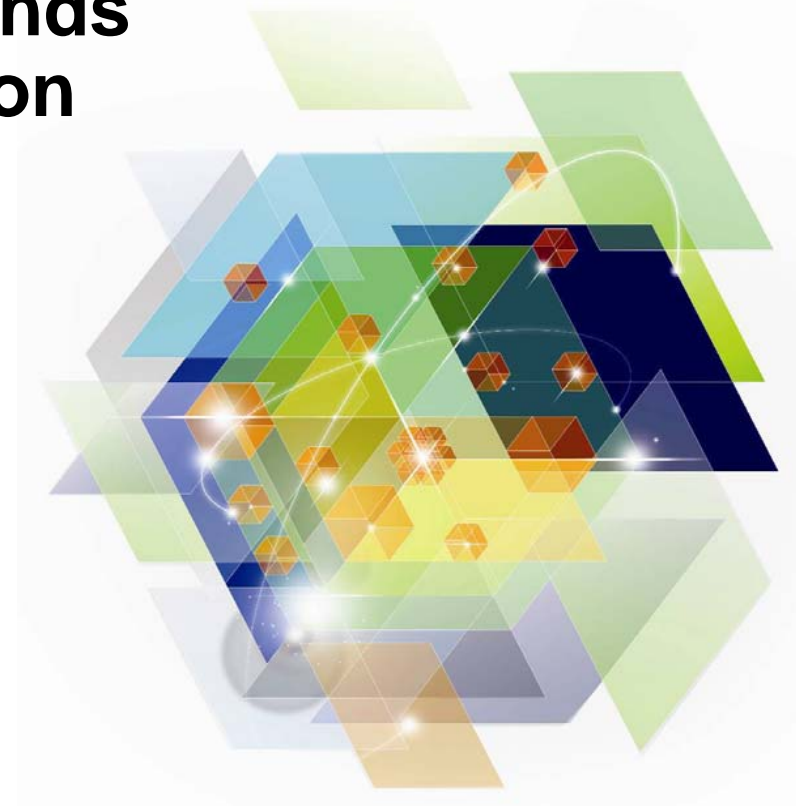
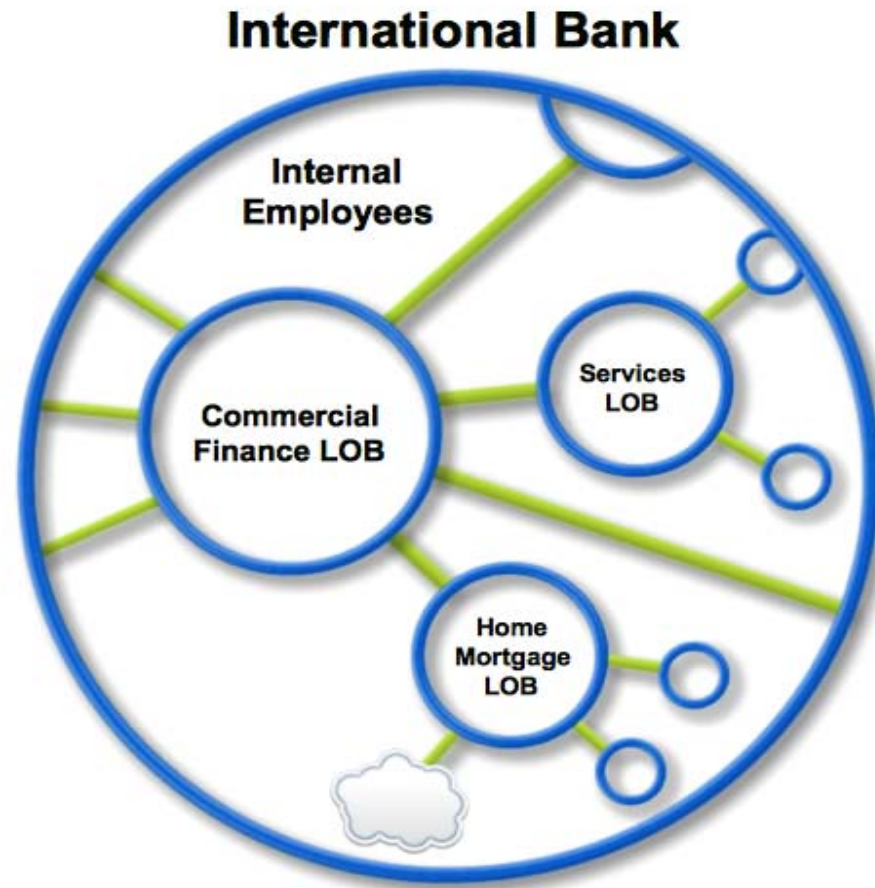




