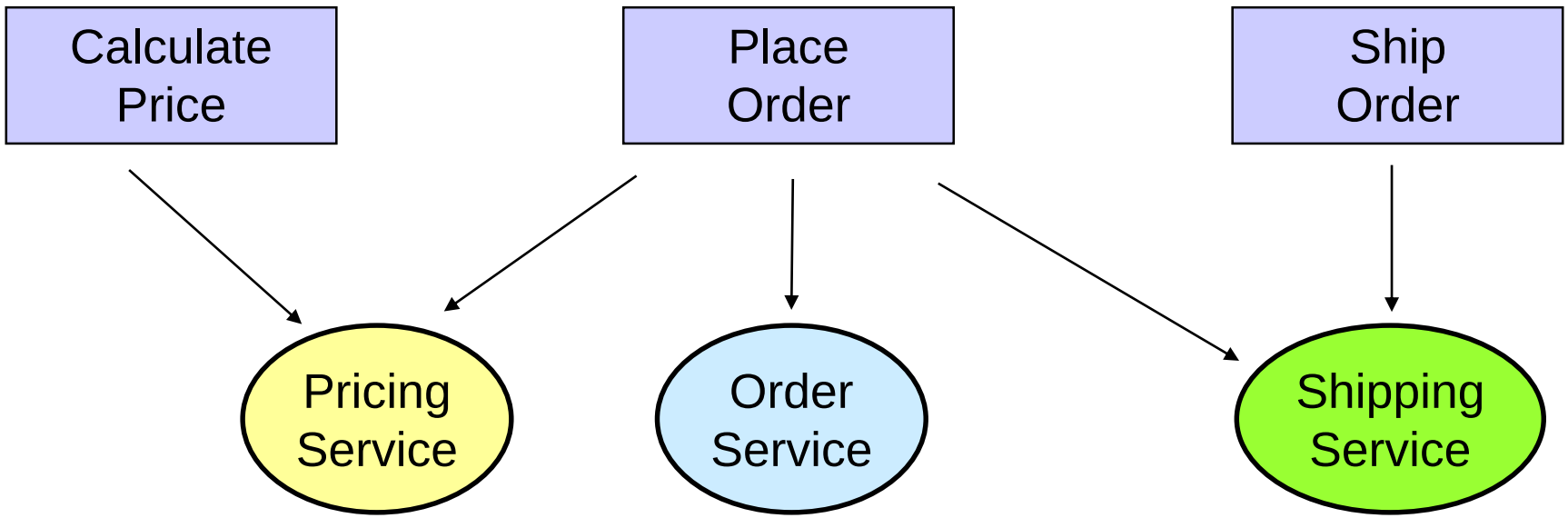
WebSphere Puts Business in Motion

Keep Data in Motion with an Enterprise Service Bus

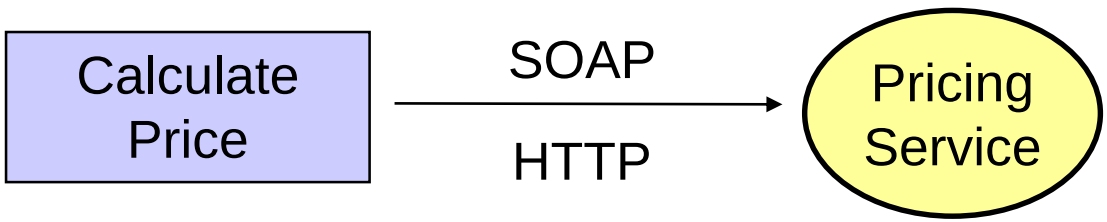
With a Service Oriented Architecture (SOA), New Applications Reuse Existing Components



