



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

name



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## ***Agenda***

- WebSphere DataPower product line overview
- WebSphere DataPower XI50 as an ESB
- What's new in the latest release?



SOA: Unlock business value.  
→ New software and services.



## 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



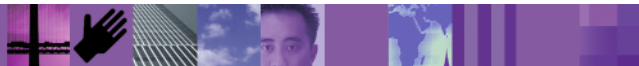
## Integration Appliance XI50

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

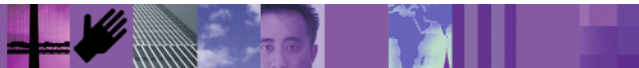
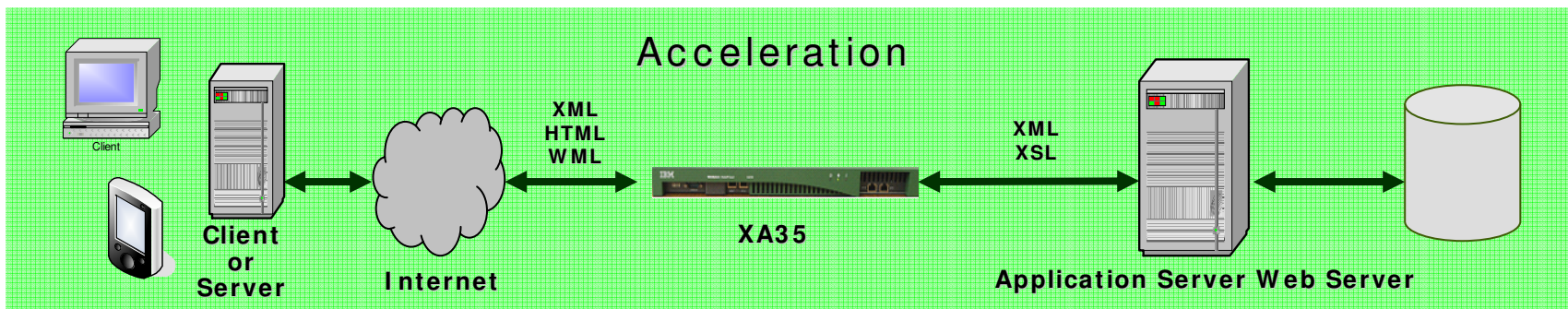
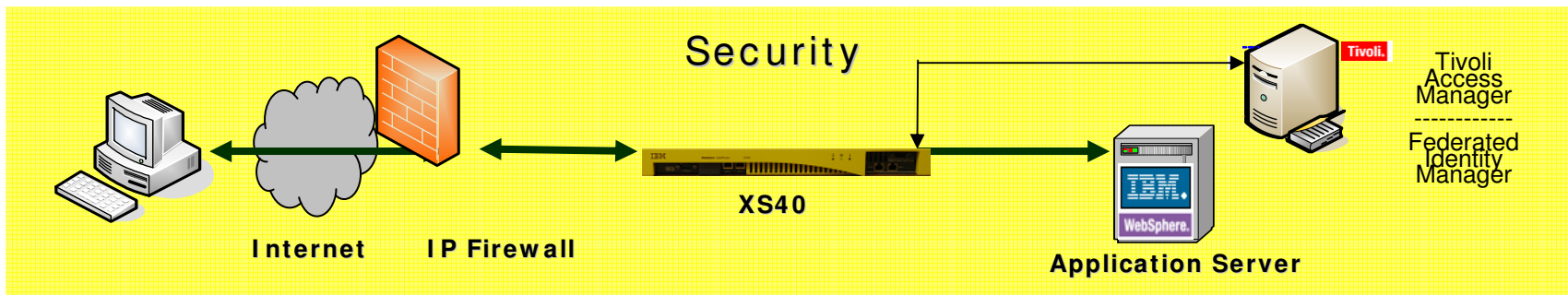
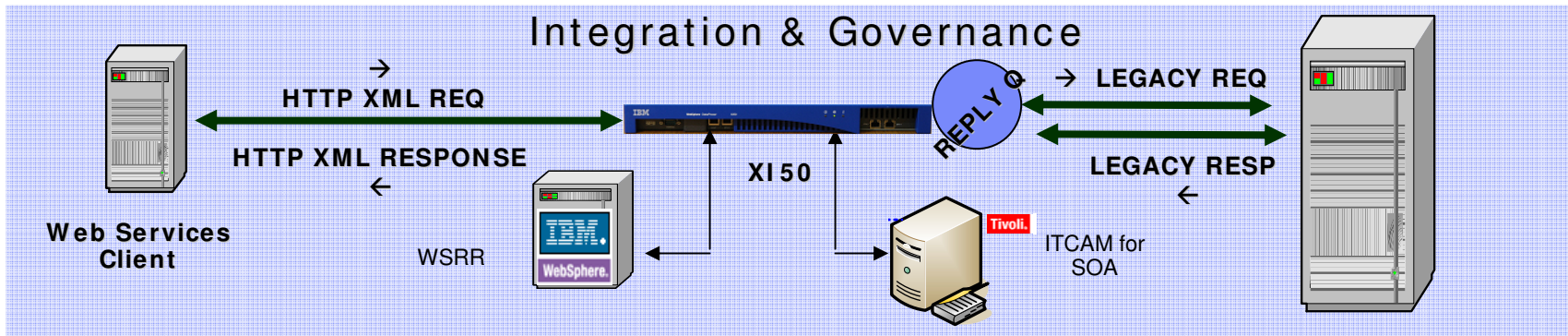


## XML Security Gateway XS40

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

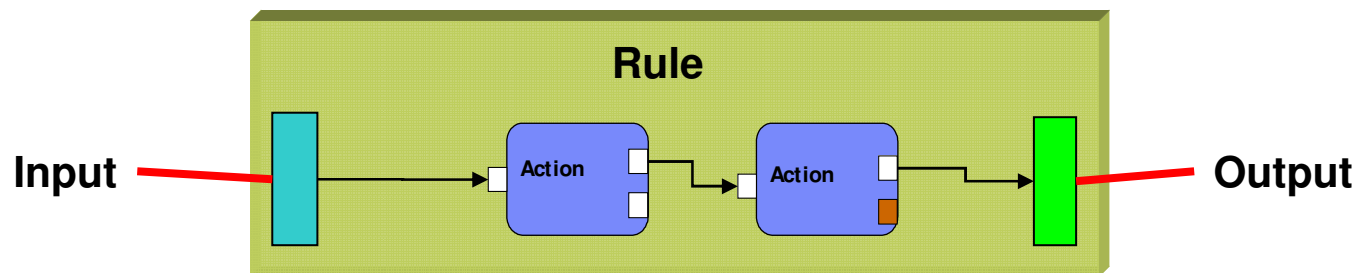


# IBM SOA Appliance Deployment Basic Examples



## *DataPower XI50 as an ESB - Concepts*

- DataPower = “container” for rules
- Rule = deployable unit of mediation, definition of mediation
  - Input = means of getting message into message flow
  - Output = means of getting message out of message flow
- Action = atomic unit of message processing



