



IBM SOA Technology Summit

Moving Ahead With SOA

WebSphere DataPower SOA Appliances : simplify, secure and accelerate your XML and Web services deployments

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SOA on your terms and our expertise



Agenda

- SOA Challenges
- DataPower: a continuation of IBM's SOA strategy
- IBM WebSphere DataPower Product Line
- Use cases and references

SOA Foundation Infrastructure – Wants & Needs

Key attributes for flexible, robust SOA infrastructure:

- Simplicity
- Security
- Performance

The reality

- High volumes of XML traffic create performance bottlenecks and security risks
- The need to accelerate SOA applications is driving customers to purchase special purpose functionality in an appliance package

Infrastructure needs:

- Reduced Complexity and Operational Expenses
- XML threat protection and fine-grain access control
- Faster XML processing for enterprise class performance



Infrastructure

XML Challenges

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
- Financial, technical and organizational challenge

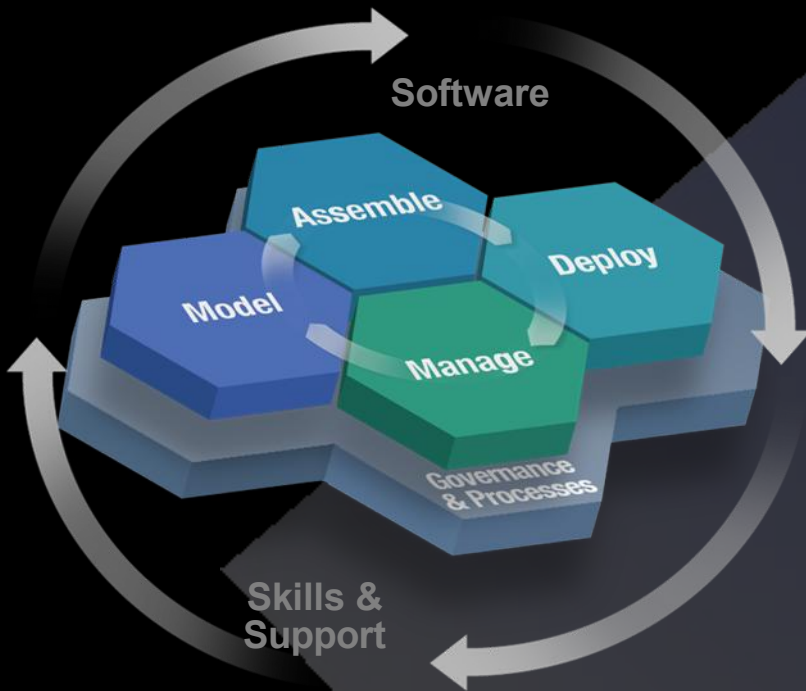
DataPower SOA Appliances

- Purpose-built hardware to address these challenges
- Simplify, accelerate and help secure XML Web services for SOA

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A continuation of IBM's commitment to SOA and simplicity



