IBM Software Group

Kick your FTP habit: Making z/OS file transfer more reliable and secure

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WebSphere software

ON DEMAND BUSINESS

New 4Q revenue generating opportunity: MQ On Demand Seminars

? Do you have an OTC opportunity which depends on closing an MQ for z/OS (MLC) opportunity or migrating your customer to the latest version of WebSphere MQ for z/OS (V6)?

? Are you looking for new opportunities to sell Message Broker for z/OS, other IBM SOA offerings, and PM4Data for z/OS?

✓ Selling MQ for z/OS into white space or upgrading existing customers to the latest release provides an excellent opportunity to sell **Message Broker for z/OS**, **other IBM SOA offerings**, and **PM4Data for z/OS**.

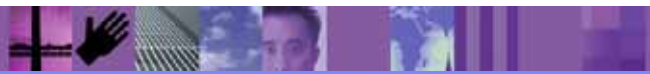
✓ And now there is a new play, MQ on Demand Seminars, which helps you speed up the MQ for z/OS upgrades and new sales

- *Did you know?* There is still a large untapped market opportunity with over 50% of active CICS customers who do not have MQ for z/OS and 59% of all z/OS customers do not have MQ for z/OS? In addition, 73% of MQ for z/OS customers are not on the current release.

New 4Q revenue generating opportunity: MQ On Demand Seminars

- Where to find it?
  - Look for MQ on Demand Seminars drive MQ for z/OS sales on XL http://w3-103.ibm.com/software/xl/portal/viewcontent?type=doc&srcID=CGSP&docID=P571789U12665Q73#overview

- Why this play is relevant to you?
  - This play can help:
    - Convince customers to migrate to the latest release of WebSphere MQ for z/OS
    - Demonstrate the benefits of WebSphere MQ for z/OS as the underlying messaging backbone for IBM ESBs (e.g., WebSphere Message Broker for z/OS and WebSphere ESB for z/OS)
    - Explain why WebSphere MQ for z/OS delivers superior file transfer capabilities with PM4Data for z/OS
  - A Best Practice for qualified customers is to use an MQ on Demand Seminar, conducted by the MQ experts at your customer's site.
    - It is easy to apply for, the Validate & Qualify section of this play has the details.



New 4Q revenue generating opportunity: MQ On Demand Seminars

- ***It is easy!***
  - Nominate your qualified customer for an on-site MQ On Demand Seminar (MQoD), especially designed for each customer and delivered to them by technical experts from Hursley and ATS in Dallas.
  - Speak with the CIO, CTO or Senior IT Management with a span of control that includes current applications, especially on System z, as well as Development of new applications and business processes.
  - The seminar would typically run for one day. To maximize the benefit of the Seminar, and speed up decision making, most of the key influencers and decision makers should attend the relevant sessions.
  - Each MQoDs briefing will be tailored to your customer situation. To help the lab expert build the agenda, please complete the MQ On Demand seminar nomination form in the play and use the sample agendas on the next page to let the lab team know which sessions you would like to propose for the seminar.
  - Don’t forget: **Tactic Code 107DM01R**

MQ On Demand Seminar Sample Agendas

For customers with WebSphere MQ for z/OS V5 or earlier:

Agenda 1: The value of MQ for SOA

1. Session 1 - Introduction to SOA Connectivity on z
2. Session 2 - WebSphere MQ for z/OS V6 as the SOA messaging backbone
3. Session 3 - Applications which use WMQ as a backbone and scenarios:
   - Using WebSphere Message Broker for z/OS as an ESB
   - Using PM4Data for managed file transfer
   - Other (based on customer environment)
4. Session 4 - Migration steps, dependencies, potential issues, current environment/Architecture discussion
5. Session 5 - ROI discussion

Agenda 2: High availability

1. Session 1 - WebSphere MQ for z/OS V6 Update
2. Session 2 - Using MQ V6 to improve availability
3. Session 3 - Applications which use WMQ as a backbone and high availability scenarios:
   - Using WebSphere Message Broker for z/OS as an ESB
   - Using PM4Data for managed file transfer
   - Other (based on customer environment)
4. Session 4 - Migration steps, dependencies, potential issues, current environment/Architecture discussion
5. Session 5 - ROI discussion

Agenda 3: Security

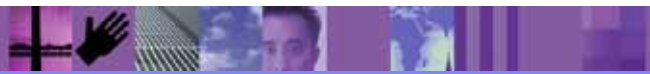
1. Session 1 - WebSphere MQ for z/OS V6 Update
2. Session 2 - Using MQ V6 to improve security and auditability
3. Session 3 - Applications which use WebSphere MQ as a backbone and security scenarios:
   - Using WebSphere Message Broker for z/OS as an ESB
   - Using PM4Data for managed file transfer
   - Other (based on customer environment)
4. Session 4 - Migration steps, dependencies, potential issues, current environment/Architecture discussion
5. Session 5 - ROI discussion

For z/OS customers not currently using WebSphere MQ for z/OS:

Theme: the value of Connectivity

Session 1 - File transfer problem and implications
Session 2 - Cost of your current implementation today
Session 3 - Introduction to managed file transfer with PM4Data
Session 4 - The role of WebSphere MQ as a messaging backbone for file transfer, ESB and other scenarios
Session 5 - ROI discussion

Request a MQoDs session by sending the seminar request form to MQ Requirements/UK/IBM@IBMGB and MQ SMEs will help you progress the MQ for z/OS deal.



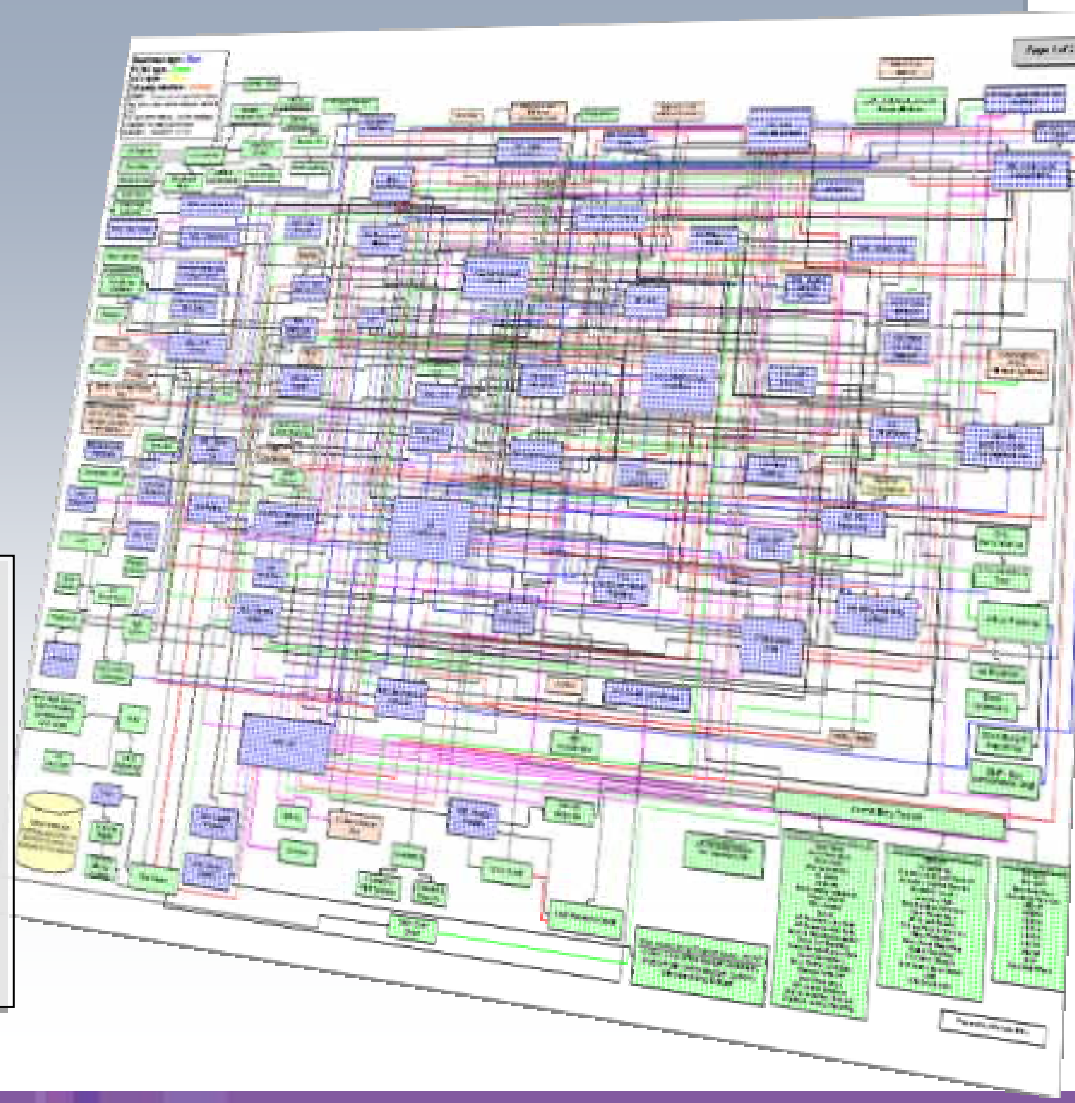
Challenge 1 – Flexible, Cost-effective Integration

- **Application silos**
- **Rat's Nest of interconnections**
- **Fragile and brittle coupling**
- **Limited ability to trace data and changes**
- **Business logic / Processes and connectivity logic intertwined**
- **High cost / risk / skills needed to change or add assets**

*"In 2004, **73% of I.T. budgets were spent on maintenance** and 27% on new investments.*

*In 2005, survey respondents expect to spend **76% on maintenance**, leaving just 24% for new investments."*

*Forrester Research**



Why is this a Challenge?

"Computers are really dumb.
You have to tell how to do them everything."

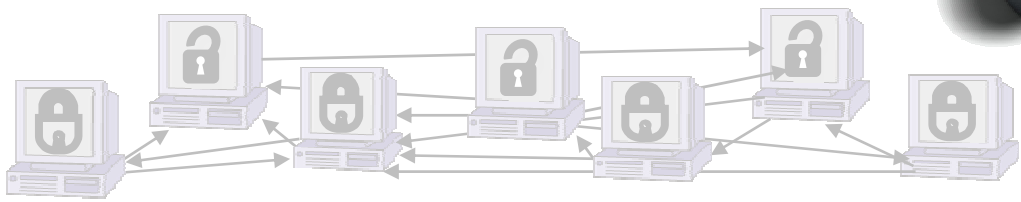
- **How do you…?**
  - *Move data across different systems, platforms, and devices when the HW, SW configurations and programming models are different?*
  - *Overcome network failures?*
  - *Deliver information when the target application is not online or is busy?*
  - *Ensure transmission integrity and recovery?*
  - *Ensure a secure connection?*
  - *Ensure multi-step transactions either happen completely or not at all?*
  - *Handle lost or duplicated data?*
  - *Apply qualities of service based on different requirements? e.g., assured delivery, fast delivery?*
  - *Manage a session (request/response)?*
  - *Efficiently distribute events?*
  - *Scale to handle volumes?*
  - *Deal with data in unlike formats?*
  - *Determine which data to send where?*
  - *Audit who send what, where and when?*
  - ***...***

Challenge 2: Your Regulatory Compliance Obligations

- **Business and economic factors have driven recent legislation**
  - e.g. Sarbanes-Oxley (SOX), MiFID, HIPAA, …
- **CFOs must ensure that Financial Reports are accurate and up-to-date**
- **CIOs must ensure business data hasn't been tampered with and that Applications are always reconciled**
- **CEOs must personally attest to the integrity of company reports**
- **Severe penalties – corporate and personal – for failing an audit**

- *Complete audit trail for data end-to-end?*
- *No data being exchanged is lost or tampered with?*
- *No risk that even one application isn't reconciled?*

→***How can you expect to comply if you lose data?***
→***How can you comply if you can't prove that you don't lose data?***



Enter SOA…

… a service?

