



Interoperability and Overcoming XML Challenges

June 24, 2004

WELCOME



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XML & Web Services Backgrounder

□ What is XML?

✓ *Not just a markup language*

- Meta-markup language
- Uses plain text

✓ *Description standard*

- Structure & semantics
- Not a formatting specification
- Extensible, meaningful tags

□ Why is XML important?

✓ *Self describing data*

- Simple data format
- Well documented

```
<Address>  
  <Name>Swingtide</Name>  
  <Street>100 Market St</Street>  
  <City>Portsmouth</City>  
  <State>New Hampshire</State>  
  <Zip>03801</Zip>  
  <Country>USA</Country>  
</Address>
```



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XML & Web Services Background

□ Why is XML important?

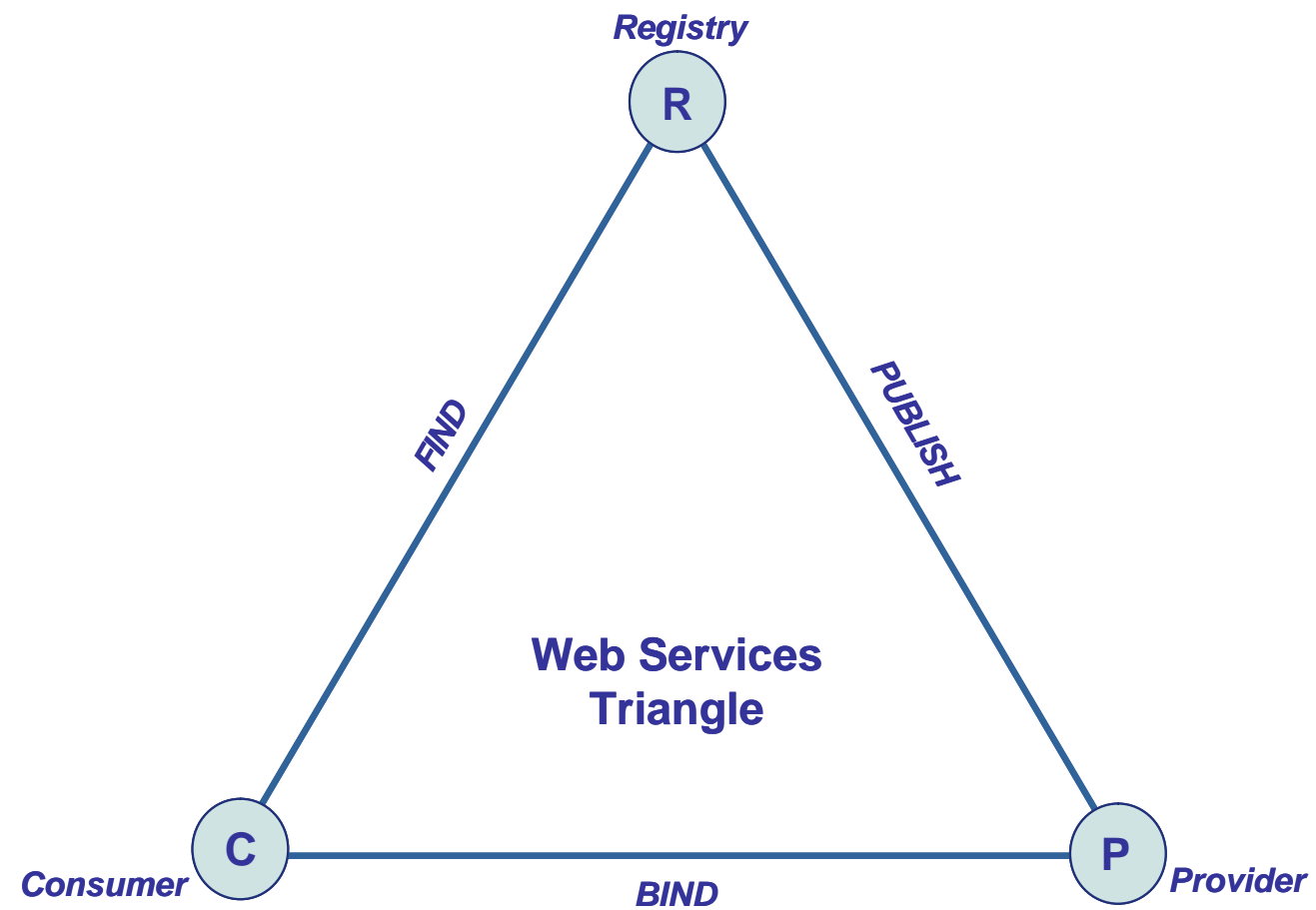
- ✓ ***Supports domain specific markup languages***
 - ACORD for Insurance
 - MISMO for Mortgage Banking
 - Interactive Financial Exchange (IFX) for Financial Services
- ✓ ***Supports data interchange among applications***
 - Non-proprietary
 - De-facto format for information exchange
- ✓ ***Structured and integrated data***
 - Ideal for large, complex documents
 - Provides client-side include mechanism that helps integrate data from multiple sources



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XML & Web Services Background