## ***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)





# Simple Appliance Configuration for Complex Functionality

## Fits into your existing environment

- Address broad organizational needs (*Architects, Developers, Network Operations, Security*)
- Complete Configuration from GUI or CLI interface
- IDE integration / Eclipse plug-in
- XPath / XML config files
- SNMP
- SOAP management interface

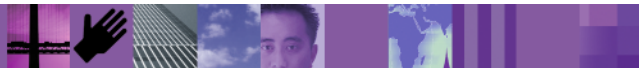
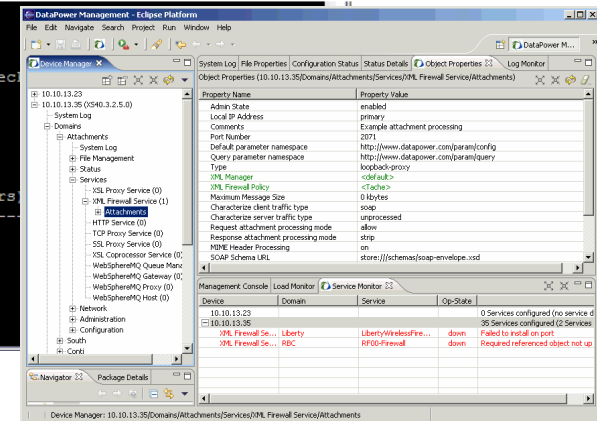
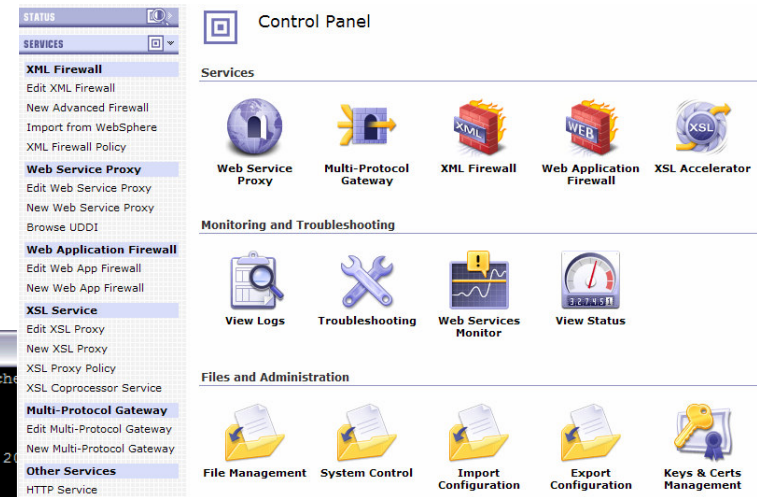
```

9.33.97.170 - PuTTY
wsa-default-faultto http://schemas
mous
wsa-force off
wsa-genstyle sync
wsa-http-async-response-code 200
wsa-timeout 120
type static-from-wsdl
autocreate-sources off
endpoint-rewrite-policy SomeBanker [up]
stylepolicy SomeBanker [up]
wsdl local://somebankchecking.wsdl somebankcheck
soap-action-policy lax

xi50[gateways]# show int

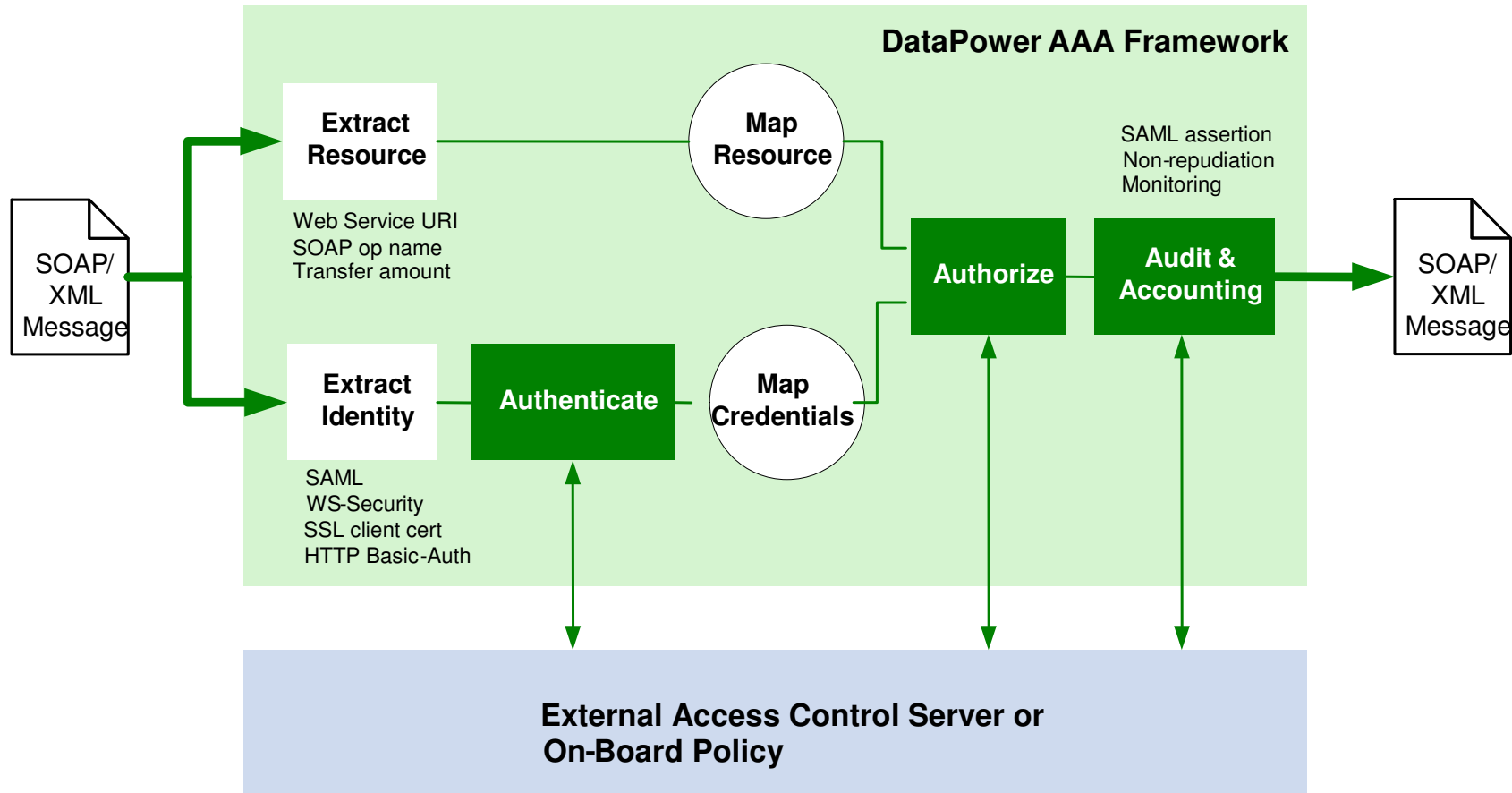
interface      IP Address      RX (kb/pkts/errs)
-----
eth0           0.0.0.0/0       0/0/0
eth1           9.33.97.170/23  256/2609/0
eth2           0.0.0.0/0       0/0/0
mgt0          0.0.0.0/0       0/0/0

xi50[gateways]#
    
```



