



Using WebSphere DataPower SOA appliances to extend the value of System z assets



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Why an Appliance for SOA

- **Hardened, specialized hardware for helping to integrate, secure & accelerate SOA**
- **Many functions integrated into a single device:**
 - *Impact: connectivity will require service level management, routing, policy, transformation*
- **Higher levels of security assurance certifications require hardware:**
 - *Example: government FIPS Level 3 HSM, Common Criteria*
- **Enables run-time SOA governance and policy enforcement**
 - *Impact: dynamically control service availability, security, performance, and endpoint selection*
- **Higher performance with hardware acceleration:**
 - *Impact: ability to perform more security checks without slow downs*
- **Addresses the divergent needs of different groups:**
 - *Example: enterprise architects, network operations, security operations, identity management, web services developers*
- **Simplified deployment and ongoing management:**
 - *Impact: reduces need for in-house SOA skills & accelerates time to SOA benefits*
- **Proven Green / IT Efficiency Value**
 - *Example: Appliance performs XML and Web services security processing as much as 72x faster than server-based systems*
 - *Impact: Same tasks accomplished with reduced system footprint and power consumption*



WebSphere DataPower SOA Appliance Product Line

LLM Appliance XM70 (4Q08)

- High volume, low latency messaging
- Enhanced QoS and performance
- Simplified, configuration-driven approach to LLM
- Publish/subscribe messaging
- High Availability



B2B Appliance XB60 (4Q08)

- B2B Messaging (AS2/AS3)
- Trading Partner Profile Management
- B2B Transaction Viewer
- Unparalleled performance
- Simplified management and configuration



Integration Appliance XI50

- Hardware ESB
- “Any-to-Any” Conversion at wire-speed
- Bridges multiple protocols
- Integrated message-level security

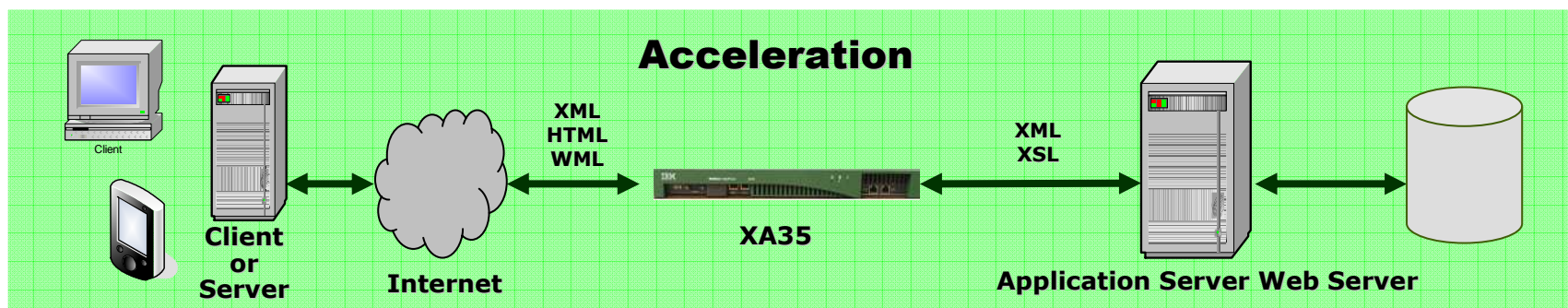
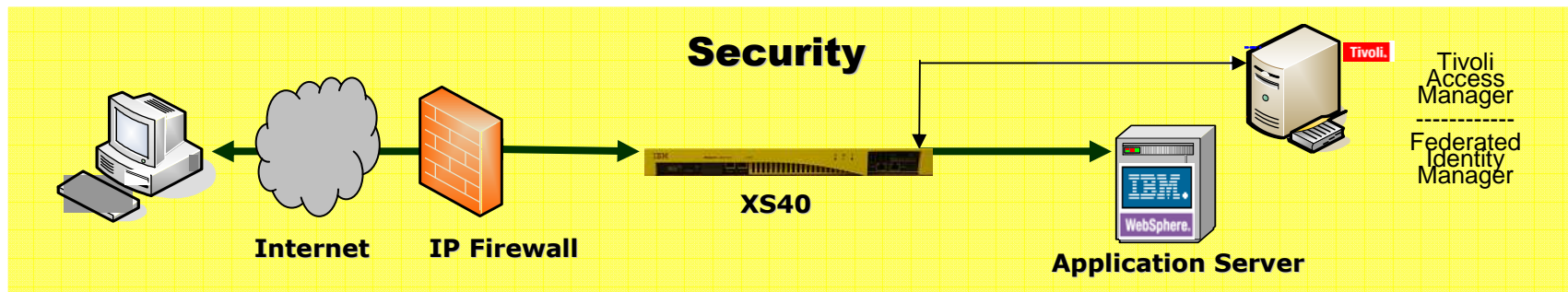
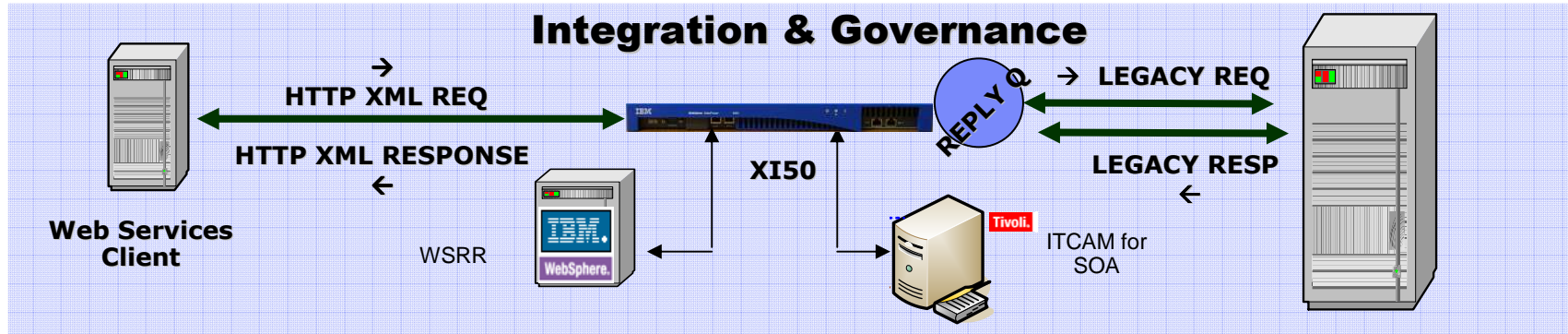


