Alexander Madzhirov – IBM WebSphere Technical Specialist

15/10/2009

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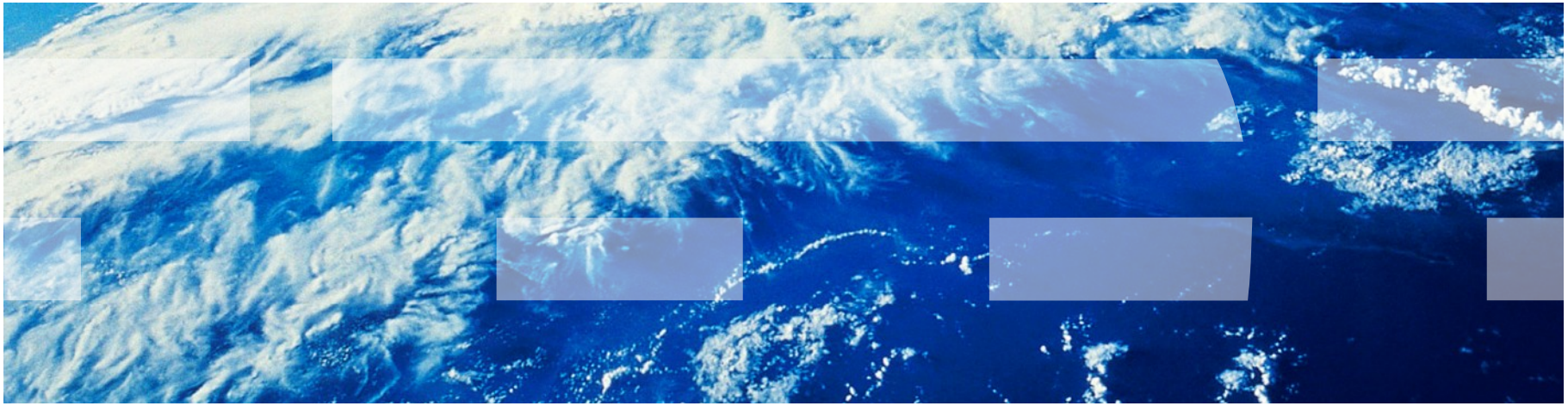
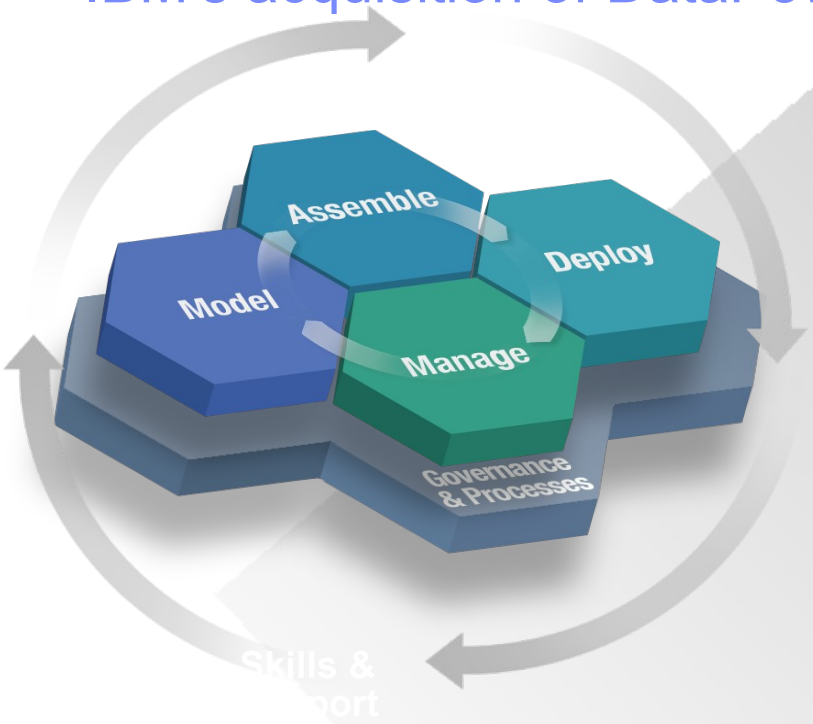
DataPower SOA Appliances

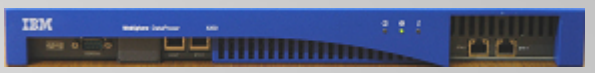
Simplify, Help Secure & Accelerate SOA



IBM's acquisition of DataPower



An SOA Appliance…



Creating customer value through extreme SOA performance, security and transformation

- **Simplifies** SOA with specialized devices
- **Accelerates** SOA with faster XML throughput
- **Helps secure** SOA XML implementations
- **Wirespeed Transformations** of any data

WebSphere DataPower SOA Appliances redefine the boundaries of middleware extending the SOA Foundation with **specialized, consumable, dedicated SOA appliances** that combine **superior performance and hardened security** for SOA implementations.