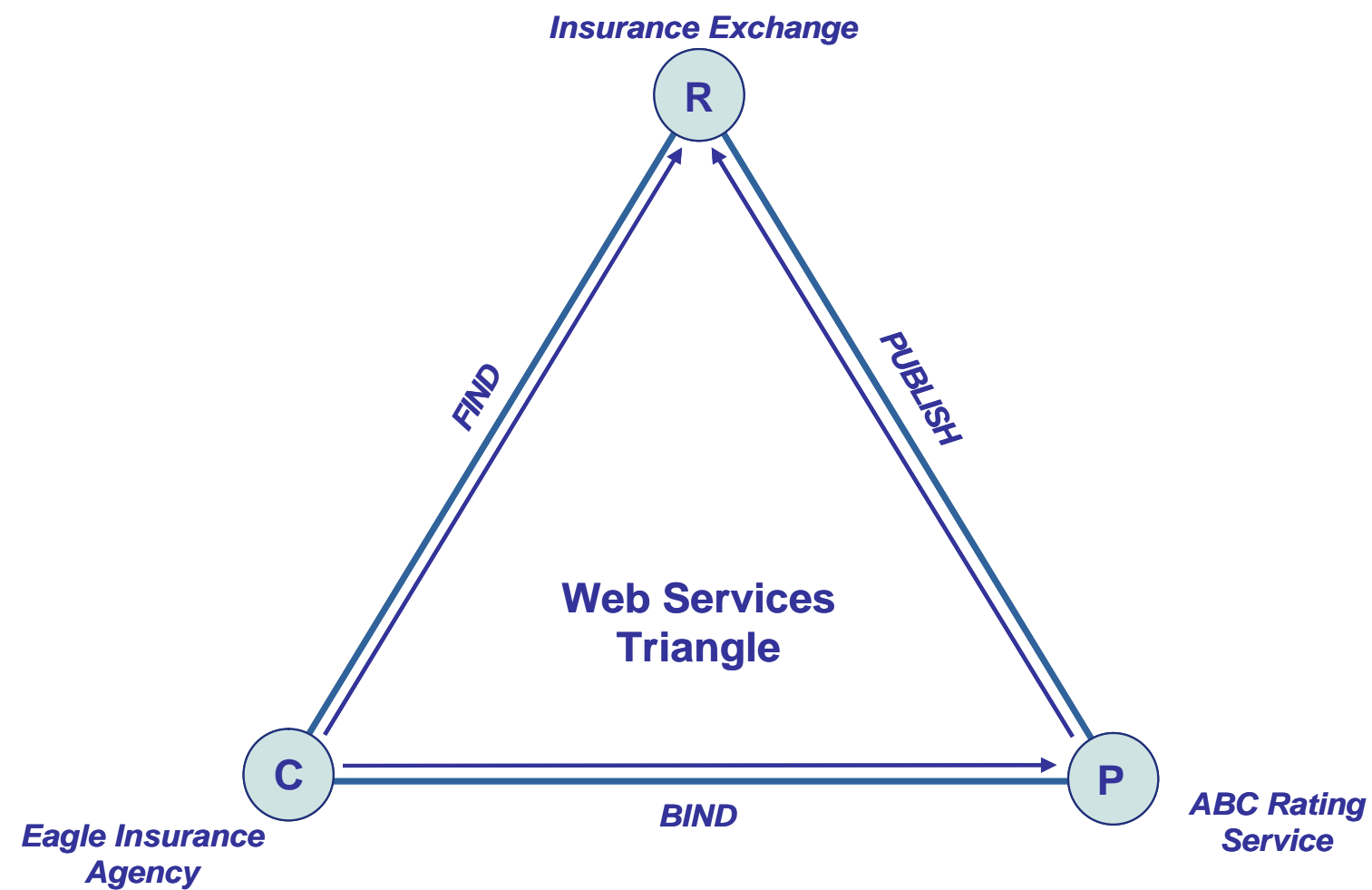
□ The Web Services Triangle



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XML & Web Services Background

