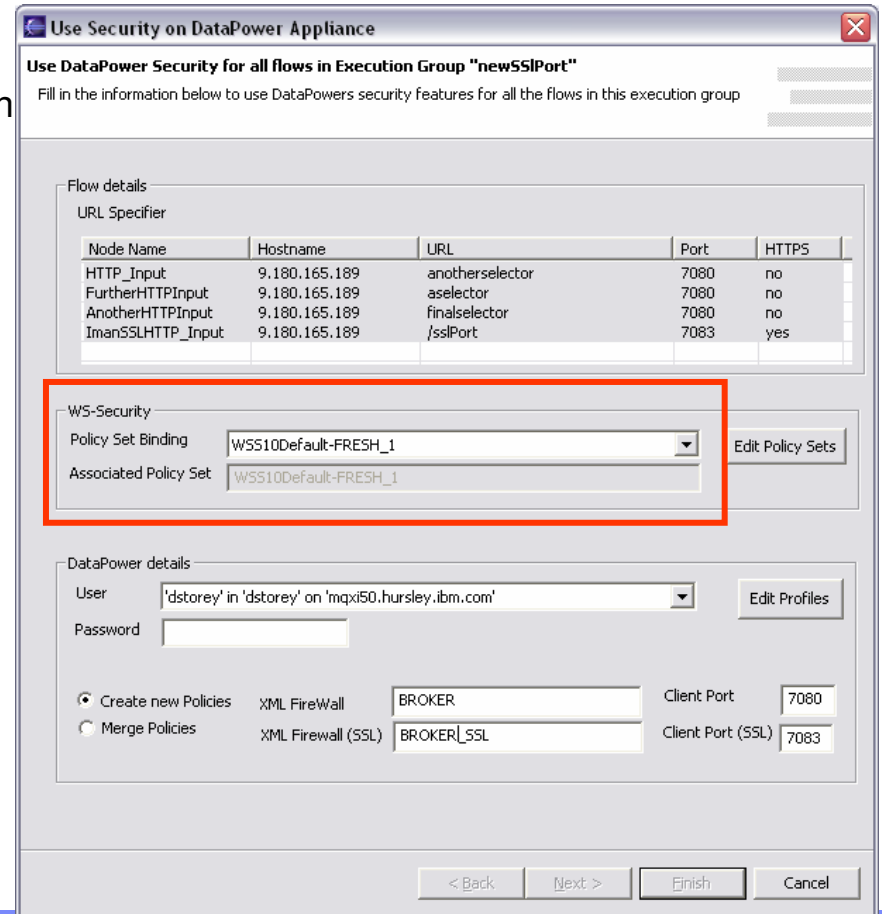
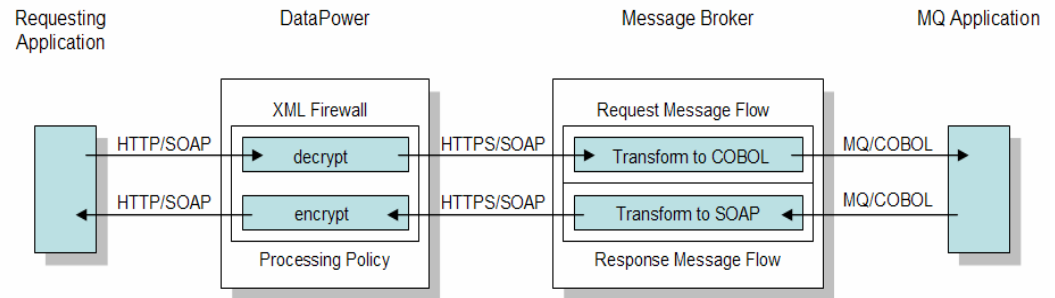
- Scalable and resilient implementation
 - Multiple Execution Groups host processing pipeline
 - Transport listeners within execution groups
 - IBM common component for AXIS2J provides excellent interoperability

DataPower Appliance

- Exploit DataPower for Web Services security
 - Single tool and security policy description
 - Security best practices
 - WS-Security at appropriate point in topology
 - Built-in XML threat protection; Hardened device
 - Built-in service level management
 - Manage traffic using policy; WSDM and WS-Man
 - Scale as volumes increase
 - Enhanced performance with SOA appliance
 - Add capacity when necessary

- Administration User Experience
 - Operational reconfiguration only
 - Applications and Message Flows unchanged
 - Right click on flow and select “Use DataPower”
 - DataPower performs WS-Security processing
 - Forwards processed request to MB