# Access Control

## AAA Framework Diagram - Authenticate, Authorize, Audit



*Enforce Who can access Which service & When*

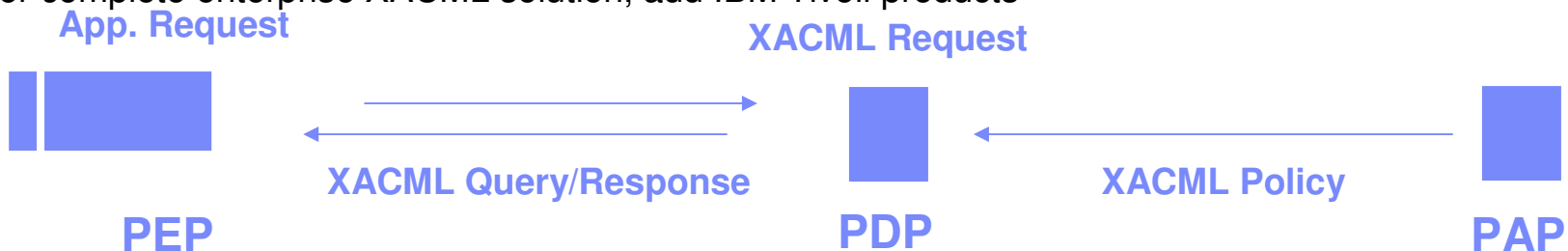




## Access Control (2)

### *XACML, an open standard for fine-grained authorization policy*

- XACML (eXtensible Access Control ML) open standard
  - Expresses complex, fine-grained access control policy rules in XML
  - Enables distributed policy enforcement throughout the network
  - Allows policies to be moved between different vendor systems
  - Defines PEP (enforcement), PDP (decision), PAP (admin) and PIP (information)
- XS40 and XI50 leverage their core XML engine for XACML processing (XACML doc similar to XSLT, XSD, WSDL)
  - High performance, robust caching and familiar administration
  - Not a XACML server or authoring environment
- Flexible and extensible
  - Base bias, deny-biased, permit-biased, custom obligations
  - Integrated into AAA Framework
- For complete enterprise XACML solution, add IBM Tivoli products



# MultiStep & XML Routing

## Flexible Drag & Drop Message Processing and Policy Creation



- **Basic routing capability similar to XML Filtering**
- **Arbitrary steps of message processing:**
  - Encrypt, Decrypt, Sign, Verify
  - Access control, Filter, Validate
  - Route (e.g., **route-set https://soapfoobar.com:321**), T-Route, Rewrite, (e.g. **header-rewrite X-foo (.\*) now**)
  - Call out or Fetch artifacts such as XSLT,XSD,XML, WSDL, etc
  - Custom error handling – create policies to respond to processing errors
  - Callable rules
  - Transform (XML or legacy data)
  - Logging – log individual transactions (incl. message) for analysis and archiving
  - Service Level Management – shape and monitor traffic and/or send alerts based on transactional data and context
  - XPath extract (e.g. extract INPUT three //games/url var://local/urls)
- **Full variables and state:**
  - Scope: context / session / multistep-scope
  - Accessible both in config and from within XPath



# Web Services Management

## Service Level Management



- Easy to use WSDL-driven graphical interface
- Configure Policies:
  - Based on any parameter: WSDL; Service Endpoint; Operation; Credential
  - Based on Rate (TPS) or Count by Time (Outlook like Calendar)
  - Based on Request; Response; Fault; XPath
  - Support for enforcement across a pool of devices
  - Action: Notify (Alert); Shape (Slow Down); Throttle (Reject)
  - Notify other applications such as billing, audit, etc.
- SLM is a verb in the policy pipeline
- Events / Notifications via WSDM, WS-Management, SOAP API and integration with ITCAM for SOA
- Allow subscription to SLM for alerts, logging, etc.

Web Service Proxy SLM

Show WSDLs Show Services Show Ports Show Operations Close All

What	Request			Failure			Graph
	Interval (sec)	Limit	Action	Interval (sec)	Limit	Action	
Web Service Proxy							
proxy: proxy-google							
wsdl: GoogleSearch.wsdl							
service: GoogleSearchService							
port: GoogleSearchPort							
op: doGetCachedPage	1	30	shape	10	5	notify	
op: doGetGoogleSearch	1	20	throttle	10	5	notify	
op: doSpellingSuggestion	1	20	notify	10	5	notify	

Peers

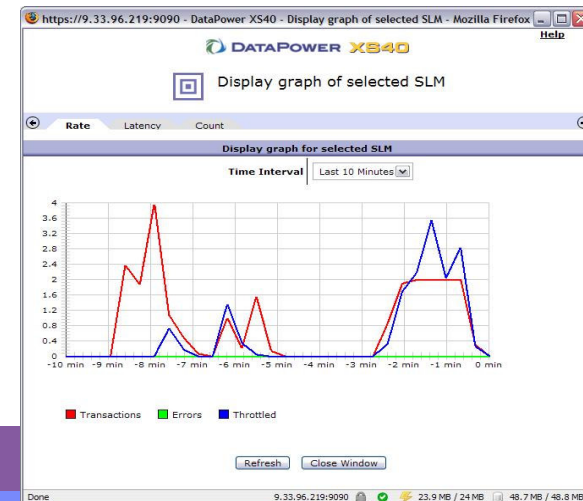
10.10.1.34 Remove

10.10.1.35 Remove

Peer URL: 10.10.1.35 Add Peer

Statements

ID	Credential Class	Resource Class	Schedule	Threshold Level	Threshold Type	Action	Graph
Create/Edit							





## Web Services Management (2)

### Web Services Management Framework

- **Powerful framework enables easy integration:**



- **Centralized Management:**

- Integrates with UDDI Registry, Dynamic Discovery (push configuration of a new service)
- Enforce/Pull policies for execution on the XS40
- Unified Dashboard (e.g. [IBM Tivoli Composite Application Manager](#))
- WSRR (WebSphere Service Registry & Repository) Integration

- **WSDM (Interop with IBM, HP, Tibco and Hitachi):**

- WS-Addressing, WS-BaseNotification, and WS-ResourceProperties
- Manager obtaining operation status and metrics from XS40 for Web service
- Manager subscribing to notification from XS40
- Manager informing the XS40 to bring web service down then up