DataPower SOA Appliances Are . . .

- Purpose built, optimized hardware platform for security and integration
- Highly secure/tamper-evident
- Simplified SOA with highly configurable features
- Able to process all formats of data (XML AND non-XML/legacy)
- Operating on application data (layer 7) and not network packets
- Completely firmware upgradeable
- Designed with integrated failover to ensure interruption-free processing

SOA Appliance Value Proposition

Simplify deployment, improve performance, and enhance security and management of SOA implementations

- Hardened, specialized hardware for helping to integrate, secure & accelerate SOA
  - Reduce or eliminate performance bottlenecks and security risks
- DataPower delivers intelligent network devices to address integration, security management and latency problems associated with SOA, Web services & XML
- Leverages WebSphere, Tivoli, Information Management and DataPower integration to lower the barriers for extensive SOA deployments by simplifying and accelerating
- Many functions integrated into a single device:
  - Impact: connectivity will require service level management, routing, policy, transformation
  - Minimize operational, architectural and infrastructure complexity
  - Simplified deployment and ongoing management:

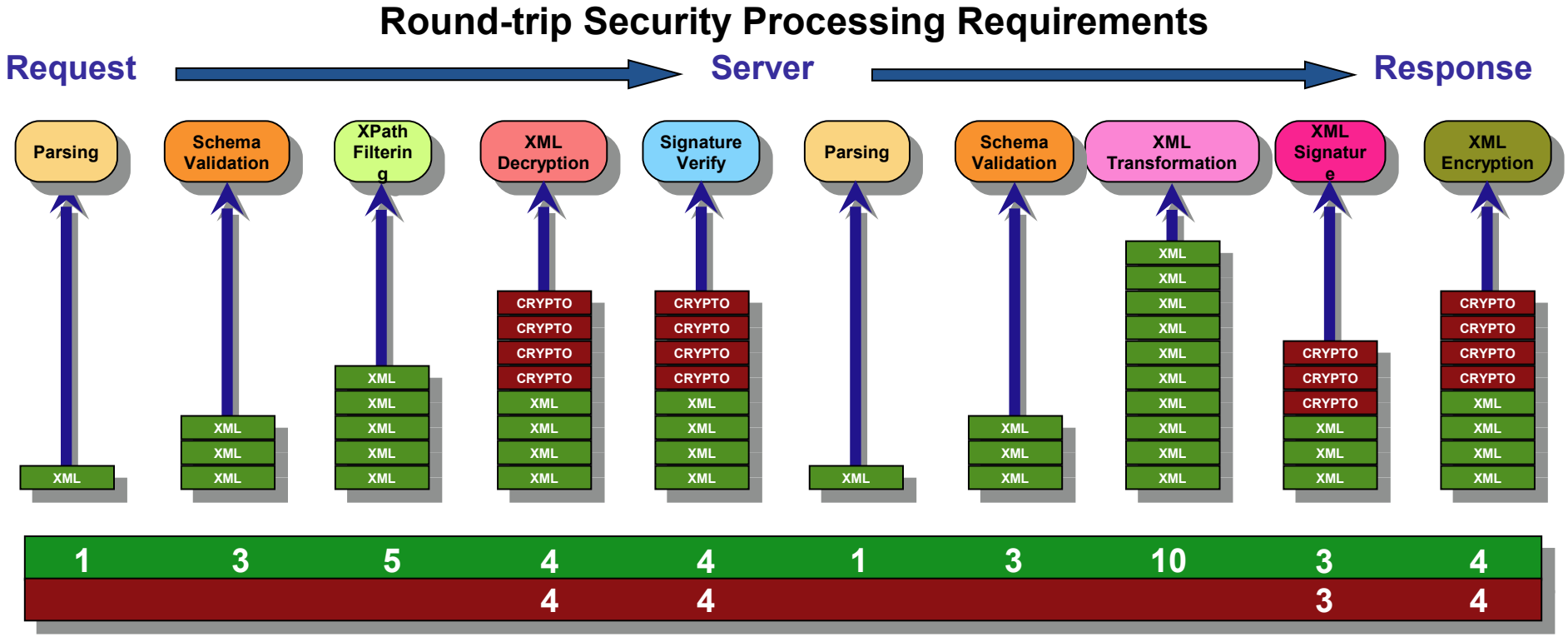
What are the Painpoints?

