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May 18, 2011



Extend the reach of your Managed File Transfer and B2B investments by leveraging MQ & SOA



Agenda

- Join your Sterling Commerce and MQ/SOA messaging environments together for greater reach, flexibility, and visibility
- Extend the reach of your MFT/B2B initiatives to work seamlessly with your messaging/SOA environment
- Run MFT as a service atop your existing messaging bus and with your ESBs, using your existing skills and infrastructure
- Get end-to-end visibility even when doing message(s) to file or file to message(s) across multiple servers
- Extend your ESBs universal any-to-any transformation service to your MFT B2B formats for easy integration with internal system formats including SAP, Oracle applications, etc.

With Sterling Commerce, IBM offers comprehensive MFT Capabilities

Addressing multiple use cases and scenarios for both internal and multi-enterprise file transfer

IBM Sterling Connect Direct provides peer-to-peer file transfer optimized for data delivery within and between enterprises across Connect:Direct protocol

WebSphere MQ File Transfer Edition provides file transfer optimized for data delivery across WebSphere MQ networks

IBM Sterling File Gateway provides trading partner onboarding, broad protocol support, management, and visibility

For comprehensive file transfer needs:

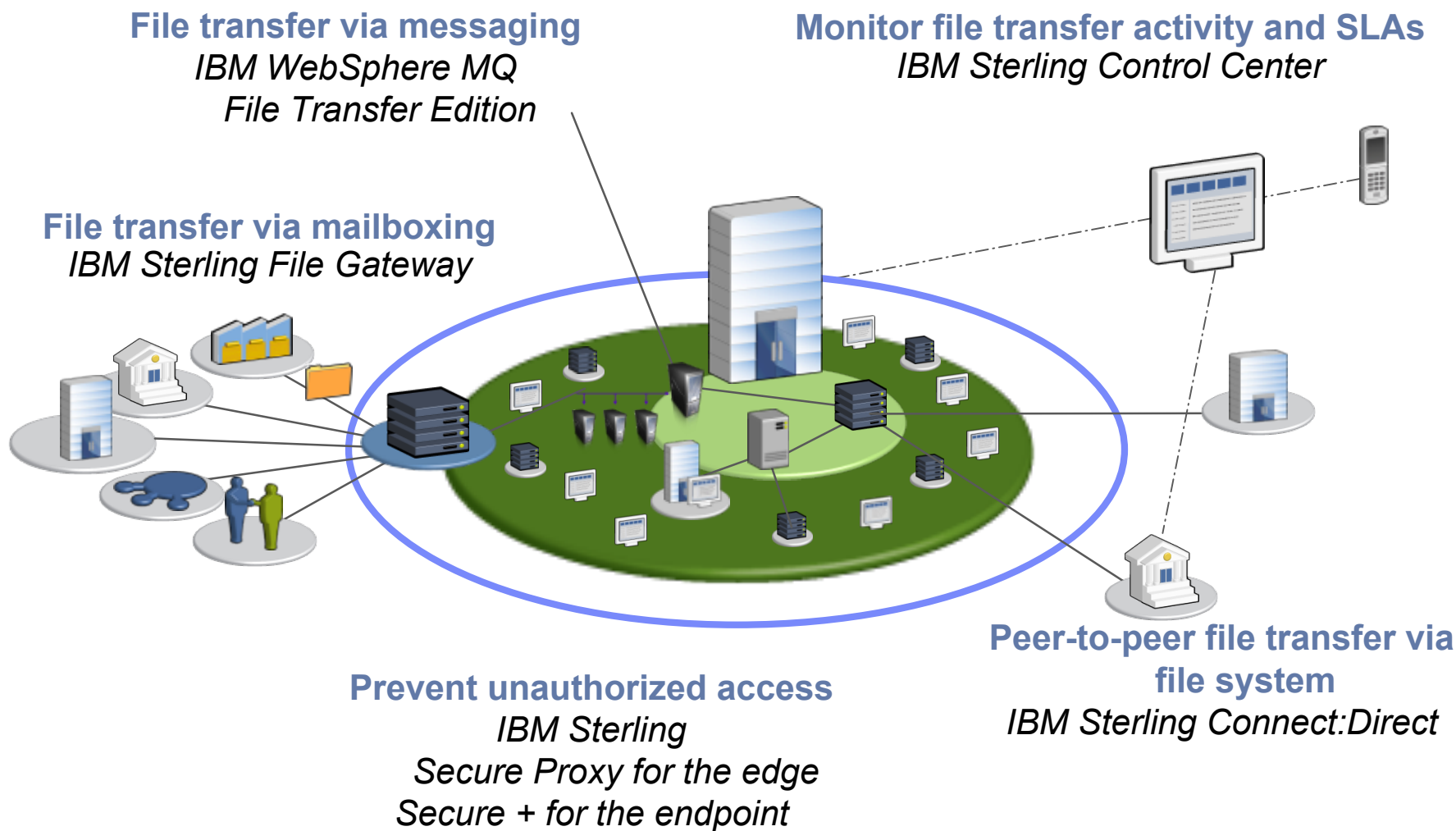
IBM bridges MFT on MQ and Connect:Direct networks

Message Broker transforms, enriches, and routes both messages and files. Broker adds intelligence to MFT networks