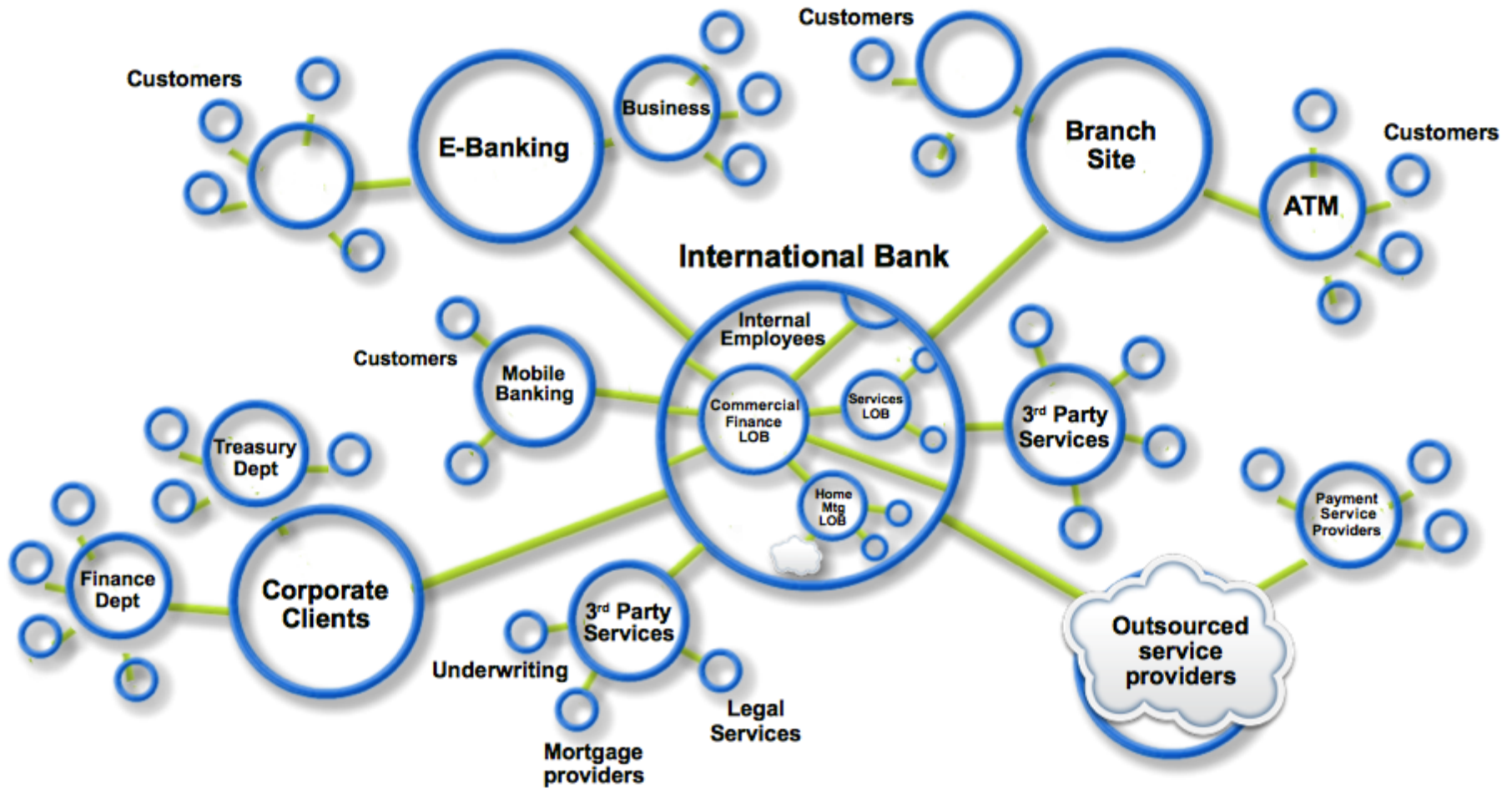
# Connecting Everything – Trends in Connectivity and Integration



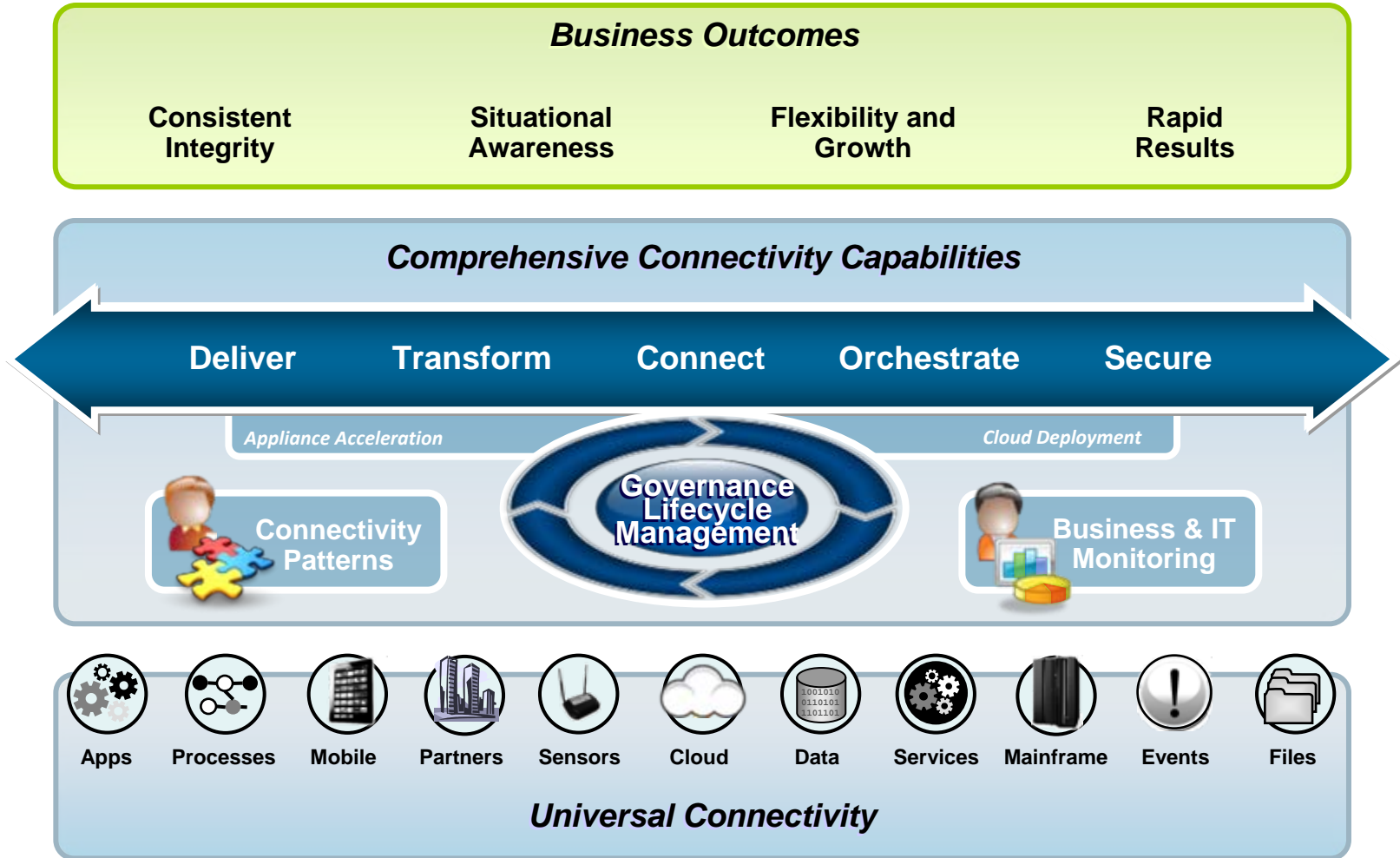
## Connectivity use cases from enterprise scope...