Statement of Problem/Pain

XML is the foundation of SOA, but brings new challenges:

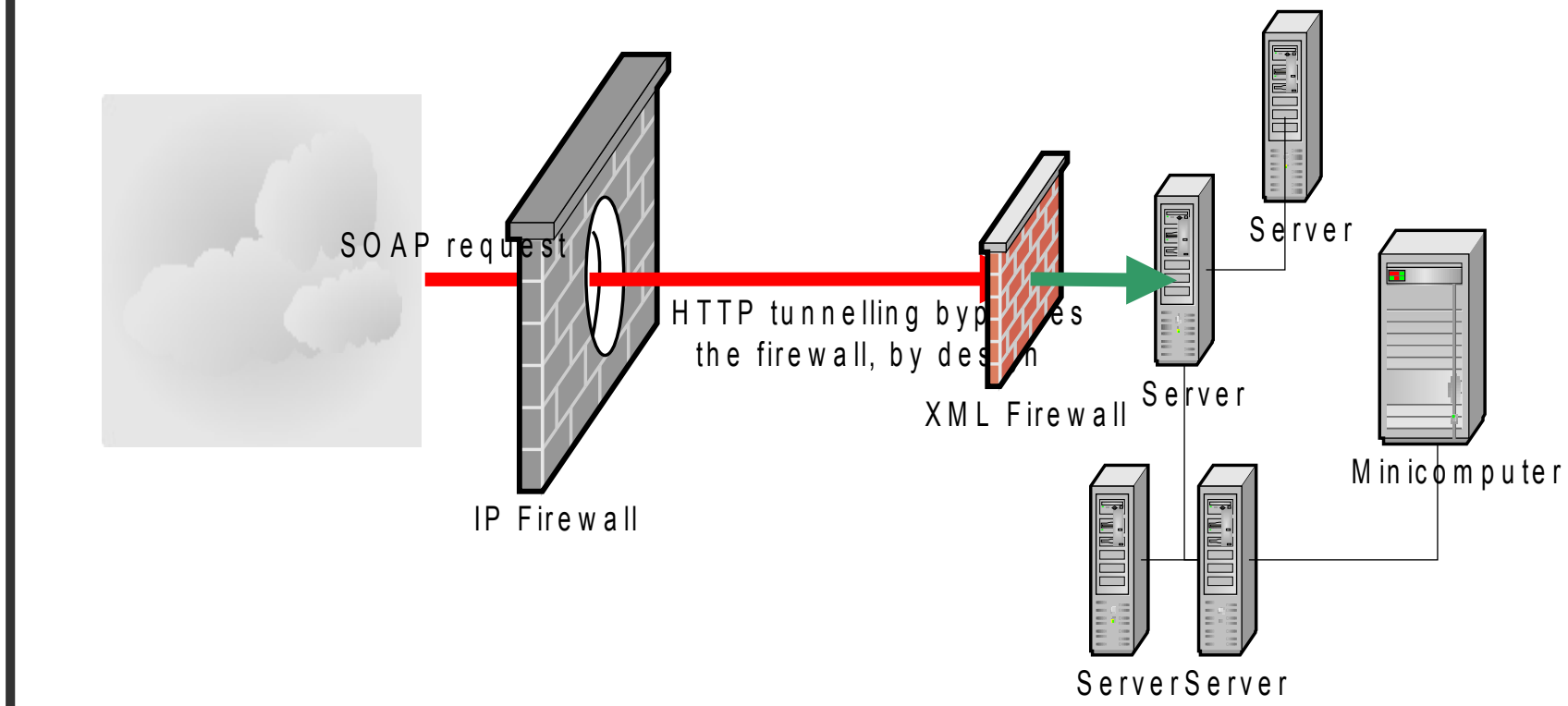
- Scalability: XML is bandwidth, CPU, and memory intensive
- Performance: some XML apps literally grind to a halt
- Security: connecting systems never before connected
- Security: clear text over HTTP with no inherent security
- Integration: connecting Web services to legacy applications
- Standards are still in flux
- Governance: ability to manage your SOA

SOA is XML Processing



- Performance is the Key Enabler for Comprehensive SOA Security
  - XML is the key to cross-format message level data validation
  - All security functions require significant amounts of XML processing
  - Poor security performance can cause customers to disable security features and increase risk
  - Don’t compromise security due to lack of performance

Security Risks Growing



Using an XML-aware firewall to protect internal servers and enable message-level security.