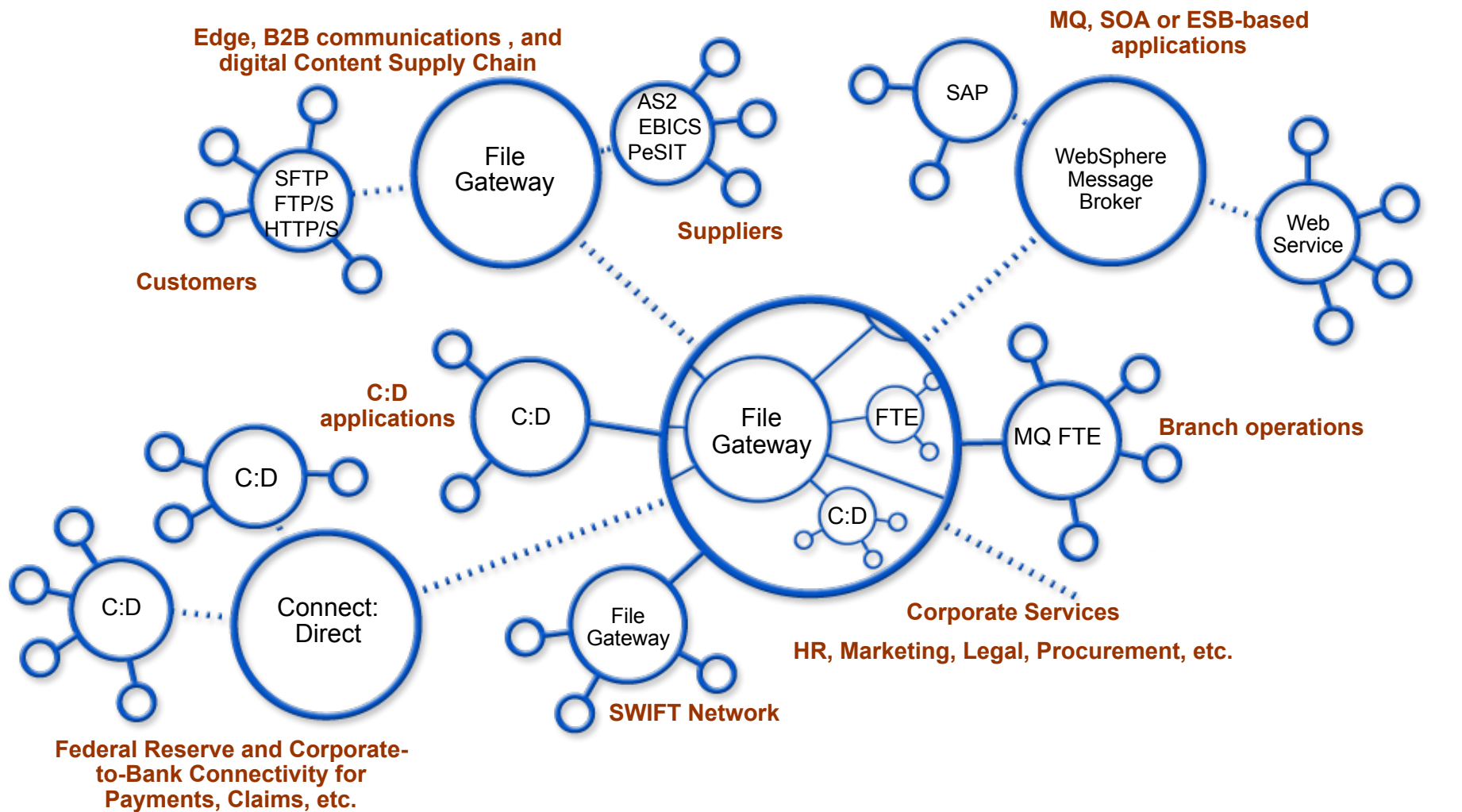
IBM intends to enable WebSphere MQ File Transfer Edition to plug into IBM Sterling File Gateway



IBM's managed file transfer suite

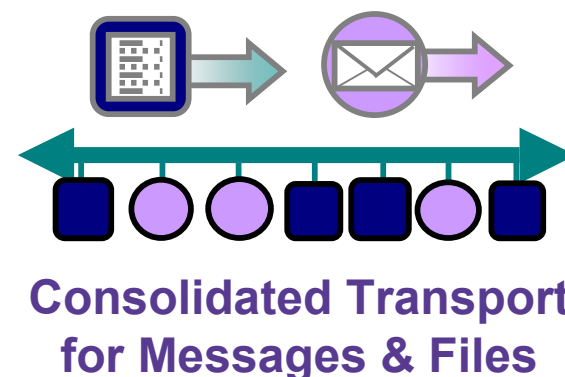
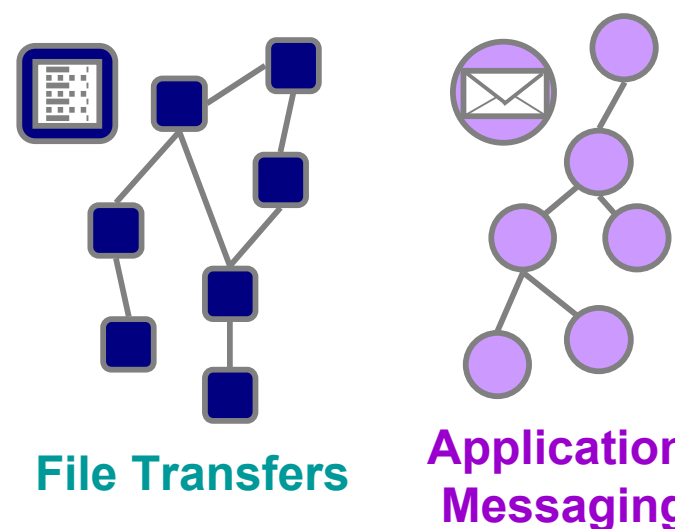


IBM's Managed File Transfer suite streamlines your dynamic business network



Simplification means savings

- Traditional approaches to file transfer result in parallel infrastructures:
 - One for files
 - One for application messaging – based on WebSphere MQ or similar
- High degree of duplication in creating and maintaining the two infrastructures
- Using your MQ network and skills for managed file transfer and yields:
 - Operational savings and simplification
 - Reduced administration effort
 - Reduced skills requirements and maintenance

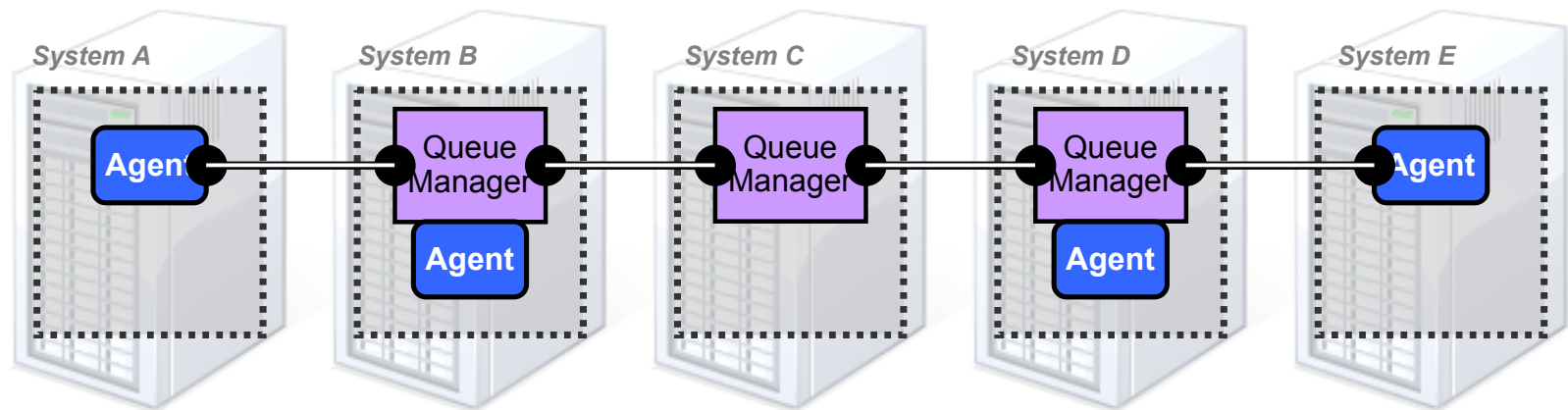


Extending MQ to transport file data

- The MQ transport can be extended to transport file data by the addition of endpoints called 'FTE agents':
 - FTE agents act just like MQ applications and will be instantly familiar to MQ users
 - Administration of FTE agents is identical to administering other MQ applications
 - All FTE agents in a network are peers and can transfer files to any other agent

- The MQ network provides the connectivity required to transfer file data
 - An FTE agent can be deployed on the same machine as the MQ queue manager or on a different machine which has TCP/IP connectivity to an MQ queue manager

- MQ queue managers can also be connected together and are able to route data (messages) between one another:
 - Messages can (potentially) be routed via several queue managers before reaching their destination
 - FTE agents only need to be deployed where file data is being moved to/from
 - Routing of the data via intermediate queue managers is a standard feature of the MQ network