A **repeatable business task** – e.g., check customer credit; open new account

… service oriented architecture (SOA)?

An IT **architectural style** that supports integrating your business as linked services

"SOA impacts every aspect of IT and business."

Gartner

Challenge 3: You want SOA – But where to start?

- Where do you begin?
- SOA is a fine goal – but how does it compare to what I have today?
- What's the best SOA project to start now?
- How can we increase the chances that our first (or next) SOA project will be a success?
- Which SOA project will provide a basis for valuable further activities?
- How can we leave everything alone that's already working?

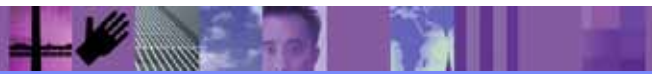
SOA isn't just about re-using the assets you create tomorrow – it's also about re-using the assets you have today

How do you Address these Challenges Today?

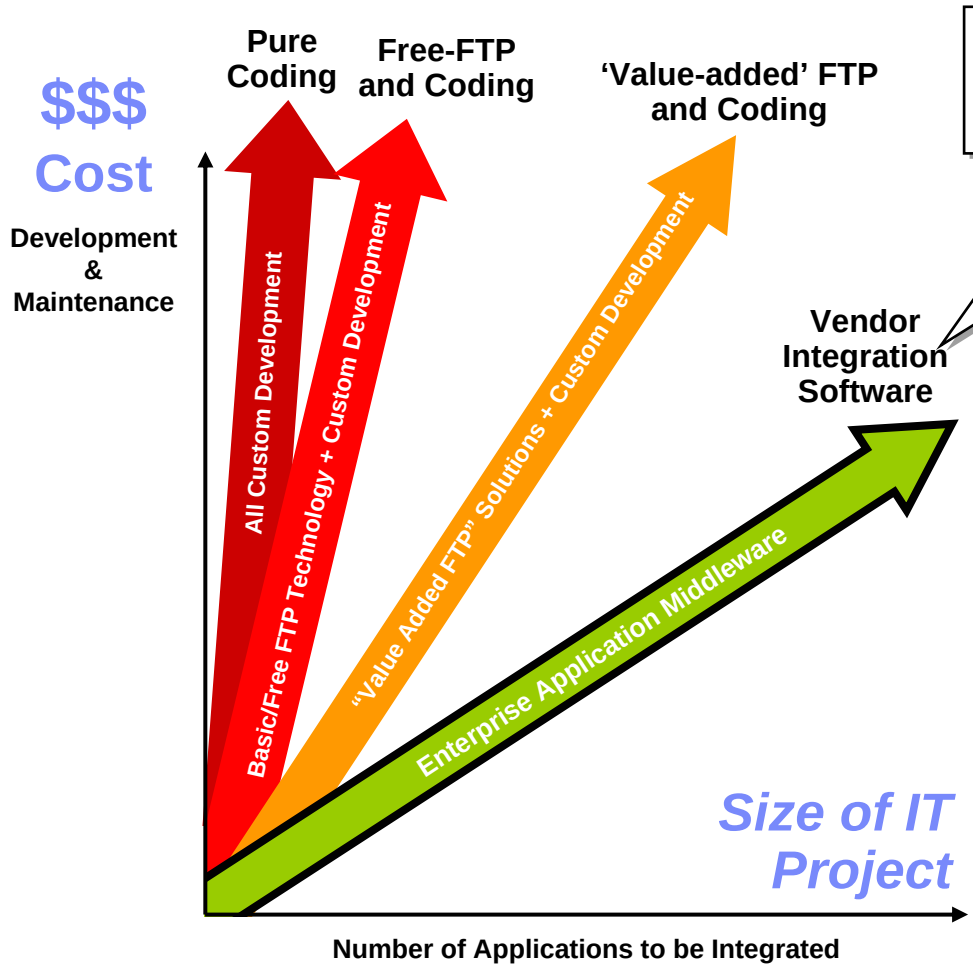
- Raw Sockets Programming
- File Transfer Protocol (FTP)
- Remote Procedure Call (RPC)
  - IIOP (CORBA)
  - .Net Roaming (COM)
  - Java RMI
- Message-oriented Middleware

You either:

1. **Program it all into your applications**
2. **Build your own middleware**
3. **Buy middleware to do it for you**



IBM Integration Software cuts costs 2-4 times



". . . the more applications you integrate the more you save."

"Custom-built, in-house, hard-coded integration solutions (the majority using free FTP software)…

…often take 2 to 4 times the time and effort to build …require a similar multiple of ongoing maintenance and support effort, and are insecure, fragile and vulnerable to several serious risks.

… IBM application integration costs 2-4 times less"

