Opportunities to Support Markets through Standards

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Agenda

The Market Economies: The Challenges
Why AS4: The Lightweight Solution
Webservices Externalization via AS4
Use Case: Service Quoting
Use Case: Rebates Web Services
AS4: A Player in Inter-cloud Integration
Summary
The Market Economies

Some of the challenges we have faced over the last decade…

- Webservices adoption slowed by complexity and interoperability
- Lack of interoperability = $$$$$
- Quality of service requirements
Why AS4: The Lightweight Solution

Key goal: to reach a much broader partner base cost effectively

- Provides flexibility to provide less complex solutions to complement the B2B offerings available today
- Allows cost effective infra-structure approach aligning with the broader partner base and market
- Provides enterprise level security through broadly accepted security models, WS standards compliant
- By leveraging AS4, we simplify the transport of electronic data with a cost effective interoperable standard that allows Cisco to meet the needs of the large enterprise partners, as well as the broader market partners, enriching our B2B partner experience
## AS4 Technical Advantages
Increased flexibility with reduced complexity

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Example – Area/Impact</th>
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<tbody>
<tr>
<td>Business Headers</td>
<td>Routing capabilities, payload agnostic processing of: MessageID, From, To, Service, Action, Schema of payload</td>
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<td>Non-repudiation of Receipt</td>
<td>Proof of integrity and origin of data.</td>
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<td>Different message consumption styles</td>
<td>Support for message exchange patterns like Pull, Push to support Light, Heavy clients.</td>
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<td>Allows for a gateway architecture to decouple external B2B and internally deployed WS</td>
<td>Foundational for cloud computing</td>
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<td>WS-I compliant</td>
<td>Facilitates interoperability compliance across solution providers</td>
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## AS4 Model: Simple Message Exchange Patterns

<table>
<thead>
<tr>
<th>Message Exchange Pattern</th>
<th>Description</th>
<th>Client Type</th>
<th>Example Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Way Pull</td>
<td>Receiver of data initiates call. One way transfer of business data.</td>
<td>Can Push to send but only Pull to receive data</td>
<td>Order Status Query</td>
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<tr>
<td>One Way Push</td>
<td>Either party can send data. One way transfer of business data.</td>
<td>Can Push to send and receive a Push</td>
<td>Product Catalog update</td>
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<tr>
<td>Two-Way Sync</td>
<td>Traditional Request-Response</td>
<td>Regular client</td>
<td>Configuration Check</td>
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<tr>
<td>Two way Push-Push</td>
<td>Two One-Way Push MEPs in opposite directions. Message in second push refers to message in first push.</td>
<td>Can Push to send and receive a Push</td>
<td>Purchase Order &amp; Response</td>
</tr>
<tr>
<td>Two Way Push-Pull</td>
<td>One-Way Push followed by a One-Way Pull both initiated by same side. Pulled message refers to the previously pushed message.</td>
<td>Can Push to send but only Pull to receive data</td>
<td>Quote Submission &amp; Response</td>
</tr>
<tr>
<td>Two Way Pull-Push</td>
<td>One-Way Pull followed by a One-Way Push both initiated from side. Pushed message refers to the previously pulled message.</td>
<td>Can push to send but only Pull to receive data</td>
<td>Invoice &amp; Payment Advice</td>
</tr>
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Use Case: Service Quoting

Involves the quoting of services relating to network products sold

- Partners configure services via a GUI
- GUI input is transformed into a RosettaNet quote message format (3A1)
- Initially implemented as synchronous, requiring timed response
- The business process of quote review can be manually time consuming for large quotes
- Quotes timed out due to lack of timely response
- Non-value add rework resulted

Solution: Asynchronous processing
Use Case: Service Quoting – Technical View

Thin Client Push

Business Process

2 Tier Quoting

Assumption

Partner is a Thin Client and cannot accept messages from Cisco

Current Interaction

1. Quote request from partner
2. Cisco sends to WS-X after processing
Use Case: Rebates via Webservices

Involves processing reduction/refunds on what has been paid (i.e., promotions)

- Knowledge of rebates allow financial planning for future purchases
- Process is directly related to cash flow and can be significant to partners
- Initially a web-based download process
- Partners uploaded into their systems
- Formats were proprietary, not re-useable
- Process had inherent delays, due to manual pull requirements

Solution: Payload Quote OAGi message
              Thin client webservice
**Use Case: Rebates – Technical View**

**Thin Client Push**

- **Partner 1 - (Light Client)**
- **Partner Service**
- **ws-x**

**Business Process**
- Rebate processing

**Assumption**
- Partner is a Thin Client and cannot accept messages from Cisco

**Current Interaction**
1. Rebate request from partner
2. Cisco sends to WS-X after processing

**Remote Instance Scenario**
- Business Service
- Internet
- Received Rebate Request
- Save Response (available if required by partner)
Web Services Externalization – WS-X
A gateway solution leveraging AS4 to support the SME needs

Service Consumer

Apache Rampart WS-S
Apache Sandesha WS-RM
Cisco Using AS4

Modules

Service Provider
The Opportunity: Flexible Computing

The success of flexible computing depends greatly on the collaboration of partners to agree to proven standards based transports, followed by standard messaging.

- Reduced web services complexity
- Use of webservice based inter-business exchanges
- Ability to meet the security requirements
  - XML message level security – digital signatures and encryption, authentication
- Ability to conduct business in communities with unreliable internet connections
- Opportunity to achieve plug and play solutions for messaging services
- Additionally standardizing the business content driving consistency and re-use across multiple partners

Faster Time to Market, Time to Capability drive down costs
Multiple industry standards exist today
Adding complexity, reducing re-use across Partners
Drive to leverage existing standards investment
Employ AS4 to continue to lower Total Cost of Ownership
Emerging Markets are now in reach through leveraging transport and message standards.

- AS4 provides a light-weight, flexible option for exchanging business messages
- Support for standard security models
- Has potential to become the standard for inter-cloud application communication

Educate, Collaborate, Communicate
Web Services Externalization – WS-X
Modular Design with end to end visibility

WS-S  
WS-RM  
WS-A

Header Validation, MEP, Error Processing, Receipt Generation, Duplicate Detection

Logging & Tracking

JMS Adapter
HTTP Adapter
JDBC Adapter

Service Metadata
Correlation Data