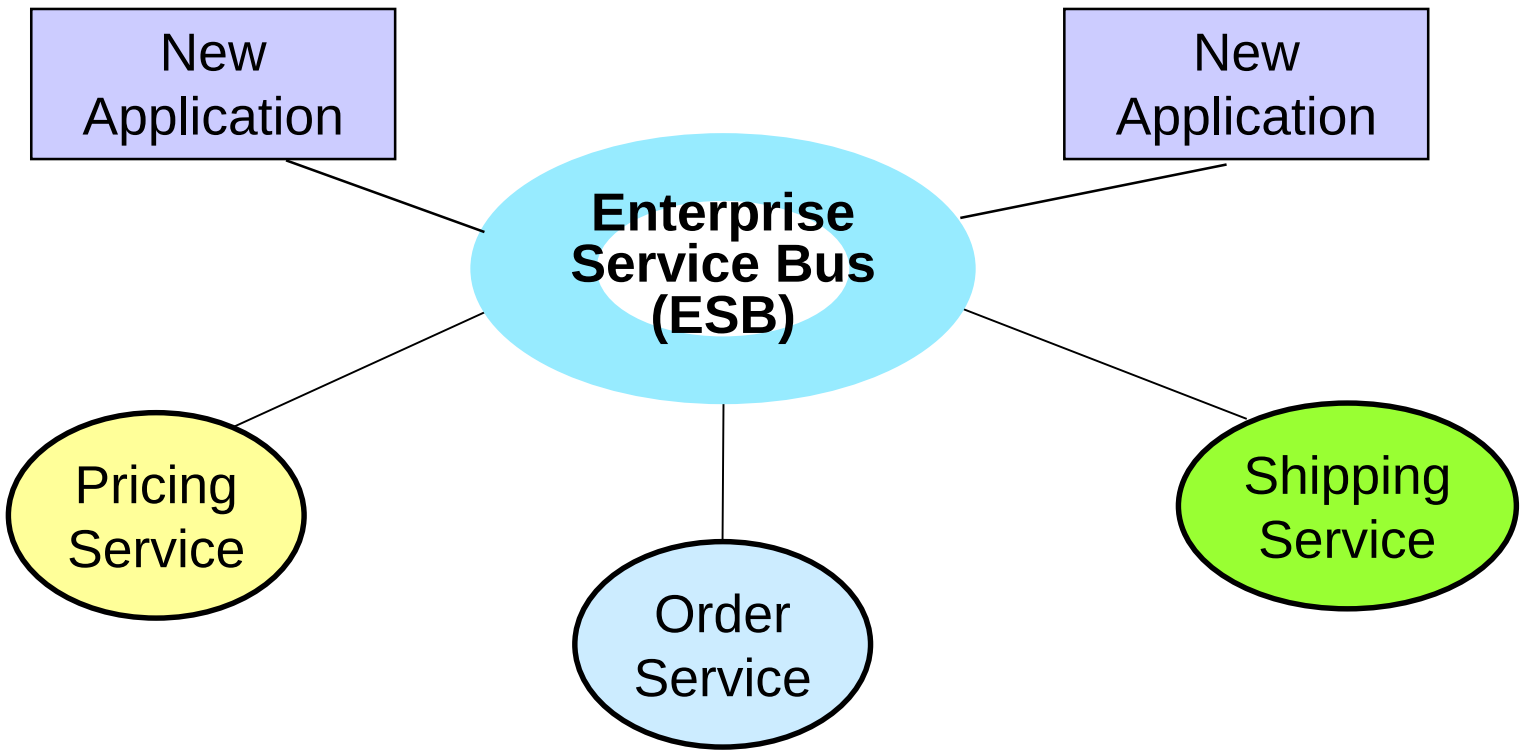
- New solutions may be built as cross-enterprise applications
- Applications could reuse existing logic (“services”) from databases, packaged applications, or legacy systems

In An Ideal World, Existing Components Would Support Web Services for Even Simpler Reuse

- However, existing components don't always make it easy to reuse them:
  - Complex data formats
  - Proprietary protocols for legacy systems (e.g., SAP, CICS)
  - Synchronous versus asynchronous access
  - Different components for different costs or qualities of service



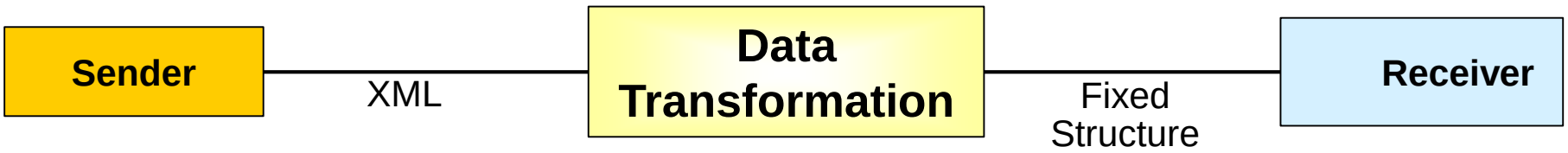
Connecting Your Systems with an Enterprise Service Bus Addresses the Reality of SOA



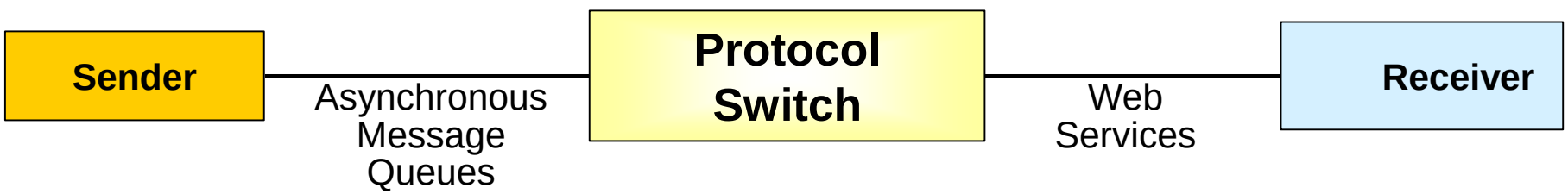
- **Reduce delays** by eliminating batch copies, providing instant processing
- **Reduce errors** by avoiding manual re-entry of data for error-free sharing of data
- **Reduce inconsistencies** by eliminating duplicate data

An ESB Makes it Easy to Connect to Components with Different Formats and Protocols