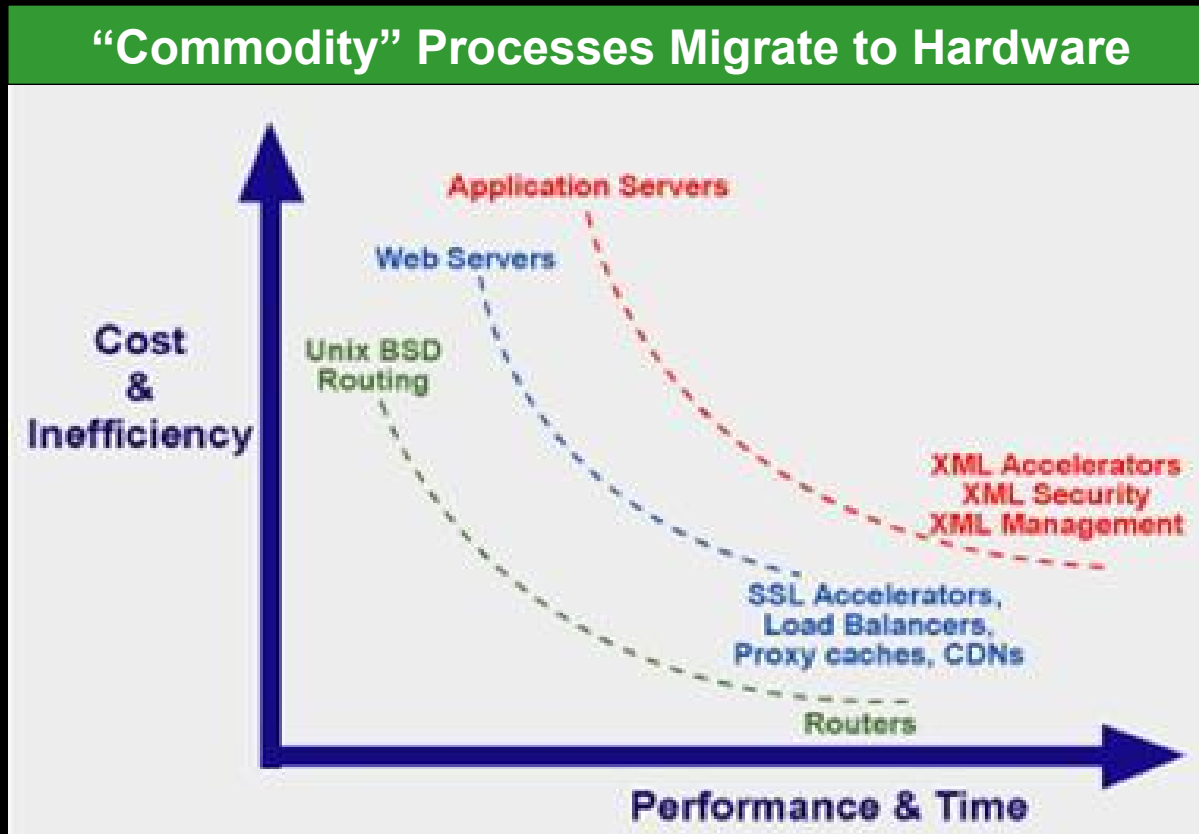
An SOA Appliance...

Creating customer value through extreme SOA performance and security

- Simplifies SOA with specialized devices
- Accelerates SOA with faster XML throughput
- Helps protect SOA XML implementations

IBM and DataPower 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

Historical Trend Favors Appliances



DataPower SOA Appliances Defined

SOA Appliances

- Are Hardened Security Devices – Penetration Tested
- Are Purpose Built Embedded Systems – Optimized for SOA Processing
- Are Highly configurable – Simplified SOA Architecture
- Are able to process all formats of data (XML and others)
- Are Standards Based – Work with Existing Infrastructure



- Are Not a general purpose server with some pre-loaded software
- Are Not running a full standard operating system
- Are Not traditional network packets (below layer 7)
- Are Not Java based



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DataPower Product Line

XA35 XML Accelerator

- Offload XML processing
- No more hand-optimizing



XS40 XML Security Gateway

- Enhanced Security Capabilities
- Agility – future-proof
- Easy Deployment



XI50 Integration Appliance

- ‘Any-to-Any’ Conversion at Wirespeed
- Groundbreaking Data Oriented Programming architecture
- Integrated message-level security



XA35 XML Accelerator

Purpose built Wirespeed XML Accelerator

“Data Power’s XA35 XML Accelerator, a mean, green XSLT machine, leaves the others in the dust.”
 - Network Computing



Functionality

- ❑ Centralized wirespeed parsing, schema validation and transformation, SSL acceleration, XML Compression, routing
- ❑ Multistep processing