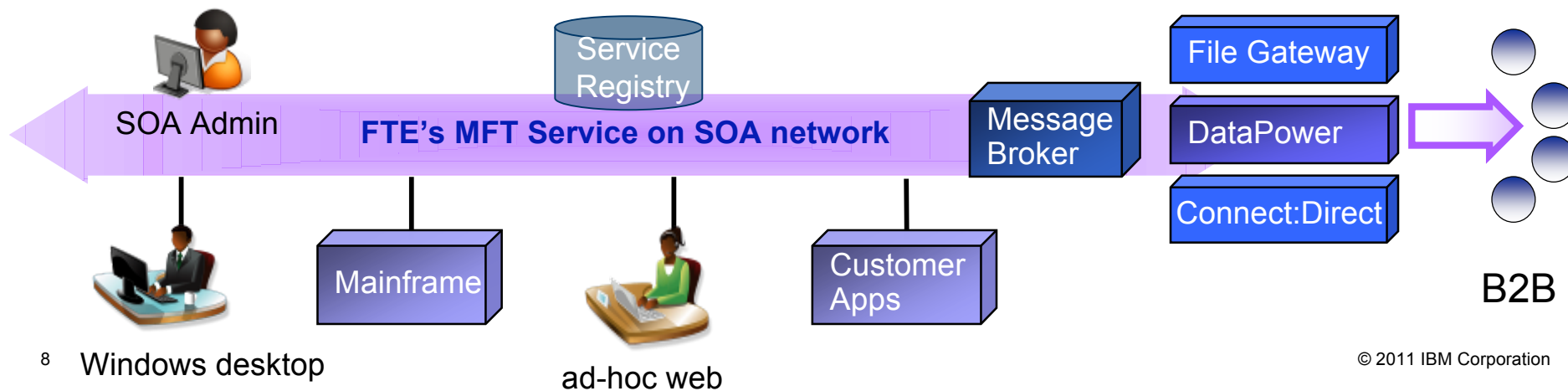


All of these FTE agents can communicate with one another via their connectivity to WebSphere MQ Queue Managers

IBM WebSphere MQ File Transfer Edition (FTE)

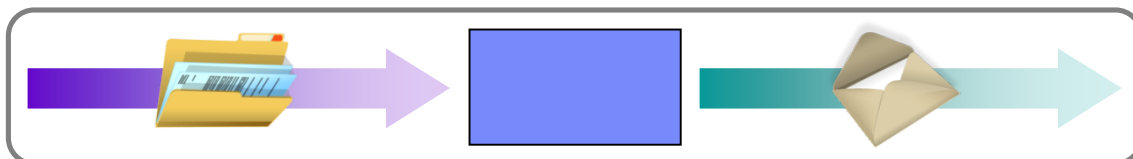
Easy and powerful MFT optimized for the SOA environment

- Enterprise class “MFT Service” – high performance, reliable, secure, auditable
 - User friendly and familiar to SOA customers - Easy demo, low labor, quick ROI
 - File Exchange and Visibility across MQ, Broker, DataPower, BPM
 - SOA on the desktop and Web 2.0, REST, JMS, SOAP, MQ, HTTP, Twitter
-
- Graphical Setup, Visibility & Management
 - [Broad platform support](#) 11 OSs, 47 versions
 - Modern SOA, Built-in HA, no 1 point of failure
 - Built-in File Integrity Checking
 - Modernize legacy batch with File-to-Message, Message-to-File
 - High Performance, High Volume, Z-optimized
 - KB to TBs, multi-file / directory with single command
 - SSL built-in, MQ AMS optional
 - Standards-based automation across platforms
 - FTP, SFTP, C:D w full checkpoint restart and audit



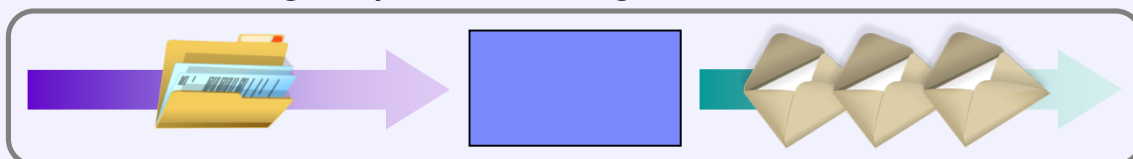
File-to-messages and messages-to-file with MQ FTE

One file to one message



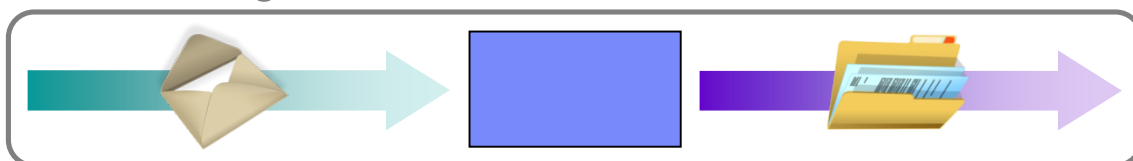
- One file becomes one message

One file to a group of messages



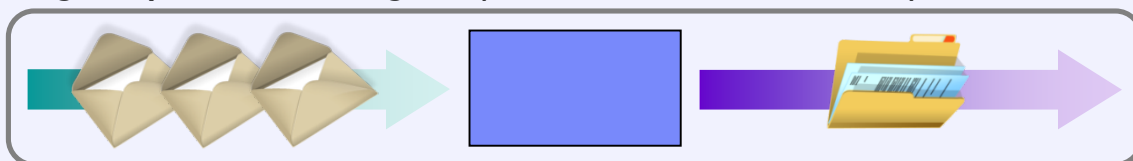
- **File can be split based on:**
 - Size
 - Binary delimiter
 - Regular expression

One message to one file



- One message becomes one file

A group of messages (or all messages on the queue) to one file



- Optionally, a delimiter can be inserted between each message composing a file

Recap of key MQ concepts - (if you already know Connect:Direct)