# To the entire dynamic business network

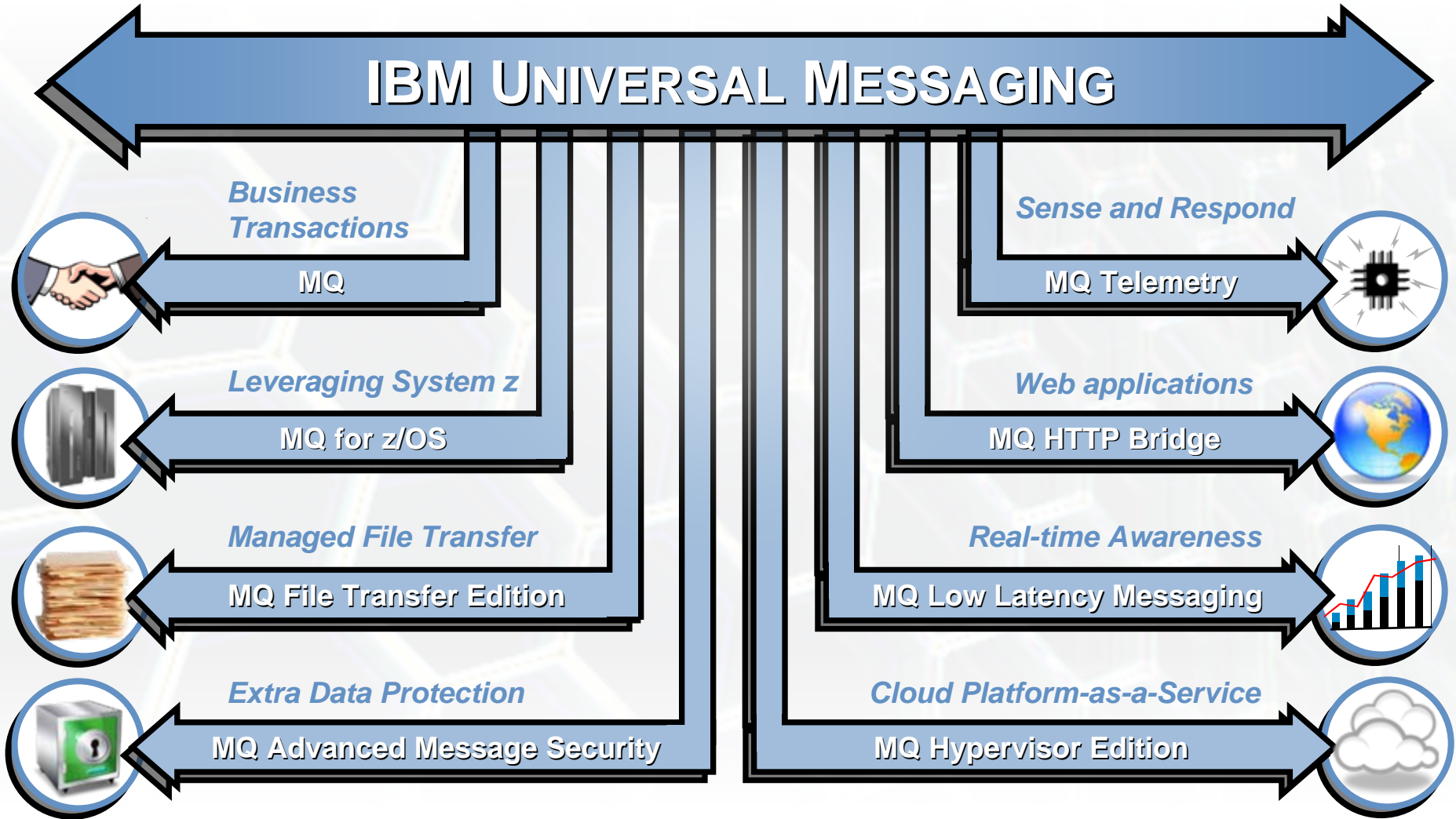


# IBM Connectivity and Integration



# MQ is IBM's Messaging Backbone

*Proven, flexible business data delivery from anywhere to everywhere*

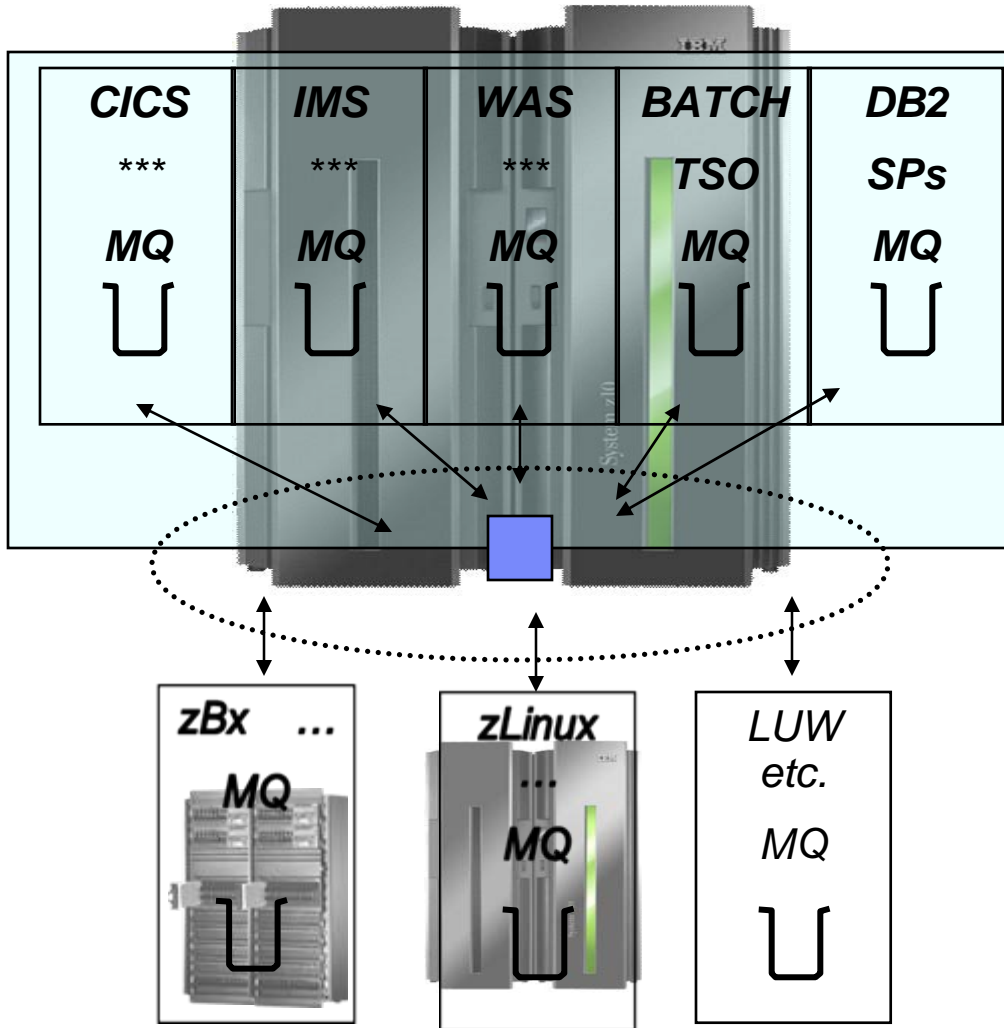


A lot has happened in the past 12 months

## Let's get updated on

- MQ
- MQ Low Latency Messaging
- MQ File Transfer Edition
- MQ Telemetry
- WebSphere Message Broker
- WebSphere Enterprise Service Bus
- WebSphere DataPower
- WebSphere Service Registry and Repository

# Connectivity to, from and within zEnterprise



## Sysplex Shared Queue Message Availability:

Goal is to provide as near as possible continuous message data access under ALL failure scenarios.

- (These scenarios include application/transaction failures, application execution env. failures, Qmgr failures, CF failures, DASD failures, network failures, CEC failures)

## Sysplex Shared Queue Message Capacity:

Goal is to provide terabytes of affordable message capacity such that MQ is capable of meeting all business requirements for reliable message storage when processing applications are unable to run for whatever reason

# Reliable, Flexible and Secure Messaging

## IBM WebSphere MQ v7.1

- *Flexible configurations* supporting high availability, load balancing and time independent integration
- *Guaranteed delivery* automatically recommits failed transactions shielding your code and applications from service and network failures
- *Unmatched integration* supports CICS, IMS, DB2, Microsoft .NET and J2EE environments
- *Dynamic* leveraging *publish and subscribe* patterns for flexible integration



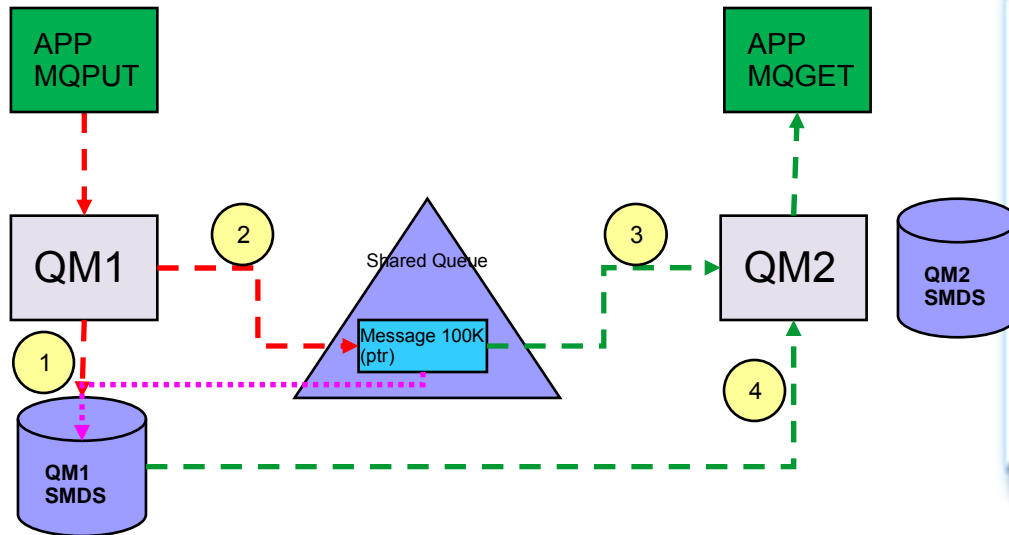
### Highlights

- **Configurable Security**
  - Uses new improved security standards
  - Eliminates the need for homegrown security coding
- **Multi-version or relocation install**
  - Determine where to install versions of MQ
  - Bridge Applications on the same machine
- **Publish/Subscribe Multi-cast**