XML Security Gateway XS40

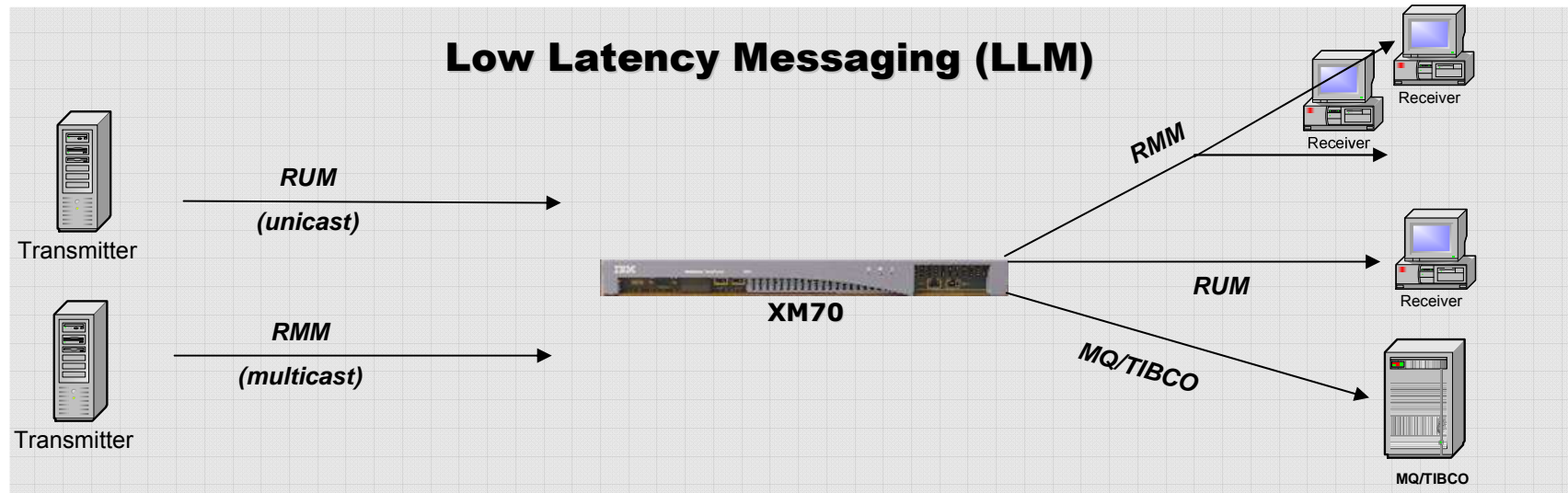
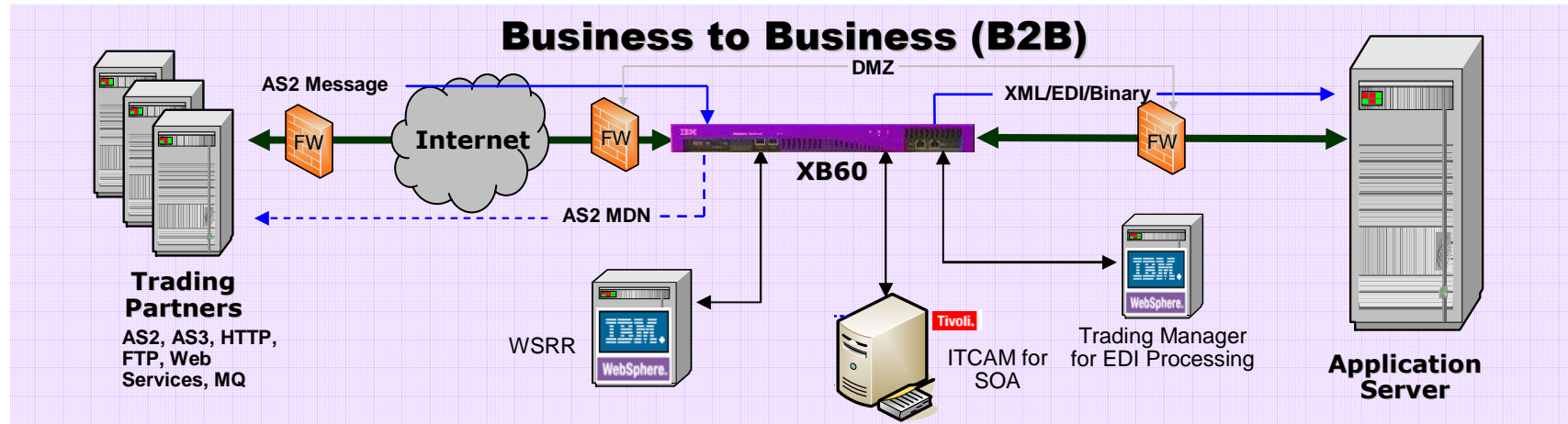
- Enhanced Security Capabilities
- Centralized Policy Enforcement
- Fine-grained authorization
- Rich authentication