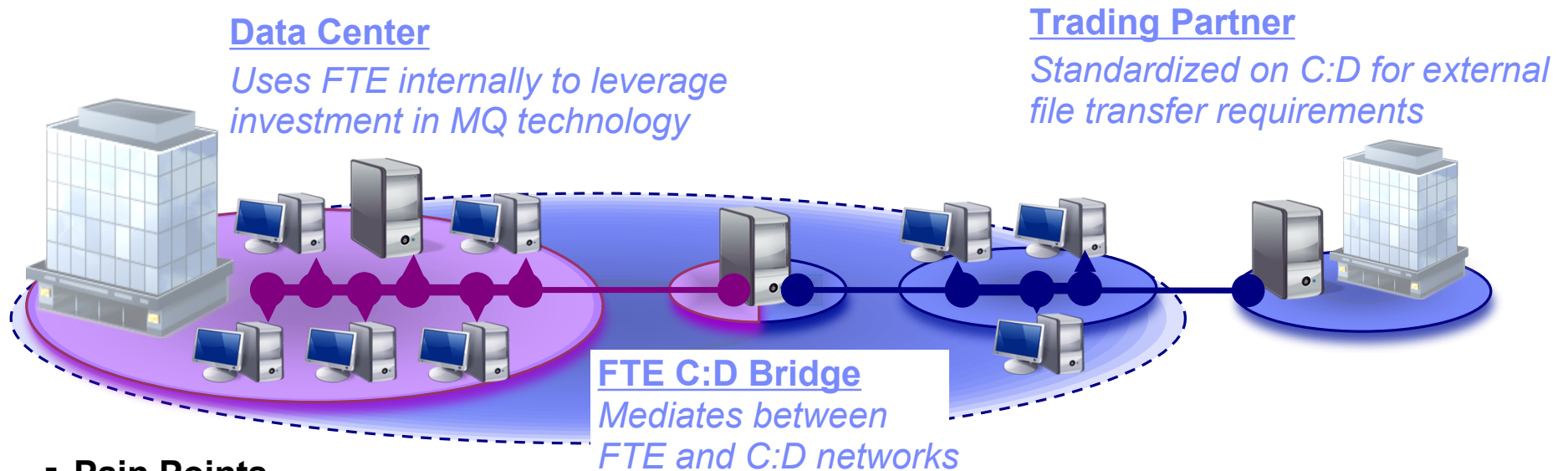
- IBM WebSphere MQ File Transfer Edition (FTE) is a managed file transfer product that has similarities with IBM Sterling Connect:Direct – but reuses WebSphere MQ as a transport for file data
 - By using an existing WebSphere MQ network, FTE avoids the need to duplicate infrastructure when there is the requirement to transport data as both files and messages

- There are only so many ways to do managed file transfer – so, unsurprisingly, some concepts are common to both FTE and C:D:

| C:D terminology | FTE terminology |
|-----------------|---------------------------|
| Node | Agent |
| C:D Requestor | WebSphere MQ Explorer GUI |
| Netmap | MQ channel definition |
| Statistics | Log database |
| Process | Script |

- There are also some key differences:
 - Monitoring of the FTE network is based on pushing data to a centralized location
 - FTE uses MQ as a transport (typically on top of TCP/IP)
 - FTE supports file-to-message and message-to-file patterns as well as file-to-file

Managed file transfer across MQ and C:D networks



▪ Pain Points

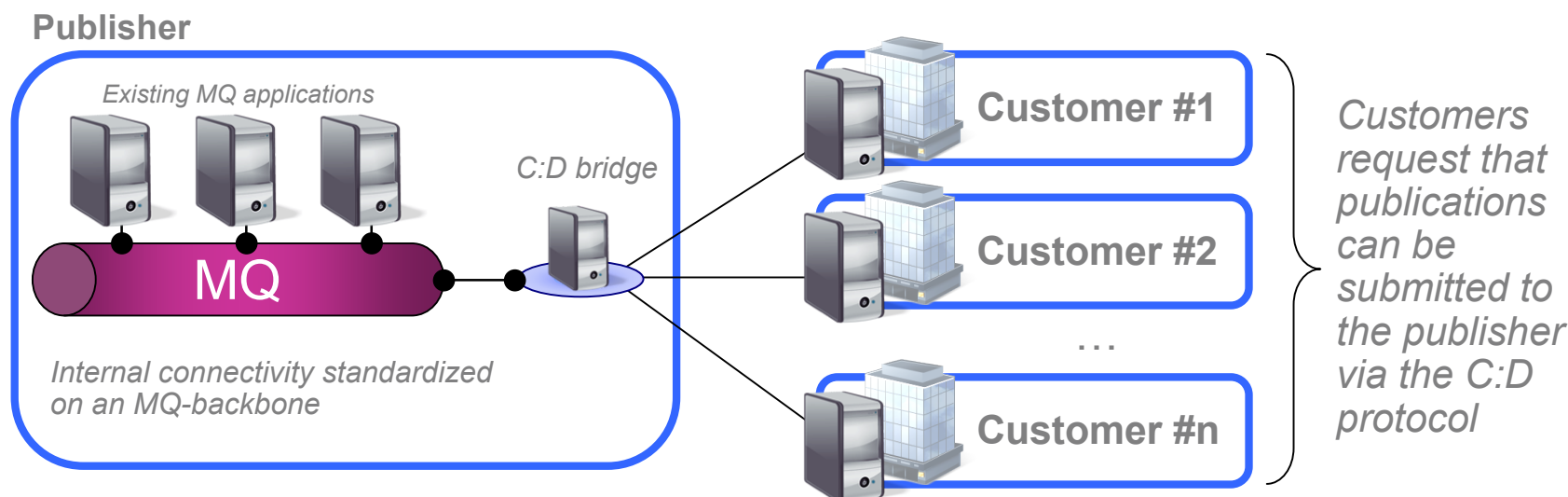
- Wants joined up internal and external MFT environment leveraging their existing investment in IT and skills
- Wants to integrate existing C:D environment with MQ messaging-based environments
- Wants visibility into transfers that flows from MQ FTE into and out of existing C:D networks

▪ WMQ File Transfer Edition V7.0.4 provides

- Bridge adds ability to send files to (and receive files from) existing C:D nodes
- Enhanced visibility of across Connect:Direct and MQ networks

Bridging MQ and C:D networks at a large publisher

A very large publisher is currently evaluating the C:D bridge as a way to consolidate its IT infrastructure while still retaining the communication protocols used to communicate with partners