  - Broadcast to all systems on the network level speeding up data delivery
- **Reduced TCO through enhanced performance and scale**



# Specific Enhancements for System z

## IBM WebSphere MQ v7.1 on z/OS



### Performance Enhancements

- Scaling improvements for multi-way configurations –
- Over **ONE MILLION messages/sec** (2KB non-shared) through a **single** Queue Manager on a 30-way z196
- Over 150,000 messages/sec (2KB shared) using a 3 Queue Manager QSG on a 30-way z196
- New Shared Message DataSets (SMDS) for storing large shared messages provide significant performance and capacity improvements over DB2

- Automatic recovery capability for connectivity loss to MQ Shared Queue Structures in a Coupling Facility improves the already highly-available MQ Sysplex shared queues
- New Shared Message Datasets (SMDS) feature for large shared queue messages allow “large” to be customisable providing much greater customer control over usage of Coupling Facility storage

### Availability Enhancements



## Reliable, High Volume

### IBM WebSphere MQ Low Latency Messaging v2.6

- *Respond to business opportunities faster* with ultra low latency, high throughput messaging
- *Minimize disruption to business* by addressing critical need for constant latency
  - Near zero jitter
  - Constant, predictable latency



#### Highlights

- Increased throughput and industry leading latency
  - **98 million** messages per second
  - **1 microsecond** latency for shared memory
- Enhanced Consumability
- Improved Networking
- Expanded Platform coverage

*Deliver high volume low latency solutions with high throughput, flexible message delivery, filtering and congestion control*

# Comprehensive Managed File Transfer Environment

## IBM WebSphere MQ File Transfer Edition v7.0.4

- Enables reliable *Managed File Transfer*
- *Leverages existing investments* in MQ networks and skills
- Connects *batch-driven file-based* systems with message-oriented online applications and services
- Supports rapid development of *ad hoc transfers*