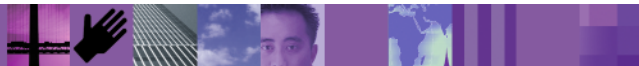


# Web Services Management (3)

## Service Virtualization



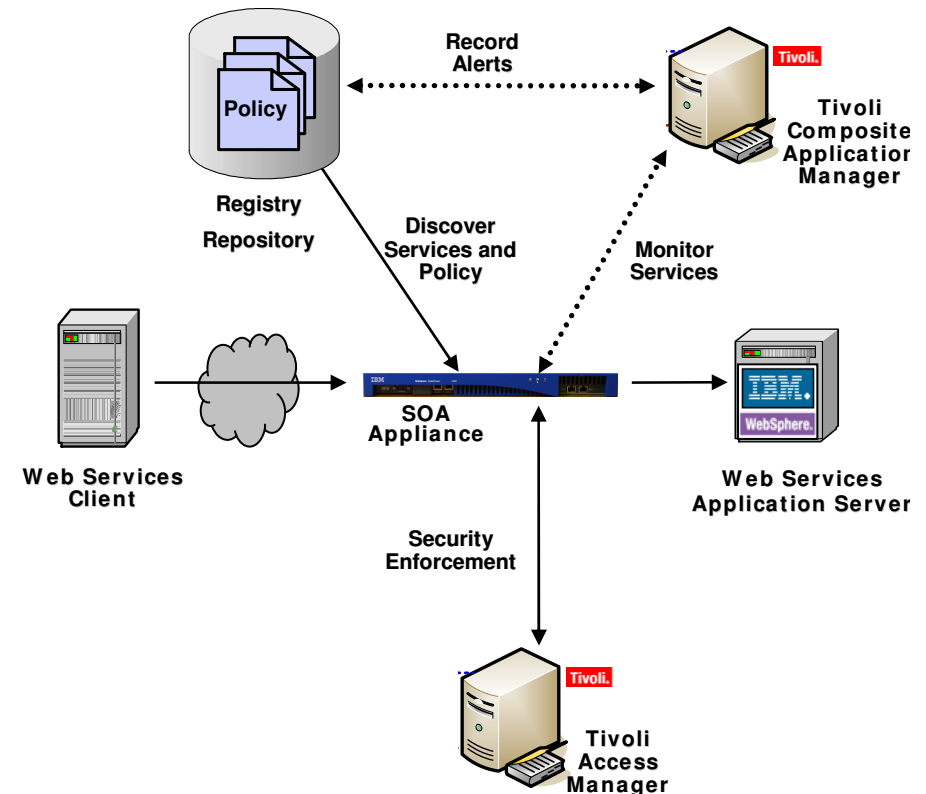
- **Web services security best practice:**
  - Create abstraction barrier between internal and external Web services
  - Especially important for auto-generated web services
  - Helps with varying standards support between partners, versioning, availability, and scalability
- **WSDL-centric design:**
  - WSDL Versioning: Automatically retrieve updated internal WSDL and update external one
- **Multi-layer:**
  - Optionally, internal/external transport-layer proxy (e.g. MQ in XI50)
  - Dynamic routing
  - SOAP header stripping / rewriting
  - Payload transcription & wirespeed schema transformation
- **Very XML processing intensive**



## Web Services Management (4)

### 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





## ***DataGlue's "any-to-any" Transformation***

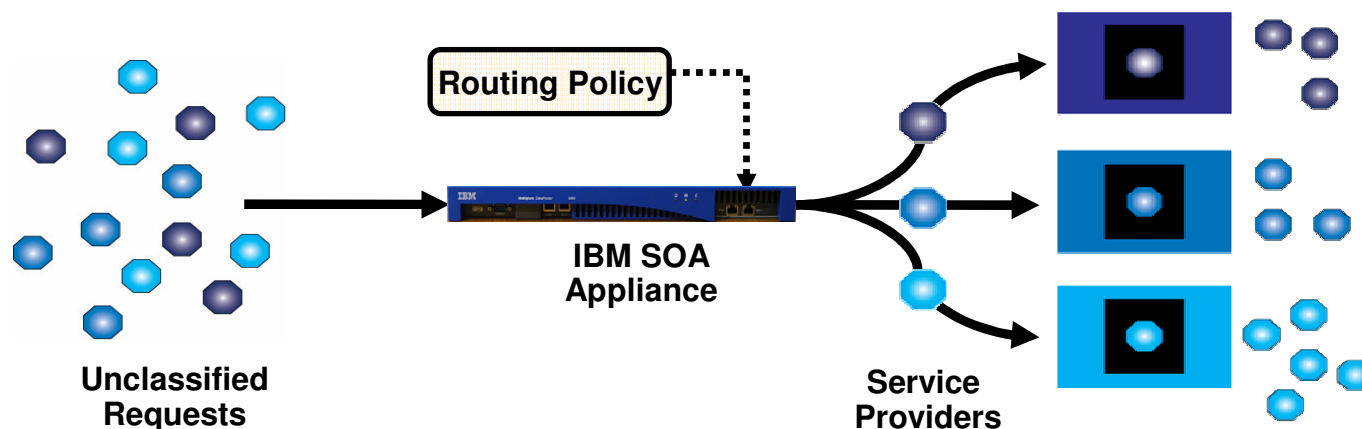
- **Transform Disparate Data Formats (XML, Binary, Text, etc.)**
- **Broker data between previously siloed systems**
- **Simplifies Reuse of and Connectivity to existing systems**
- **Promotes loose coupling**
- **Transformation of data on the wire enables integration without coding**