IBM SOA Appliance Deployment Basic Examples



B2B and Low Latency Deployment Scenarios



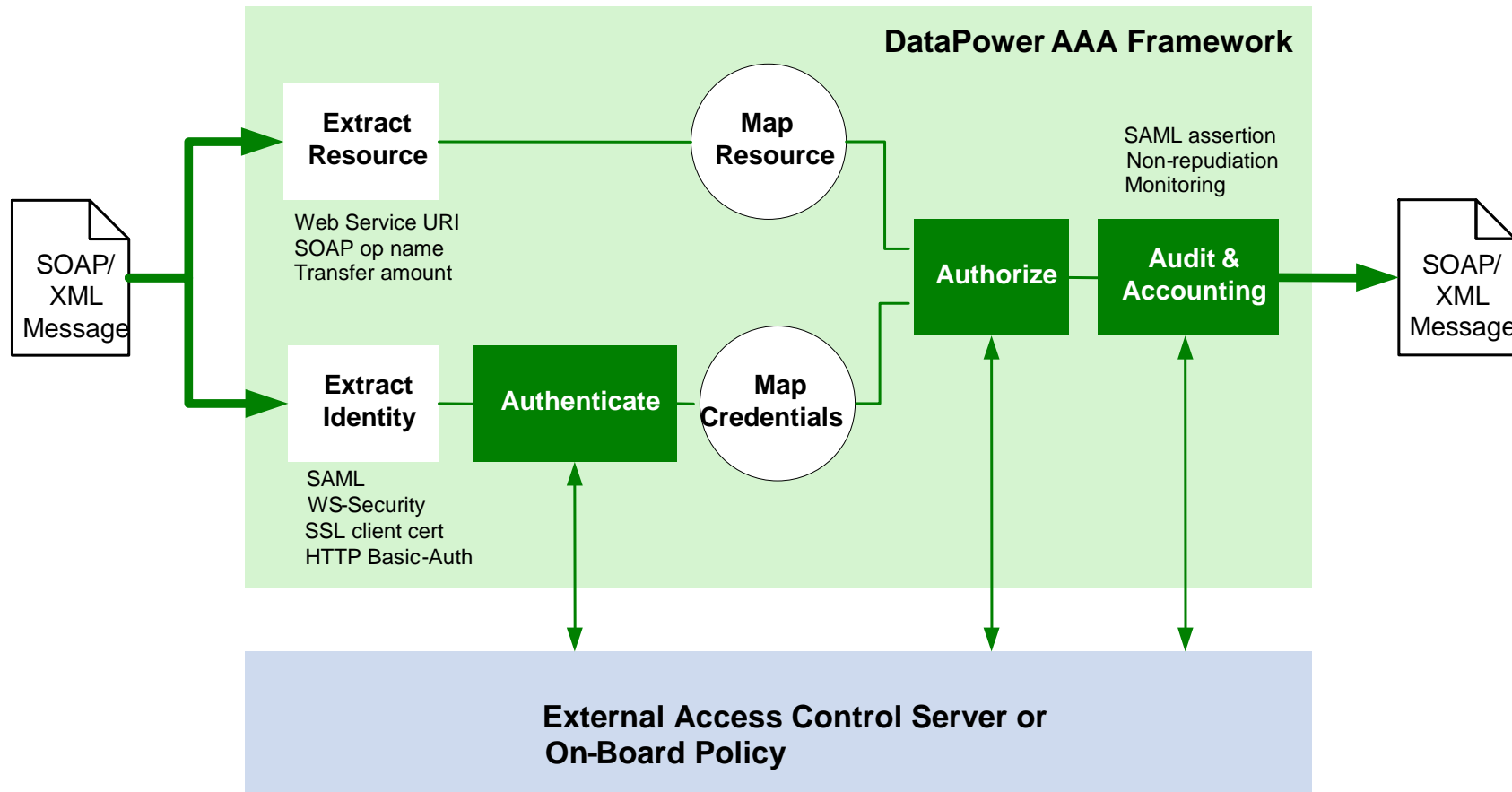
Integration Appliance XI50

- DataGlue “Any-to-Any” Transformation Engine
- Content-based Message Routing:
- Protocol Bridging (HTTP, MQ, JMS, FTP, etc.):
 - Request-response and sync-async matching
- Direct to Database - communicate directly with remote Database instances
- XML/SOAP Firewall:
 - Filter on any content, metadata or network variables
- Data Validation:
 - Approve incoming/outgoing XML and SOAP at wire speed
- Field Level Security:
 - WS-Security, encrypt & sign individual fields, non-repudiation
- XML Web Services Access Control/AAA:
 - SAML, LDAP, RADIUS, etc.
- MultiStep:
 - Sophisticated multi-stage pipeline
- Web Services Management:
 - Centralized Service Level Management, Service Virtualization, Policy Management
- Easy Configuration & Management:
 - WebGUI, CLI, IDE and Eclipse configuration to address broad organizational needs (Architects, Developers, Network Operations, Security)