- Initial focus is on XML and WS-Security processing
 - June 2007 preview
 - Other functions may follow



WebSphere Service Registry and Repository

- Integrated support for WSRR
 - Registry contains variety of “entities” (documents) such as WSDL, XSD...
 - Includes entity category, its relationships and its associated user properties
 - True governance achieved through registry determining MB processing
 - Development and runtime usage aspects which can be used together
- Development Activity
 - Use WSRR AD plug-in to search registry for particular entity
 - Entity can “kick start” message flow and message set creation
 - E.g. Retrieve WSDL and drag-drop to configure external Web Service call
- Runtime interactions
 - Message flows can query and/or select specific registry entities
 - Information cached for high performance access
 - Registry changes result in cache refresh via built-in PubSub mechanism
 - 2 new nodes to support most popular processing scenarios
 - Query – retrieve entity details; other nodes can act on this
 - Select – choose a specific service instance via node matching criteria
 - WSRR interactions can be overridden dynamically based on message content
 - Expanded expression support to include literals and variables



RegistryLookup



EndpointLookup

Integrated Support for Major EIS Systems



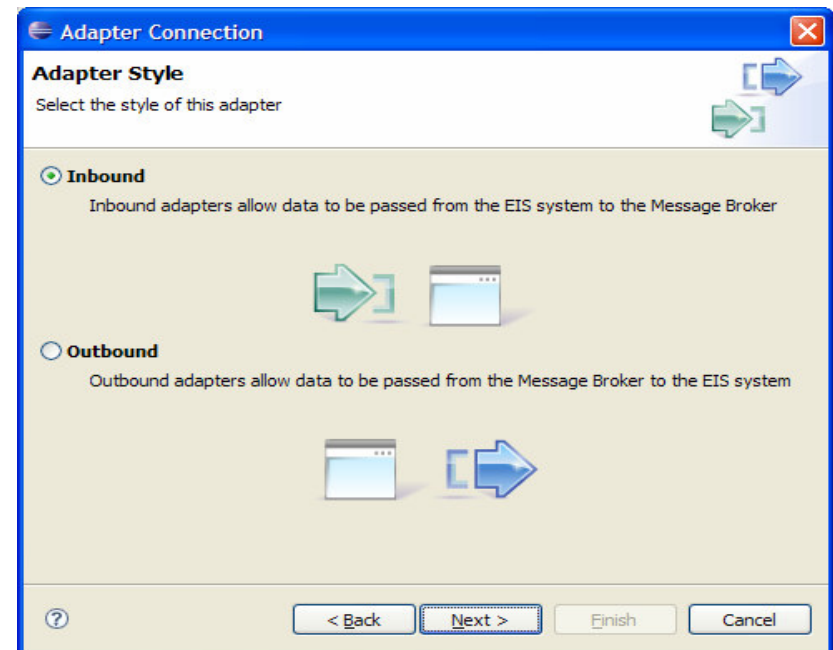
SAP Input

- SAP, Siebel, PeopleSoft
 - WebSphere Adapters delivered “out of the box” as built-in nodes
 - Simplifies management and improves performance for key integration scenarios
 - These are the JCA based WebSphere adapters
 - Adapter license still required

- Support for inbound and outbound scenarios
 - Message-to-EIS and EIS-to-message scenarios
 - Adapter nodes integrate with all built-in MB nodes

- Enterprise Metadata Discovery (EMD)
 - Significant tooling support
 - Simplify for key data structure discovery
 - Accelerates generation of message sets

- High Performance access
 - Adapters access native message broker tree



PeopleSoft Request



Siebel Input

WebSphere Transformation Extender Launcher

- New Message Broker offering approaches full TX Launcher capabilities
 - WTX Extender 8.2 will run on MB6.1 GA

- New WTX node allows TX maps to run natively in Message Broker
 - New MB Collector node allows all MB nodes to act as TX adapters
 - Can use existing TX adapters when necessary

- Integrated development and deployment
 - Eclipse based Type Designer and Map Designer integrate with MB Toolkit
 - Integrated deployment of TX assets deployed in Broker Archive