## Content-based Routing Features

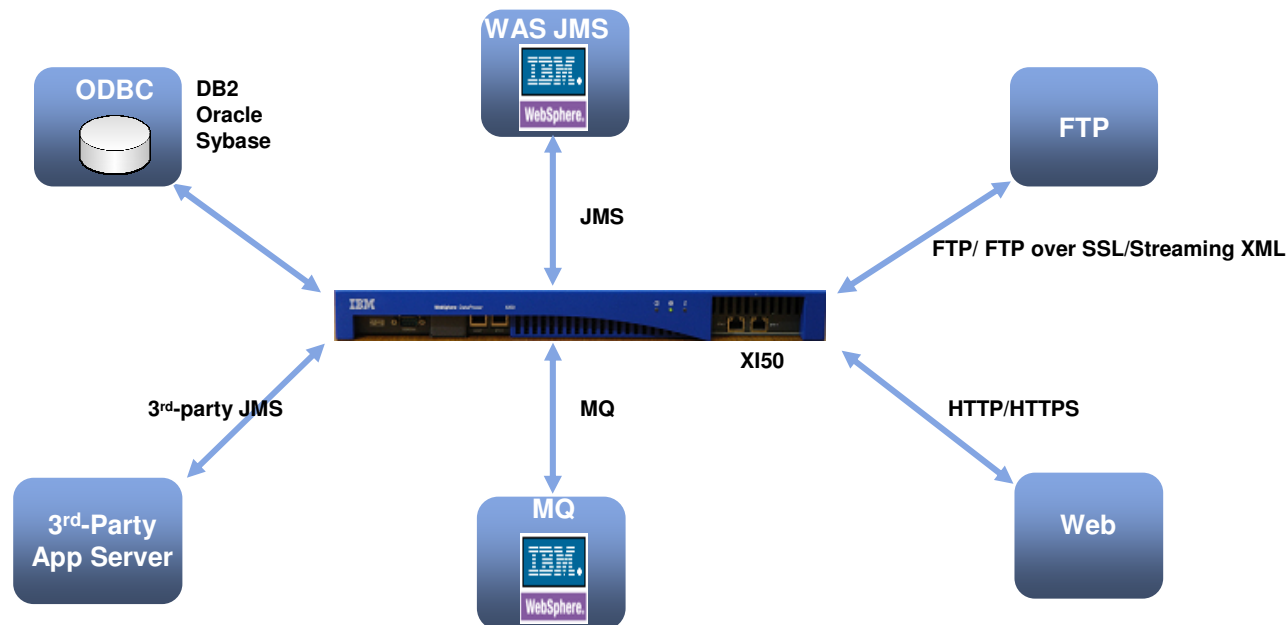


- **Dynamically route based on context (e.g. originating URL, protocol headers and attributes, etc.) and message content (both legacy and XML):**
  - XPath-based routing against any part of the message content or context
  - XPath statements can point to dynamically set URLs and/or message queues (MQ, JMS)
  - Routing may be one way (a response from the service may not be necessary)
- **XI50 can be configured to accept a routing table where routing parameters are supplied using XML:**
  - A table results in extremely fast turnaround of routing changes, including transport protocol conversions
- **XI50 can dynamically retrieve routing information from other systems:**
  - Databases, web servers, file servers, etc.



## 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



## 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.
- 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)



## ***What's New in WebSphere DataPower SOA Appliances v3.7.1 –***

- **Centralized policy and governance between WSRR and DataPower**
  - WSRR administrator submits WS-Policy and WSDL
  - DataPower subscribes to and enforces Policy on WSDL endpoints
- **Policy-driven security and flexibility improvements**
  - Policy-driven SSL client cert validation
  - AAA cache invalidation improvements for performance and policy enforcement
  - LDAP bind-search-rebind semantics useful for large LDAP repositories (for example)
- **WebSphere family enhancements to satisfy a greater class of applications (financial services, etc.)**
  - MQ Ordered messaging improvements
  - MQ browse, better sync point support, more automated ReplyQ behavior, better backout queue support
  - WTX interop
- **Configuration file handling for better production elevations**
  - Profiler to identify non-standard practices
  - Environment-specific configuration mediation components (IP addresses, variables)
- **Interoperability with other products for even better heterogeneous environment support**
  - Database stored procedure return value support
  - WS-Security Policy interop testing and validation with Microsoft .net and BEA WL 10
  - ActiveDirectory search improvements for role-based management
- **Tibco support improvements**
  - Active/passive server config
  - Improved LB/failover behavior
- **Connectivity enhancements**
  - Better url-open timeout control, per-transaction timeout, non-XML input size reporting
- **Other Usability, Serviceability improvements for better operations**
  - MOTD and banner support, CLI Wizard, SNMP ease-of-use etc.
  - Domain deletion safety, Ethernet interface disable control
  - Better workflow with in-situ file viewer / edit, Internal Load Balancer programmatic control



## MQ Backout Queue, comprehensive support

Added the ability to retrieve message backout settings from an MQ server.

New in 3.7.1

### Retrieve Backout Settings

- **on** - Use backout settings from the MQ server.
- **off** - Do not use backout settings from the MQ server. Use backout settings in the MQ Queue Manager object.

The screenshot shows the 'Configure MQ Front Side Handler' dialog box. The 'Main' tab is active. The 'MQ Front Side Handler' section contains the following fields and options:

- Name: [Text Field] \*
- Admin State:  enabled  disabled
- Comments: [Text Field]
- Queue Manager: [(none) v] + ... \*
- Get Queue: [Text Field] \*
- Put Queue: [Text Field]
- CCSI: [Text Field] 0
- Get Message Options: [Text Field] 4097
- Exclude Message Headers:
  - CICS Bridge Header (MQCIH)
  - Dead Letter Header (MQDLH)
  - IMS Information Header (MQIIH)
  - Rules and Formatting Header (MQRFH)
  - Rules and Formatting Header (MQRFH2)

At the bottom of the dialog, the 'Retrieve Backout Settings' option is highlighted with a red box. It is currently set to  on  off.



# MIB Group, Inc.

## SOA Security & Integration

### Challenge

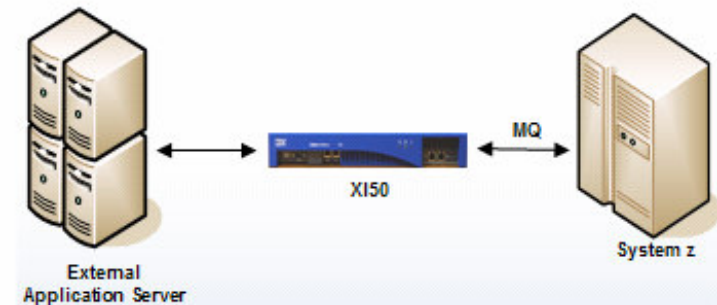
- Difficult to modify home-grown custom software application
- Adopt SOA to enable an online Web service to greatly increase revenues, while reducing costs & increasing the security of the service

### Solution

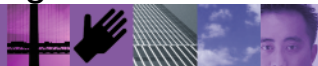
- Deployed WebSphere DataPower Integration Appliance XI50 for SOA security and to transform & route messages
- Acts as a gateway by forwarding messages to System z mainframe to be checked against database
- Integrates ACORD XML services with existing WebSphere MQ
- Integrates SchemaTron validate to generate XSLT to load the generated XSLT onto the XI50 for runtime execution & filtering

### Benefits

- More than 10 times faster than internally developed custom software
- Fraud-protection processes are faster, more secure & less error prone
- Web service allows MIB to offer more services to customers while reducing overhead cost



- **WebSphere DataPower Integration Appliance XI50**
- **WebSphere MQ**
- **System z**