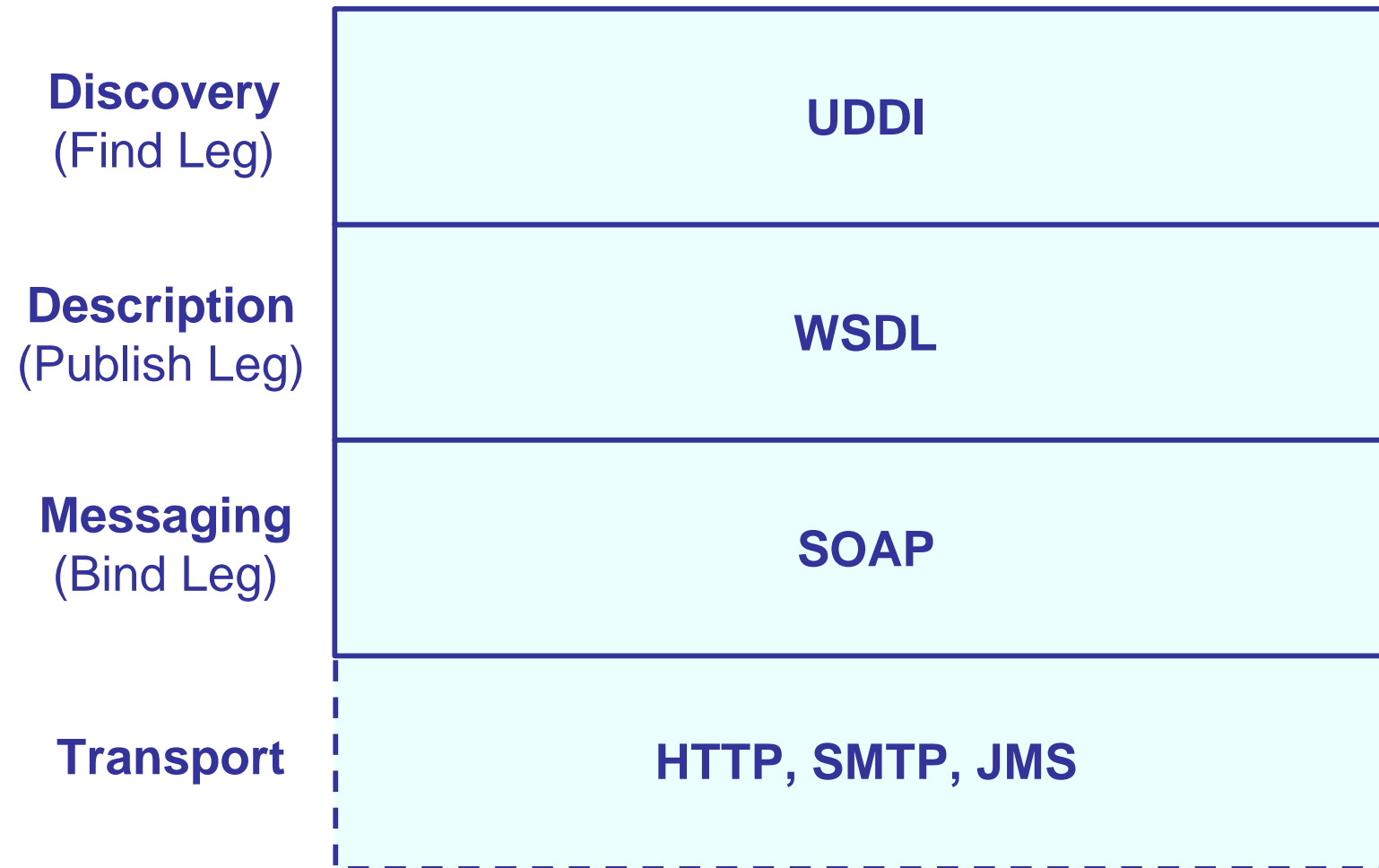
□ The Web Services Triangle - Example



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XML & Web Services Background

□ The Core Web Services Standards Stack



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XML Benefits

- ❑ **Simplicity**
 - ✓ *Easier to use than legacy data standards*
 - ✓ *Resistant to corruption, unlike binary standards*
- ❑ **Extensibility**
 - ✓ *No limitations on tags unlike other markup languages*
 - ✓ *Separation of formatting from document*
- ❑ **Firewall-friendly**
 - ✓ *Conducive to outside-the-firewall communications*
- ❑ **Data integration capabilities**
 - ✓ *No copyright issues*
 - ✓ *Enables complex document exchange*



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Potential Problems

❑ Proliferation – leading to confusion

- ✓ *Standards and data formats*
 - Literally hundreds of XML standards
- ✓ *Large number of vocabularies within a standard*
 - ACORD and MISMO have large vocabularies
- ✓ *Large number of namespaces that is increasing everyday*

❑ Unintentional Redundancy

- ✓ *Developers ‘re-inventing’ schemas and vocabularies*
- ✓ *Tools being re-implemented constantly*
 - Parsers, schema validation engines & editors

❑ Maintenance Nightmare

- ✓ *Multiple styles and dialects*
 - WS-Transaction, ebXML
- ✓ *Multiple versions*
 - SOAP 1.1, SOAP 1.2