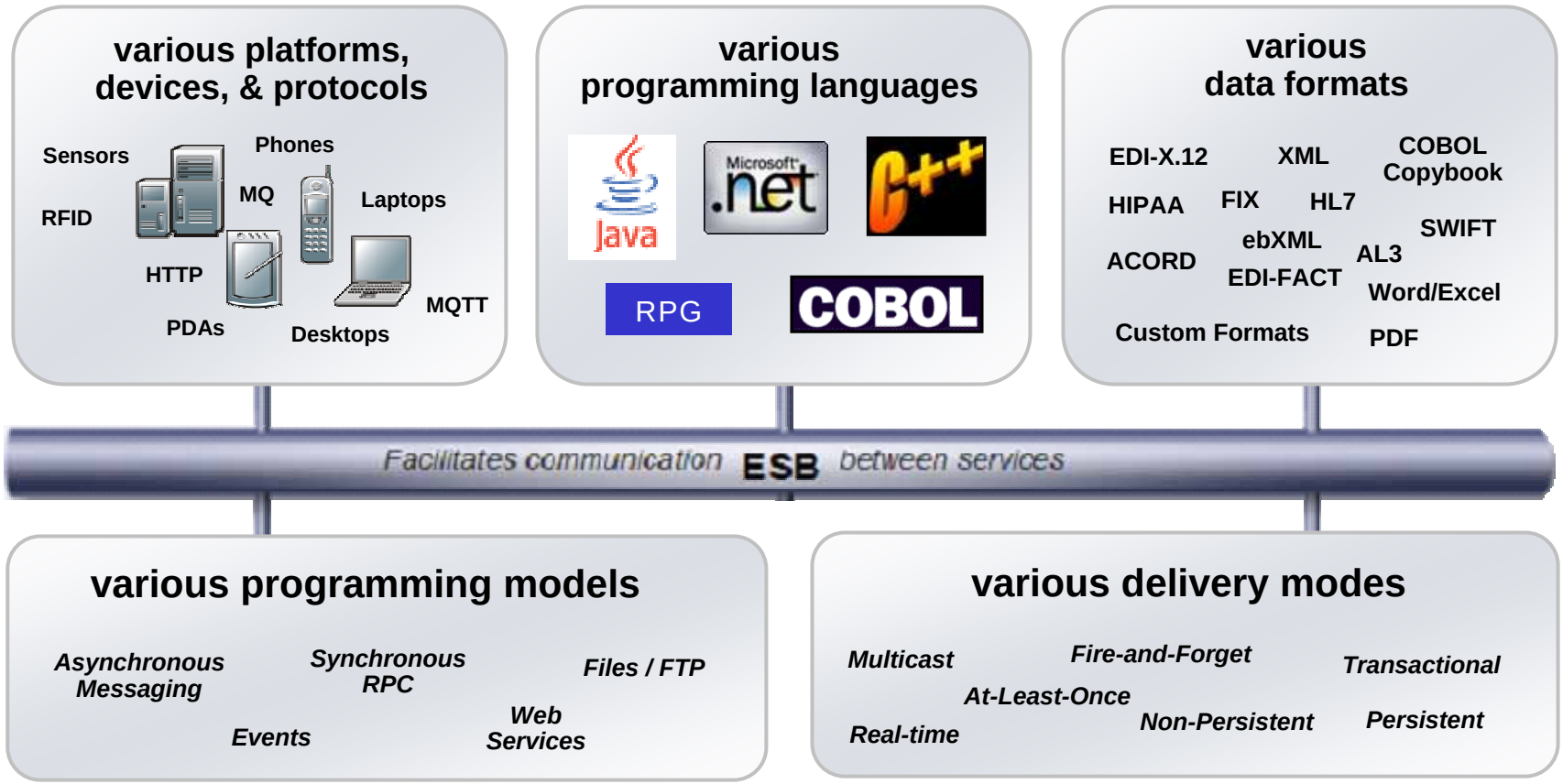
Software Strategies, 2006

Adapted from: Software Strategies, "Enterprise Integration Challenge," 2006

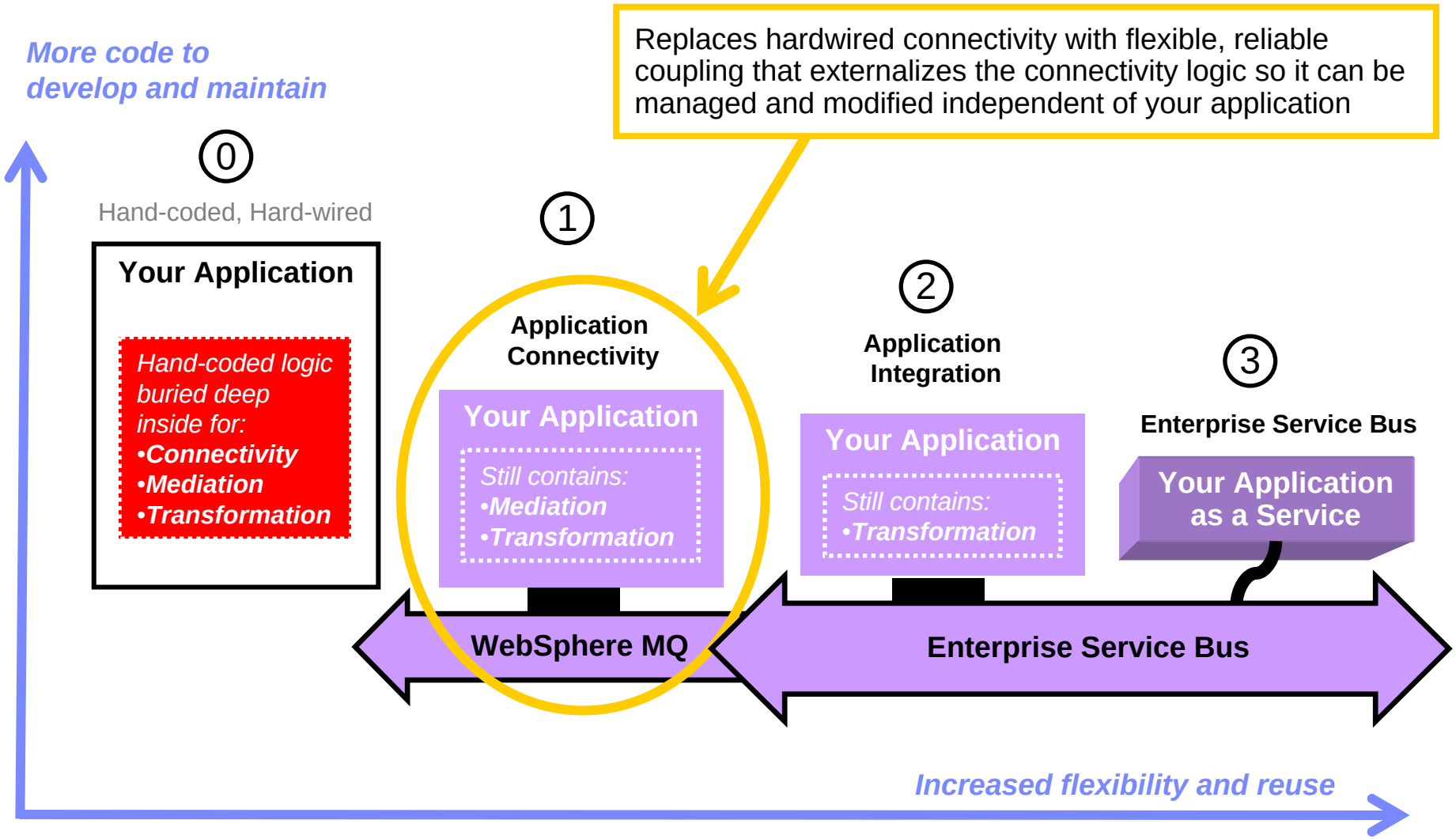
ftp://ftp.software.ibm.com/software/websphere/pdf/IBMenterpriseintegrationsecondedition.pdf

SOA Connectivity for Virtually Anything

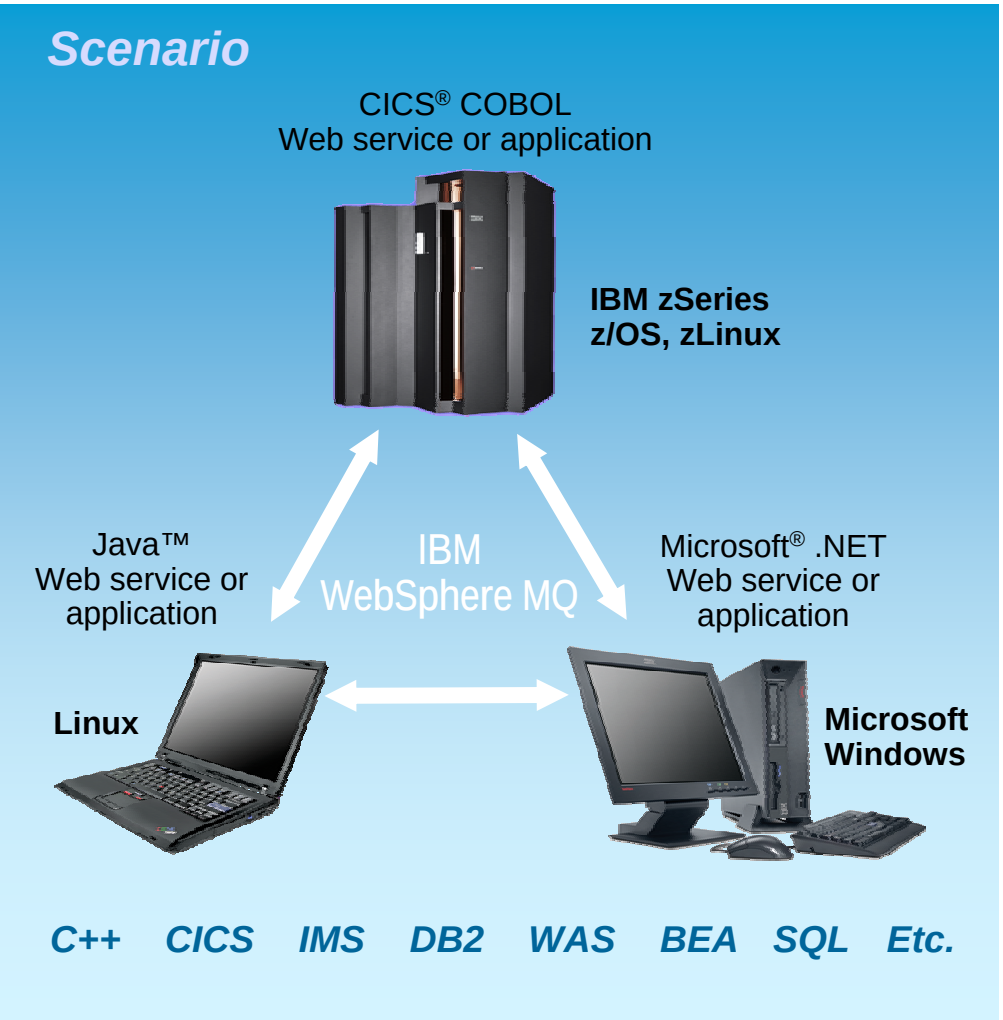
A "federated" connectivity architecture enabling virtually any SOA assets to talk to any others *with no disruption to existing applications or interfaces*



WebSphere MQ – Your First Step To SOA



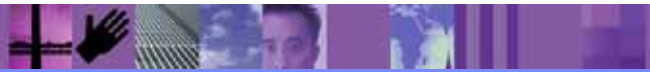
WebSphere MQ for z/OS



- Built from the ground up on zSeries
  - Engineered natively to exploit z/OS RAS
  - Runs as formal MVS sub-system
  - Exploits RACF, ARM, WLM, Parallel Sysplex
  - Specialised bridge for CICS and IMS transactions
  - Provides "PC" access from
    - CICS, IMS
    - WebSphere Application Server
    - DB2 Stored Procedures
    - Batch and TSO application execution environments
  - Provides full participation in transactions coordinated by CICS, IMS and RRS
  - Capable of supporting 1000s of messages per second
  - Many supporting vendor tools

Advantages of WebSphere MQ over Raw Sockets

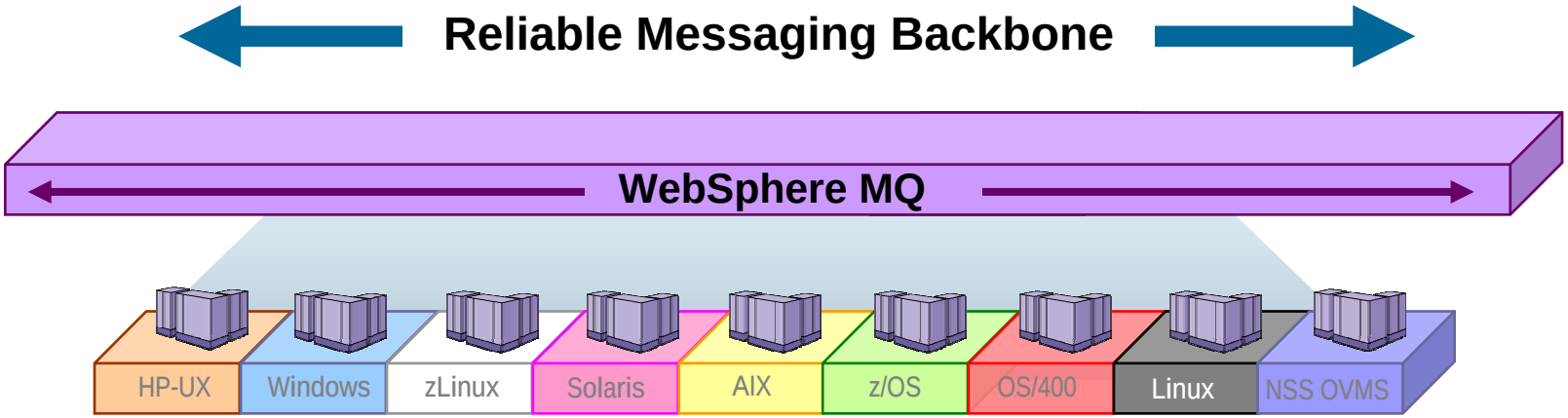
Feature	Benefit	Raw Sockets	WebSphere MQ
Assured, once and once-only message delivery	Data isn't lost or duplicated by the transport. No need to build complex checking logic into every application	✘	✔
Standardised, consistent APIs across platforms	Industry standard JMS and de facto standard MQI. Application portability	✘	✔
APIs hide networking complexities	No need for specialist, low-level networking skills	✘	✔
Transparency of local and remote access to applications	Indirect access shields programmers from changes to applications and where these are deployed	✘	✔
Pub/Sub messaging (Flexible loosely-coupled messaging model)	Save time and costs when applications change, move or are replaced	✘	✔
Time flexible (Asynchronous & Synchronous delivery)	Applications can do useful work whilst waiting on replies or simultaneously exchange data	✘	✔
End-to-end transactionality	IT systems can always stay reconciled across the organisation	✘	✔
Workload Balancing	Parallel processing to optimise throughput	✘	✔
Highly Available	Isolated from failures. 24-7 operation	✘	✔
Built-in Bridges to CICS & IMS	Faster, easier connectivity to your z/OS Assets	✘	✔
Built-in Security support	Integrated with Security Server (RACF). Supports SSL	✘	✔
Rich portfolio of Adapters	Faster, easier connectivity to packaged and custom applications	✘	✔
Integrated with ESB offerings	Investments can be leveraged when deploying an ESB for SOA. Easy path to powerful message transformation, enrichment and routing services on z/OS and distributed platforms	✘	✔



WebSphere MQ

Reliable messaging backbone for SOA

- Assured once-and-once-only delivery of messages for applications and Web services
- Integrates virtually any commercial IT system
- Proven quality of service and availability for mission-critical applications
- Provides JMS messaging and Publish/Subscribe
- Transports SOAP for reliable Web services messaging
- Provides the ubiquitous transport to underpin your ESB