❑ Performance

- ❑ Speed XML processing by up to 1000%

❑ Scalability

- ❑ One unit supports all applications
- ❑ No changes to application software

❑ Compliance

- ❑ Full support of XML, XSLT, XPath

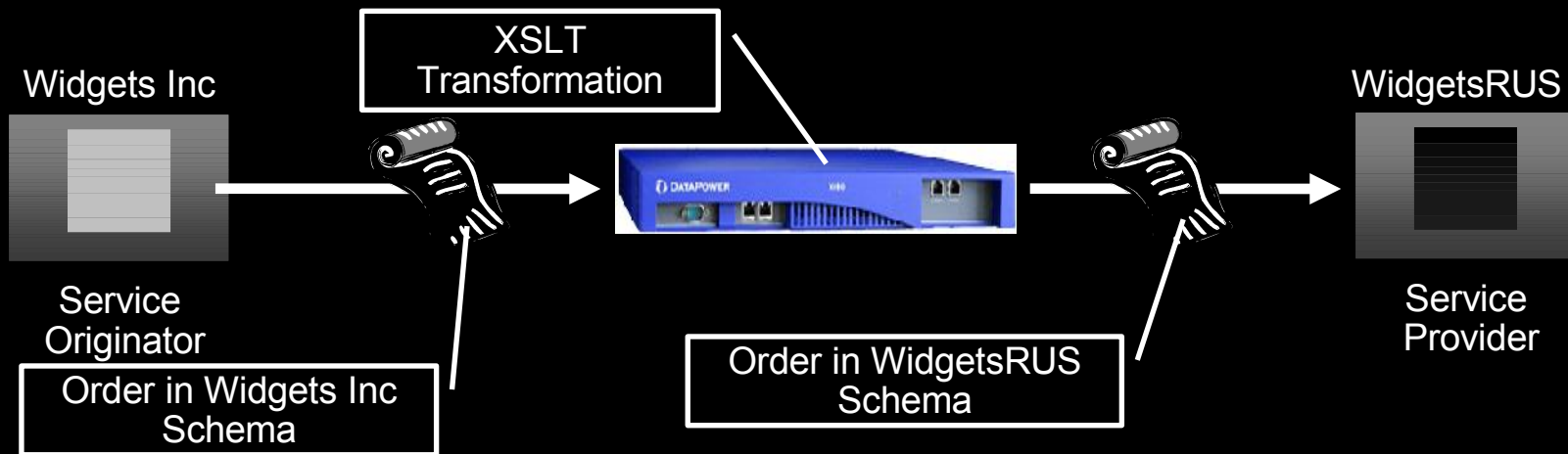
❑ Administration

- ❑ Ease of use
- ❑ Integration for management

“In our own tests, the XA35 XML Accelerator from DataPower offers significant XSLT performance improvements ... living up to DataPower’s claims of ‘wire speed XML processing’.
 DataPower’s XS40 XML Security Gateway is powered by the same high-speed technology and enables efficient web services security without code changes.
 - IBM Corporation “XML Appliances” WP