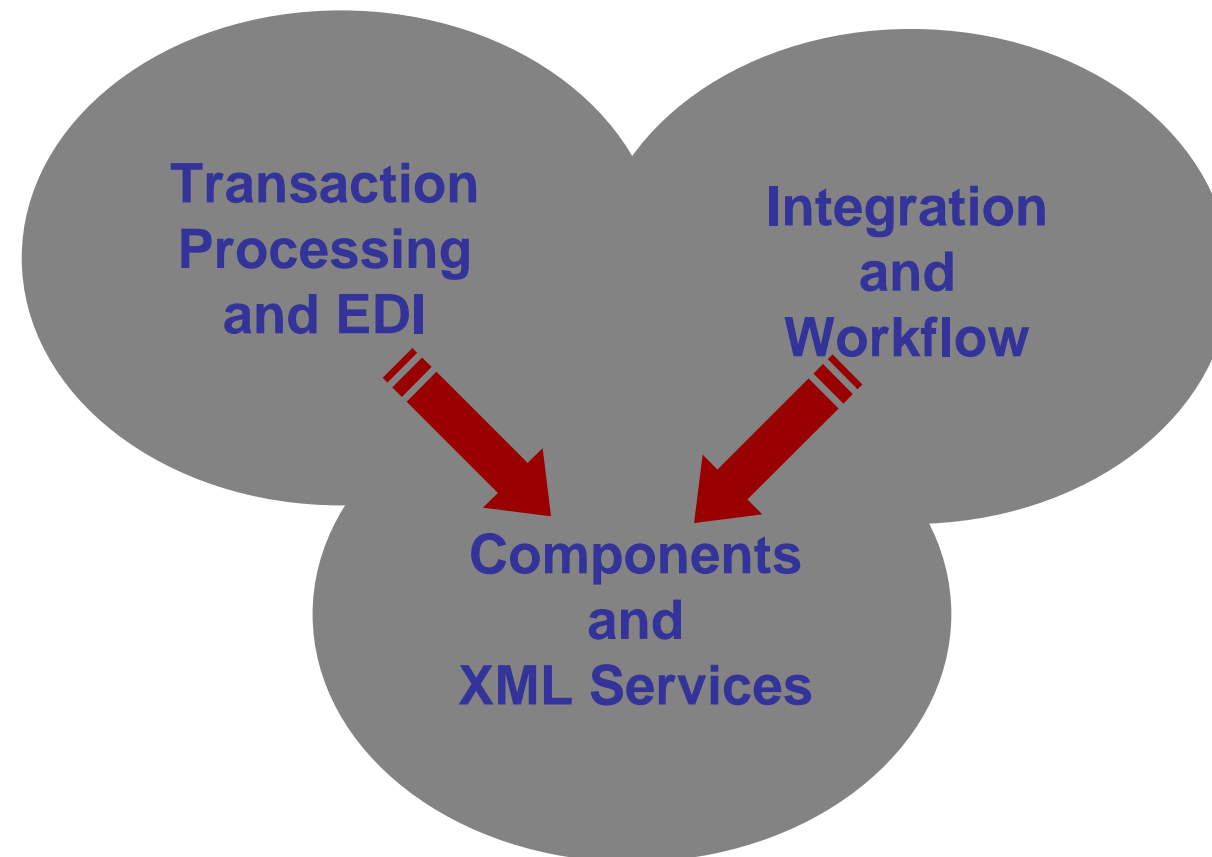


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Considerations - Heterogeneity