XML Threats

- XML Entity Expansion and Recursion Attacks
- XML Document Size Attacks
- XML Document Width Attacks
- XML Document Depth Attacks
- XML Wellformedness-based Parser Attacks
- Jumbo Payloads
- Recursive Elements
- MegaTags – aka Jumbo Tag Names
- Public Key DoS
- XML Flood
- Resource Hijack
- Dictionary Attack
- Message Tampering
- Data Tampering
- Message Snooping
- XPath Injection
- SQL injection
- WSDL Enumeration
- Routing Detour
- Schema Poisoning
- Malicious Morphing
- Malicious Include – also called XML External Entity (XXE) Attack
- Memory Space Breach
- XML Encapsulation
- XML Virus
- Falsified Message
- Replay Attack
- …others

IBM WebSphere DataPower SOA Appliances
Live Demo

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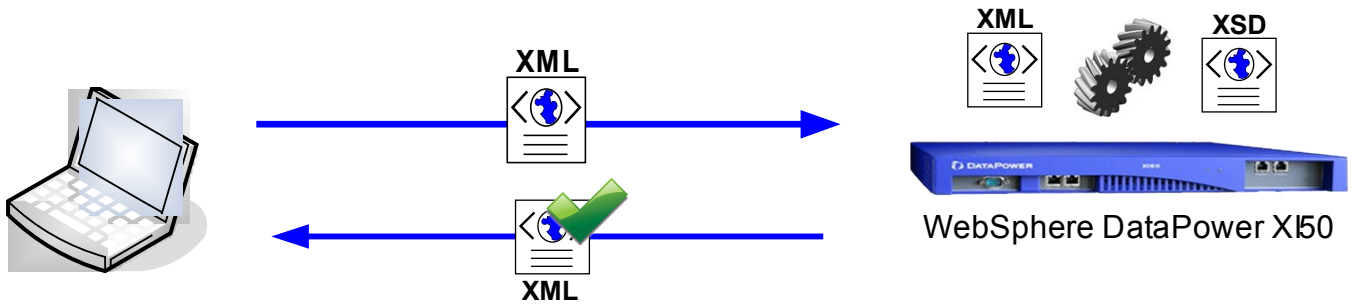
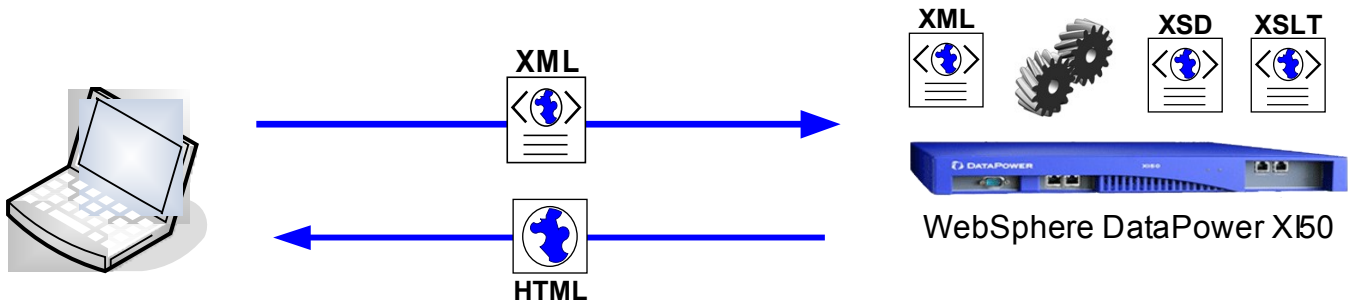
http://www.ibm.com/software/integration/datapower/