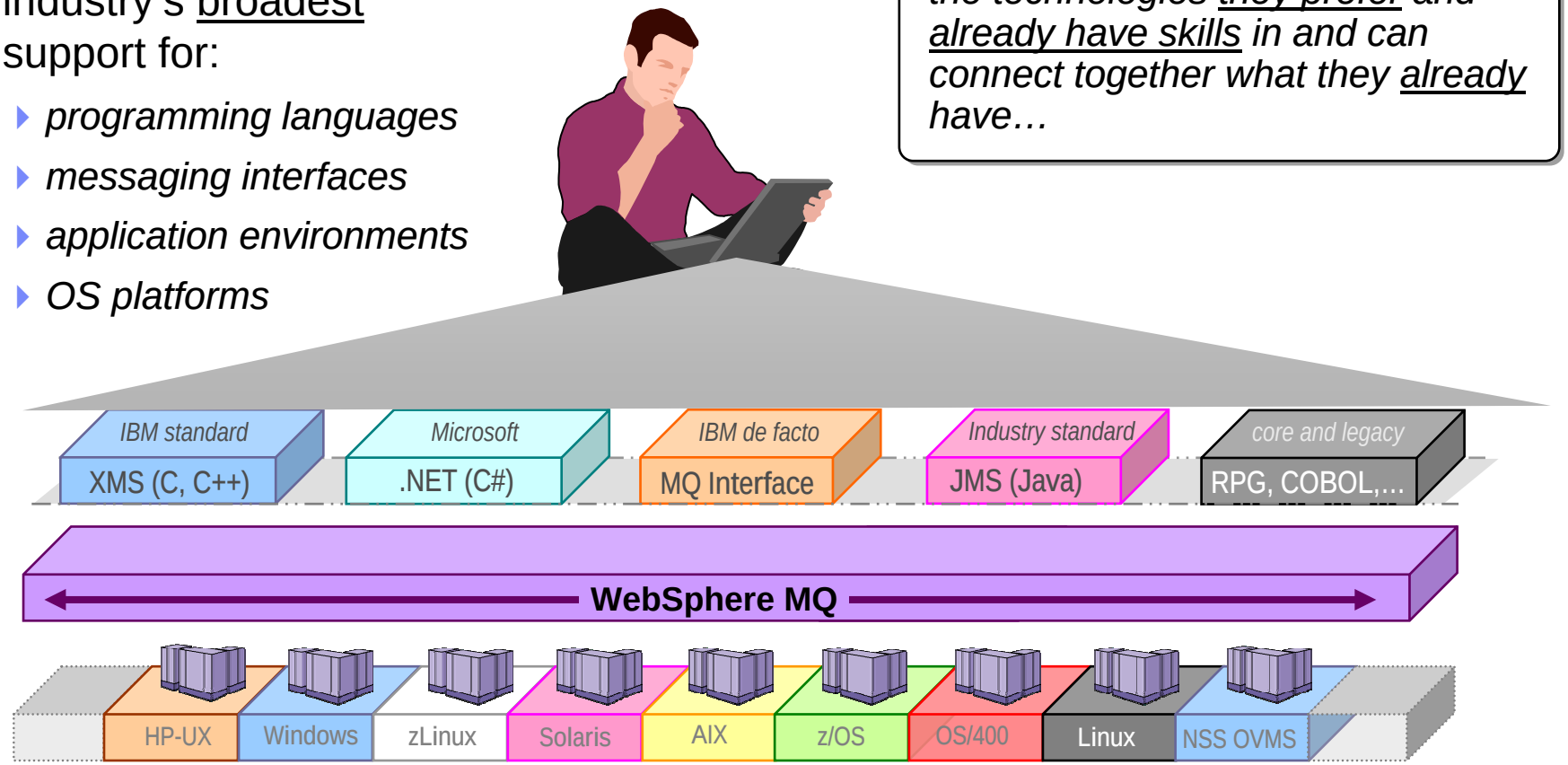


WebSphere MQ connects virtually any commercial IT system

Probably the software industry's broadest support for:

- *programming languages*
- *messaging interfaces*
- *application environments*
- *OS platforms*

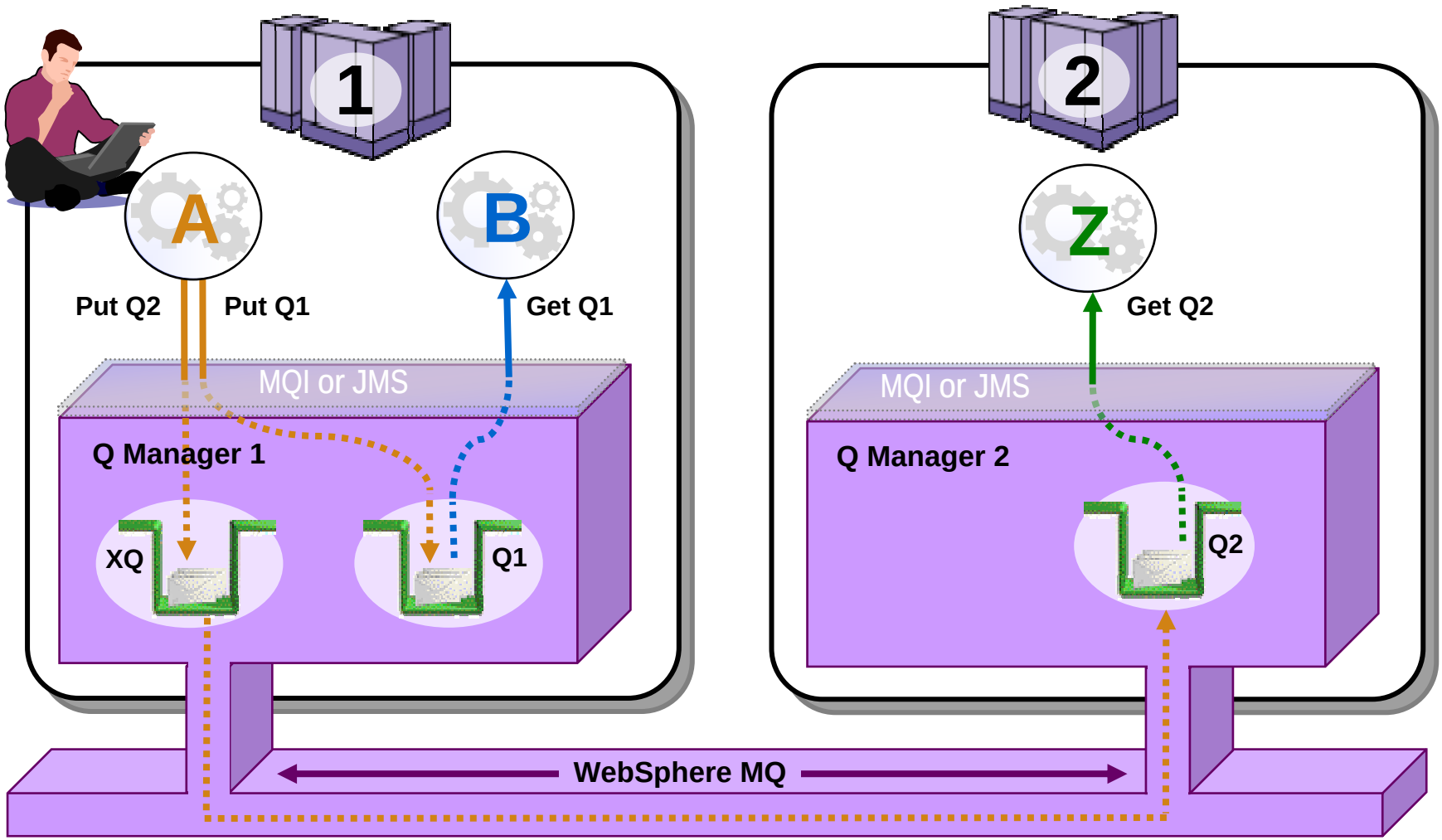
Ubiquity of support gives developers the freedom to choose the technologies they prefer and already have skills in and can connect together what they already have…