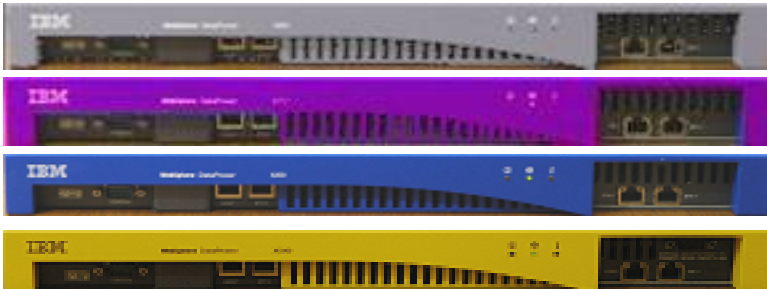




## Summary – IBM Specialized Hardware for Smart SOA Connectivity

- 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





# Additional Information: DataPower Enhancements

name



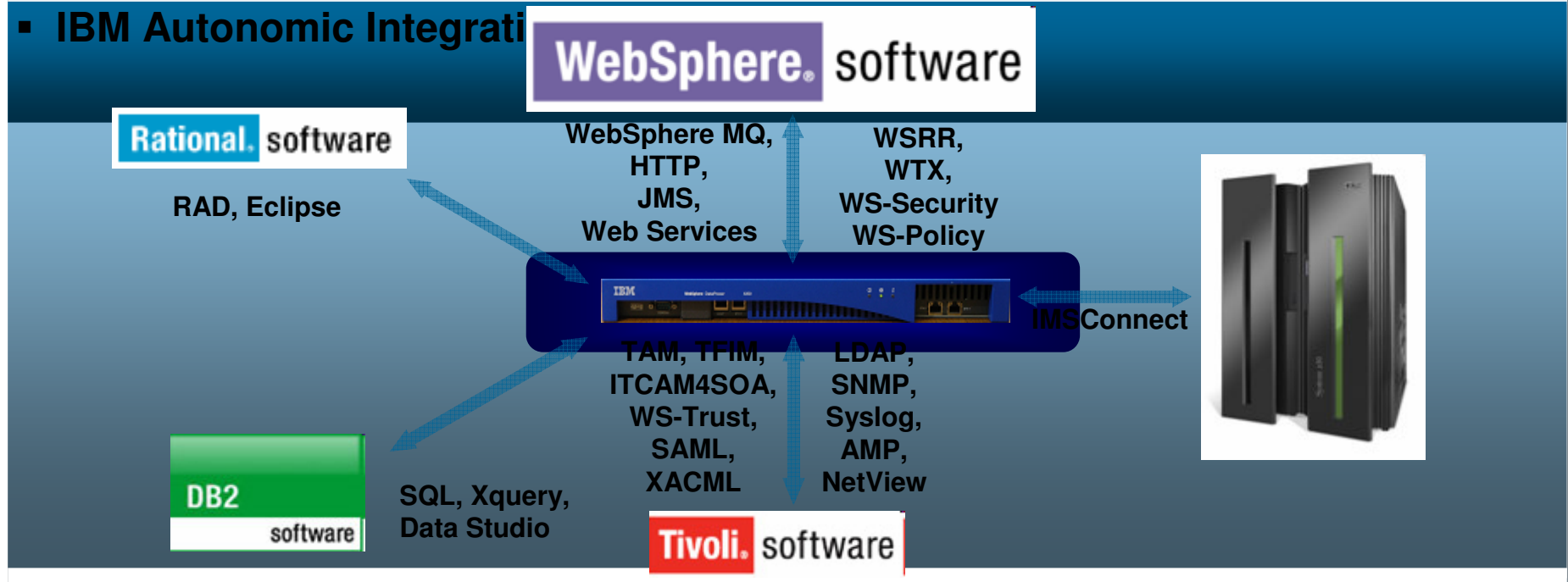
## DataPower's Unique Approach to SOA *Hardware Performance + Highly Customizable Configuration*

- More future-proof solution required for today's emerging SOAs:
  - Evolving specifications, varied corporate policies, changing security requirements
  - Efficient Processing needed for XML Web services integration
  - High Customization required for broad-based SOA
- DataPower Agility ("DA") Architecture Enables Flexibility & Performance:
  - Advanced Patented XML Processing Engine for wirespeed performance
  - Customizable XML configuration files for highly flexible configuration
  - Easily adapts to changes in standards, service requirements and customer needs
- Benefits:
  - No need to wait for software or hardware code change, QA, and patch upgrade

# Integration across the IBM Software Portfolio

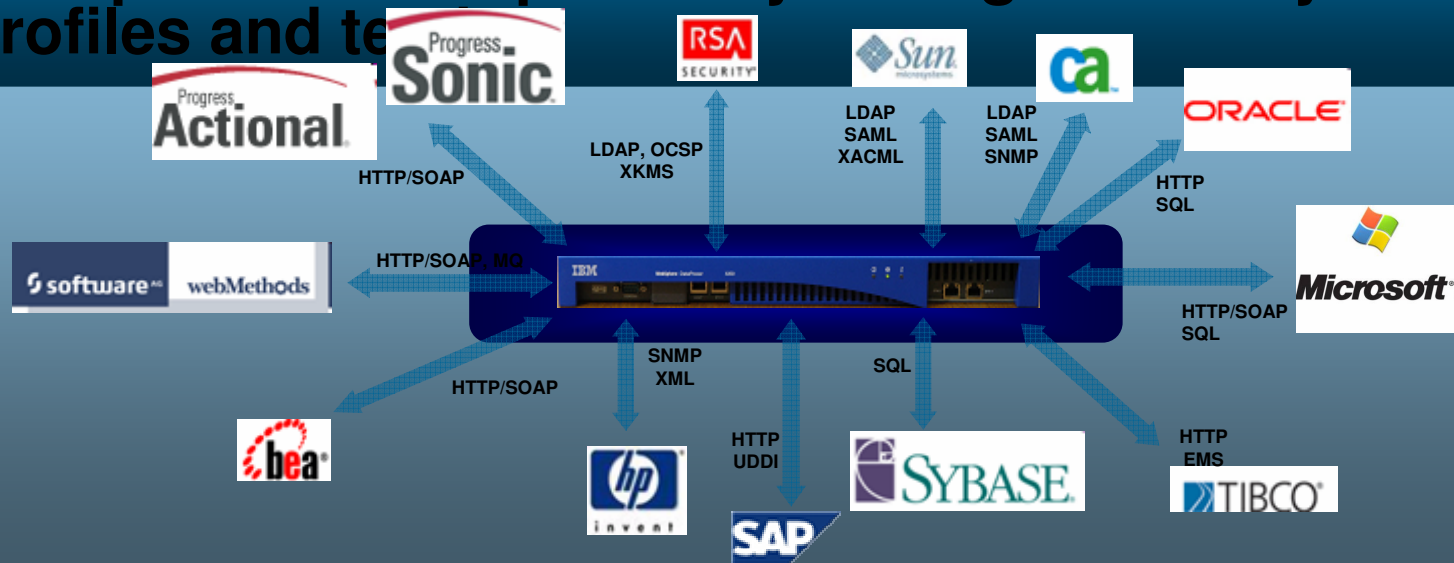
- **Mature integration within WebSphere software portfolio**
  - *WebSphere MQ with WebSphere DataPower: 4+ years, numerous customers*
  - *Industry-leading SOA Runtime Governance with WSRR + DataPower*
  - *Many more examples: WTX for data maps, WS-Security for WMB*
  - *Auto-configure XML firewall by importing WebSphere service descriptors*
- **Complete SOA Security and Management solution with Tivoli products**
- **Robust enterprise integration through native DB2 and IMSConnect**
  - *Deliver data as Web services into new or existing SOA solutions with DataPower/Data Studio integration*

## IBM Autonomic Integrati



## Integration with 3<sup>rd</sup> Party Vendors

- Standards-based integration with third party vendors
- Tighter integration with some key competitors
- No platform dependencies – hardware or software
- Exceptional interoperability through industry profiles and test