- ❑ The biggest driver of all these issues - Heterogeneity

Three Converging Heritages

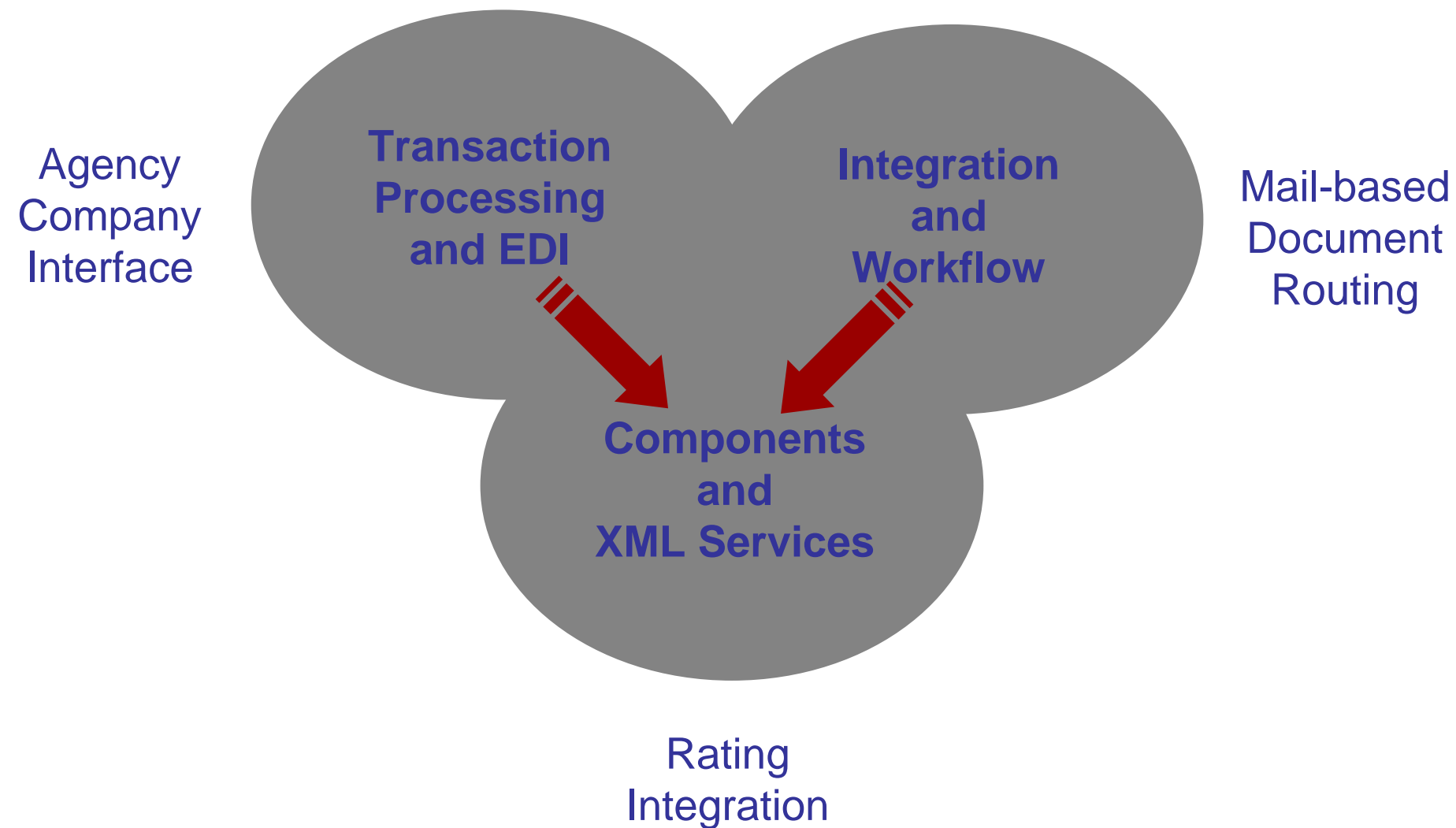


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Considerations - Heterogeneity

- The biggest driver of all these issues - Heterogeneity

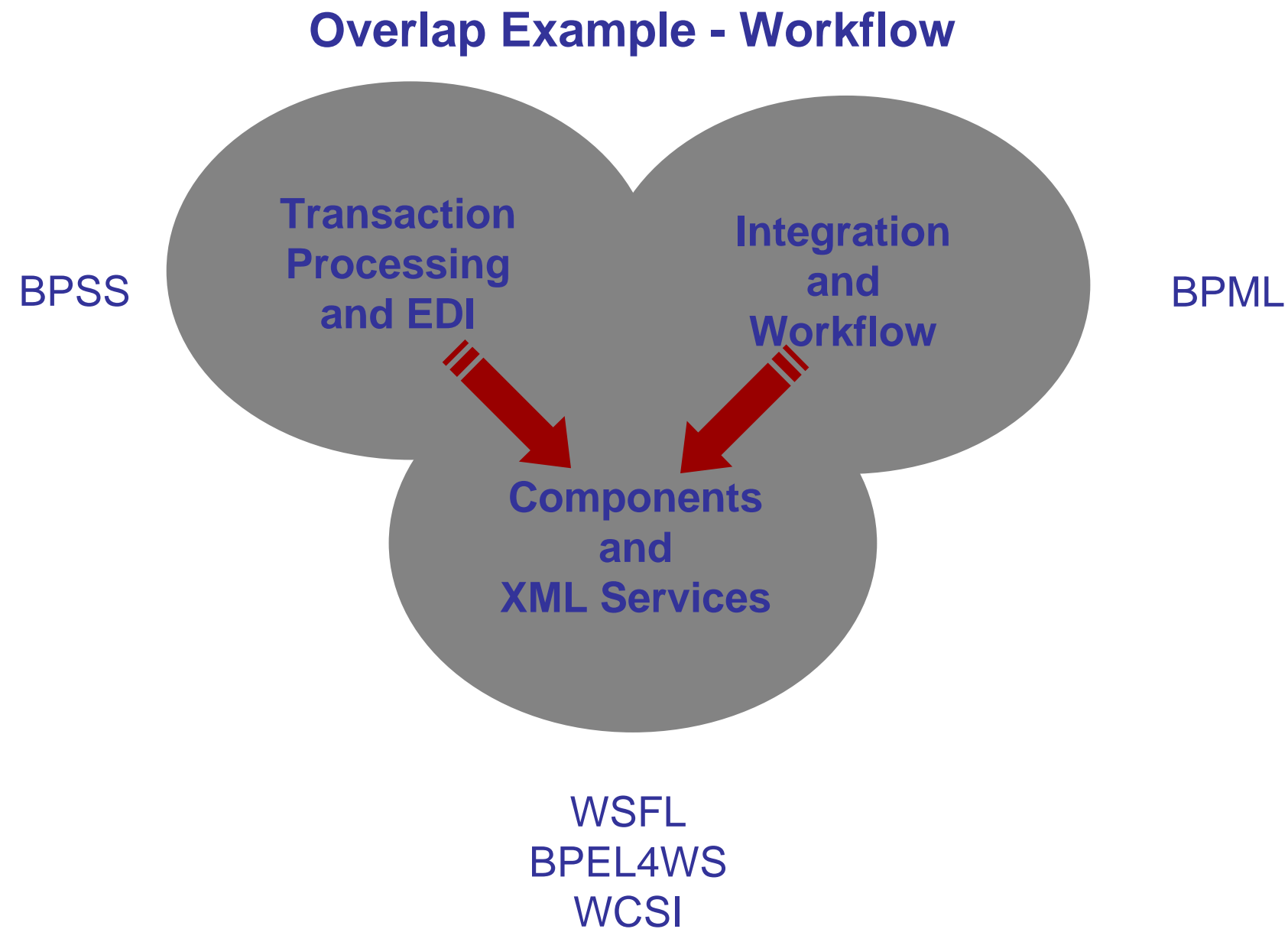
Overlap Example - Insurance



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Considerations - Heterogeneity