Validating XML message against XML schema



XSD validation and XSL transformation

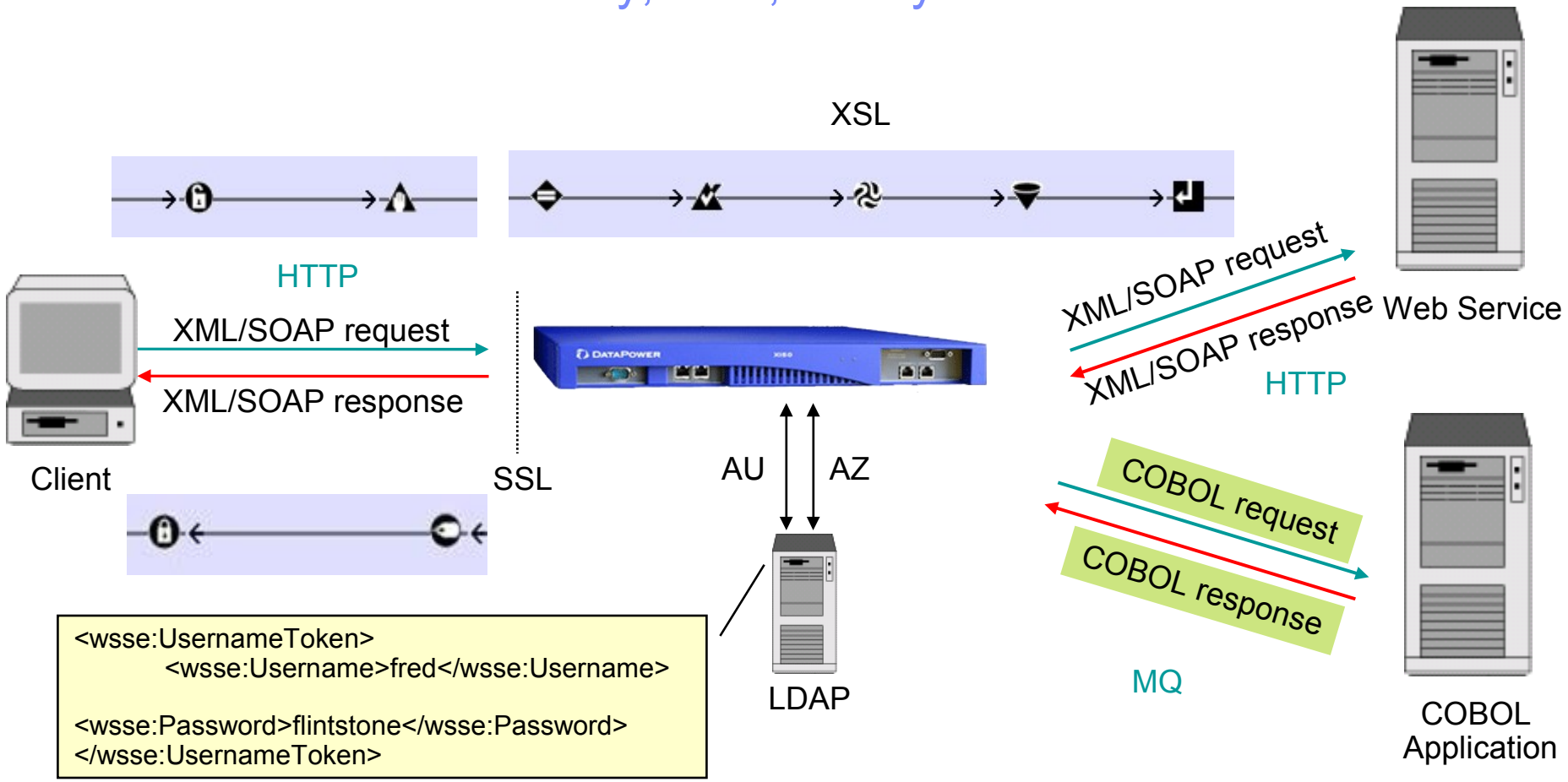


HTTP