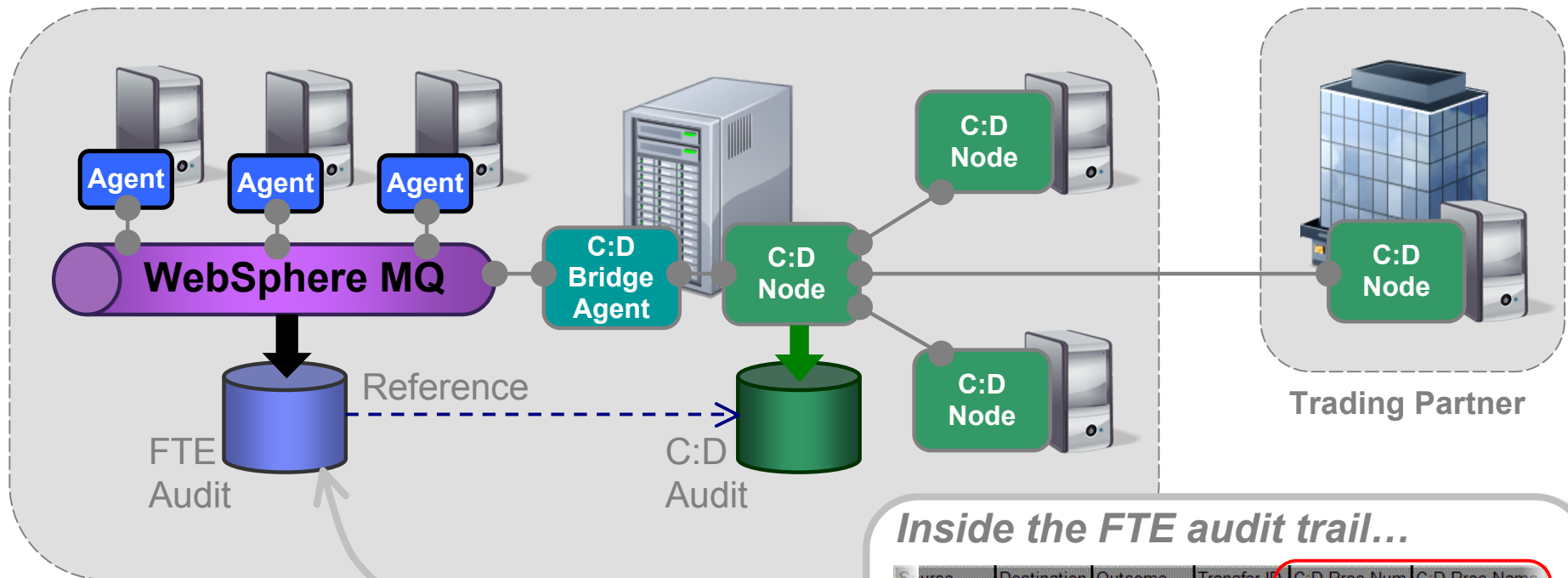
Pain Points

- Existing solution is a hodgepodge of different data transports from different vendors
- Difficult to integrate existing applications, built on MQ messaging, with file data arriving from business partners

IBM's MFT suite helps

- Bridge the MQ and C:D environments
- Leverage existing MQ skills and investment
- Message-to-file and file-to-message
- End-to-end visibility of files and messages
- Modernize batch applications
- Modernize MFT with RESTful Web 2.0 interfaces

Details on the integration with IBM Sterling Connect:Direct



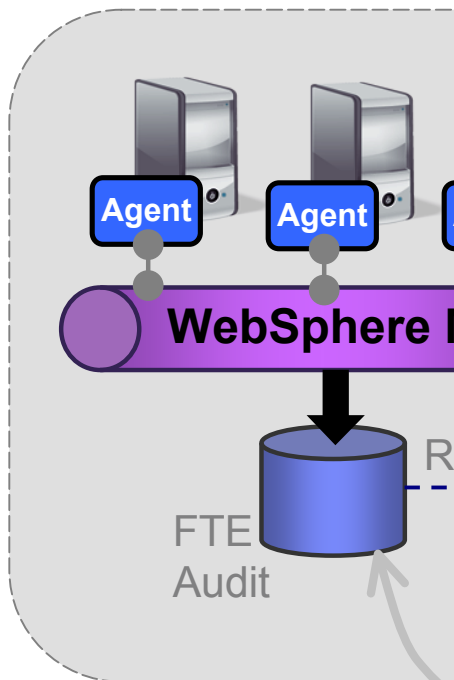
Inside the FTE audit trail...

| Source | Destination | Outcome | Transfer ID | C:D Proc Num | C:D Proc Name |
|-----------|-------------|-------------|-------------|--------------|---------------|
| FTEAgent1 | CDNode6 | Success | 0A9B43F... | 34 | FTE0934 |
| FTEAgent1 | CDNode6 | Success | 1CF3B73... | 39 | FTE92B6 |
| CDNode2 | FTEAgent4 | Success | D1839F2... | 42 | FTE13C9 |
| CDNode4 | FTEAgent2 | In Progress | | | |

The audit information for each FTE transfer references related C:D audit information

- The Connect:Direct bridge capability supports managed file transfers that span FTE and C:D with a joined-up audit trail

Details on the integration with IBM Sterling Connect:Direct



Beta-program results:

Excellent command rich tools which can ease the transfer of files from WMQ to the Sterling Commerce world and visa-versa.

- Business Partner

Performance is excellent. We are able to see the file and transfer in seconds.

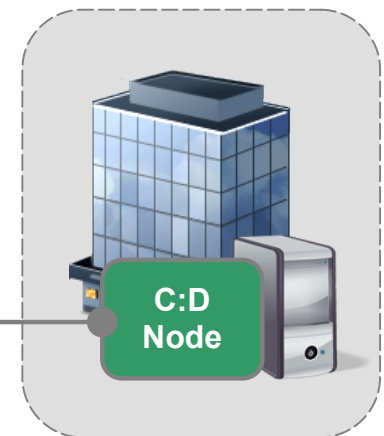
- Another Business Partner

No real loss in performance swapping from FTE to C:D.

- Customer

The design of the single gateway to reach multiple C:D nodes is perfect.

- IBM Field Engineer



Trading Partner

audit trail...

| Transfer ID | C:D Proc Num | C:D Proc Name |
|-------------|--------------|---------------|
| 0A9B43F... | 34 | FTE0934 |
| 1CF3B73... | 39 | FTE92B6 |
| D1839F2... | 42 | FTE13C9 |

for each FTE transfer
D audit information

- The Connect:Direct managed file transfer with a joined up audit trail

What will this look like to the Connect:Direct operator?

- Two extra RUNTASK steps added into a C:D process:
 - A step which “tags” the C:D process as containing FTE work
 - A step which initiates the FTE portion of the transfer and provides a OS return code indicating success or otherwise.
- For example:

```
MYPROC      PROCESS      SNODE=CDBRIDGE

/* Copy file from C:D node to bridge */
STEP1      COPY          FROM (FILE=/home/prestona/data.bin)
              TO          (FILE=/workingdir/data.bin)

/* Tag the transfer so that the FTE C:D bridge can pick up process information for
audit record */
STEP2      RUN TASK      SNODE SYSOPTS="/wmqfte/bin/ftecdtag /workingdir/data.bin"

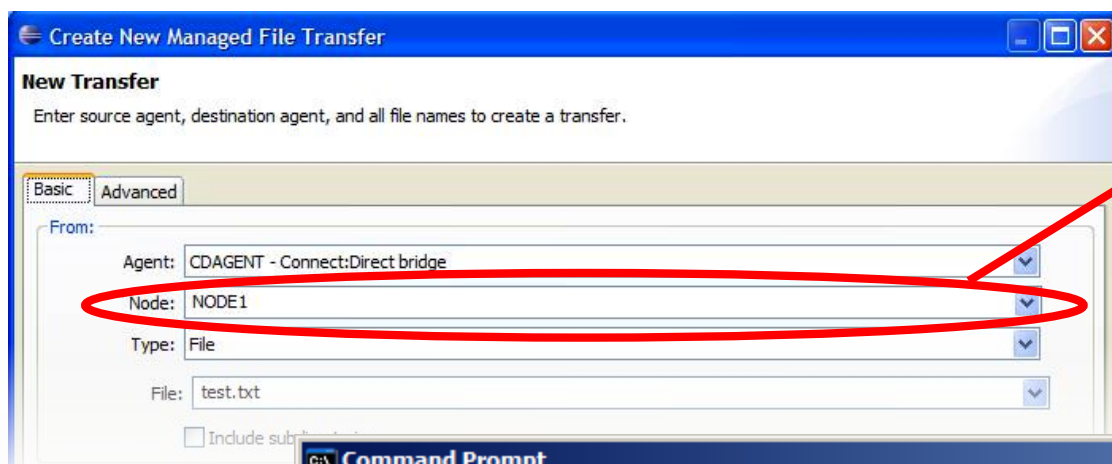
/* Tell the FTE C:D bridge agent to transfer the file to 'agent1' */
STEP3      RUN TASK      SNODE
              SYSOPTS="/wmqfte/bin/ftcdxfr -da agent1 -df /tmp/data.bin
/workingdir/data.bin"

/* ... Conditional logic dependent on the outcome of the FTE portion of the transfer */
```