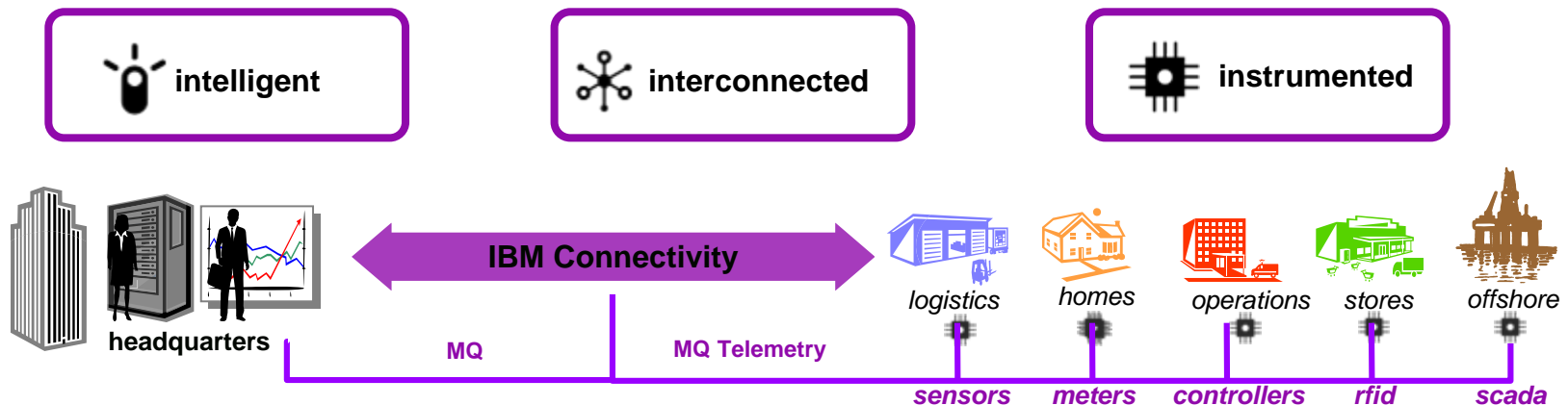
### Highlights

- Enables MFT across a combined MQ and Connect:Direct solution
- Transfers files into and out of existing Connect:Direct networks
- Visibility of files that transfer into and out of existing Connect:Direct networks

*Provide a secure and reliable Managed File Transfer environment across Connect:Direct and WMQ FTE endpoints*

# WebSphere MQ Telemetry

- Messaging optimized for smart sensors and telemetry devices
  - Enables intelligent decision-making based on remote real-world events
  - Remote resource management of static or moving assets, people, locations
- **Telemetry capabilities**
- Direct device integration into back-office
  - Tiny messaging optimized for resource-constrained devices & gateways (RTUs)
  - Terse protocol & compact header for fragile & pay-per-byte networks
  - Advanced device level data buffering
  - Event-driven publish-and-subscribe delivery of only significant information
  - Open protocol encourages widespread device enablement
  - Last Will and Testament for automated handling of device failures or outages

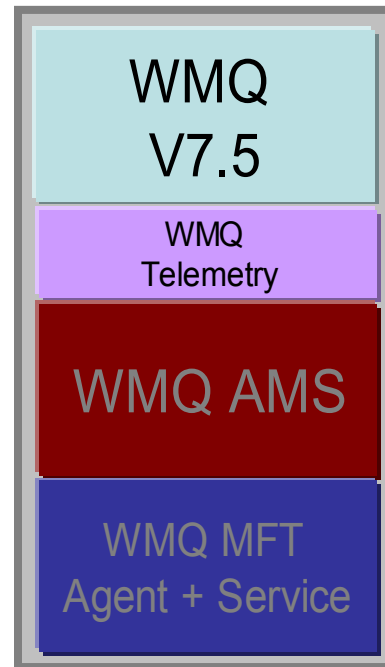


# Accelerating the delivery of next generation applications with WebSphere MQ V7.5

- **Flexible configurations** seamless selection of enhanced security, managed file transfer and Telemetry capabilities in one package
- **Rapid exploitation of new technologies** built-in integration of applications on any platform, any devices spanning mainframe to mobile and cloud
- **Seamless, single console** shared backbone for all messaging solutions, mobile/device integration, application messaging and managed file transfers

## IBM WebSphere MQ 7.5 highlights

- Enhanced utilization of messaging through use of Managed File Transfer solutions over the messaging backbone
- Access to end-to-end message encryption capability with a single install
- Increased entitlement to integrated Telemetry capabilities reducing TCO of Mobile applications and smarter planet technology
- Client applications gain access to transactional integrity and updates across all environments



*A fully integrated messaging solution with secure, reliable and scalable data movement for today's development needs*

For those who want to get serious about real integration but still demand a simplified package...

## What's New

- Messaging layer integrated with advanced message security and managed file transfer solution
- Single pricing for all server based functionality
- All enabled projects get immediate access to all capabilities

## Benefits

- Quickly and cost-effectively address integration requirements from new technologies
- Increase infrastructure agility and rapidly pursue new market opportunities



Convenience of a single, integrated offering

Enhanced!

**IBM WebSphere MQ Advanced for z/OS V7.1**

## Simple yet powerful integration across the enterprise *IBM WebSphere Message Broker V8*

- Universal Connectivity *FROM* anywhere, *TO* anywhere
- *Simplicity and Productivity* – Simple to learn, develop, deploy, manage, migrate
- Providing *industry-tailored value-add* with Connectivity Pack for Healthcare delivering HL7 support, clinical application patterns and operational monitoring



### Highlights

---

- **Enhanced audit of in-flight data with new Edit, Record and Replay functionality**
- **Expanded standards support with new DFDL based Parser and Graphical Data Mapper tooling**
- **New support for integration with IBM Sterling Connect:Direct**

# Record and replay for audit of in-flight data

## IBM WebSphere Message Broker V8

- **Monitoring data** flowing across corporate networks is becoming an **imperative for many large organizations**
- **View, edit, record and replay** data flowing through the broker from all sources, including **Messaging, Web Services and ERP systems**