Access Control

AAA Framework Diagram - Authenticate, Authorize, Audit



Enforce Who can access Which service & When



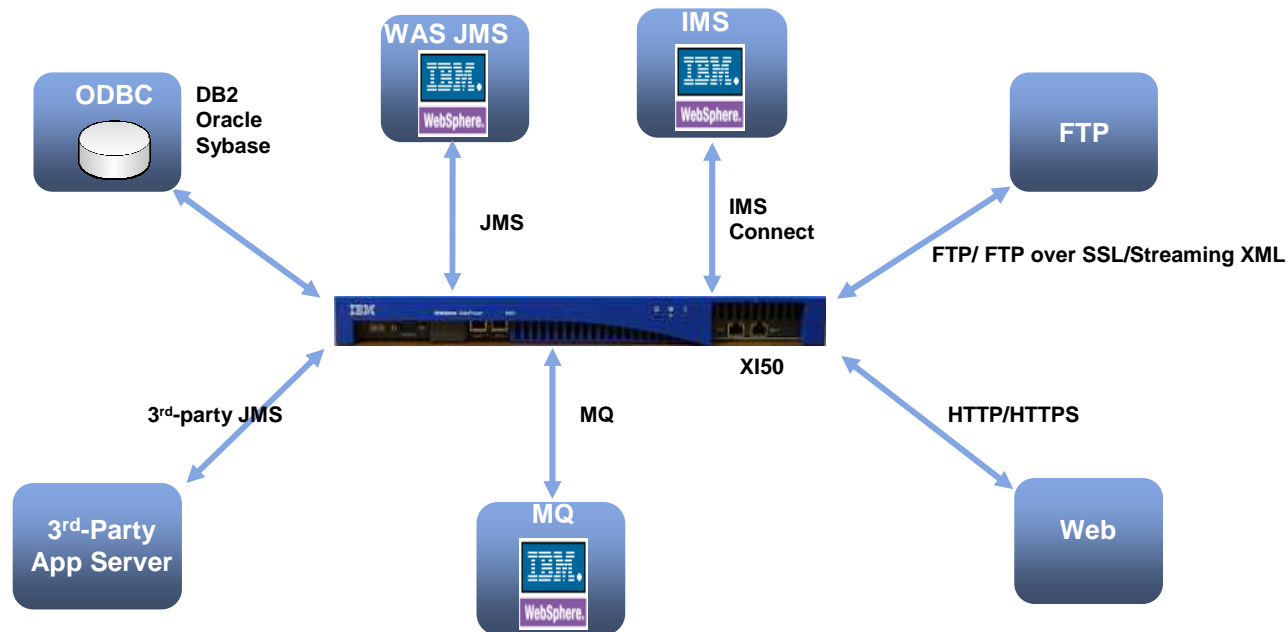
DataGlue's "any-to-any" Transformation

- Transform Disparate Data Formats (XML, Binary, Text, etc.)
- Broker data between previously siloed systems
- Simplifies Reuse of and Connectivity to existing systems
- Promotes loose coupling
- Transformation of data on the wire enables integration without coding



Protocol Bridging

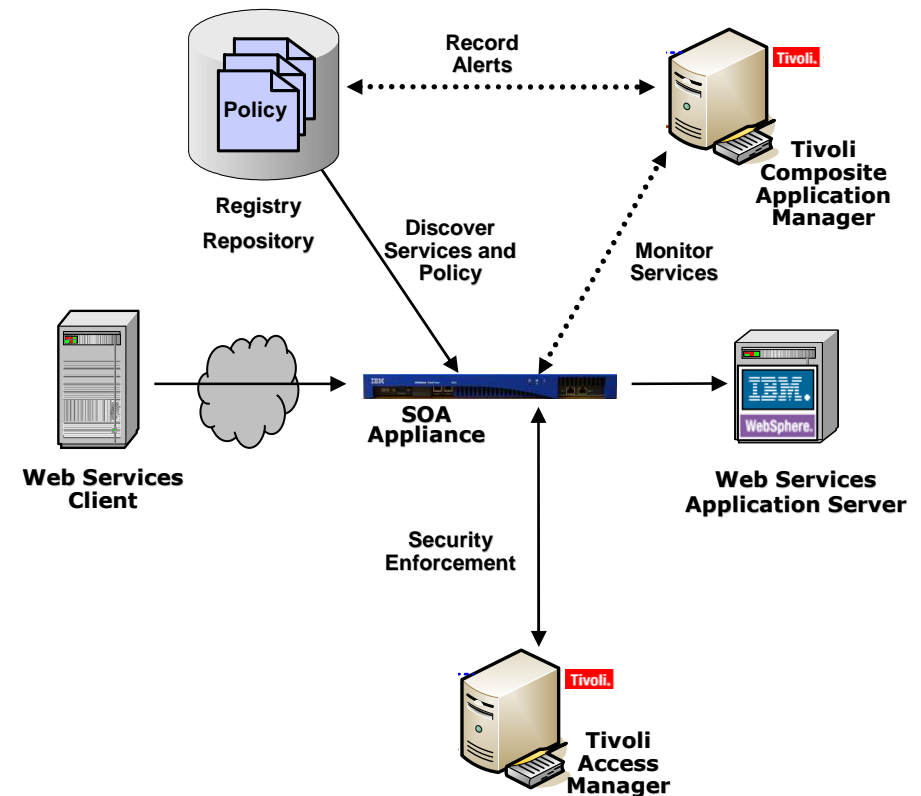
- **First-class support for message and transport protocol bridging**
- **Protocol mediation with simple configuration:**
 - HTTP ↔ MQ ↔ WebSphere JMS ↔ FTP ↔ Tibco EMS
- **Request-response and sync-async matching**
- **Able to configure to preserve fully guaranteed, once-and-only-once delivery**