- The “tag” step enables the C:D bridge agent to collect information about the C:D process and include it in the FTE audit publication

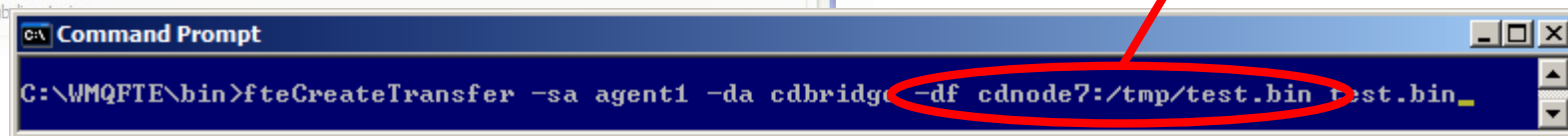
What will this look like to the MQ operator?

- From the perspective of the MQ operator the C:D bridge looks *similar* to a protocol bridge agent – except:
 - The C:D bridge addresses multiple C:D nodes as sources/destinations for transfers



Source / destination C:D node name is presented as a first-class entry on the WebSphere MQ Explorer plug-in (when the agent is a C:D bridge agent)

C:D node name encoded into file path to permit use of existing command line tools



- In addition – the audit information collected when files are transferred to/from C:D includes the following information which uniquely identify the C:D work:
 - PNODE name
 - SNODE name
 - Process name
 - Process number

Introducing WebSphere Message Broker

- **Universal Connectivity**

- Simplifies application connectivity for flexible and dynamic infrastructure

- **Intelligence in routing and transforming messages FROM anywhere, TO anywhere**

- Interactions and Operations

- Route, Filter, Transform, Enrich, Monitor, Distribute, Decompose, Sequence, Correlate..

- Modernizes Legacy, enabling wide range of protocols

- MQ, JMS 1.1, HTTP(S), SOAP, REST, File, DBs, SAP, Oracle, TCP/IP, SCA...

- Broad set of data formats, with extreme processing performance

- XML, Industry (SWIFT, EDI, HL7...), SAP, CSV, Binary (C/COBOL) ...

- **Visual message flow design, simple programming**

- Patterns based for top-down, parameterized connectivity of common use cases

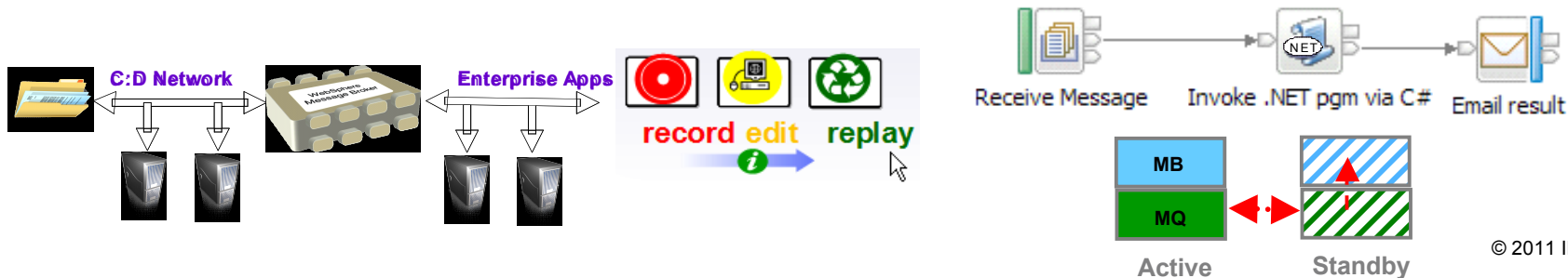
- e.g. Web Service façades, Message oriented processing, Queue to File...

- Construction based for bottom-up assembly of bespoke connectivity logic

- Message Flows to describe application connectivity and integration logic...

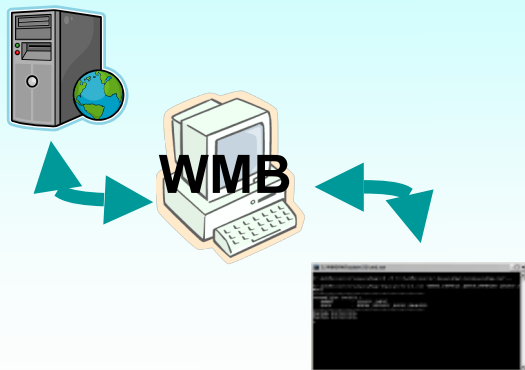
- Message Tree which describes the data in a format independent manner

- Transformation with graphical mapping in WTX, XSL, PHP, Java, ESQL

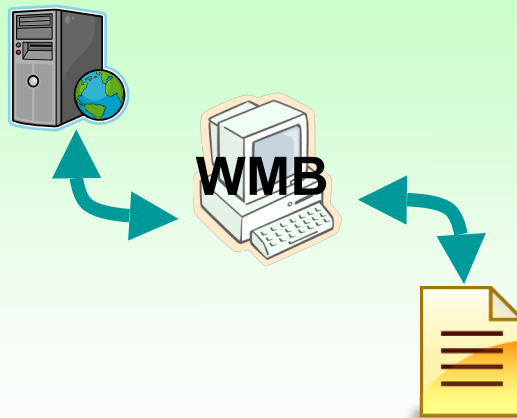


Typical Message Broker scenarios

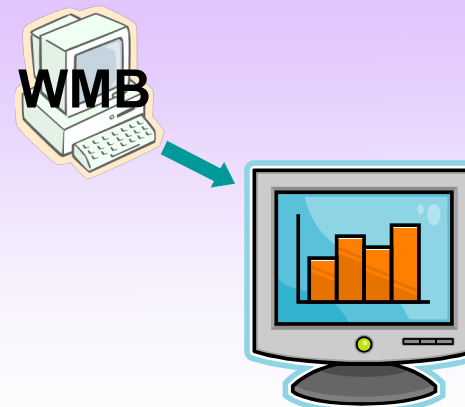
Extending the reach of existing applications