Applications may use different formats

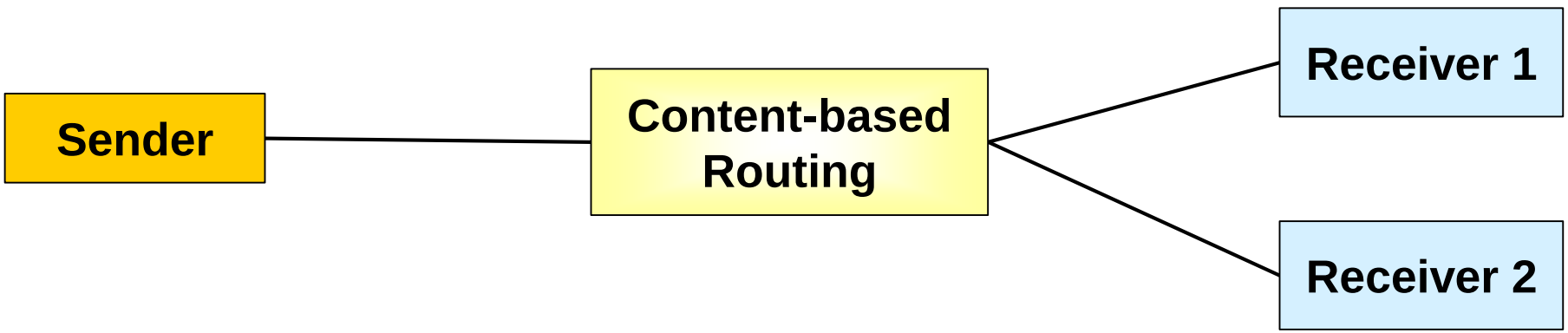


Applications may use different transport protocols



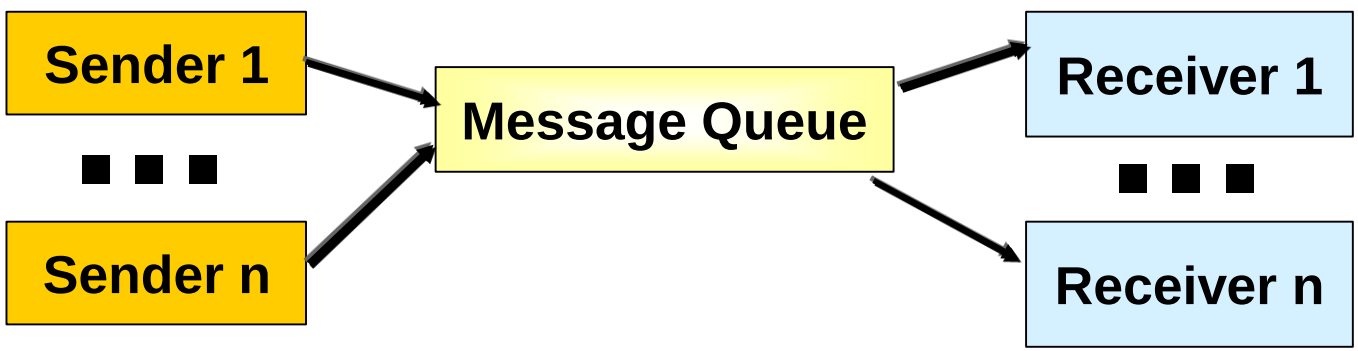
An ESB Allows Loose Coupling Between Applications for More Flexibility

Decisions about destinations for messages can be made at runtime rather than compiled into code



IBM Integration Bus is Built on WebSphere MQ to Ensure a Strong Messaging Backbone

- **Persistent**: Sometimes apps fail when processing data. Unless that data is persisted, it is lost forever
- **Scalable**: Easy to scale up the rate with which messages are added to the queue by adding another process without any code changing
- **Asynchronous**: You may not need to process a message on the queue immediately
- **Transactional**: If the app processing messages from the queue fails, the message will not be lost