## WebSphere DataPower Appliances Benefits

- **Flexible Connectivity: an XML appliance shields the applications from security requirements, protocol changes and service versioning - no application modifications needed**
- **Reduce Complexity: Replace software servers functionality with an XML appliance, reduce infrastructure footprint, and off-load heavy processes to dedicated XML appliances**
- **Lower TCO: Dedicated XML appliances have shown to reduce operational costs by as much as 50%**
- **Improved Agility by Reduced Time to Market: dramatically decrease the testing time and amount of development required to upgrade your environment, most policies are configuration driven as opposed to development driven**
- **Reduce Risk: the XML appliance provides the connectivity layer without requiring application modification, and delivers improved security and audit support**
- **Configuration Driven: The XML appliance is configuration driven to do policy definitions, it does not involve development to support your infrastructure**



# **International Automotive Manufacturer**

## *Web Services Security Gateway & Lightweight ESB for SOA*

### Business Challenge

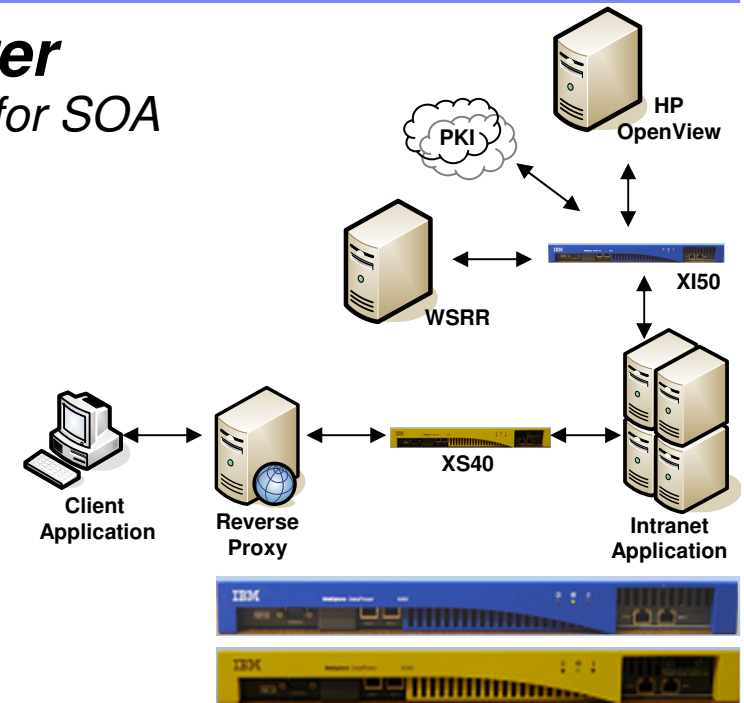
- Implementing Web services based SOA
- Ability to access services that will provide a list of known issues for each vehicle

### Solution

- Implemented WebSphere DataPower Integration Appliance XI50 as an ESB
- Implemented WebSphere DataPower XML Security Gateway XS40 as a Web services proxy for verification, digital signatures, and authentication between Web server client and reverse proxy
- Integration of WebSphere DataPower & WSRR for service management

### Benefits

- Deployed more than 100 new services since 2007
- Log files & SNMP alerts to HP OpenView



**Software/Hardware**  
**WebSphere DataPower**  
**Integration Appliance XI50**  
**WebSphere DataPower**  
**XML Security Gateway**  
**XS40**  
**WebSphere Service**  
**Registry & Repository**  
**System z**





# Major US Investment Firm

## Web Services Security and ESB Infrastructure

### Challenge

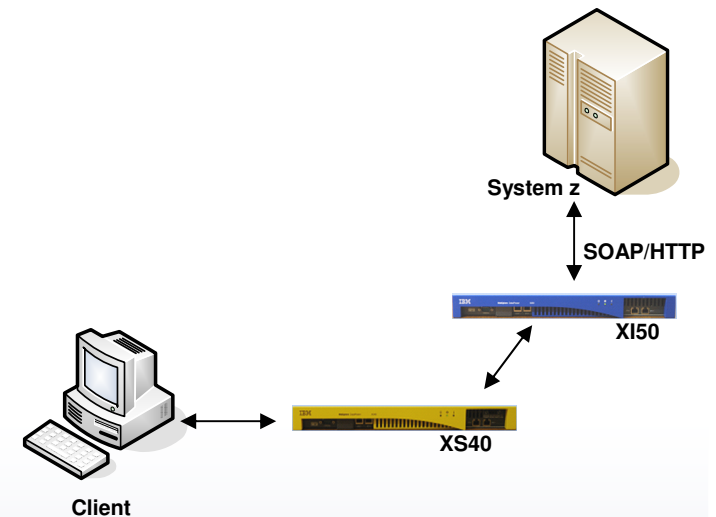
- 1) New web services security for internal and external application integrations and 2) replace existing ESB/RR Bus
- Previous ESB (called RR Bus) became unmanageable - 48 servers at end of 2007
- Increased load expected through 2008 as Home page traffic moved onto the RR Bus

### Solution

- Web Services Security – 2 DataPower XS40 XML Security Gateway Appliances provide standards-based web services security for internet and intranet applications
- RR Bus – 4 DataPower XI50 Integration appliances replaced 48 existing servers to provide high-performance ESB for transactions with System z via SOAP/HTTP

### Benefits

- Offered new service to business partners: Secure Web Services
- Simplification of the home grown routing solution – easier to support and maintain 4 XI50 appliances vs. 48 servers
- Lowered TCO by reducing ESB hardware infrastructure by 75%
- Forecasted ROI within 6 months
- High-performing routing of transactions to mainframe



- WebSphere DataPower Integration Appliance XI50
- WebSphere DataPower XML Security Gateway XS40
- WebSphere MQ
- System z



## What's New in WebSphere DataPower Integration Appliance XI50 v3.6.1

- Expanded integration and connectivity
  - Enhanced MQ support
  - Full support for WS-ReliableMessaging (WS-RX)
  - Additional support for VLAN and NFSv4
  - Enhanced support for WSRR and UDDI v3 registries
  - Full support for SOAP 1.2, WS-Security 1.1 updates
  - Integration with DB2 V9 pureXML
  
- Enhanced governance capabilities
  - Dynamic Web Services policy framework (WS-Policy and WS-Security Policy)
  - WS-I Basic Profile and Basic Security Profile support
  
- Breakthrough enhancements for ease of use
  - Streamlined Multi-step Transaction Processing
  - Expanded Quality of Service (QoS) support

**Main**

MQ Front Side Handler

Apply Cancel

Name	mq1 *
Admin State	<input checked="" type="radio"/> enabled <input type="radio"/> disabled
Comments	
Queue Manager	test (MQ Queue Manager) + ... *
Get Queue	get *
Put Queue	put
CCSI	0
Get Message Options	0
Exclude Message Headers	<input type="checkbox"/> CICS Bridge Header (MQCIH) <input type="checkbox"/> Dead Letter Header (MQDLH) <input type="checkbox"/> IMS Information Header (MQIIH) <input type="checkbox"/> Rules and Formatting Header (MORFH) <input type="checkbox"/> Rules and Formatting Header (MORFH2) <input type="checkbox"/> Work Information Header (MQWIH)
The number of concurrent MQ connections	1
Polling Interval	30 seconds
Header to extract Content-Type	MORFH
XPath expression to extract Content-Type from MQ header	XPath Tool *