Web Services Management

Registry/Repository Support & SOA Governance

- Use of a central repository can facilitate Discovery and Reuse of Web services:
 - WSRR and UDDI supported today
- Artifacts can be stored, updated via repository
- Push/Retrieve configuration of new services to DataPower for enforcement
- Policy and Security enforcement for SOA Governance on DataPower
- ITCAM for SOA:
 - Central management console
 - Polls device at set intervals
 - Traffic inspection, statistical analysis



DataPower and System z Integration

- Web Services enablement and security for CICS and IMS applications



- DataPower XI50 acts as a services gateway to host-based applications
 - Web Services and XML security
 - Web Services management and service level agreements
 - Tight integration with WebSphere MQ on Z for connectivity and reliability
 - Any-to-any transformation (e.g. SOAP/XML to Cobol Copy Book) for simplified legacy integration
 - Protocol mediation and bridging – variety of inbound/outbound protocols – HTTP, HTTPS, MQ, WAS JMS, Tibco EMS, FTP, FTP/SSL, NFS, Database
 - Easy Configuration & Management:
 - WebGUI, CLI, IDE and Eclipse configuration to address broad organizational needs (Architects, Developers, Network Operations, Security)



DataPower for CICS and IMS Web Services

- **Web Services Security and Management for CICS and IMS web services**

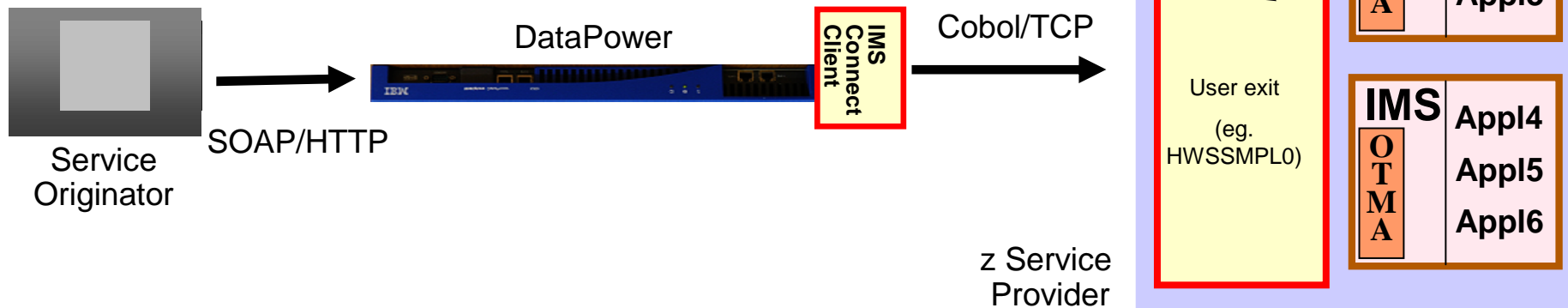


- Content-based Message Routing
- Protocol Bridging (HTTP, MQ, JMS, FTP, etc.): Request-response and sync-async matching
- XML/SOAP Firewall: Filter on any content, metadata or network variables
- Data Validation: Approve incoming/outgoing XML and SOAP at wirespeed
- Field Level Security: WS-Security, encrypt & sign individual fields, non-repudiation
- XML Web Services Access Control/AAA: SAML, LDAP, RADIUS, etc.
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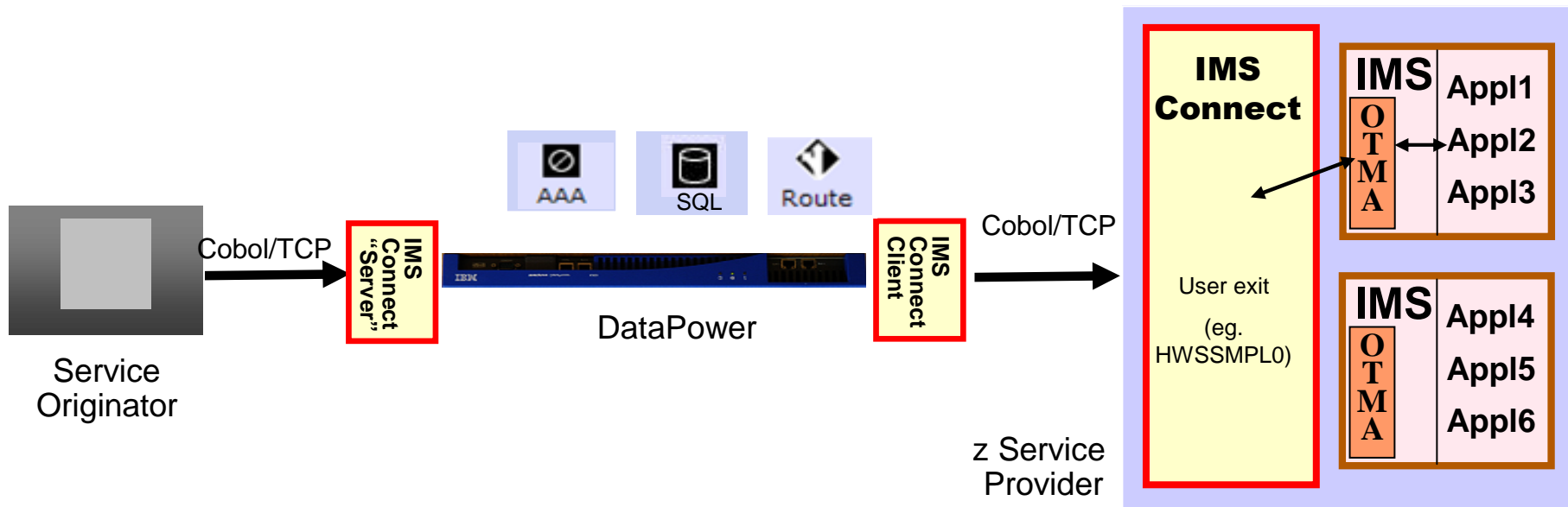
IMS Integration: IMS Connect Client

- Remove MQ *requirement* of WS-enablement of IMS
 - MQ still best alternative for scenarios requiring transactional support
 - IMS has few alternatives (IMS SOAP Gateway is an entry-level solution)
- Implement an “IMS Connect Client” (back-side handler) on DataPower that natively connects to IMS Connect using its custom request/response protocol w/ well-defined header structure
 - Highly consumable for the common case
 - Highly extensible and integrates well with DataPower model
 - Accepts output from a mapping mediation
 - (e.g. SOAP-to-Cobol copybook)