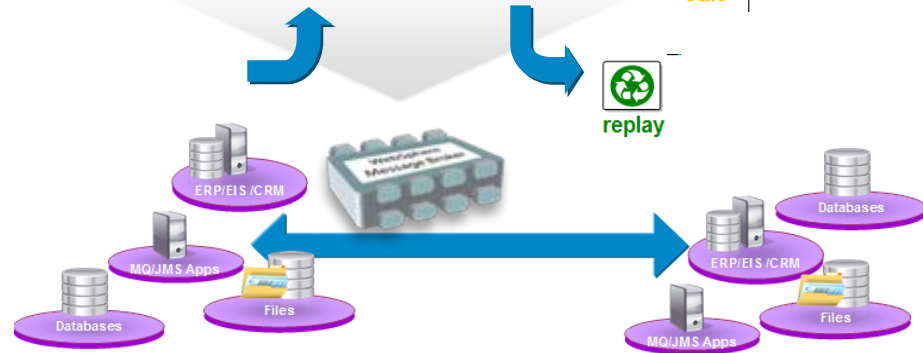
Available to users on all supported OS



Message ID	Correlation ID	Message Expiration	Broker	Destination Group	Message Flow	Node	Input Source	Time	Result
cf743c50-ca64-11d0-aa70-70000010000-0	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-24 14:48:45.460	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-9	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-24 14:48:45.500	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-8	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-24 12:43:52.886	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-6	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-24 12:44:52.698	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-7	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-24 12:43:16.814	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-7	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-24 12:43:16.810	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-4	Y	Y	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-23 09:31:06.953	FAILED
cf743c50-ca64-11d0-aa70-70000010000-6	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-23 09:31:06.979	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-9	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-23 09:31:06.976	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-5	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-23 09:23:00.932	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-6	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-23 09:23:01.007	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-4	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-22 08:11:48.953	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-4	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-22 08:11:49.937	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-3	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-19 14:18:41.304	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-3	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-19 14:18:41.304	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-2	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-19 14:17:37.723	SUCCESSFUL
cf743c50-ca64-11d0-aa70-70000010000-2	Y	N	MESSAGEBROKER	default	DefaultToQueue	APPTLBE01.FI		2011-08-19 14:17:37.723	SUCCESSFUL



- Monitor** - Browser based graphical tooling with secure, role-based access with predefined filters to view data, based on message, transaction ID or payload
- Audit** - Store selected data to any of the WMB supported databases for records
- Manage** - Quickly identify and Edit selected messages to correct erroneous data. Replay the data through standard flows or to end point applications for downstream processing





# Graphical mapper and high performance parser

## IBM WebSphere Message Broker V8

Available to users on all supported OS

- New **Graphical Data Mapping tool** for Improved **usability** and **performance** when creating models
- New **DFDL (Data Format Description Language) parser** optimised for text and Binary data

- **Visually construct source and target field mappings using graphical representation of message data**
  - Create models by marking up example data
  - Apply advanced transformations
  - Call user defined transformation in Java, SQL and XQuery 1.0
  - Guided authoring wizards
- **Open standards based parser – create and reuse maps across your other applications**
  - provided alongside existing WMB MRM parser
  - Improved WMB transformation performance for text & binary data

The screenshot displays the graphical data mapping tool interface. The main workspace shows a mapping between a source 'library' and a target 'libraryType'. The source 'library' has fields: mapname [1..1] string, books [1..1] books, book [1..\*] book, loans [1..1] loans, loan [1..\*] loan, customers [1..1] customers, and customer [1..\*] customer. The target 'libraryType' has fields: publications [1..1] publicationsType, current-loans [1..1] current-loansType, current-loan [1..\*] current-loanType, customer-name [1..1] string, book-title [1..1] string, return [1..1] date, and StrEl [1..1] string. A 'Join' transformation is applied to the source data. The 'Properties' window for the 'Join' transformation is open, showing the 'Join Expression' field with the text: '\$book/@isbn = \$loan/isbn and \$loan/customerId = \$customer/@identifier'.