WebSphere MQ Provides Greater Transactional Integrity than RabbitMQ

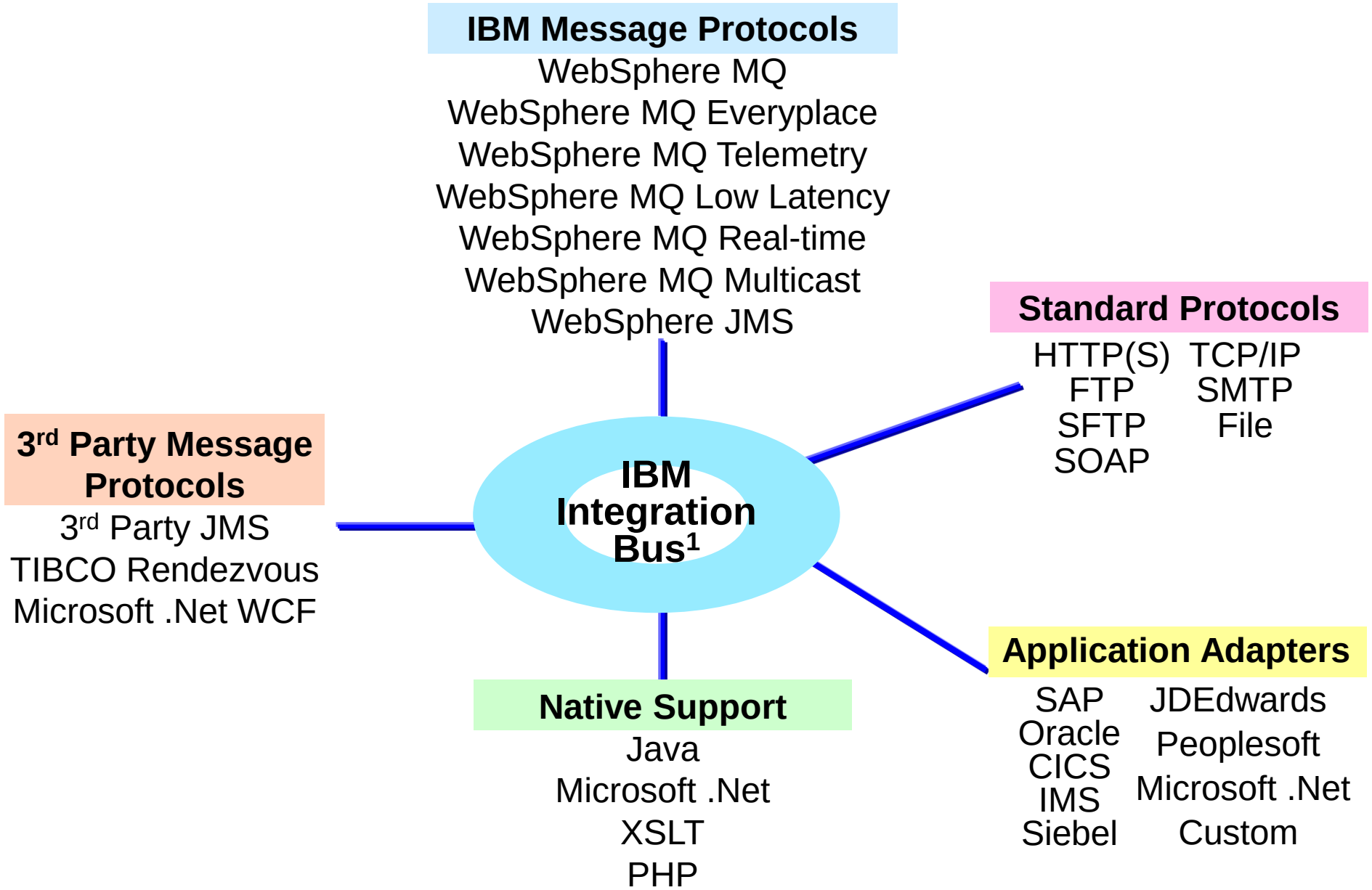
Capability	WebSphere MQ	RabbitMQ
Transactional Put/Write A single message put/write queue operation can be contained within a local transaction	✓	✓*
Transactional Get/Read A single message get/read queue operation can be contained within a local transaction	✓	✗
Transactional Batching Multiple put/write queue operations to a single queue can be batched into a single, local transaction	✓	✗
Multiple Operations Multiple put/write operations and get/read operations across multiple queues can be combined into a single, local transaction	✓	✗
Distributed Transactions Distributed 2-phase commit transactions are supported that span operations on queues, databases, CRM software, etc.	✓	✗

- * RabbitMQ only supports asynchronous persistence (persistence through lazy writes)

Thus, a message written under transactional control *can be lost in the event of system failure!*

- WebSphere MQ supports persistent-synchronous where messages are forcibly written to the disk (write-through)

IBM Integration Bus Connects to a Broad Range of Message Formats and Protocols



[1] IBM® Integration Bus announcement – previously known as IBM WebSphere Message Broker. Planned availability date of June 14, 2013

ESB Performance is an Important Consideration

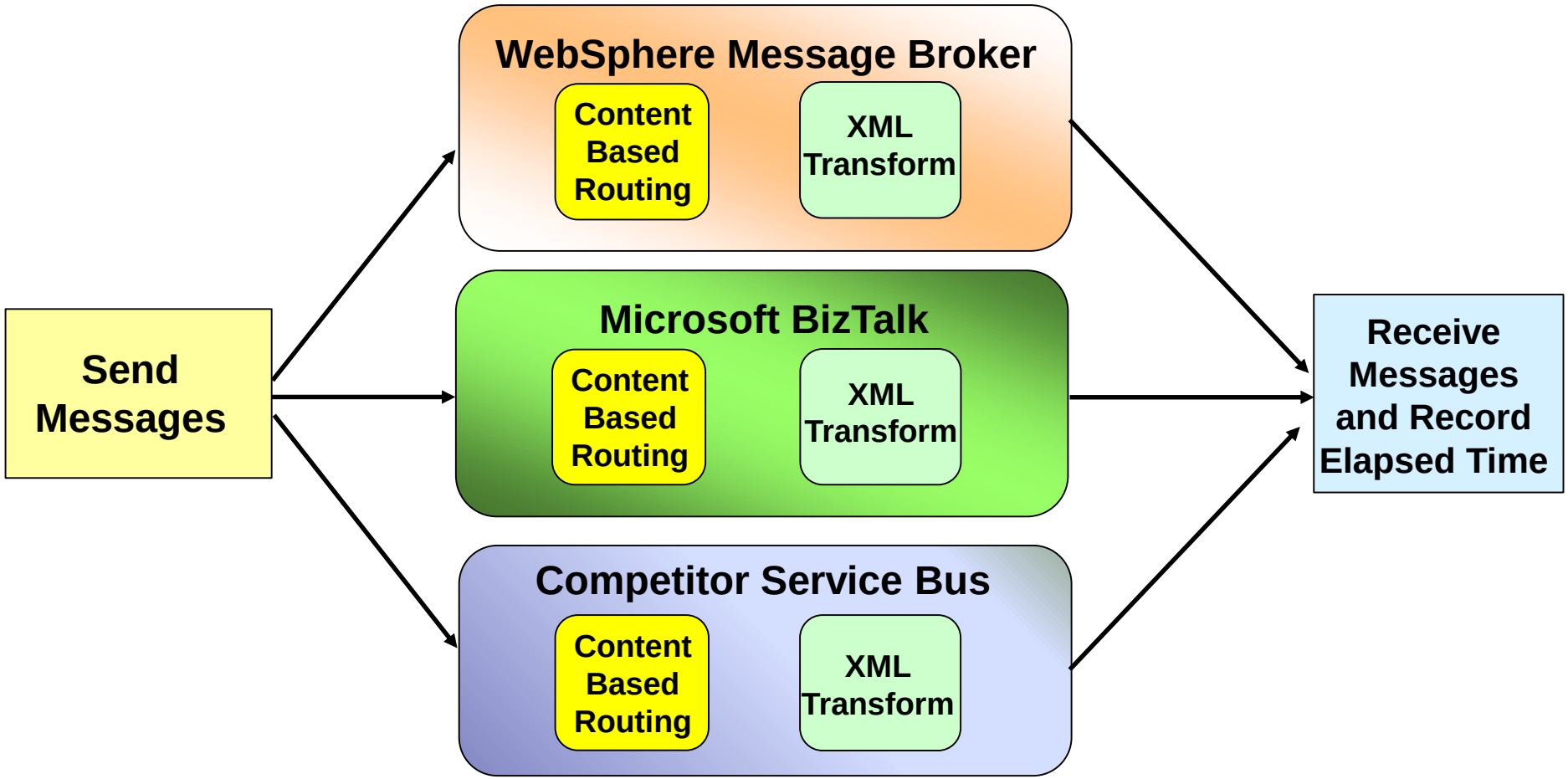
The traffic on our message backbone is very heavy.