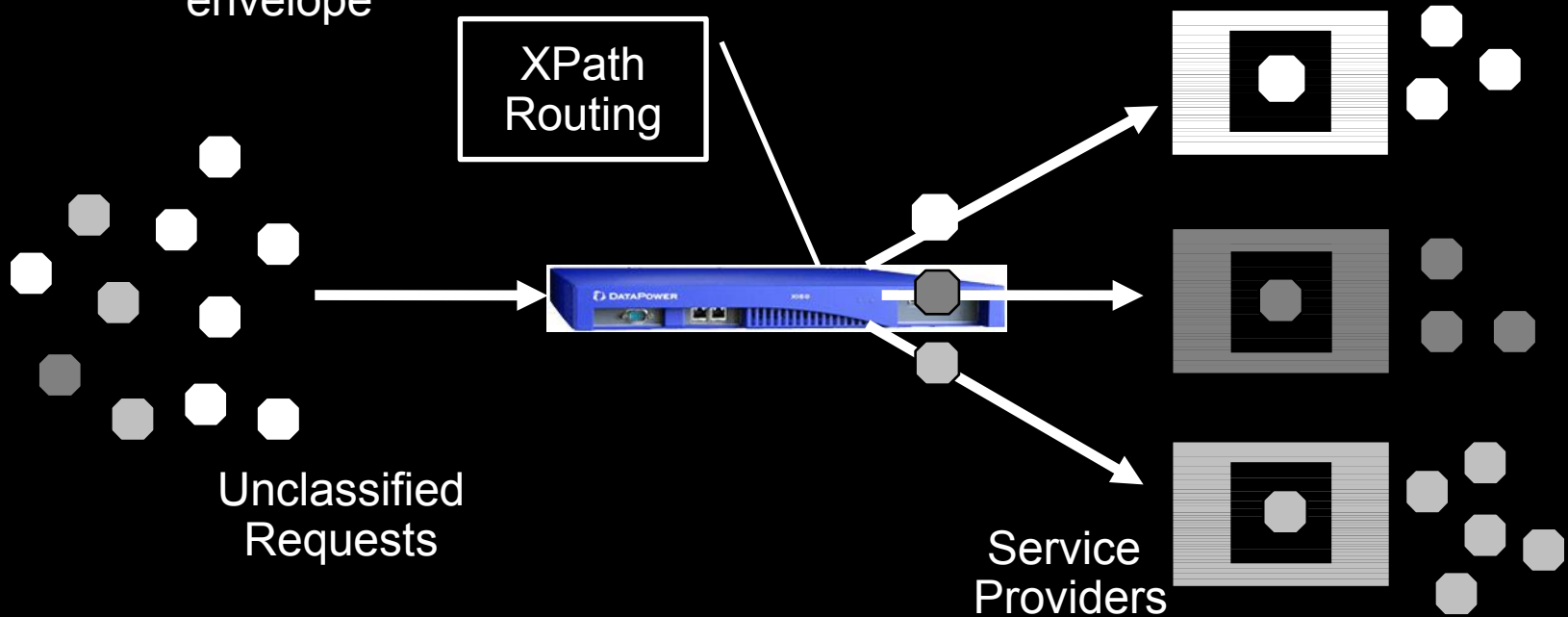
Transformation Features

- Transformation
 - XPath 2.0
 - XSLT 2.0
 - Internal schema support
 - External schema support



Routing Features

- Route based on
 - IP information
 - SSL parameters
 - HTTP headers
 - XPath on XML/SOAP envelope
- Load balancing
 - Round-robin
 - Least requests
- SLA/Traffic shaping
 - Throttle requests



XS40 XML Security Gateway

Wirespeed Appliance Purpose-Built for SOA Security



- ❑ **Built to Differentiate in 3 Major Areas:**
 - ❑ **Enhanced security** - parse, filter, validate schema, encrypt/decrypt, sign, control access, and more
 - ❑ **Performance** - no choosing between safety and speed
 - ❑ **Agility** - future-proof for changing standards, policies, partners
- ❑ **Easy Integration** - Interoperates with & augments existing security systems
 - ❑ Device can off-load application security software
 - ❑ Third party validation

Gartner: Web Services Security Best Practices

- Provide System Security
 - Inspect ALL traffic
 - Transform all messages
 - Mask internal resources
 - Implement XML filtering
 - Secure logging
 - Protect against XML DoS
 - Require good authentication mechanisms
- Provide Message Security
 - Sign all messages
 - Validate messages (Inbound+Outbound)
 - Time-stamp all messages
- Ask for Compatibility
 - SSL MA, SAML, x.509.
 - WS-Security
 - WS-* extensions
- Build Expertise/Design From Strength
- Educate Business Leaders
- Build Centralized Infrastructure
 - SSL is key
 - Use management/security platforms
 - Manage your identities
 - You may need PKI
- Trust (Really) Your Partners
- Use OTS Web Services with Caution
- Monitor and Control

“Therefore, enterprises should investigate tools such as security gateways, SSL concentrators and accelerators, and wire-speed SOAP/XML inspection hardware.”

-- John Pescatore, Gartner

XS40's Comprehensive Functionality

- ❑ **XML/SOAP Firewall** - Filter on any content, metadata or network variables
- ❑ **Data Validation** - Approve incoming/outgoing XML and SOAP at wirespeed
- ❑ **Field Level XML Security** - Encrypt & sign individual fields, non-repudiation
- ❑ **XML Web Services Access Control** - SAML, LDAP, RADIUS, etc.
- ❑ **MultiStep & XML/SOAP Routing** - Sophisticated multi-stage pipeline
- ❑ **Web Services Management** - Web services proxy, SLM
- ❑ **Transport Layer Flexibility** - SSL acceleration
- ❑ **Service Virtualization** - Mask backend resources
- ❑ **Configuration & Administration** - Ease of use, Integration for Management

“the XS40 is an XML-security powerhouse”
- Network Computing

“The DataPower [XS40]... is the most hardened ... it looks and feels like a datacenter appliance, with no extra ports or buttons exposed and no rotating media. ”
- InfoWorld

“DataPower has strong integration for security and management. ... All of this adds up to the **strongest overall current feature set.**”
- Forrester Research