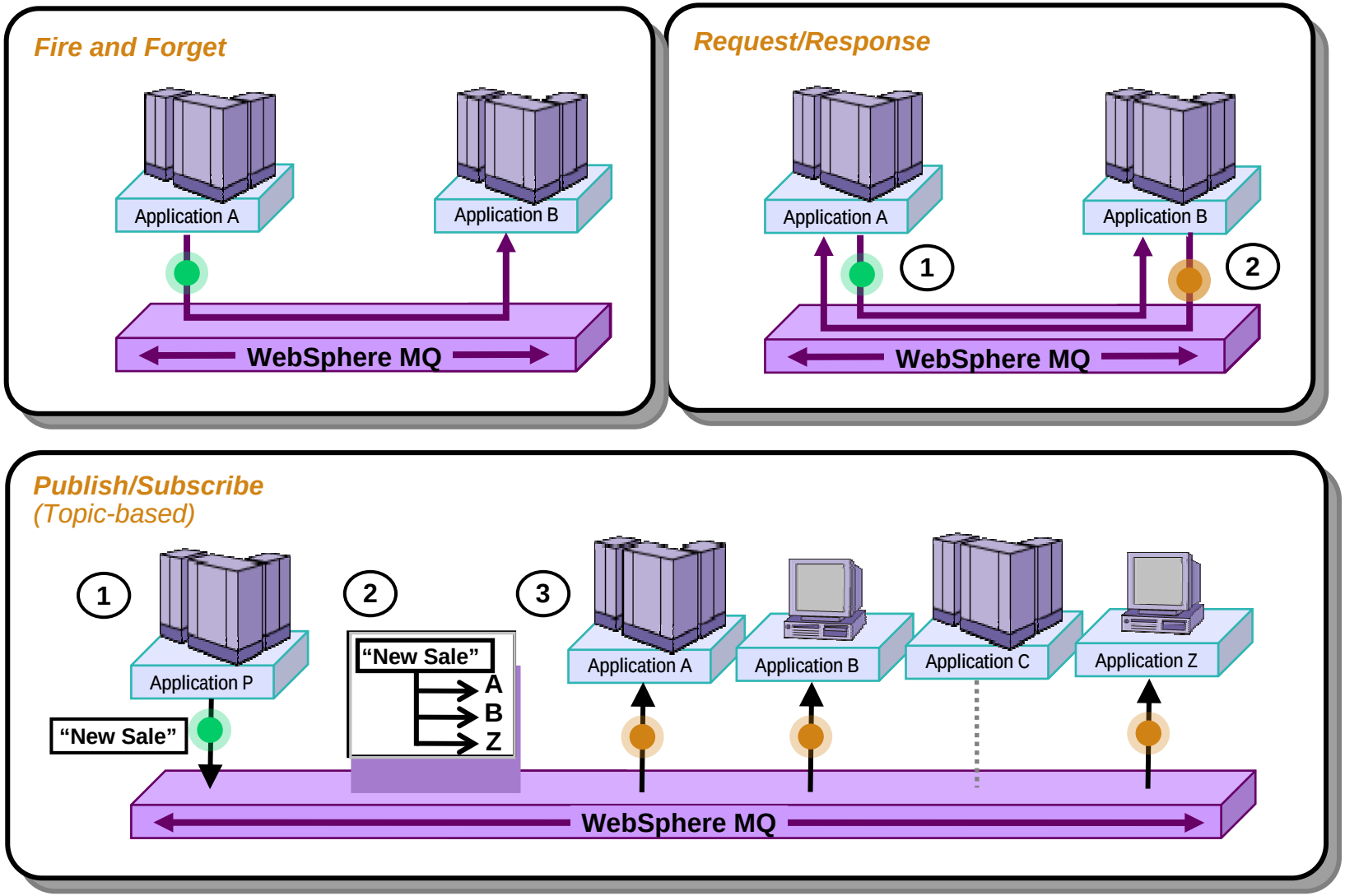
80+ platform configurations

Transparency of local and remote access

Indirect access shields programmers from changes to applications



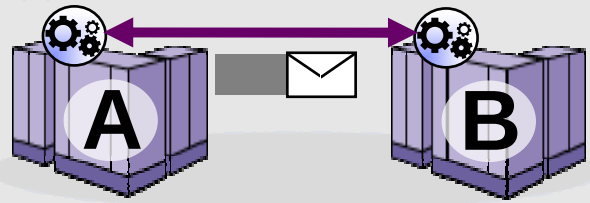
Flexible message delivery modes



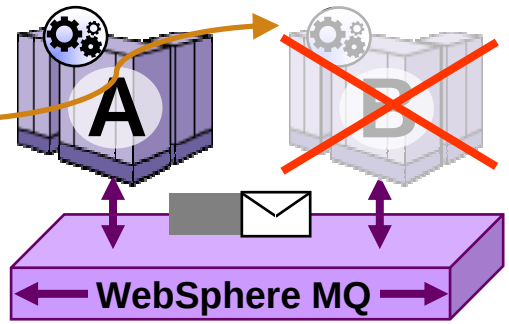
Time Flexible & Resilient

- WebSphere MQ provides an always-connected experience for applications
  - *Asynchronous: Overcoming problems when applications and services aren't available to talk or when IT systems and networks fail*
  - *Synchronous: simultaneous communication*

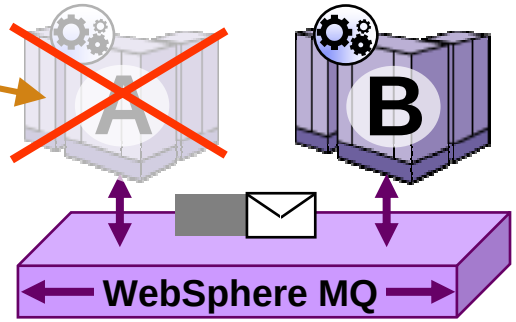
Example: Application A is sending a message to Application B



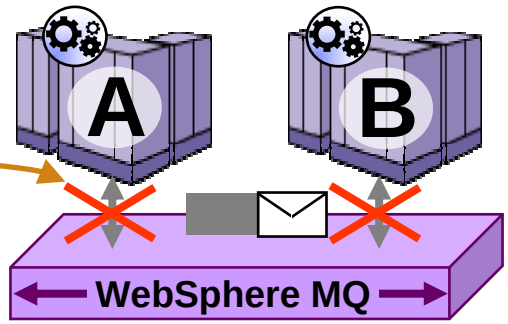
The receiver – Application B – is busy or not available or the host machine is down



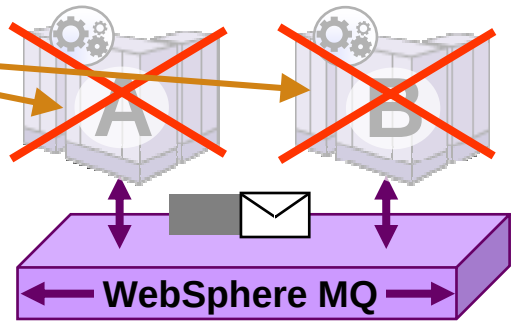
The sender – A – goes down just after sending



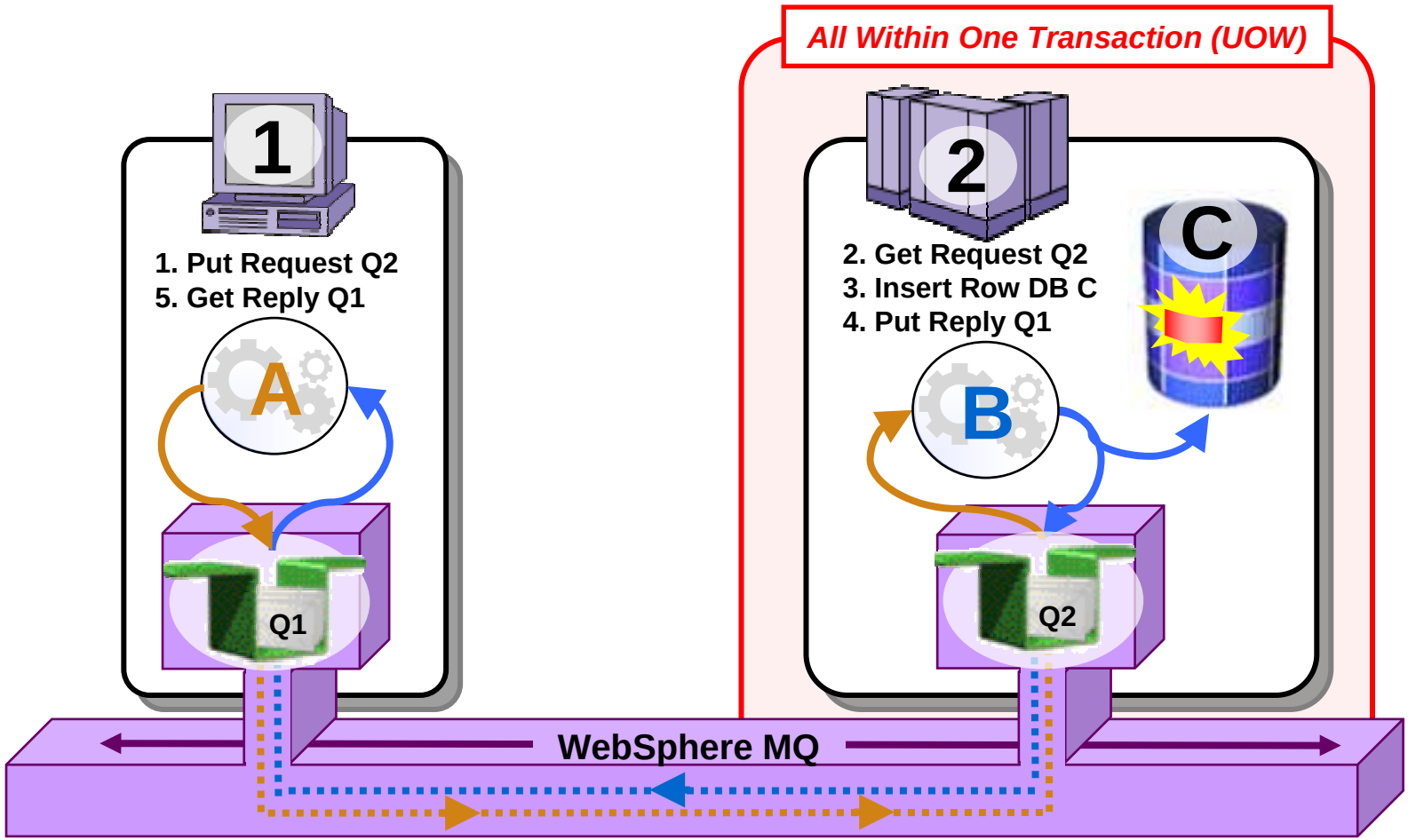
The network goes down



Both applications go down during transmission



Transactionality on z/OS



- Full support for CICS, IMS, WAS, DB2 SPs & Batch RSS
- Reliable Two-Phase commit involving other Resource Managers e.g. DB2

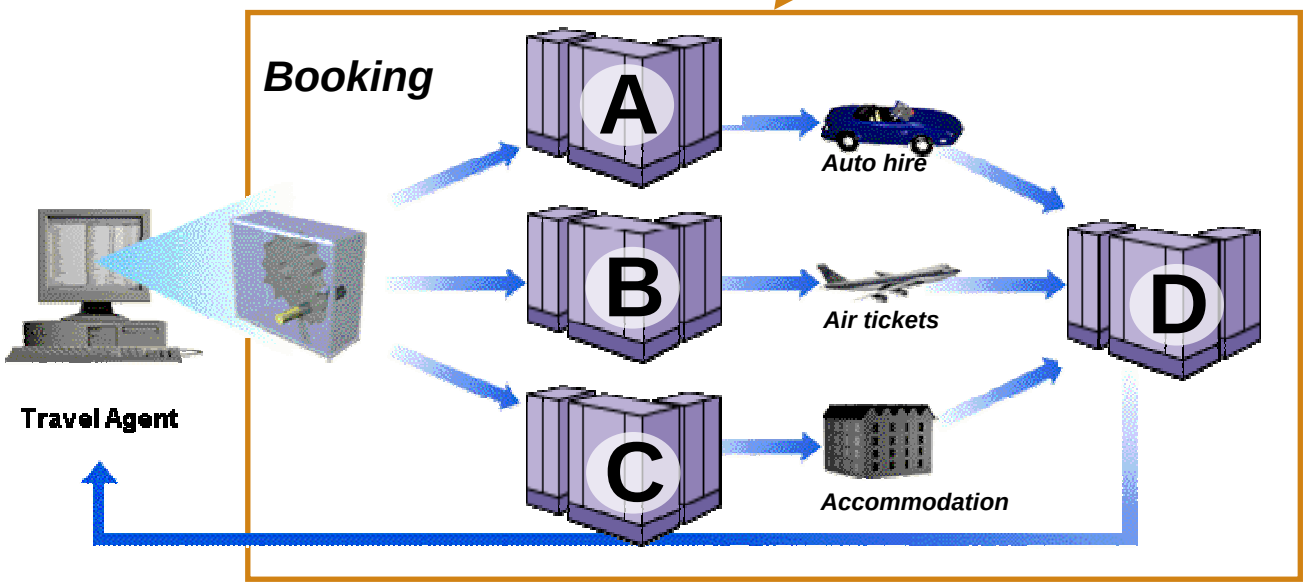
End-to-End Transactionality

- *Preserve the integrity of data and IT systems*
  - *Even when a single business transaction reaches across the organisation*
  - *Touching and updating multiple distributed IT systems*
- *WebSphere MQ provides the asynchronous messaging that enables the creation of parallel processing of "threads" in a business transaction*
  - *Process choreography is provided by WebSphere Process Server*

Simple Example: *A travel company's system must talk to multiple IT systems to make a booking.*