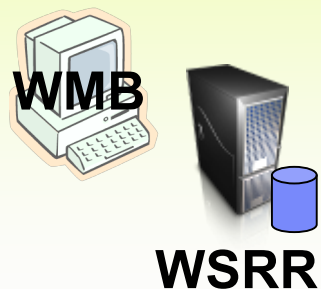
Moving Batch Into Online



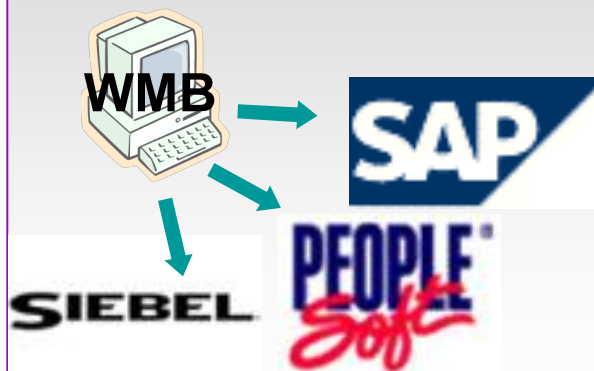
Business Monitoring



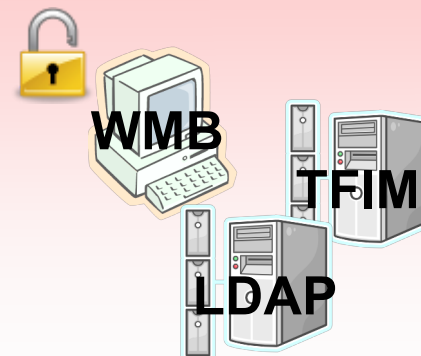
Making an Application Inventory and Governing Processing



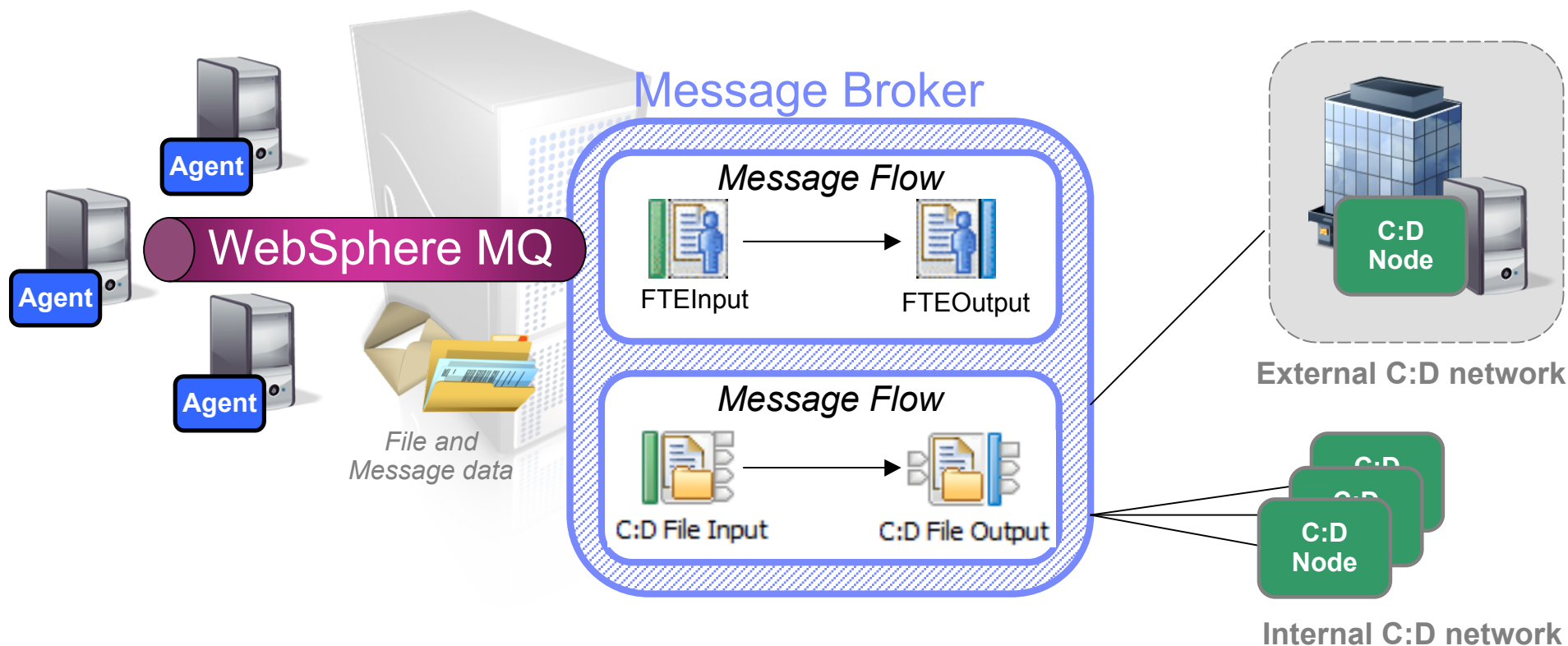
Making the Most of Packaged Applications