XI50 XML Integration Appliance

Wirespeed Appliance Purpose-Built for Application Integration



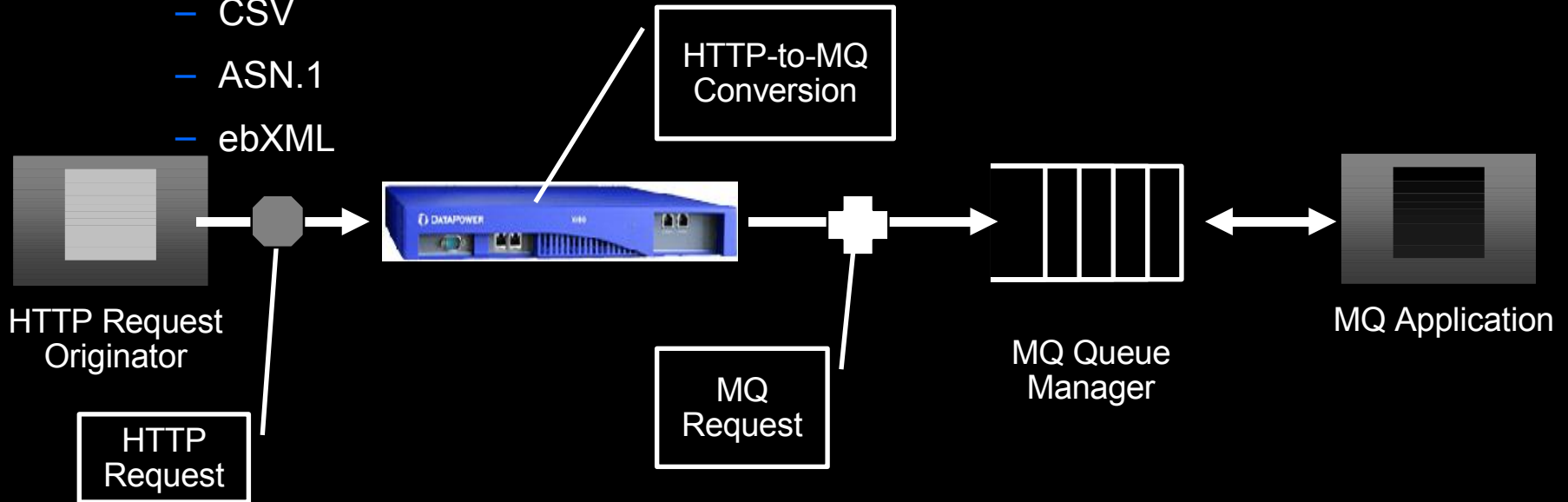
- ❑ **Application Integration** - device performs any to any transformation
- ❑ **Transport level flexibility** – HTTP, SSL and **MQ**

XI50 XML Integration Device

- DataGlue® any-to-any transformation engine
 - “any-to-any” means based on descriptors & mappings, not specific adapters; used successfully with COBOL, ISO8583, etc.
 - Binary or flat text → XML
 - XML → binary or flat text
 - binary ↔ binary
 - XML ← → XML
- Content-based transaction routing
- Protocol bridging (HTTP, MQ, etc.)
- Message enrichment, message augmentation
- Lightweight message brokering