# Enhanced connectivity for file based B2B

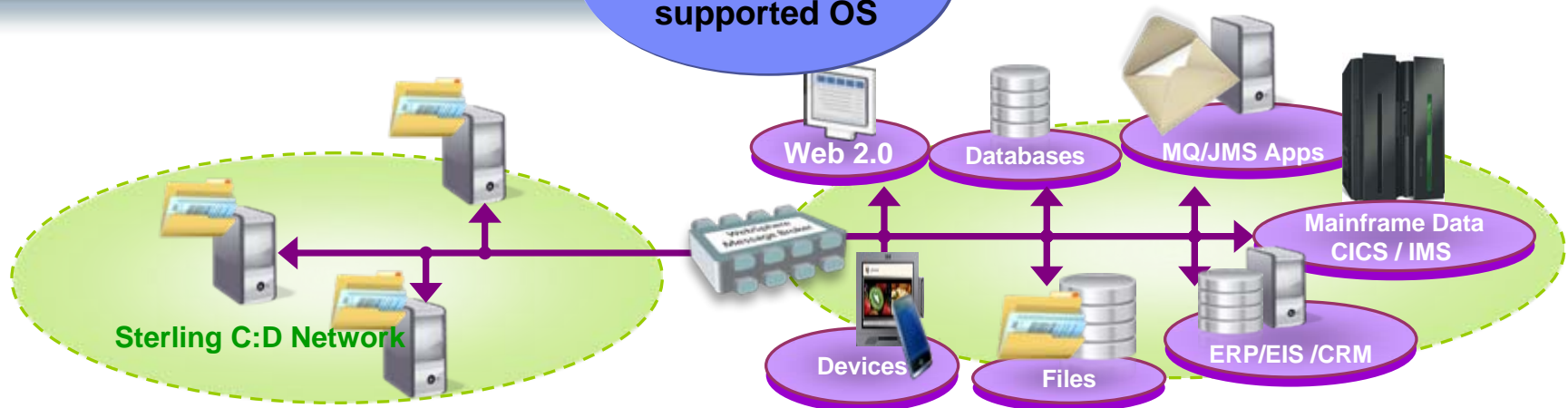
## IBM WebSphere Message Broker V8

### Simple bridge between Sterling File Based and Websphere MQ messaging-based networks

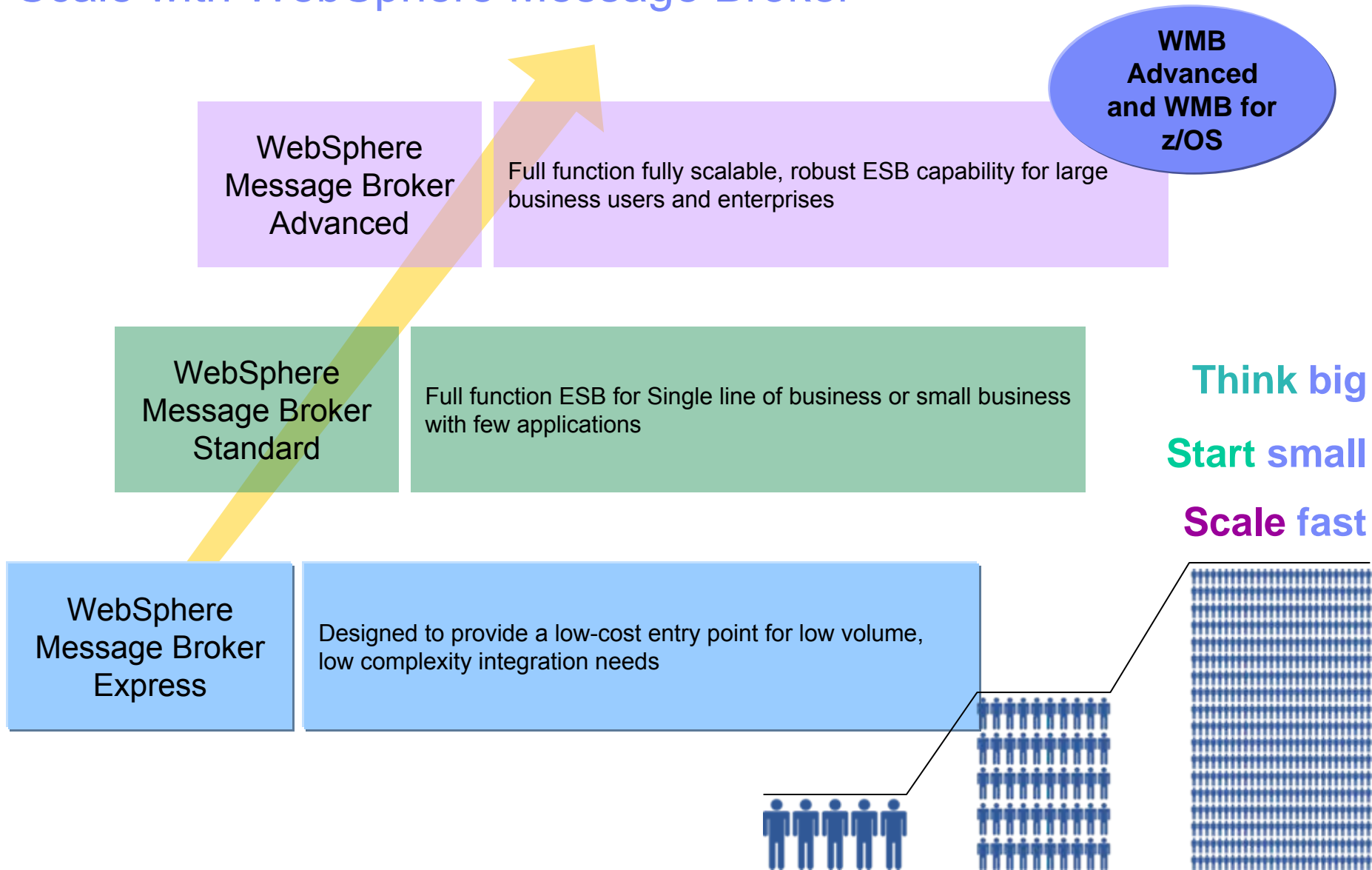
- Eliminate the need for application re-engineering
- Provides connectivity to new endpoints not available to C:D users - including Web2 technologies

- **New Connect:Direct WMB nodes**  
Handle file to message mappings including batch of records within a file  
→ Set of messages and vice versa
- **New development patterns provided in the WMB toolkit for rapid development including File to message, message to file**
- Complements IBM MQ FTE MFT support

Available to users on all supported OS



# Scale with WebSphere Message Broker



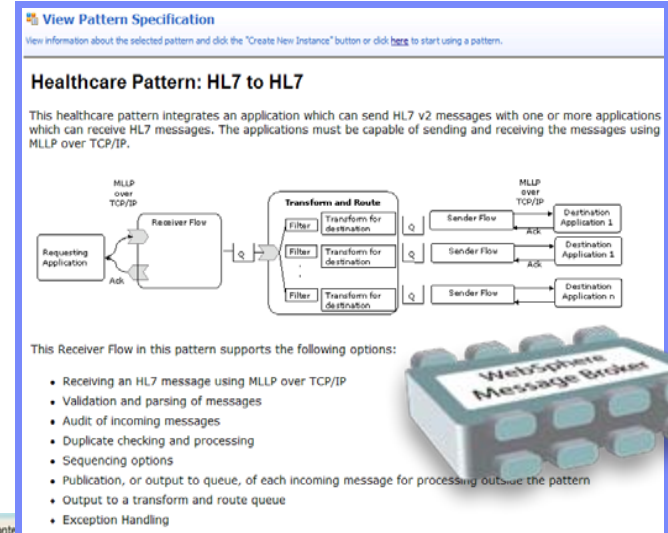
# WebSphere Message Broker Connectivity Pack for Healthcare



## What's New ?

Available to users on all supported OS

- **Tooling tailored to healthcare IT professionals**
- **Connects and integrates** new and existing HL7 based applications
- **Builds directly upon scalability, broad connectivity and quality of WMB v7**
- New offering that **adds rapid pattern-based connectivity** for HL7 based patient administration systems - *Rapidly connect and manage clinical applications without detailed knowledge of messaging or WMB technologies.*
- **Operational monitoring of clinical applications** provided out of the box



MQ Explorer - Conte

Monitor your healthcare systems by selecting the broker on which your healthcare systems are running.  
Click "Refresh Connections" below to refresh your list of brokers and reconnect to the active brokers.