Service Oriented Finance CIO

WebSphere Message Broker is the industry leader in performance. Let me show you…

IBM

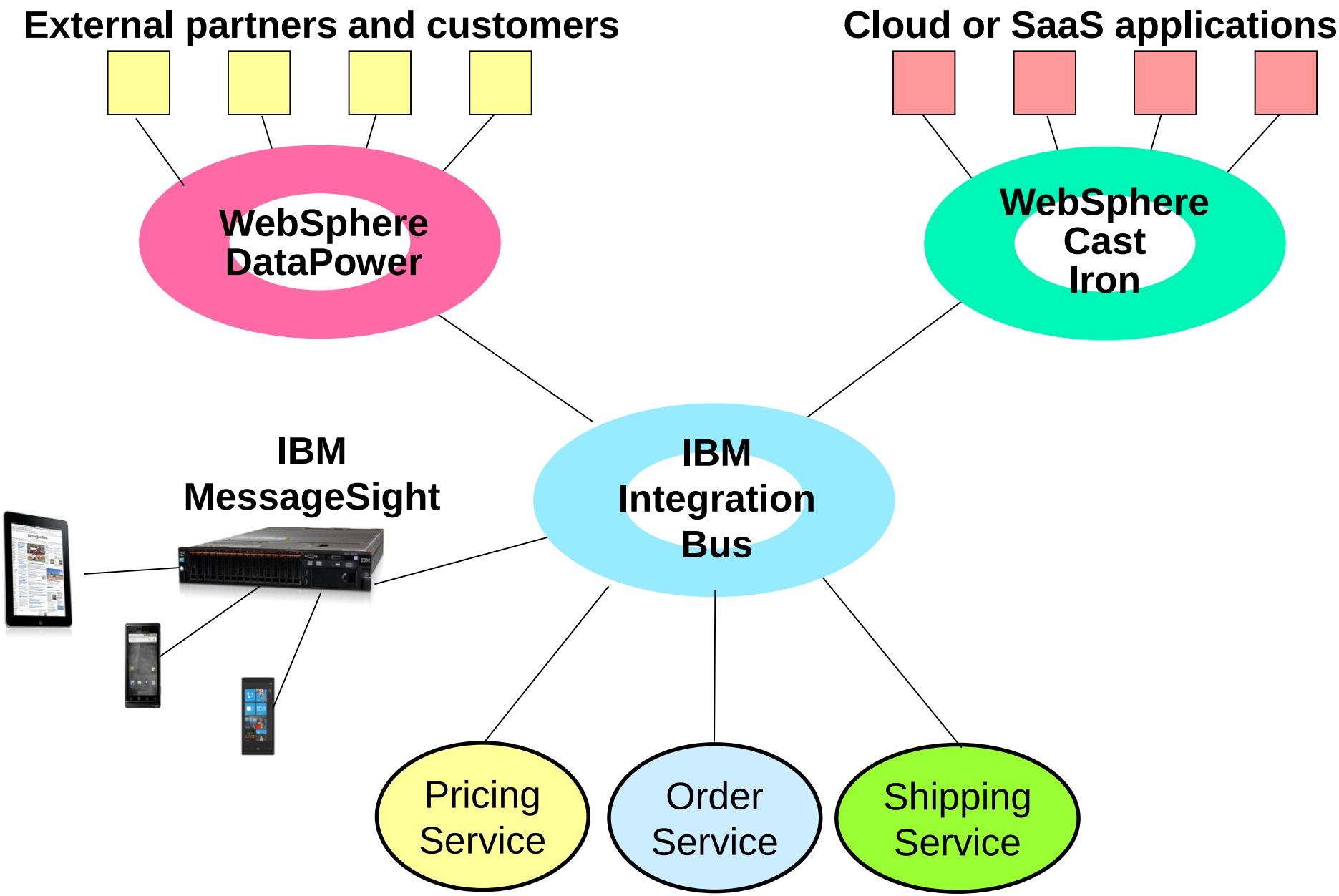
Demo: IBM's ESB can Outperform the Competition