Integration Features

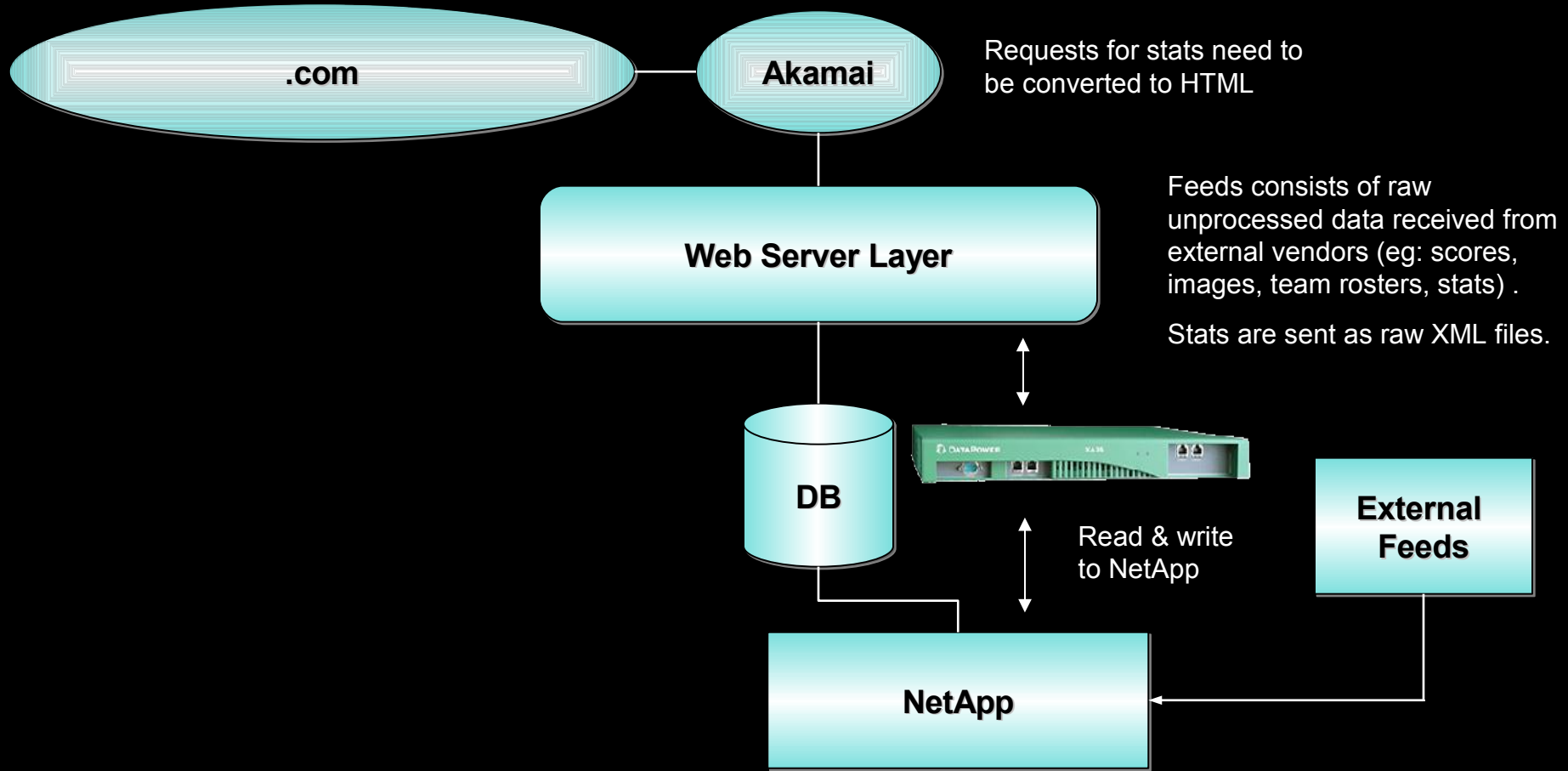
- Legacy application protocols
 - EDI
 - Cobol CopyBook
 - CORBA
 - CICS
 - ISO 8583
 - CSV
 - ASN.1
 - ebXML
- Transport protocols
 - HTTP
 - MQ
 - SSL
 - Compression



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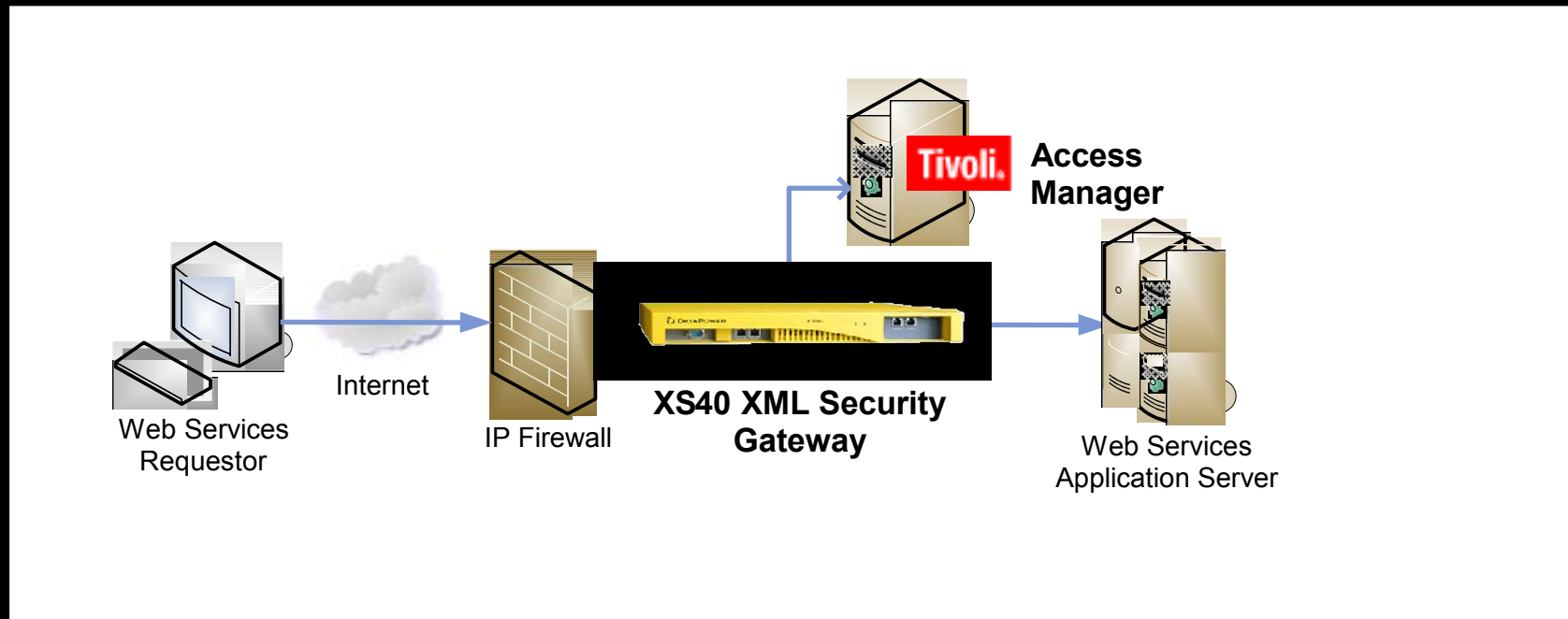
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XA35 Use case – Converting imported raw XML files