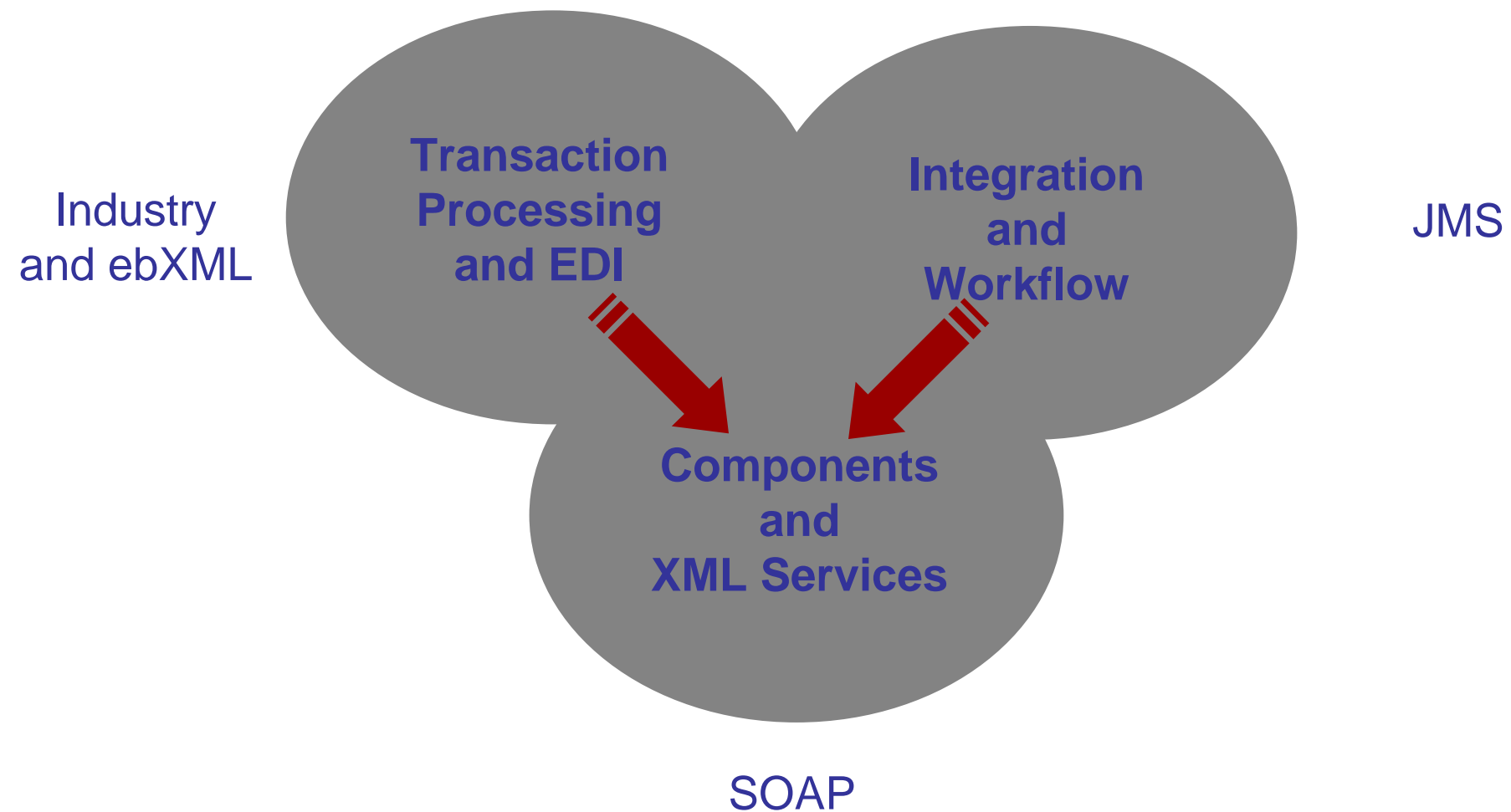
- The biggest driver of all these issues - Heterogeneity