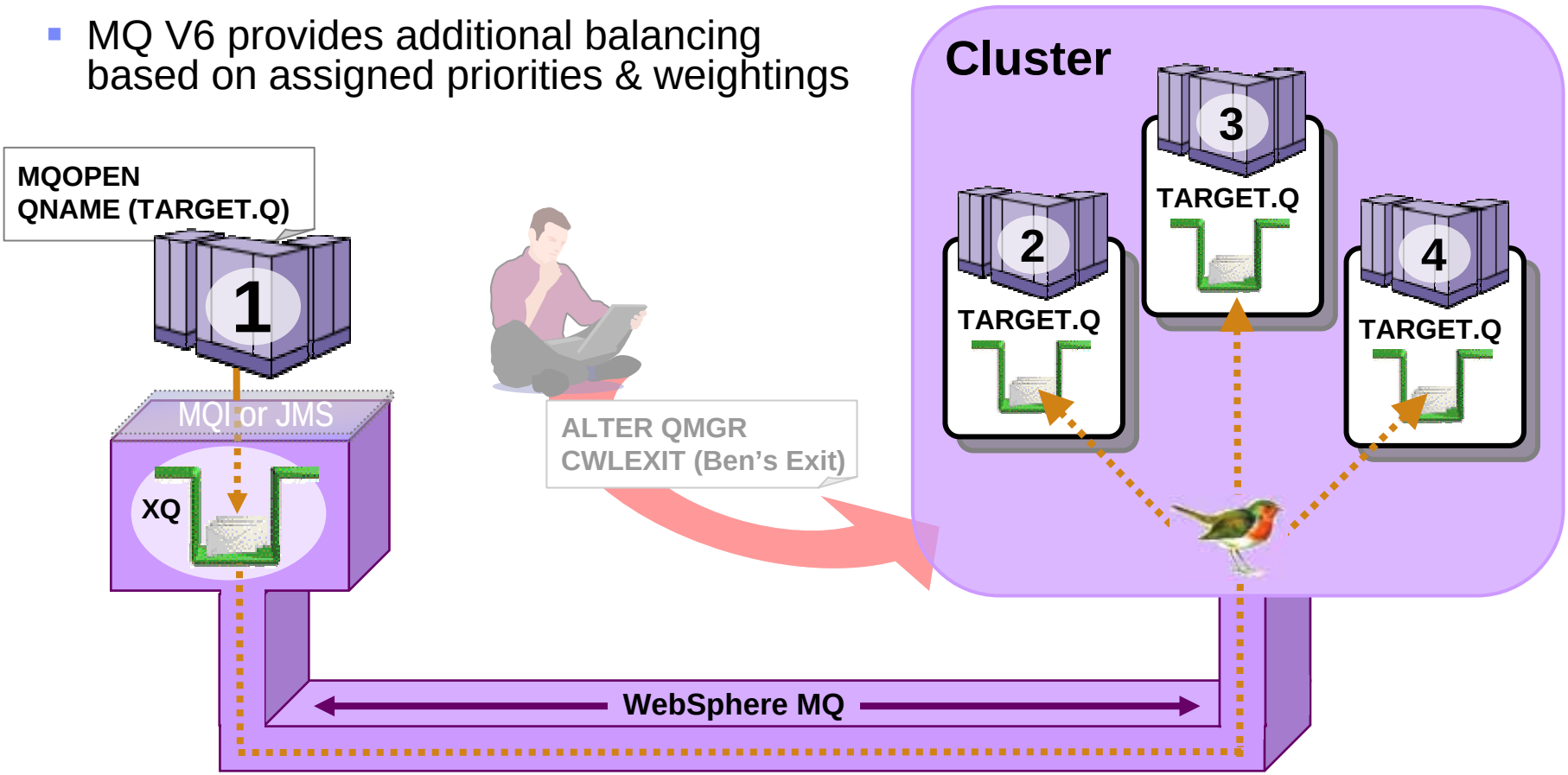
Reserve flights, hold hotel room, Secure a rental car, etc.

If any of these reservations fail the whole booking needs to be undone or it will be partially made and the data in these systems cannot be reconciled.



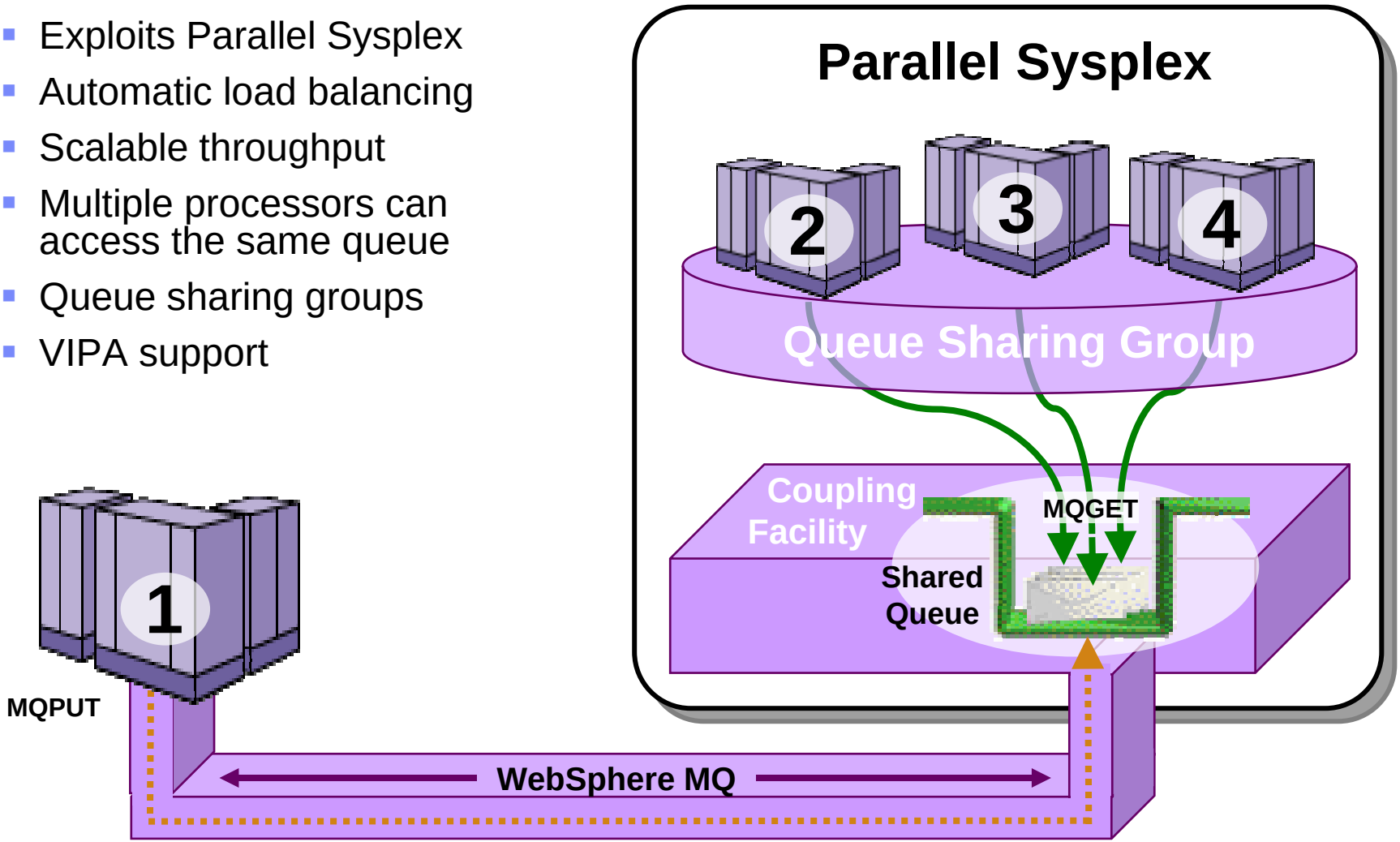
Workload Balancing with Clustering

- "Round Robin" balancing by default
- Custom balancing algorithms can be added as workload exits
- MQ V6 provides additional balancing based on assigned priorities & weightings



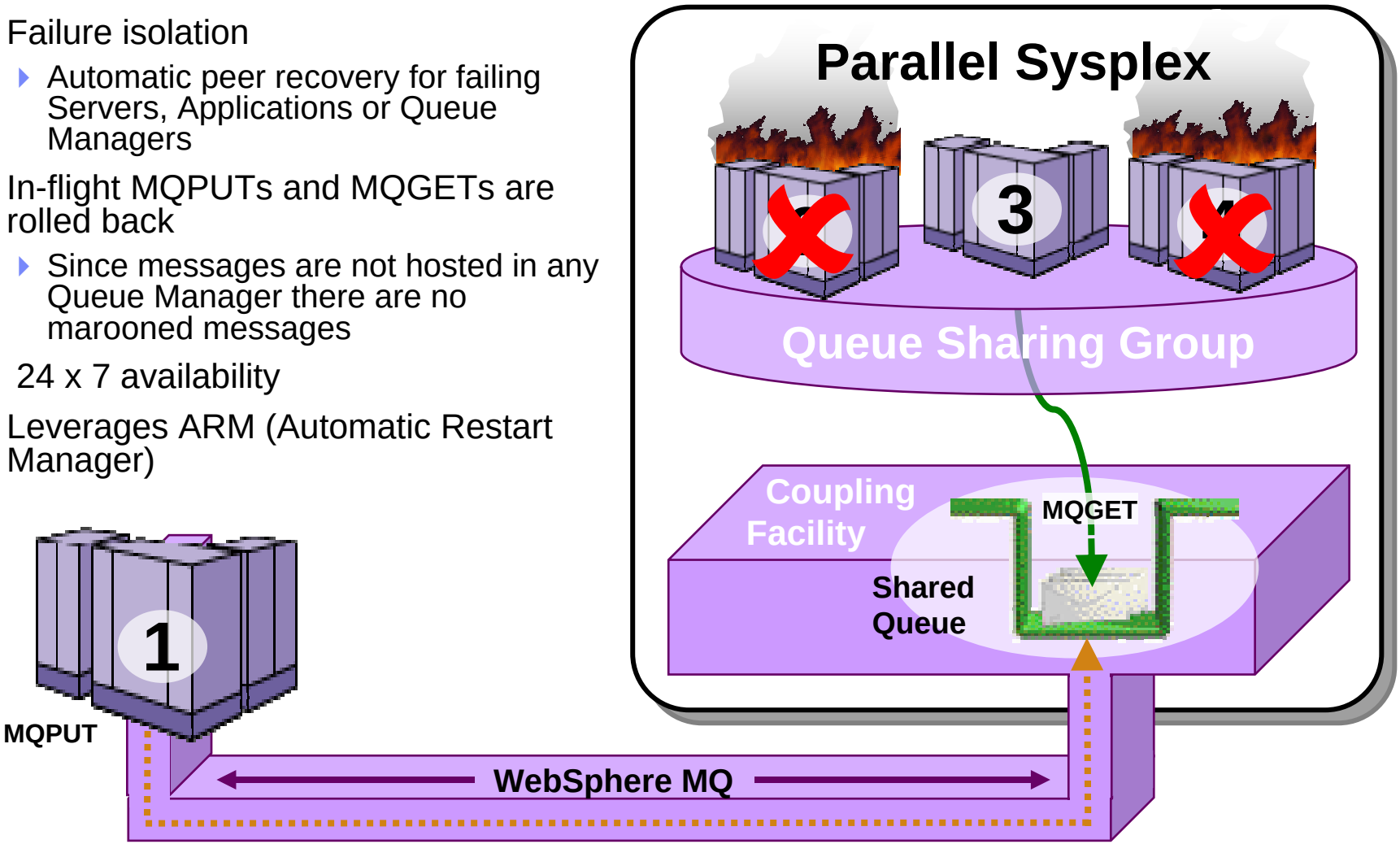
Shared queues on z/OS

- Exploits Parallel Sysplex
- Automatic load balancing
- Scalable throughput
- Multiple processors can access the same queue
- Queue sharing groups
- VIPA support