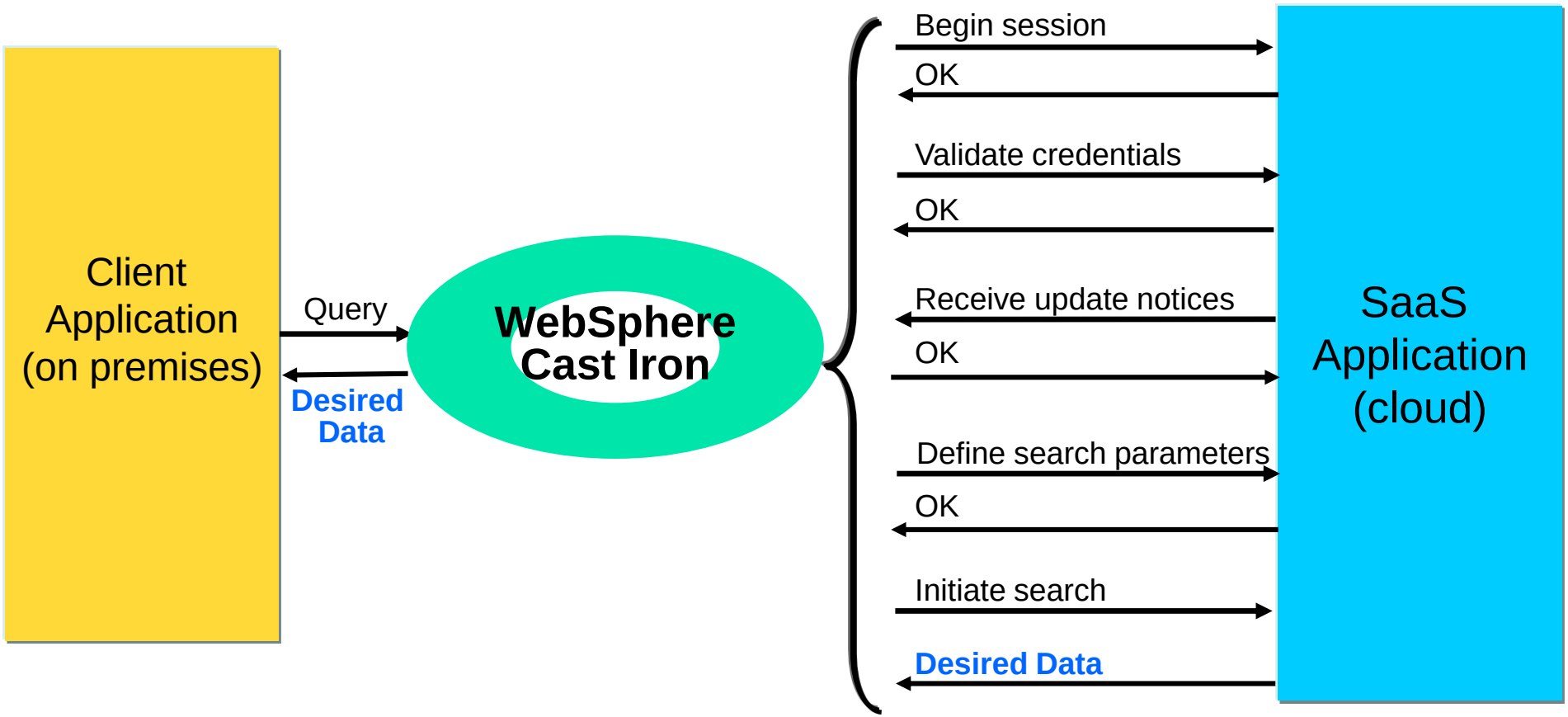
- Send the same number of messages to each ESB
- Each ESB performs the same XML validation, transformation, and content-based routing
- Receiver displays elapsed time