Considerations - Heterogeneity

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Overlap Example - Messaging

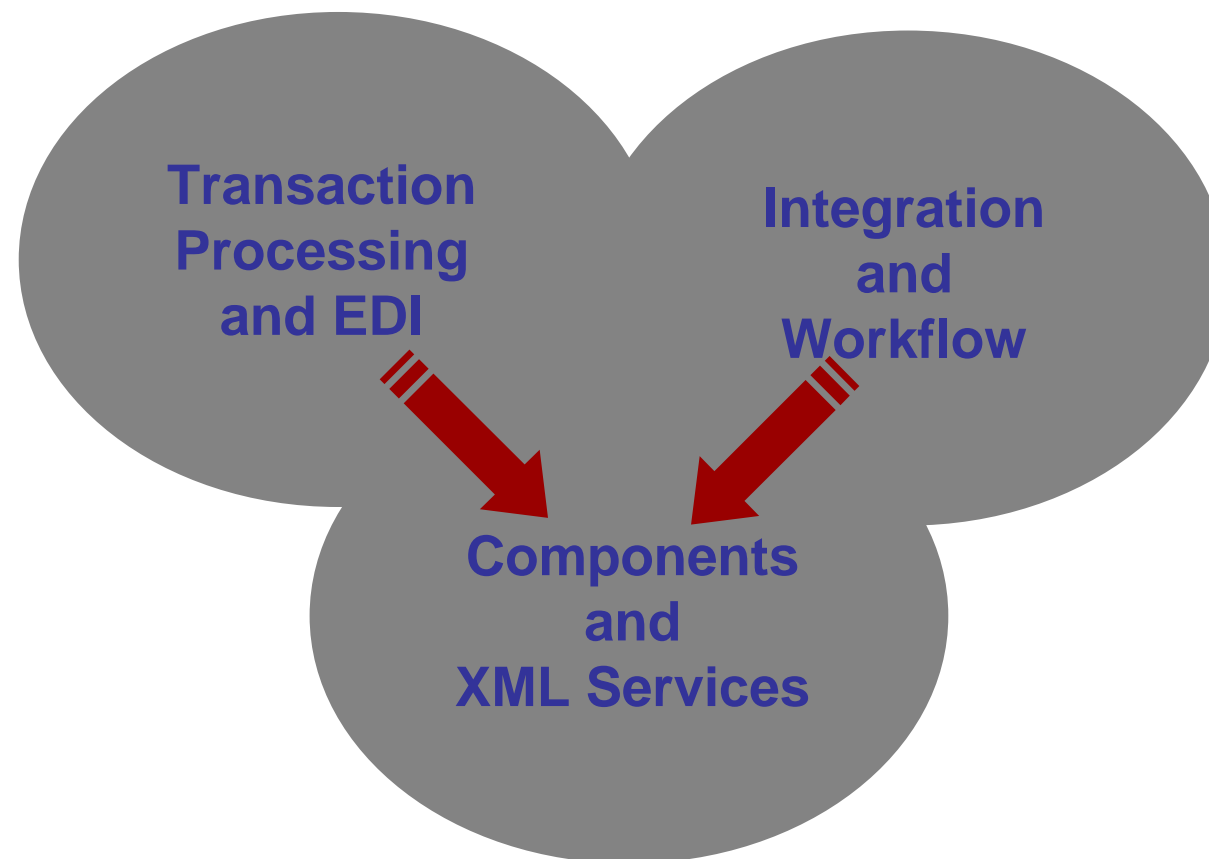


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Overlap Example – Common Infrastructure Components