Highly Available with Failover for z/OS

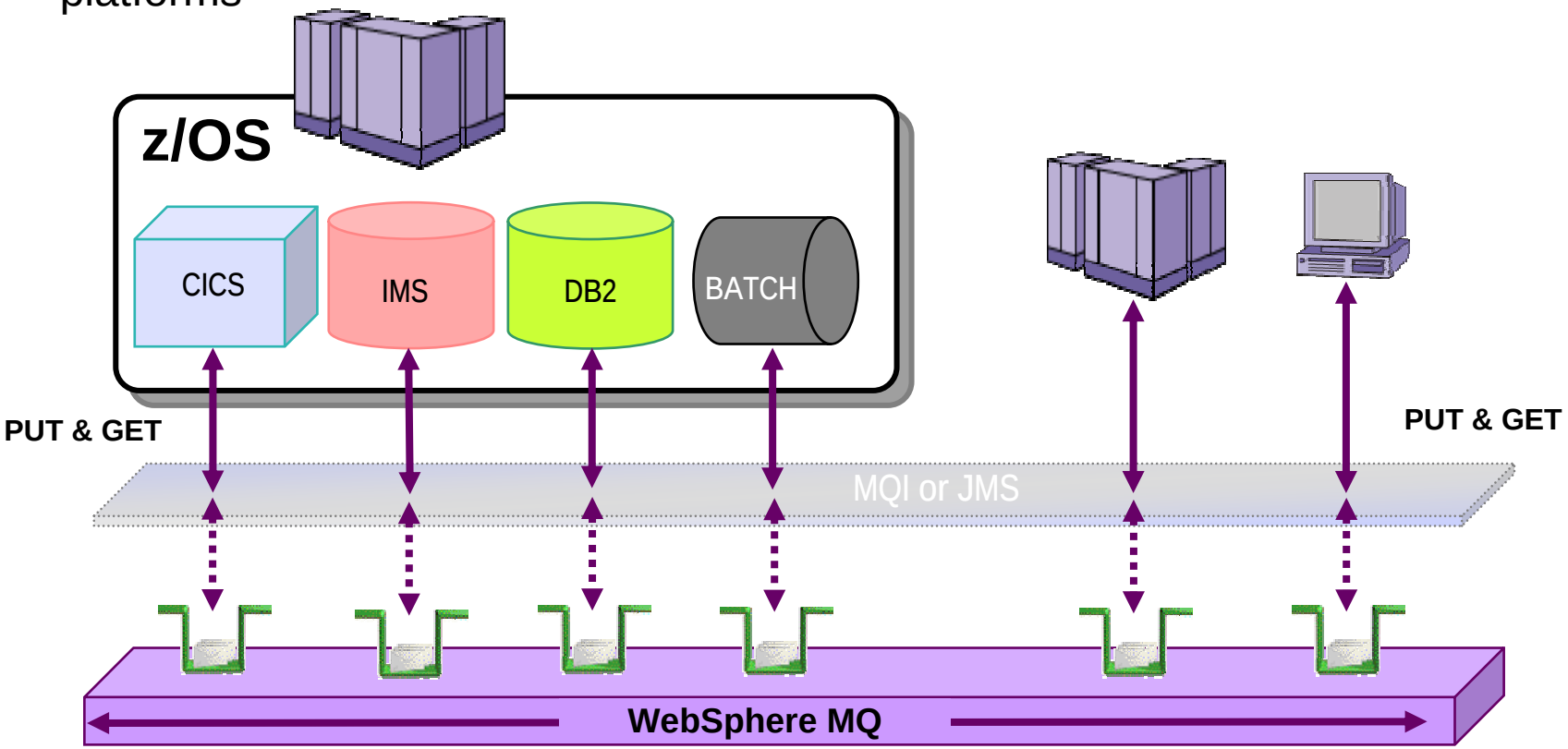
- Failure isolation
  - Automatic peer recovery for failing Servers, Applications or Queue Managers
- In-flight MQPUTs and MQGETs are rolled back
  - Since messages are not hosted in any Queue Manager there are no marooned messages
- 24 x 7 availability
- Leverages ARM (Automatic Restart Manager)



Accessing CICS, IMS, DB2 SPs and Batch/TSO

Explicitly – Using the MQI or JMS API

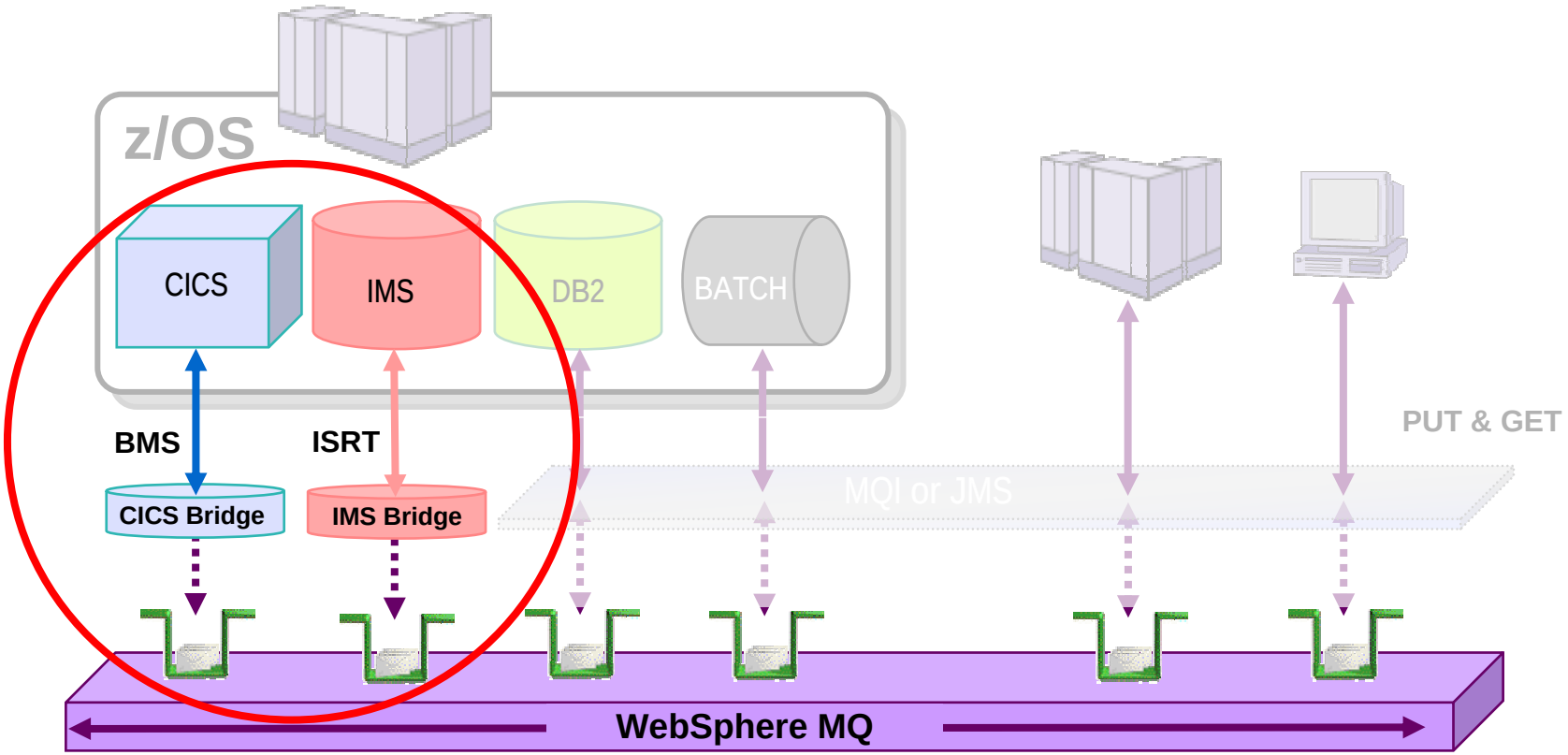
- Gives CICS and IMS access to messages from other z/OS regions and other non-zOS platforms
- Allows other applications to access CICS and IMS without using CICS or IMS APIs



Accessing CICS and IMS

Implicitly – Using the Bridges supplied for CICS and IMS

- CICS and IMS applications use the native APIs:
  - EXEC CICS BMS, GU, ISRT…
- Allows other applications to access CICS and IMS without using CICS or IMS APIs