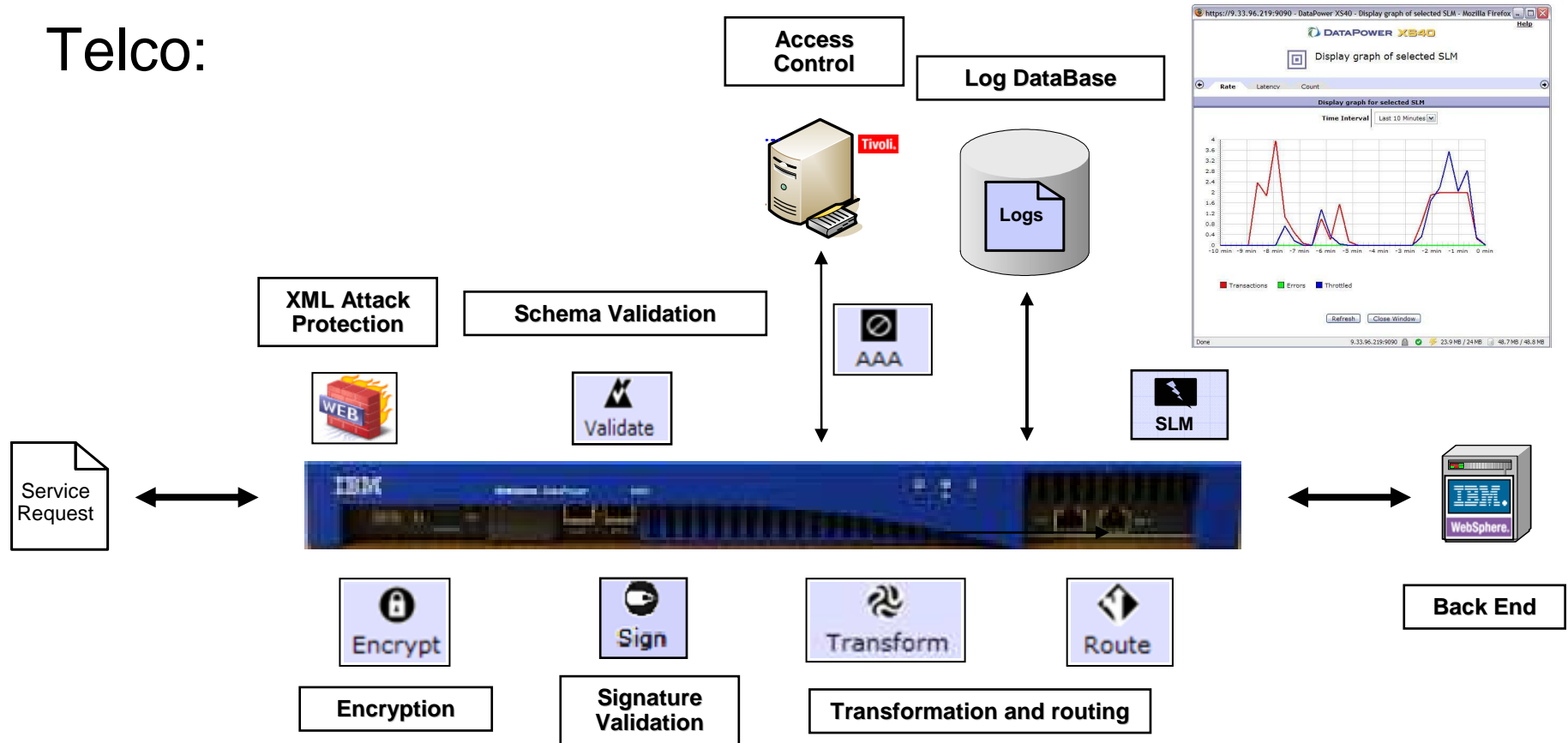


IMS Integration: IMS Proxy

- Bring DataPower value add to standard IMS connect usage patterns
- Provide an “IMS Connect Client” on DataPower that natively connects to IMS Connect
- Provide an “IMS Connect Server” on DataPower that accepts IMS Connect client connections and provides an intermediation framework that leverages DataPower
 - Can do things like authentication checks, authorization, logging, SLM, transformation, route, DB look-up, SSL offload, etc.



Telco:



- New antitrust regulation forces Telcos to provide some web services to the rest of operators
 - Aggressive Service Level Agreements
 - Auditable Services: to avoid reports and fines
 - Example: mobile number portability.

Summary – IBM Specialized Hardware for Smart SOA Connectivity

- Hardened, specialized product for helping integrate, secure & accelerate SOA
- Many functions integrated into a single device
- Broad integration with both **non-IBM and IBM** software
- Higher levels of security assurance certifications require hardware
- Higher performance with hardware acceleration
- Simplified deployment and ongoing management

<http://www.ibm.com/software/integration/datapower/>



SOA Appliances: Creating customer value through extreme SOA performance and security

- **Integrates** SOA with specialized devices
- **Accelerates** SOA with faster XML throughput
- **Helps secure** SOA XML implementations



Thank
You