Note: Service buses are running on the same hardware

IBM's Family of ESB Solutions Further Extends Your Reach

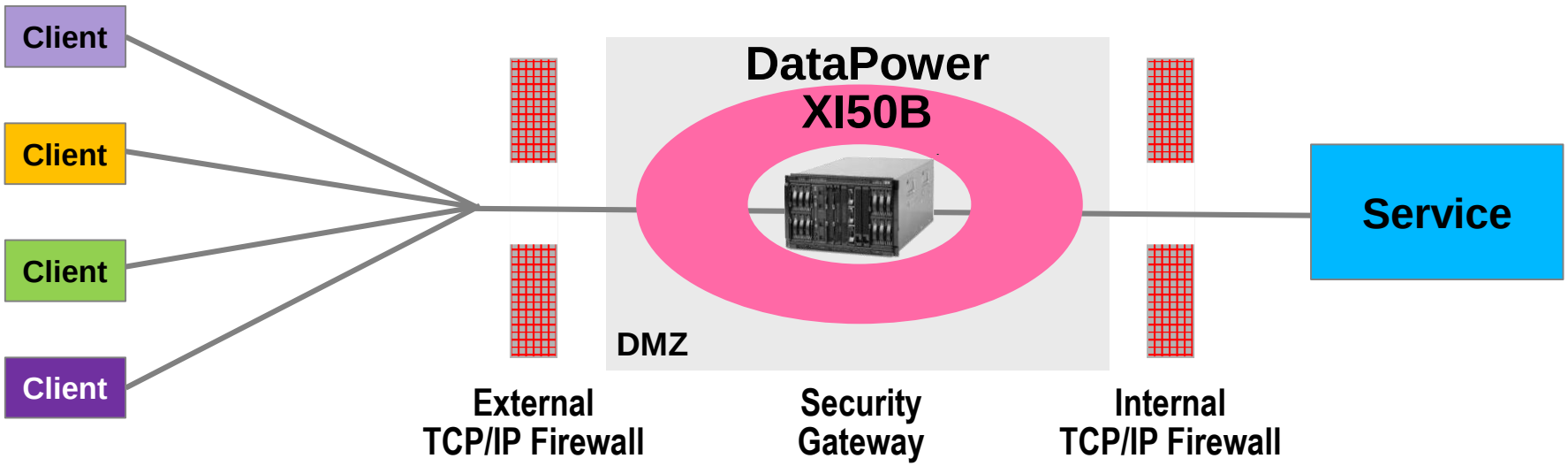


WebSphere Cast Iron Greatly Simplifies SaaS Integration



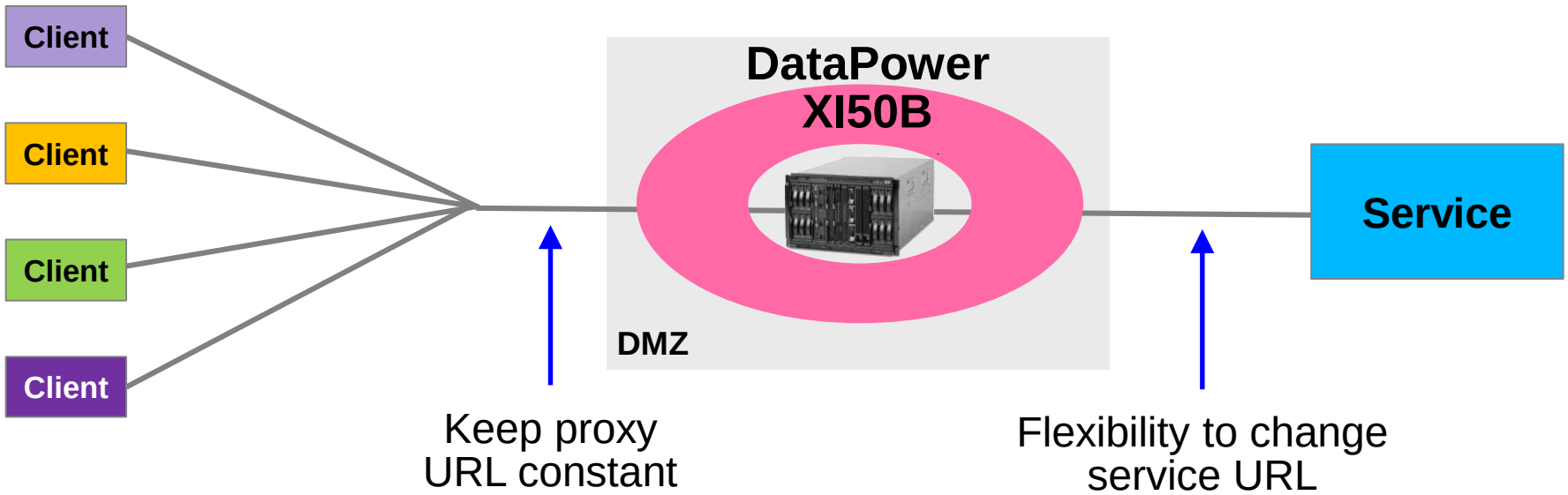
- Supports most major SaaS offerings, including SAP, PeopleSoft, and salesforce.com
- Configures integration via wizards instead of code
- Implements best practices