Security

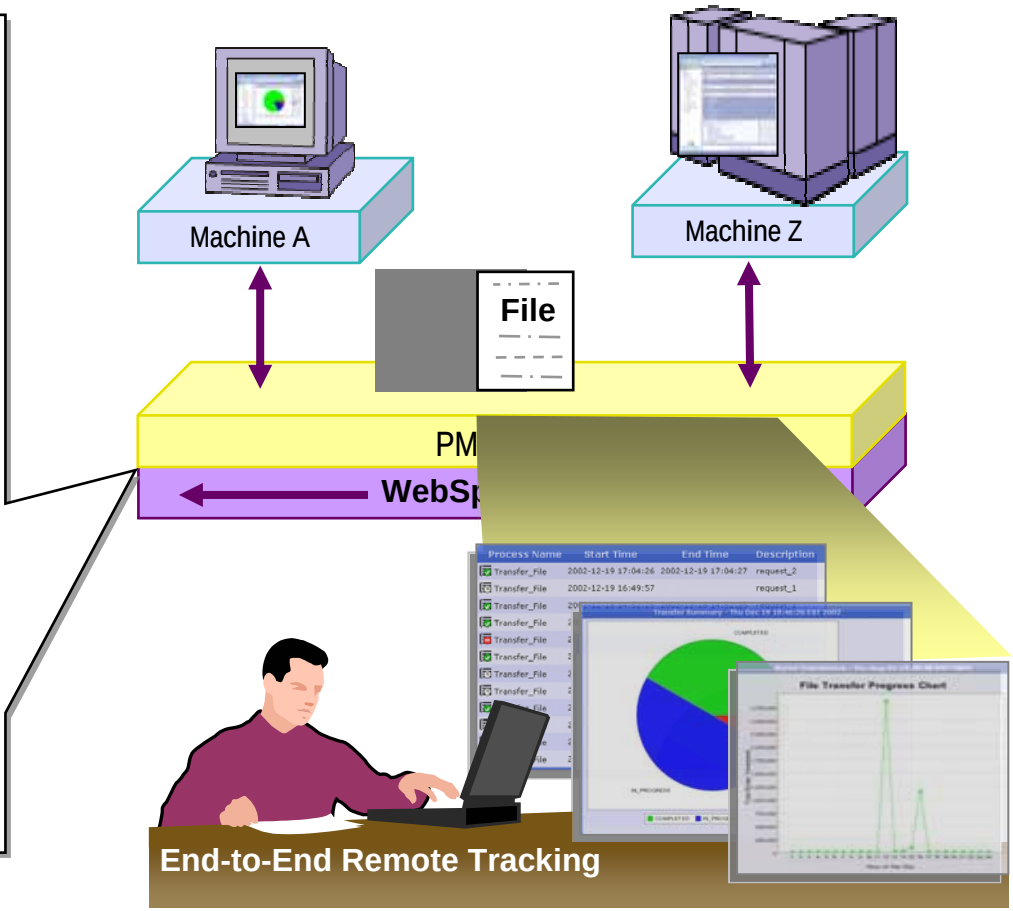
- Security is #1 concern of CIOs
- Secure Sockets Layer (SSL)
  - Provides channel-level security
  - WebSphere MQ V5.3 introduced SSL support
    - Uses the z/OS Cryptographic Services System SSL function
- Security Server on z/OS (previously RACF)
  - WebSphere MQ for z/OS has always provided close integration with RACF and 3rd-party alternatives
  - Security Server (RACF) can protect the resources that WebSphere MQ for z/OS owns and manages from access by unauthorized users
- WebSphere MQ Extended Security Edition for z/OS
  - Provides advanced security capabilities leveraging Tivoli security technology

Reliable file transfers with WebSphere MQ

- Files can be transferred in a reliable, secure and traceable manner across the WebSphere MQ messaging layer using MetaStorm PM4Data *(Resold by IBM)*

Next-generation solution for MFT:

- Flexible backbone for transfers – not a single-hop solution like FTP
- Massive file support (e.g. 10 Gb)
- Traceability end-to-end auditing subsystem that tracks entire transfer flows for logging and regulatory compliance purposes
- Reliability leveraging the MQ transport
- Integration with MQ-enabled apps and ESBs
- Performance – faster than FTP for massive files
- No need to program – unlike JMS messaging
- Simple graphical tooling and remote transfer requests
- Automatic file conversion and compression
- Security - of payload and applications
- Visual transfer status reporting
- Support for most supported MQ environments
- PM4Data for z/OS provides native z/OS support

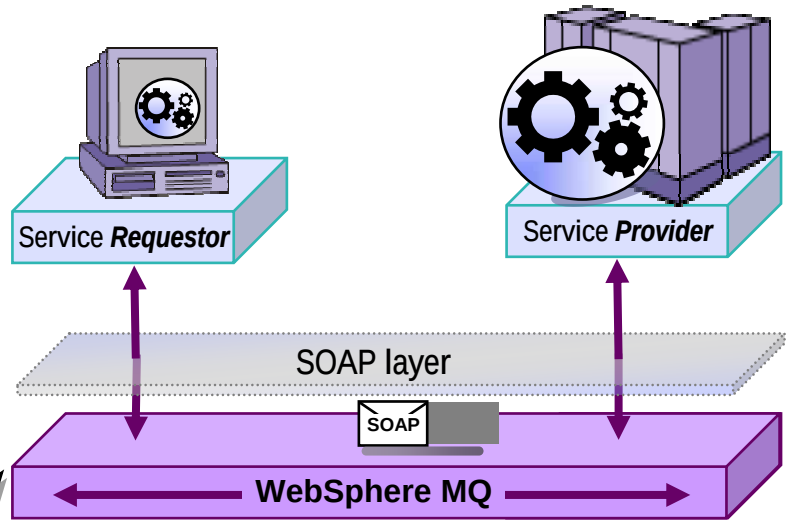


WebSphere MQ makes Reliable Web services possible

- Many developers today connect Web services using HTTP
  - May seem “good-enough” to start with but doesn’t address reliability and auditability and locks-up the services whilst they are communicating

WebSphere MQ provides a layer of messaging services to help make SOAP exchanges:

- *More reliable than those sent over HTTP*
- *Transactional – allowing service resources to be updated atomically so they retain integrity and failures can be recovered and retried*
- *Arrive in the same order as they were sent*
- *Decoupled in time – so that they can handle other requests whilst waiting for responses*
- *Buffered so that SOAP requests can be throttled for batch-style Web services*
- *Clustered so that SOAP requests can be processed in parallel by multiple service providers*
- *Easily integrated with applications that are not enabled for SOA*
- *More auditable*



- Web services that interoperate with HTTP will also with WebSphere MQ
- Sender and listener support for
  - Axis host Web services environment
  - .NET host Web services environment

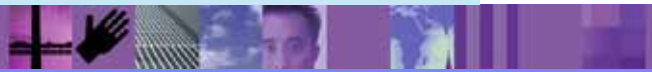
New in WebSphere MQ for z/OS V6.0

Seamlessly share information between a broad set of applications platforms with speed

- Enhanced connectivity with CICS, with support for multiple CICS Bridges and ability to emit messages directly from CICS to MQ
- New SUSPEND/RESUME IMS Bridge commands

Grow with the needs of your business with extended performance, availability, capacity, and scalability

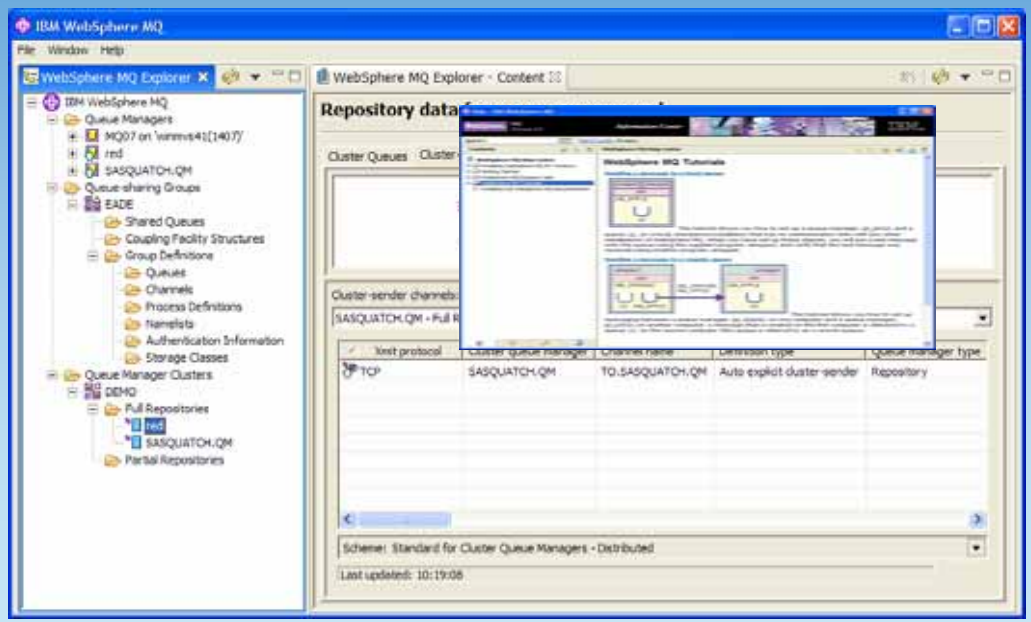
- Support for 4GB queues
- Support for 100MB messages on shared queues
- Increased pageset capacity to 64GB
- Dynamic pagesets (including preemptive expansion), buffers, buffer pools and active log datasets
- Dynamic setting of Distributed Queuing (CHIN) parameters
- Multiple TCP/IP stack support
- Support for Internet Protocol Version 6 (IPv6)
- Data compression for channels



New for WebSphere MQ for z/OS V6.0

Standards-based, cross-platform configuration tooling

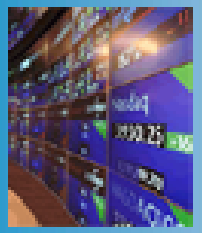
Maximize the visibility and ease of configuration of application integration solutions



- Enhanced tooling interface standardized on Eclipse for remote configuration of WebSphere MQ networks, including WebSphere MQ for z/OS V6.0 deployments from Windows or Linux
- Ships with WebSphere MQ V6.0 – works with WebSphere MQ for z/OS V6.0
- Uses SSL to secure remote configuration connections
- PCF support for z/OS to allow for commonality and porting of administration and monitoring applications between z/OS and distributed environments

WebSphere MQ: Proven and Trusted

Relied on by over 10,000 of Clients Around the World



Financial Markets examples:

- **$1 trillion per day on one MQ network**
- **Another exchanges over £400 billion worth of messages per day**

Government examples:

- **One sends 675 m messages per day**
- **One has approx. 7,500 agency users and average of 50,000 citizen transactions per day**

Banking examples:

- **Between $7 and $35 trillion worth of traffic per day on just one MQ-based SWIFT gateway**
- **One client sends over 213 million messages per day just on z/OS**

Relying On WebSphere MQ to Help Meet Regulatory Compliance

"We needed a single integration platform that would allow all our applications to access and share information and enable them to collaboratively process transactions based on common business rules."

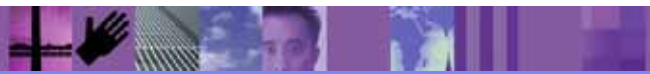
Mildre Wampler, Chief Architect,
Independence Blue Cross

Over 14 years of proven experience, 10's of billions of messages everyday

Source: Results reported from actual IBM WebSphere MQ implementations

Summary

- Using Vendor supplied integration software can save 2-4 times cost in both development and maintenance
  - Compared with roll your own approaches such as Raw Sockets and FTP
- A messaging backbone is a simple first step to SOA and can help with addressing your regulatory compliance obligations
- WebSphere MQ is the market-leader for messaging
  - Provides a foundation for your ESB
- WebSphere MQ for z/OS exploits the unique capabilities of System z to be a messaging powerhouse
  - Integrated with CICS, IMS, DB2, Batch and WAS
  - Highly available, scalable and secure



Next Steps and more information

- Talk with your IBM representative and IBM Business Partners to identify ways to help achieve your business goals with WebSphere MQ for z/OS
- More information about WebSphere MQ for z/OS can be found here
  - www.ibm.com/webspheremq
  - www.ibm.com/software/integration/wmq/v60zos/
- Customer case studies
  - www.software.ibm.com/casestudies

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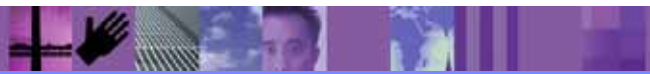

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