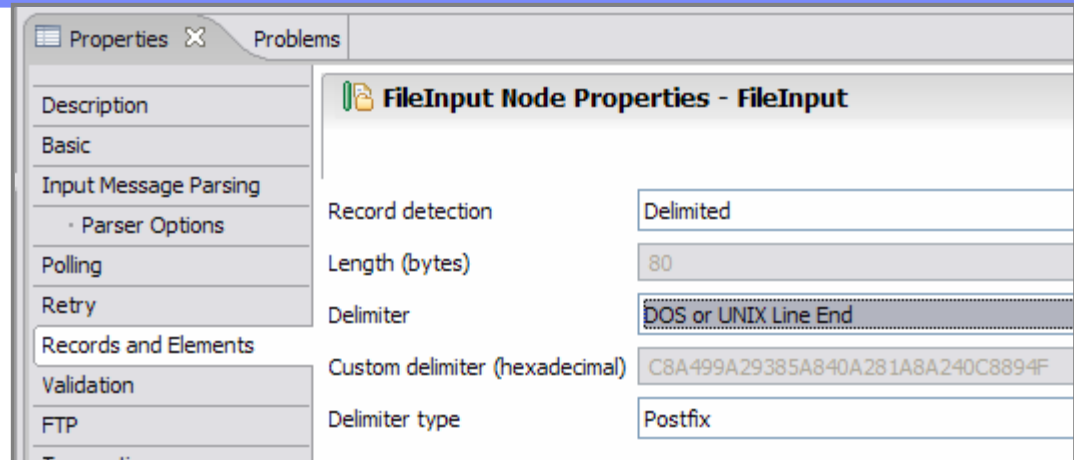
- WTX node
 - Identifies TX map to be used in Message flow, and can be configured dynamically
 - Each map's card is visible as dynamic node property
 - Commonly used with new collector node
 - Collector node trigger contains multiple inputs ready for downstream WTX node

- WTX parser
 - Accesses MB tree directly to provide optimum performance

- Message Broker supports unparalleled range of transformation technologies
 - ESQL, Java, Graphical Mapping, XSLT and WTX

File Processing Built-in

- Local and remote (FTP) files
- Advanced file processing within ESB
 - File input and File output nodes
 - Combine with other MB nodes
 - (e.g.) File to MQ, File to database, File record filtering
- Large file handling
 - Allows very large files (gigabyte) to be processed without using excessive storage
 - Appropriate broker parsers have been enhanced to request data on demand
- Comprehensive support for record detection
 - Simple: LF, EOL, CRLF, Fixed Length, Whole-file, User-defined
 - Parser: Use an existing message definition to identify record boundaries
- Sophisticated record identification (**)
- Allows user to easily identify required message elements for propagation through flow
- Simplifies processing of large, repeating complex file records
 - e.g. File containing thousands of EDI orders can extract only relevant records



FileInput



FileOutput

Support All Types of Data

- High Performance XML Parsing using IBM Research Technology
 - Fully functional and compatible XML parser accessed using XMLNSC domain
 - Includes high performance XML schema validation
 - Enhanced opaque parsing capability for optimum XML sub tree processing

- Support for major binary data types in text messages (TDS domain)
 - Allow hexadecimal in data patterns and mark-up; Enable repeat references
 - Native CSV messaging standard - pre-built model in Toolkit; Support escaped quotes

- General capabilities
 - Automatic truncation of oversize strings for fixed length fields
 - Support for multiple unique namespace messages in message set

- Improved SAP IDOC support
 - IDOC parser incorporated in MRM TDS, including built-in IDOC schema
 - Improved C importer with IDOC friendly features

- Enhanced problem determination
 - Product messages (**BIPxxxx**) clarified and simplified
 - User Trace now explains message tree reading and writing process

Transport Headers and Triggering

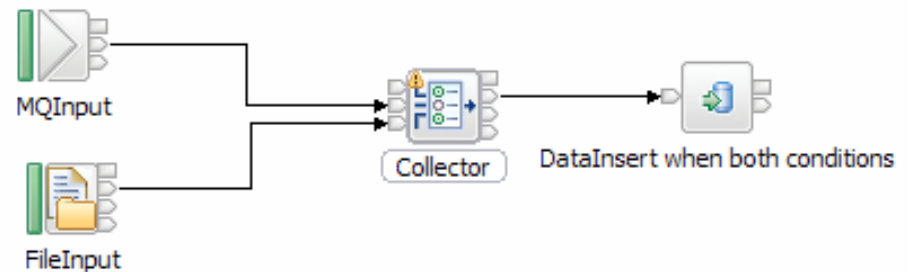
- Process Transport headers without programming (**)
- Shows most common transport header properties for MQ, JMS and HTTP
- New users can easily understand and modify common transport properties

- SMTP node for email generation
- e.g. “operator” notification of alert conditions