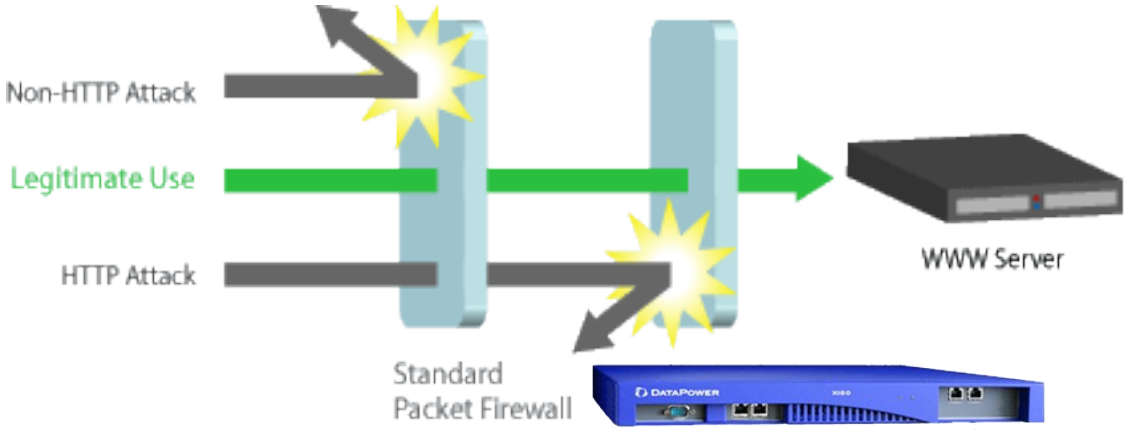
Web Service Proxy

Content Based Routing

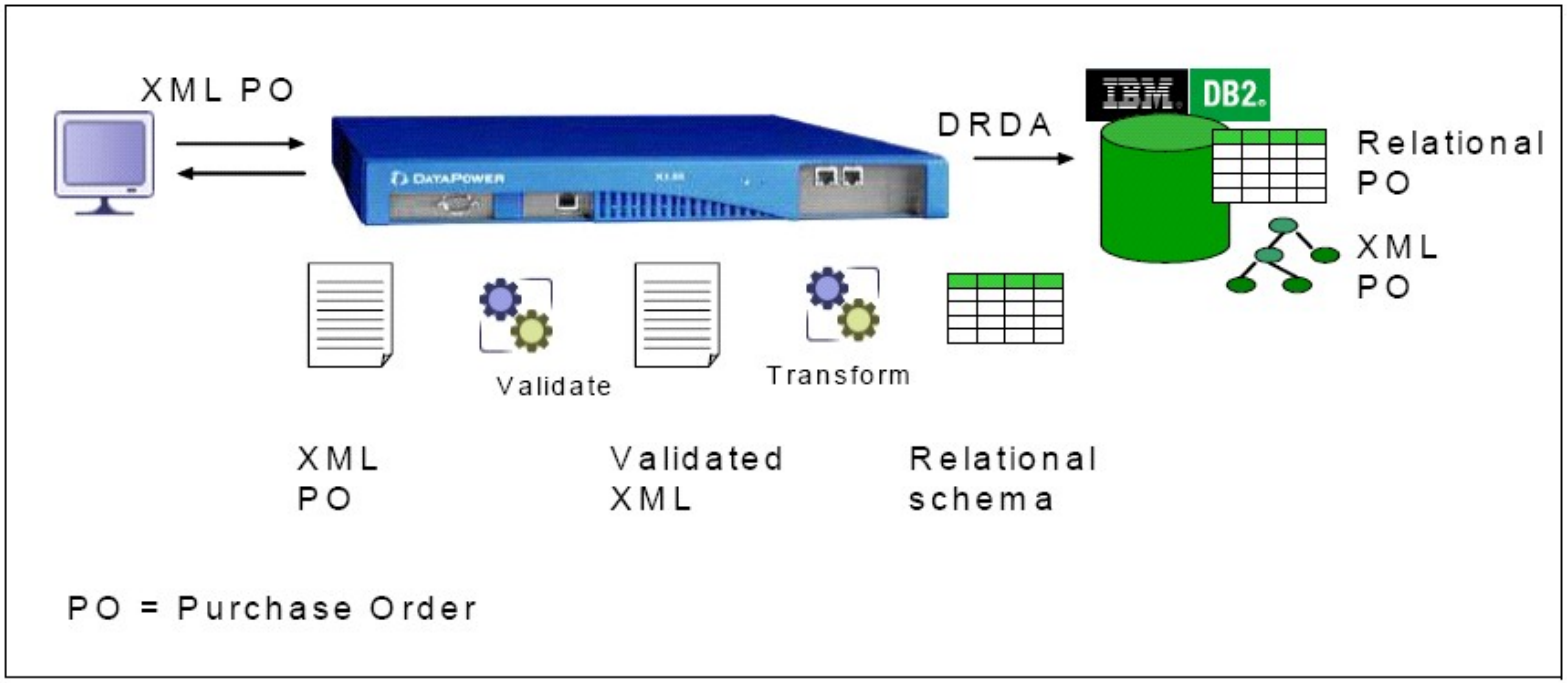
Multi-Protocol Gateway, AAA, Binary Transform