Participating in a Secure Infrastructure

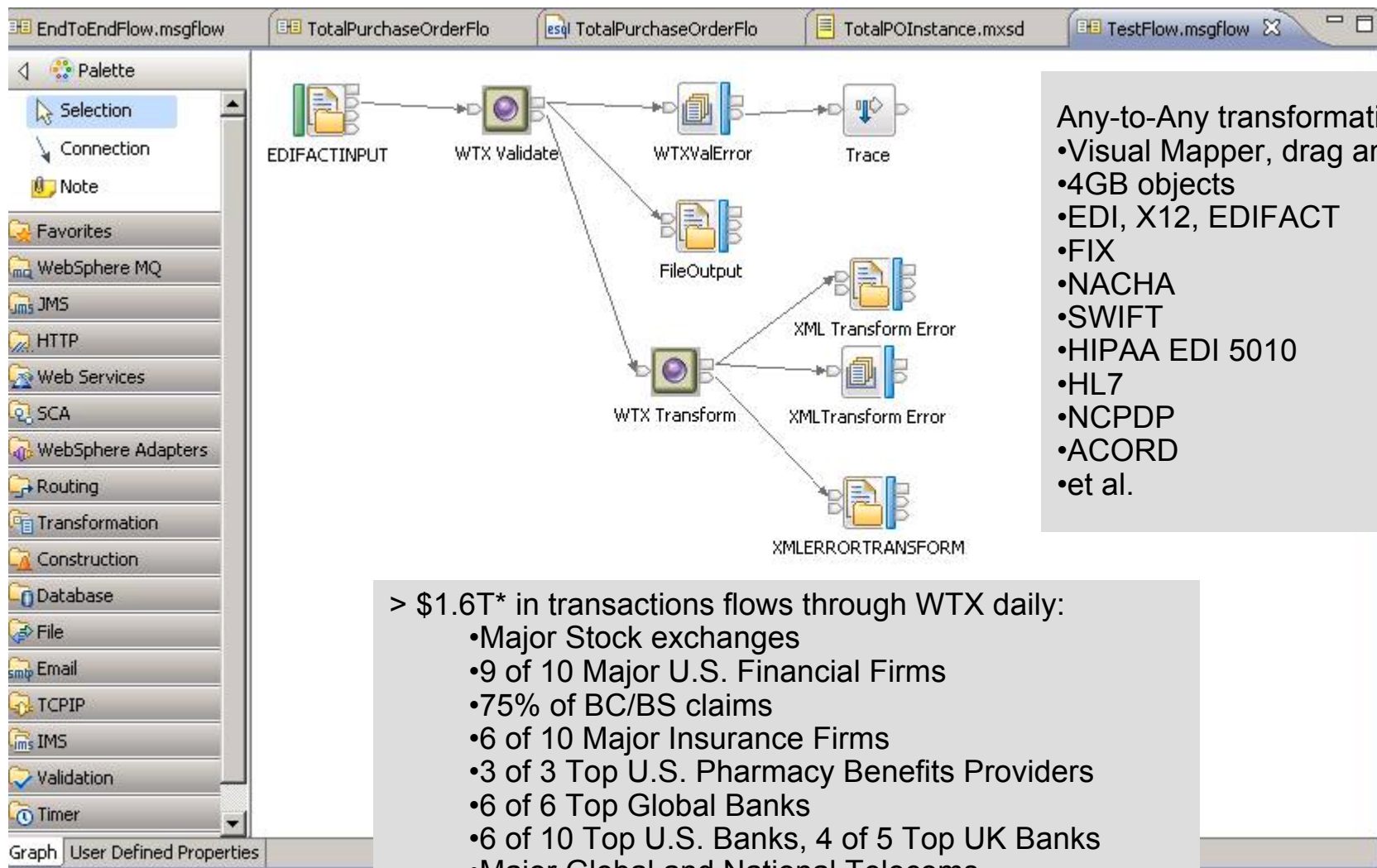


MFT in IBM Message Broker



- WebSphere Message Broker provides support for integration with IBM's MFT suite to transform, enrich file and route data
 - E.g. Transforming and loading file data into a SAP system
- Broker adds intelligence to MFT networks

WebSphere Transformation Extender runs within Message Broker



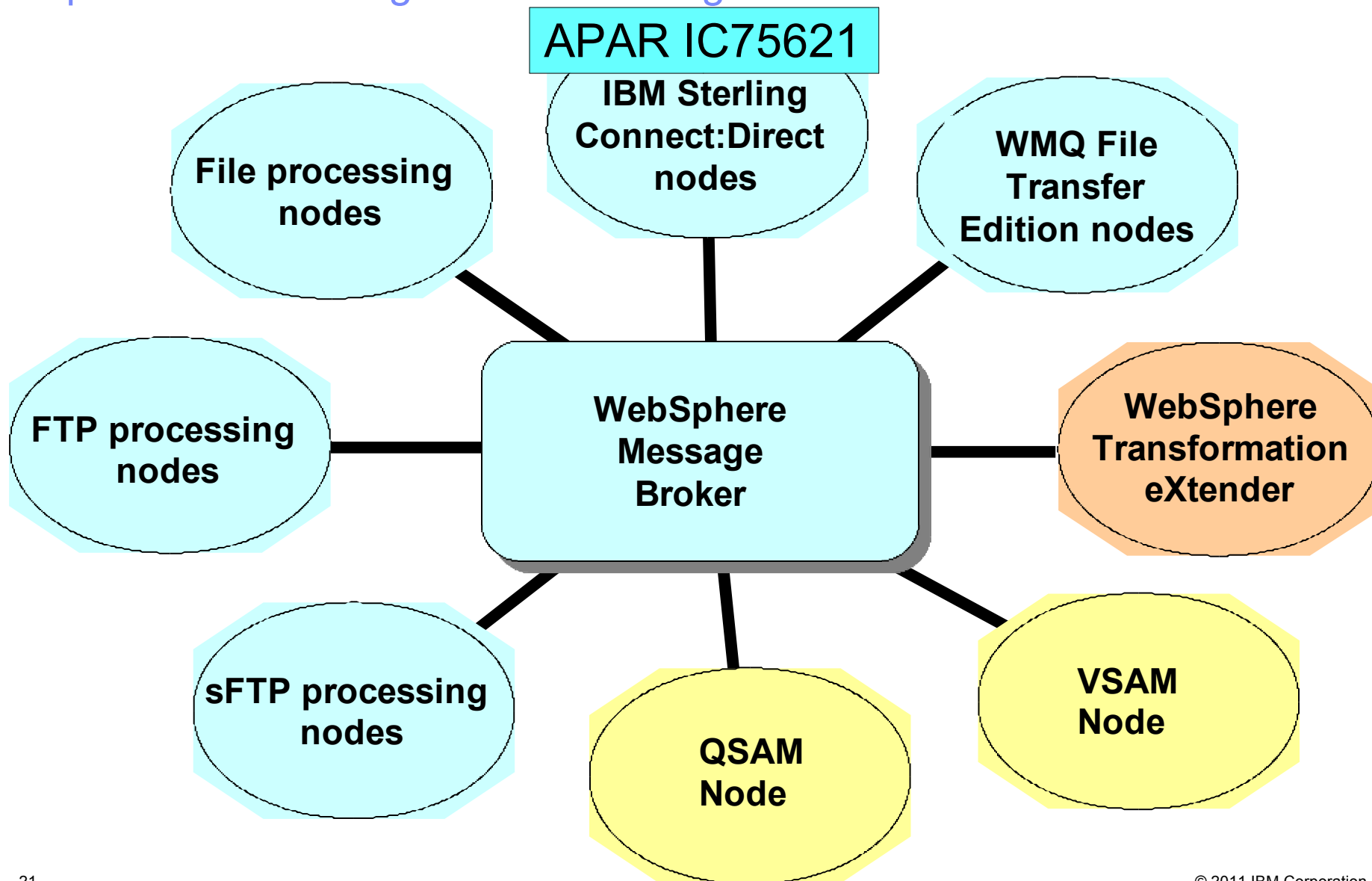
Any-to-Any transformation

- Visual Mapper, drag and drop:
- 4GB objects
- EDI, X12, EDIFACT
- FIX
- NACHA
- SWIFT
- HIPAA EDI 5010
- HL7
- NCPDP
- ACORD
- et al.

> \$1.6T* in transactions flows through WTX daily:

- Major Stock exchanges
- 9 of 10 Major U.S. Financial Firms
- 75% of BC/BS claims
- 6 of 10 Major Insurance Firms
- 3 of 3 Top U.S. Pharmacy Benefits Providers
- 6 of 6 Top Global Banks
- 6 of 10 Top U.S. Banks, 4 of 5 Top UK Banks
- Major Global and National Telecoms

Options for file integration in Message Broker



Thank you

- Information Center:
 - <http://publib.boulder.ibm.com/infocenter/wmqfte/v7r0/index.jsp>
- Redbooks / Redguides / Redpapers:
 - Getting Started with WebSphere MQ File Transfer Edition V7
 - <http://www.redbooks.ibm.com/abstracts/sg247760.html>
 - IBM WebSphere MQ File Transfer Edition Solution Overview
 - <http://www.redbooks.ibm.com/abstracts/redp4532.html>
 - Managed File Transfer for SOA using IBM WebSphere MQ File Transfer Edition
 - <http://www.redbooks.ibm.com/abstracts/redp4533.html>
 - B2B Enabled Managed File Transfer using WebSphere DataPower B2B Appliance XB60 and WebSphere MQ File Transfer Edition
 - <http://www.redbooks.ibm.com/abstracts/redp4603.html>
 - IBM Sterling Managed File Transfer Integration and WebSphere Connectivity for a Multi-Enterprise Solution
 - <http://www.redbooks.ibm.com/abstracts/sg247927.htm>
- Trial Download:
 - <http://www.ibm.com/software/integration/wmq/filetransfer/>