WebSphere DataPower Appliances are Ideal for External Gateway ESBs



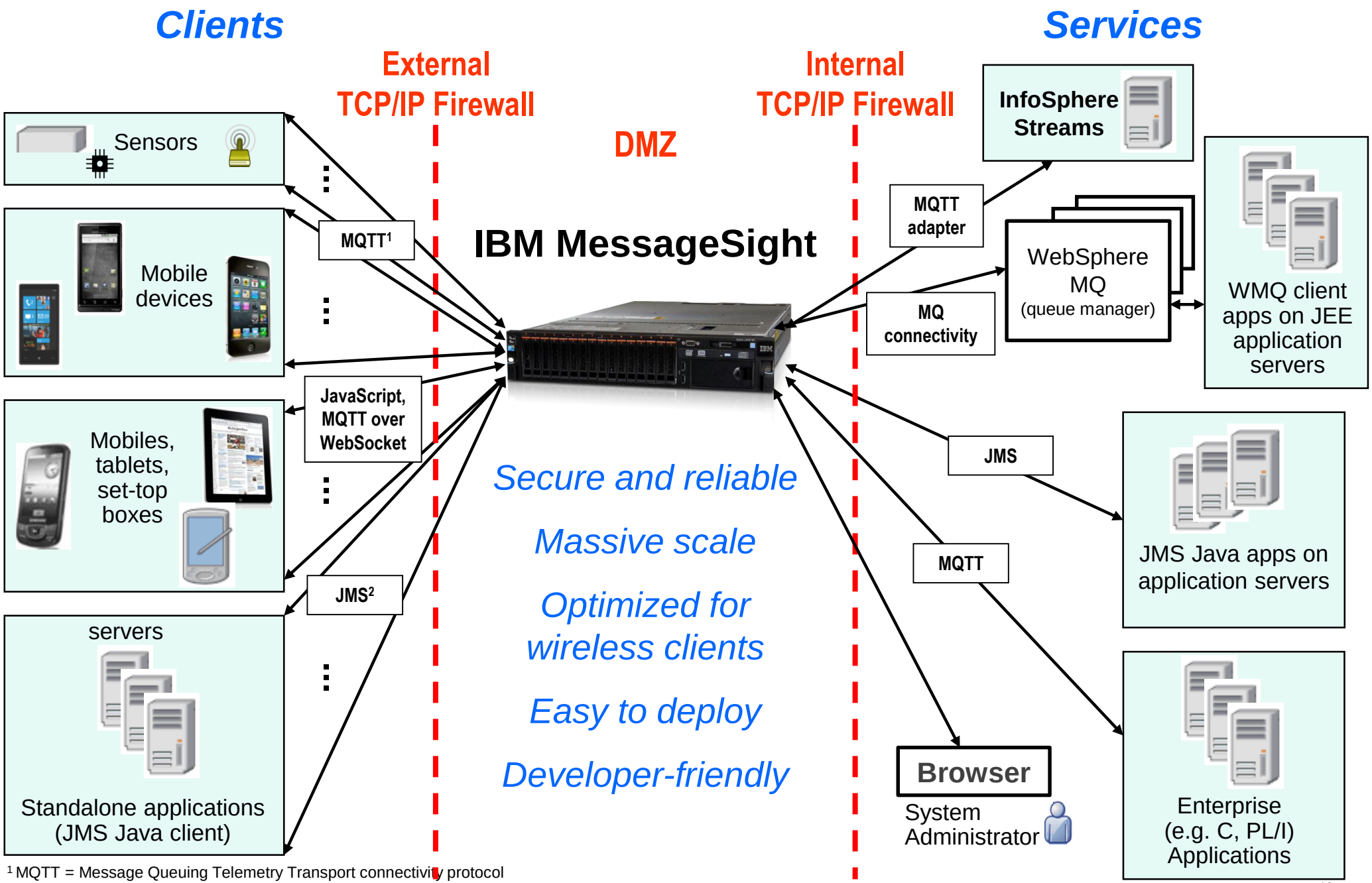
- Highly secure appliance format
  - No local program execution; tamper-proof physical device
  - Security features: SSL, HTTP Authentication Header. WS-Security, WS-SecureConversation. WS-Trust Base. Kerberos, SAML, LPTA, DER, PEM. PKCS #7, PKCS #8, PKCS #12. NSS, XML Encryption, Digital Signatures… and more
- High speed XML processing (parsing, schema validation, encryption)
- Configuration instead of programming
  - Reduces learning curve, reduces risk of error, decreases time to solution

Web Service Proxy Pattern Decouples Clients from Services



- Reduce the impact of change
  - When details of a service change (e.g., URL), then update proxy instead of each individual client
- Increase security
  - Hide implementation details (e.g., server name)
- Can be combined with transformation, routing, authorization, and other message processing

IBM MessageSight Enables Working with "The Internet of Things"



[1] MQTT = Message Queuing Telemetry Transport connectivity protocol
[2] JMS support to include publish-subscribe and point-to-point domains; not Java EE JCA resource adapter

IBM MessageSight Delivers Scale, Security, and Simplicity

- **Secure and reliable**: Appliance 2U form factor includes secure firmware. No user-visible OS.
- **Massive scale**: One appliance is targeted to handle 13M non-persistent msg/sec; 400K persistent msg/sec; 1M concurrent connections
- **Optimized for wireless clients**: MQTT messaging protocol is faster and requires less bandwidth and battery than HTTPS. Applications can be HTML5 web apps, native or hybrid. Integrates easily with IBM Worklight.
- **Easy to deploy**: Goal is up and running in thirty minutes. Simple and scalable managing through policies.
- **Developer-friendly**: Simple yet powerful APIs

IBM's Family of ESB Solutions Meet Your Most Challenging Integration Requirements

- **IBM Integration Bus** (previously known as IBM WebSphere Message Broker) provides high performance messaging over a WebSphere MQ backbone
- **WebSphere Cast Iron** simplifies integration with cloud-based applications
- **WebSphere DataPower** appliances ensure secure access to external applications with high performance and configuration instead of programming
- **IBM MessageSight** appliance delivers the "internet of things" via high-speed messaging for large numbers of connected devices