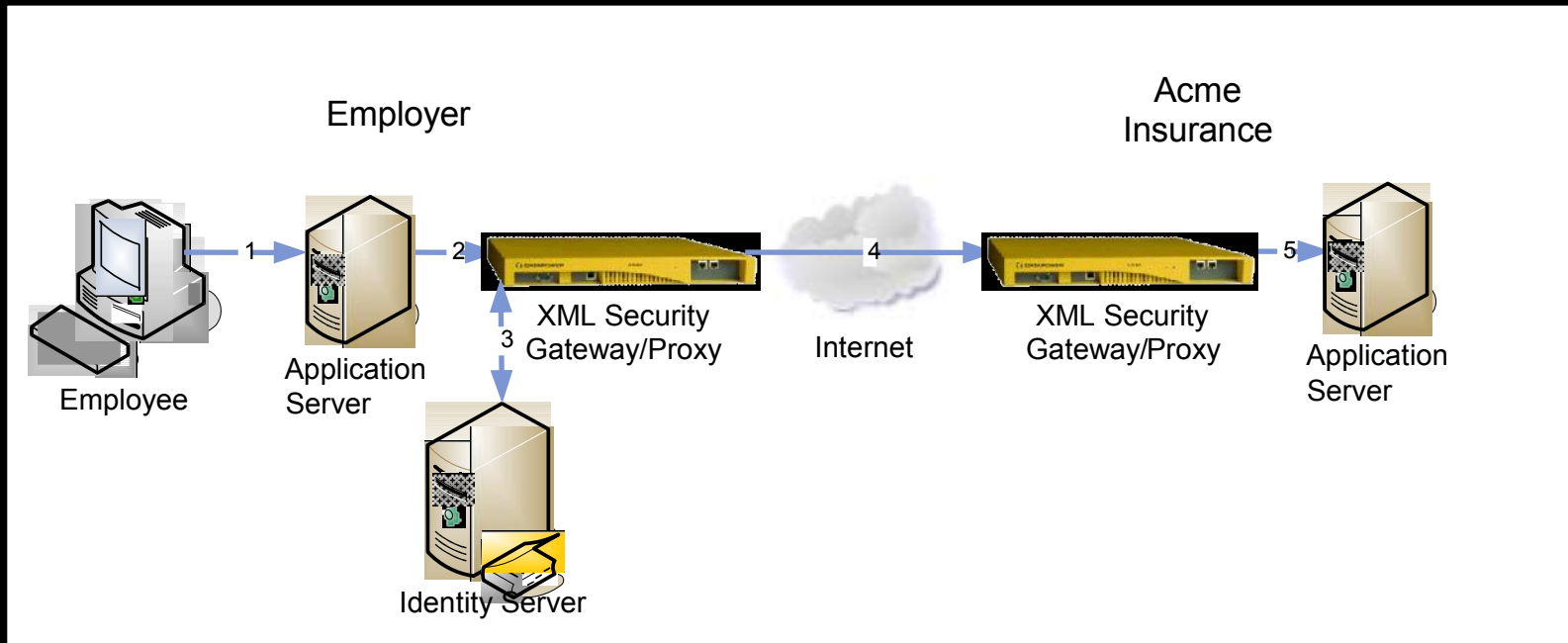
XS40 Use case - Secure XML Web services

Use Tivoli Access Manager (TAM) for secure Web SSO and XML Web services. DataPower XS40 provides first line of XML defense and enforces access policy stored in TAM.