- TCPIP nodes for legacy integration (**)
- Client and server side sockets support, inbound and outbound

- Collector node for more advanced triggering scenarios
- Coordinate message from multiple, disjoint sources
- Wait for multiple input conditions
- Process when all satisfied



Collector Node Properties - Collector

Collection definition

Terminal	Quantity	Timeout	Correlation path	Correlation pattern
MQInput	1	0	\$Root/MQMD/CorrelId	
FileInput	1	0	\$LocalEnvironment/File/Name	

MB Explorer Eclipse Administration

- Alternative MQ Explorer based administration
 - Simplifies administration of MQ,MB networks in single Explorer console
 - Uses MQ Eclipse 'extension points' to provide seamless experience

- Comprehensive administration facilities
 - All features in Broker Administration (*)
 - Also includes new features such as multi Execution Group deploy

- IS02 Cat 3 support Pac
 - Fully supported in production
 - Initial release July 2006

- Performance Monitor
 - Easily view CPU, IO and other metrics in Eclipse
 - Available March 2007

- Strategic
 - Becomes Admin perspective for MB7
 - Toolkit and standalone

The screenshot displays the WebSphere MQ Explorer interface with several key components:

- Navigation Tree (Left):** Shows a tree structure under 'IBM WebSphere MQ' with 'Queue Managers' expanded to 'WBRK6_DEFAULT_QUEUE_MANAGER'. Other folders include 'Queues', 'Advanced', 'Channels', 'Client Connections', 'Listeners', and 'Services'.
- Message Broker Statistics Graph (Top Right):** A 3D bar chart titled 'MinimumSizeOfInputMessages' showing three bars, all with a value of 1481.0.
- TotalCPUTime Graph (Middle):** A 3D bar chart showing 'TotalCPUTime' with three bars: 2437500.0 (yellow), 3125000.0 (red), and 3312500.0 (blue).
- Event Log (Bottom Right):** A table titled 'WBRK6_DEFAULT_BROKER (localhost) Event Log for user "anton"'.

ExecutionGroup...	MessageFlowN...	Number	TotalNumberOf...
default	V6.XsltCompute...	4892	120
default	V6.Scenario.xsl...	1072	20
default	V6.Filter.filterFirst	4952	120
- Bottom Left:** A tree view showing 'Broker Resources' and 'WMQ Explorer Tests Data'.

Advanced Security Features

- Message Broker now has powerful runtime security model
 - Supports cross domains security processing
 - Identity, Authentication and Authorization are native capabilities
 - MQ, HTTP, JMS(**), Web Services transports can all provide identity
 - Attributes on input and output nodes
 - Eclipse editor for security profile administration

- Policy decision points technologies: LDAP, TFIM

	TFIM	LDAP
Authorization	Yes	Yes
Authentication	Yes	Yes
Identity mapping	Yes	No

- Rich identity context supported
 - Type can be Username/password or X509 certificates
 - Token from default or user defined message location
 - e.g. {**type**=USERNAME, **token**=user, **issuedBy**=org, **appliesTo**=flow}
 - IssuedBy can be default or user defined
 - AppliesTo is fully qualified flow name resource Broker.ExecutionGroup.Flow
 - Identity appears in Message Tree
- ALSO in 6.1: Simplified Basic Authentication for WS and HTTP request nodes
 - TFIM can add username/password certificate to request

MQInput Node Properties - MQInput

Identity token type: Username

Identity token location: \$Root.MDMD.UserIdentifier

Identity password location: [Empty field]

Identity issuedBy location: <optional, specify a string or path exp

Treat security exceptions as normal exceptions

MyApplicationFlow.cmf

Additional Instances: [Empty field]

Commit Count: [Empty field]

Commit Interval: [Empty field]

Consumer Policy Set: [Empty field]

Consumer Policy Set Bindings: [Empty field]

Coordinated Transaction:

Provider Policy Set: [Empty field]

Provider Policy Set Bindings: [Empty field]

Security Profile Name: DefaultLDAP

Common Event Infrastructure (**)



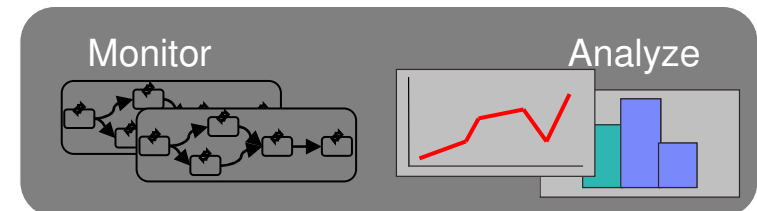
Emit Event

- Generate CEI Events from message flow
 - Design Time: New CEI node to specifically identify business relevant messages
 - Administration Time: Operationally activate generic events
 - Notification Points: Message entry, Message Exit, Message Exception...
 - Payload options: Full, Digest, Headers...