# WebSphere DataPower Enhancements

## WS-Policy framework

- Flexible WS-Policy framework
  - Enables quick consumption of new and updated standard and custom WS-Policies for central enforcement and management via DataPower appliances
  - Supports WS-PolicyAttachment
    - Via embedded WS-Policy references
    - External attachment
    - WSRR
    - UDDI
  - Provides standard policy templates out of the box
    - WS-Security Policy
    - WS-ReliableMessaging Policy

### Web Service Proxy WSDLs

- Edit WSDL/Subscription
- Add WSDL
- Add UDDI Subscription
- Add WSRR Subscription

WSDL File URL: local:/// StockQuote\_wsp\_rmp.wsdl [Upload...] [Fetch...]

Use WS-Policy References:  on  off \*

WS-Policy Parameter Set: (none) [+][...]

WS-Policy Enforcement Mode: enforce

[Next]

Import WSDL with embedded WS-Policy per WS-PolicyAttachment

Attach external policy to policy subjects through built-in WSDL navigator

### Web Service Proxy Policy

Open tree to: Proxy | WSDLs | Services | Ports | Operations

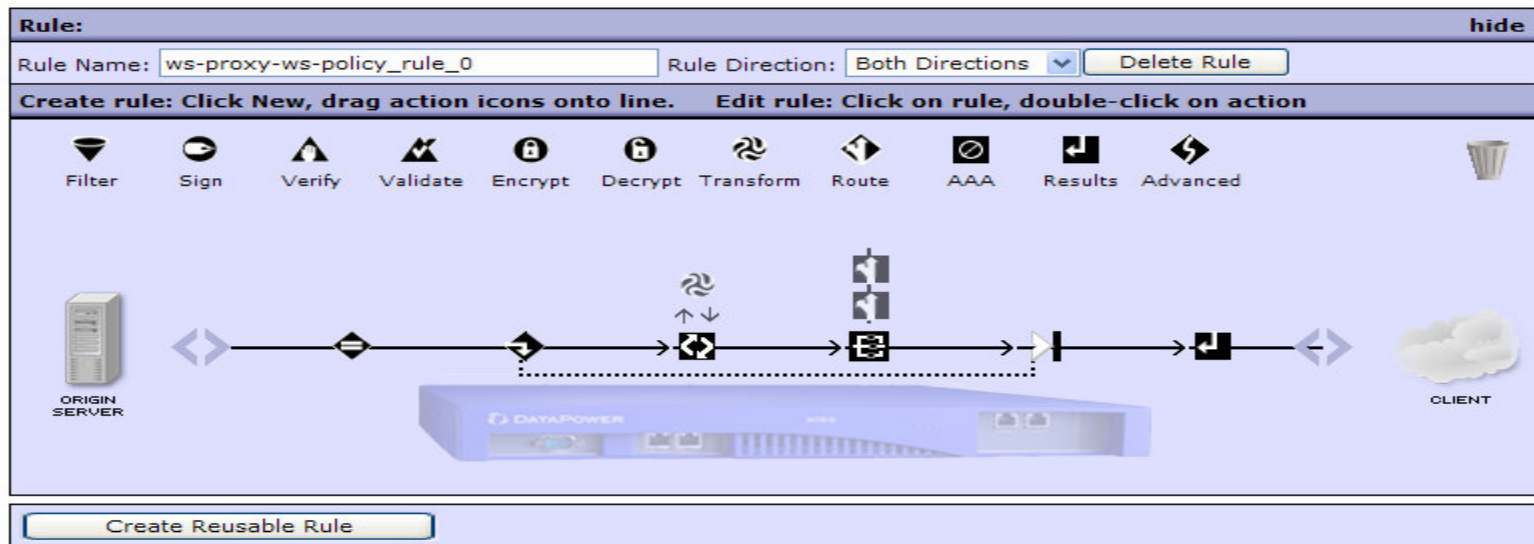
- ws-proxy-ws-policy\_default\_respo... (response-rule)
- wsdl: StockQuote\_wsp\_rmpwsdl
  - WS-Policy: (default) WS-I Conformance: (none) Priority: Normal
  - service: StockQuoteServiceService
    - WS-Policy: (default) WS-I Conformance: (none) Priority: Normal
    - WS-Policy**
      - Processing Sources Enabled Subjects
      - Additional Policy Sources (empty)
      - store:///policies/templates
      - wsp-sp-1-2-secureconversation.xml
      - [Upload...] [Fetch...]
      - Specify wsu:Id:
      - [Attach Source]

[Done]

# WebSphere DataPower Enhancements

## Multi-step Processing Enhancements

- Streamlined Multi-step Transaction Processing
  - Makes common processing patterns more consumable and easier to configure
- New and updated processing actions to support
  - looping
  - conditional branching
  - parallel processing
  - multi-way fan-out and aggregation
  - asynchronous processing of any action



# WebSphere DataPower Enhancements

## Enhanced Connectivity

- Enhanced MQ connectivity
  - MQ connectivity performance optimizations
  - Simplified DP->MQ->CICS/IMS connectivity
  - Simplified parsing and generation of MQ headers
    - MQMD, MQRFH, MQRFH2, MQIIH, MQCIH, etc
    - Simplified use of MQ API
      - MQOD, MQOR, etc
- New support for NFSv4
  - Includes Kerberos support
- New support for VLANs
  - Allows easier deployments into existing network environments

**Main**

MQ Front Side Handler

Name	<input type="text" value="mq1"/> *
Admin State	<input checked="" type="radio"/> enabled <input type="radio"/> disabled
Comments	<input type="text"/>
Queue Manager	test (MQ Queue Manager) <input type="button" value="+"/> <input type="button" value="..."/> *
Get Queue	<input type="text" value="get"/> *
Put Queue	<input type="text" value="put"/>
CCSI	<input type="text" value="0"/>
Get Message Options	<input type="text" value="0"/>
Exclude Message Headers	<input type="checkbox"/> CICS Bridge Header (MQCIH) <input type="checkbox"/> Dead Letter Header (MQDLH) <input type="checkbox"/> IMS Information Header (MQIIH) <input type="checkbox"/> Rules and Formatting Header (MQRFH) <input type="checkbox"/> Rules and Formatting Header (MQRFH2) <input type="checkbox"/> Work Information Header (MQWIH)
The number of concurrent MQ connections	<input type="text" value="1"/>
Polling Interval	<input type="text" value="30"/> seconds
Header to extract Content-Type	<input type="text" value="MORFH"/> <input type="button" value="v"/>
XPath expression to extract Content-Type from MQ header	<input type="text"/> <input type="button" value="XPath Tool"/> *