XS40 Use case - Federated Identity Management

Insurance company allows Retailer's employees to check their insurance profile, stored in internal application servers, and not available previously.

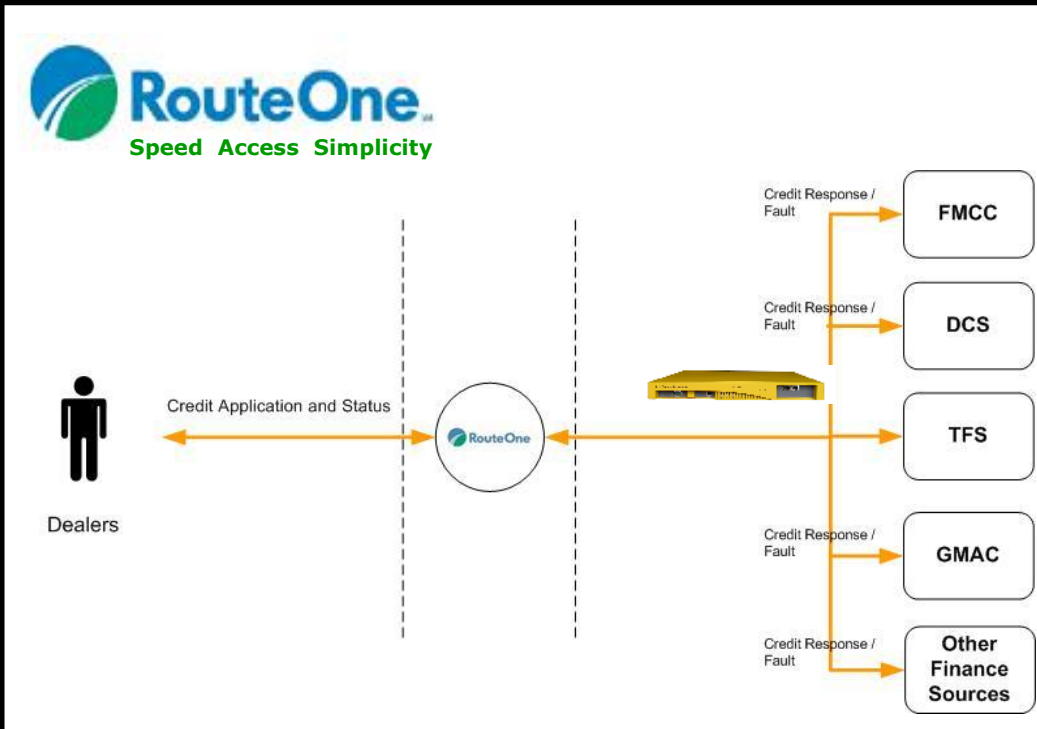


XI50 Use case - Legacy Integration



- Acts as proxy
 - Fields all requests but acts only on those that require action
 - Performs message transformation, routing, security
- Seamless operation
 - No changes to network infrastructure

SOA – Simplified and Protected!



“Datapower XS40 delivers the performance required for comprehensive XML security functions, meaning that we will not have to sacrifice performance for protection.”

**Joel Gruber
RouteOne CIO**

- ❑ **Links 22,000 auto dealerships to financing sources**
 - ❑ **Loan application secured with no performance degradation**
 - ❑ **Encryption at the field level**
 - ❑ **Digital signature/verification**
 - ❑ **Strong auditing and non-repudiation functions**
 - ❑ **DataPower outperformed nearest competitor by a factor of 15**

Summary: DataPower Difference

■ True Network Device Products

- Purposely designed for higher security
- High-end features
- Wirespeed

■ Own Patented XML Technology

- XG3™ & XG4™
- Independent tests: 70x faster than software

■ Winning Company

- Original creators of XML in hardware
- Most widely deployed
- Buy with confidence

■ Independent Validation

- Certifications, tests, reviews & references



Come and meet us at the DataPower pedestal

- *Live demos!*
- *DataPower Consultants can answer your questions*



Thank
YOU