- Processing the Events
 - Enables integration with WebSphere Monitor and Modeller
 - Message Broker Admin Audit Offering provides entry level audit capabilities (IS02)

- Easy to identify events to be reported
 - Simple conditional expression
 - e.g. **PurchaseOrder.TotalCost > HiValue**
 - Simple specification of data elements captured
 - e.g. **PO.CustomerID, PO.TotalCost,...**
 - Reason qualifier (success or failure)

- Multiple reporting options
 - MQ, File, Database (JDBC)
 - Supplied MDB converts CEI MQ message
 - Output timing: Lazy or immediate



		Transaction Tracking	Subtransaction Tracking	Task Management			
to Excel		Number of transactions: 40		Transactions per page: 25	Page: 1 of 2		
	▲Payload URL▼	▲Transaction Type▼	▲Description▼	▲Start Time▼	▲End Time▼	▲Broker Name▼	
1	View	SO	TestFlow	2007-04-19 20:27:10.0	2007-04-19 20:27:23.0	BROKER2.TSTEG1	
2	View	SO	TestFlow	2007-04-19 21:01:11.0	2007-04-19 21:01:13.0	BROKER2.TSTEG1	
3	View	SO	TestFlow	2007-04-21 02:26:03.0	2007-04-21 02:26:05.0	BROKER2.TSTEG1	

Easy to Manage and Administer

- Configurable Services
 - Modify operational parameters without redeploy
 - e.g. Email and FTP node server addresses, LDAP configuration parameters
- Improved BAR file processing
 - Separate BAR deployment descriptor on all broker platforms
 - All broker platforms have native commands to display BAR file contents
- “Adopt a broker” capability
 - Ability to synchronize broker configuration with Config Manager
 - Operational runtime brokers define correct state
- Set and get many additional broker properties
 - Expanded `mqsichangeproperties` and `mqsireportproperties`

More Things Our Users Asked For...

- Allow additional instances to be set on individual input nodes
 - Avoids thread starvation in multiple input node message flows

- Operationally disable trace nodes in a flow
 - Toolkit, command and API options
 - No performance degradation for disabled trace node

- Enhanced MQ support
 - Support for browse on MQInput and MQGet nodes

- Improved XSLT support
 - Add DSTF attributes to simplify “new domain” transformations
 - Avoid superfluous RCD node

- JDBC XA support
 - JDBC access is now fully coordinated with global transaction
 - (z/OS to follow in future release)

High Performance

- Significant Performance improvements on ALL platforms
 - Major throughout improvement across a broad range of scenarios
 - Builds on real world, customer-verified, scenarios on version 6 usage
 - No need to change flows or assets to receive gains – “for free”

- Highlights
 - Significant XML performance
 - Up to 150% improvement processing more complex XML documents
 - XML validation performance
 - Up to 3 times improvement validating XML documents
 - Binary and String parsers improved
 - Industry and legacy message formats will benefit
 - XSLT performance
 - Solid improvements

- Storage reduction
 - Compacted runtime storage, significant reduction in runtime footprint

MQ and MB synergy

- Actively seek opportunities to increase synergy between MQ and MB
- MB will be a timely exploiter of new MQ capabilities
- Integration of publish/subscribe capabilities
 - Leading to simplification with Message Broker
 - MB will **add** content based and augmented PubSub to MQ
- Administration
 - Integrated Eclipse based product administration is direction
 - IS02 is early proof point
- Prerequisites
 - OS levels will be the same as MQ wherever possible
 - Product prerequisites will be the same
 - Removal of broker database requirement

Summary

- Message Broker is a key IBM integration technology
 - Industry leading performance in a broad range of scenarios
 - Unparalleled range of integration options and capabilities
 - Supports users' range of experience and needs

- Five key themes satisfying a broad range of customer requirements
 - Ease of Use and Productivity
 - Enhanced SOA support
 - Administration & Systems Management
 - Extended Connectivity
 - Platform Support and Performance

- Builds on success of Version 6
 - Introduces significant new opportunities for high performance integration



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Thank You!

Comments and feedback appreciated