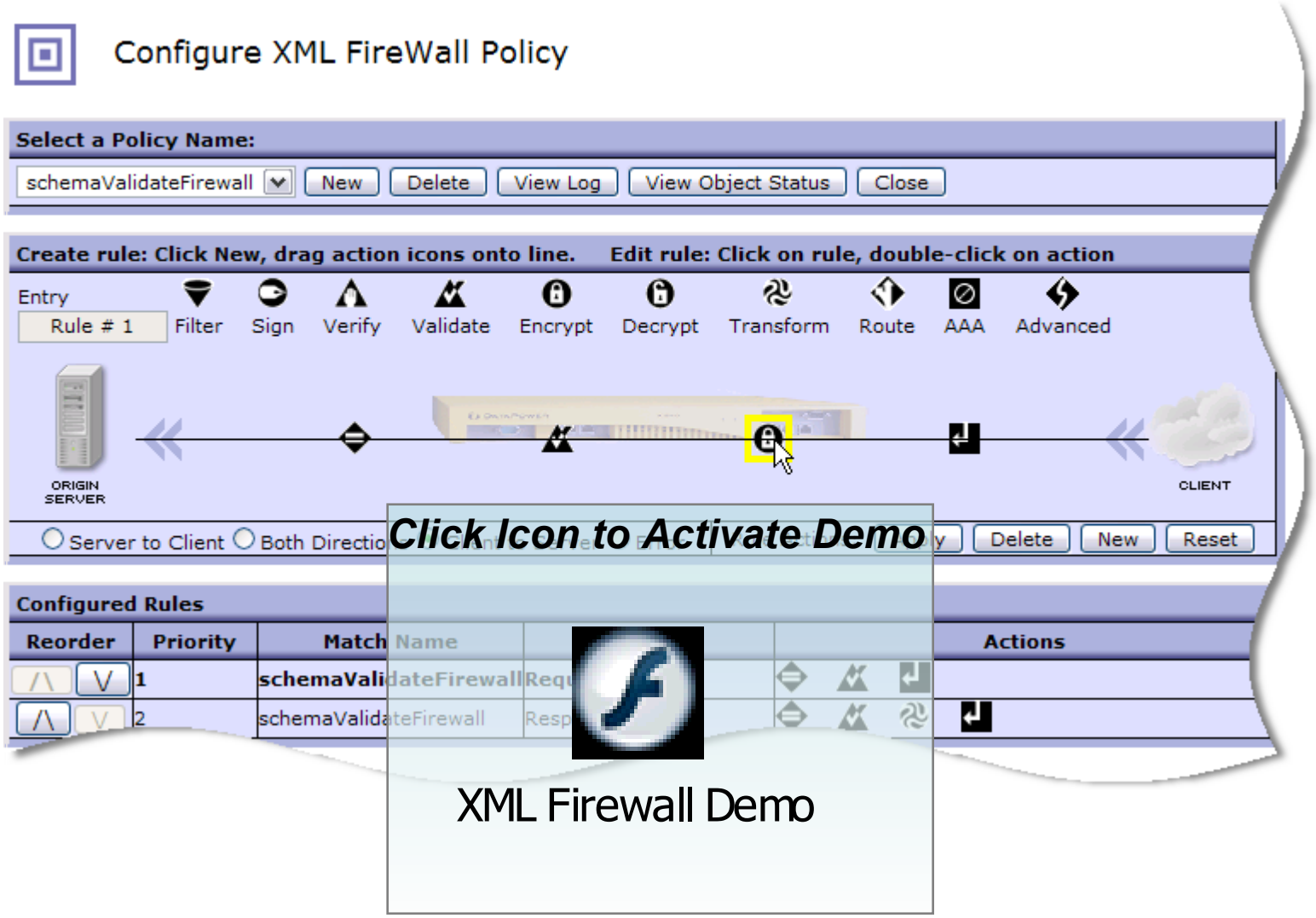
Web Application Firewall



Direct DB2 Connectivity (ODBC)



DataPower – Flash Demo



Bu sunum 15 Ekim 2009 tarihinde Ankara Sheraton Hotel'de yapılan Yazılım Zirvesi 2009 için hazırlanmıştır.

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