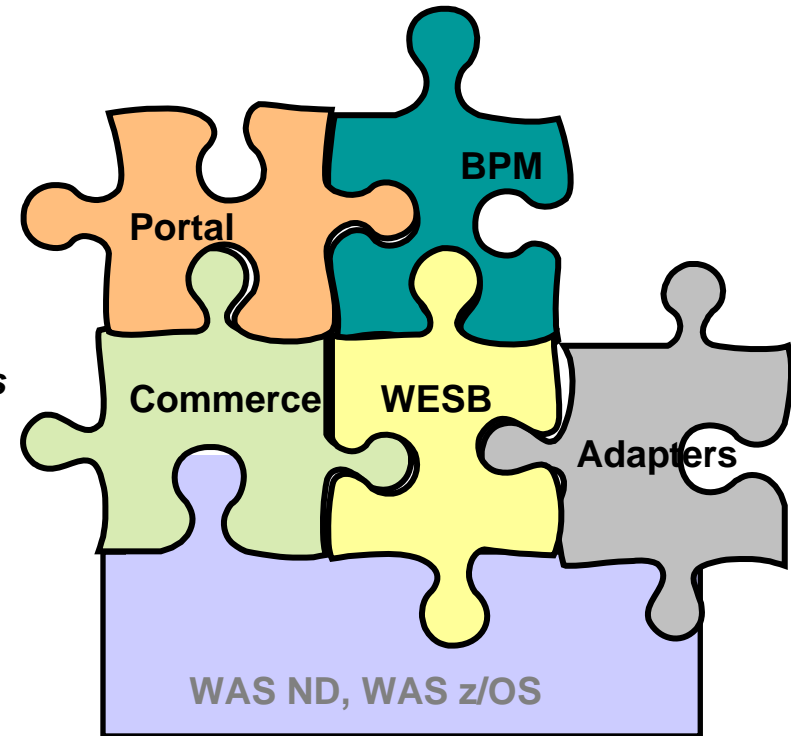
Broker:

Clinical Application Connections		Queue Monitoring							
From	To	TCP/IP : Port	Execution Group	Flow Name	Open	Closed	Failed	Received	Sent
⚠ Patient Registration	MB7BROKER	localhost:1111	Healthcare	healthcare.HospitalReceiver	0	3	0	3	3
MB7BROKER	Billing	localhost:4444	Healthcare	senders.HospitalDest3Sender	1	0	0	3	3
MB7BROKER	Maternity	localhost:3333	Healthcare	senders.HospitalDest2Sender	1	0	0	3	3
MB7BROKER	Pharmacy	localhost:2222	Healthcare	senders.HospitalDest1Sender	1	0	0	3	3

# ESB for quick integration of applications and processes

## WebSphere Enterprise Service Bus V7.5

- **Decouples** complex **integration logic** from each application providing consistency in connectivity across point-to-point infrastructure diversity
- Provides service mediation and hosting on **common internet-standard application infrastructure** based on WAS
- Extends to service registry and repository for **SOA solutions** with a published catalog of services supporting dynamic endpoint resolution
- New in V7.5:
  - Common Web 2.0 role-based business space UI for SOA users of WESB and WSRR, extending to BPM
  - Policy resolution extended to cover all binding types and manual endpoints configured in WSRR
  - More powerful transformations with XSLT2
  - Textual mediation flow format for a scriptable ESB allowing XML editing with tool of choice
  - Dynamic service connectivity for any application, including WAS and BPM (any edition)



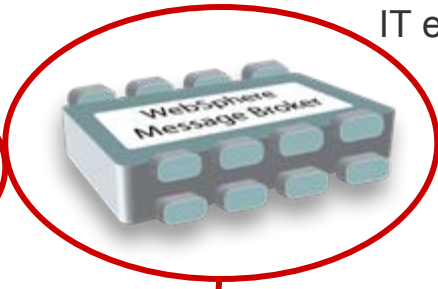
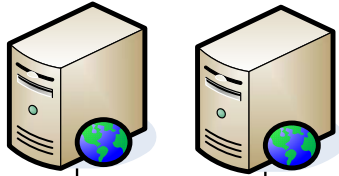
*Achieve efficiencies in skills, cost and time-to-value across your middleware solutions*

# The "Hybrid Bus" Mega Pattern

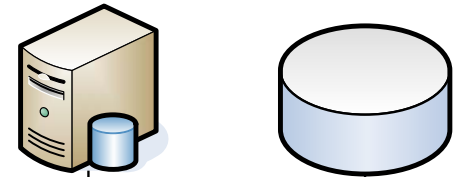
**WebSphere Enterprise Service Bus** - optimized with WebSphere Application Server for an integrated SOA platform and BPM

**WebSphere Message Broker** - built for universal connectivity and transformation in heterogeneous IT environments

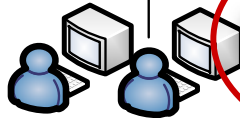
Intranet / Extranet / Internet Portals



Data Stores



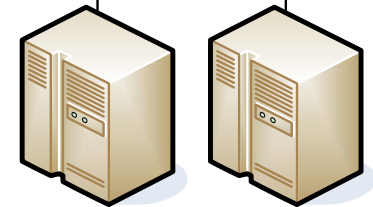
Legacy Client-Server



Back office / Call Centre



**WebSphere DataPower** appliance - purpose-built hardware for simplified deployment and hardened security



System Z

# Increased visibility and control for insight into your SOA

## WebSphere Service Registry and Repository V7.5

- Ensures **awareness of available applications, services** and their consumers with associated metadata and documents throughout the organization
- Helps implement recommended practices and **increases runtime agility** enabling a policy driven SOA ensuring:
  - Consistent application of operational policies
  - Enforcement of governance lifecycle policies

### Highlights:

- Improved role-based business space UI widgets for **improved user experience**, including report hosting to quickly view reports
- **Enhanced search capability** allowing type-ahead search through metadata and documentation
- Updated policy **authoring, attachment and analytics**, including:
  - Click-to-assign governance lifecycles
  - Assertion wizard to help assign assertions to lifecycle transitions
  - Operational policy analytics for WebSphere Message Broker



*Gain insight into SOA services and their consumption, policies and associated metadata in your enterprise*

# Questions?