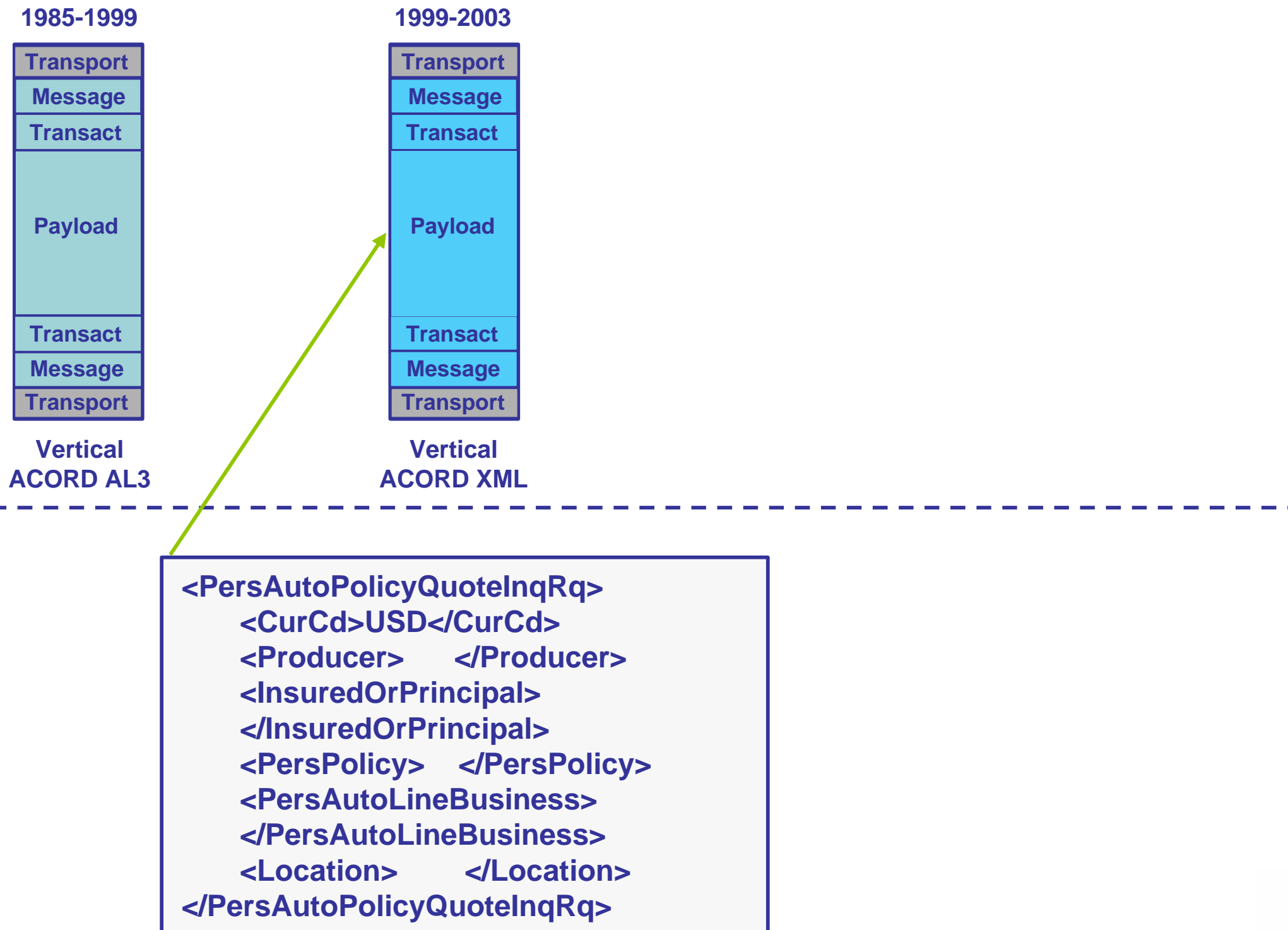


Differences Amplified by JAVA/.NET Split

	JAVA	.NET
Discovery	ebXML-Reg, UDDI	UDDI, WSIL
Transport	JMS	BizTalk
SLAs	TPA	Windows-Specific (GXA)
Security	SAML	WS-Security, WS-Policy
QoS	WSEL	-

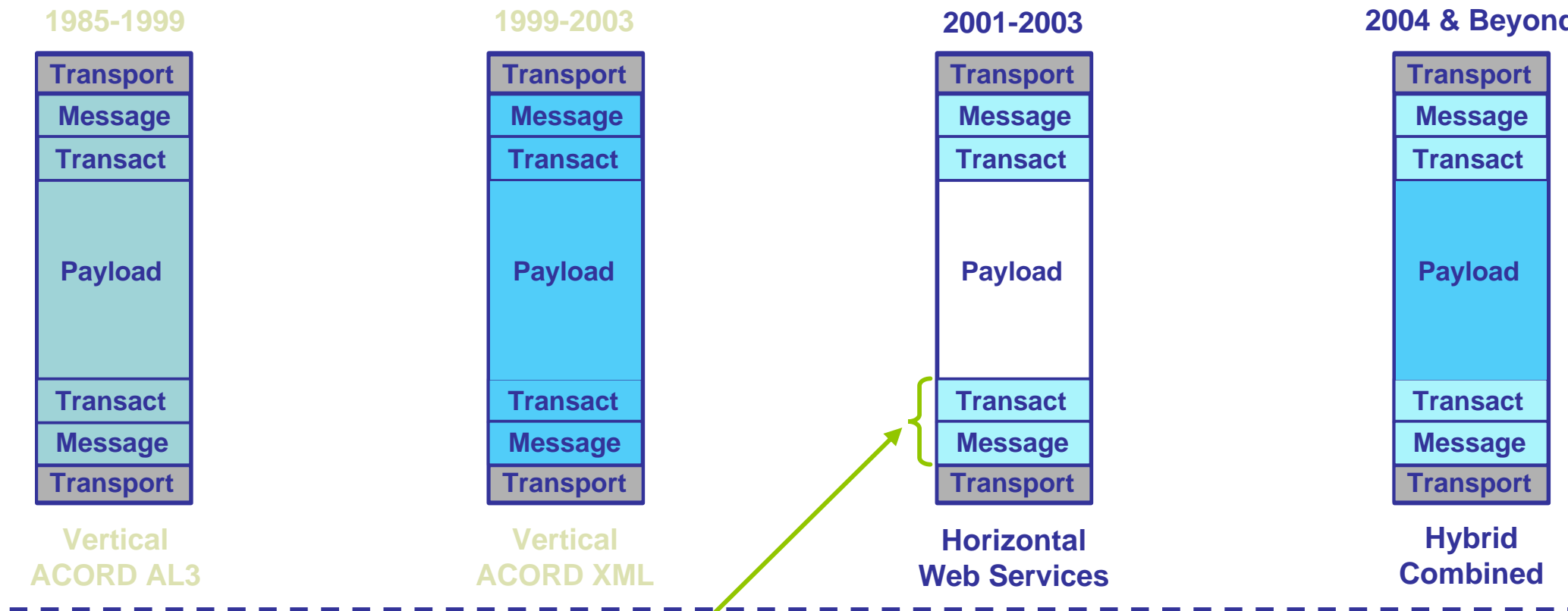


Payload Evolution



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Payload Evolution



What are Web Services?

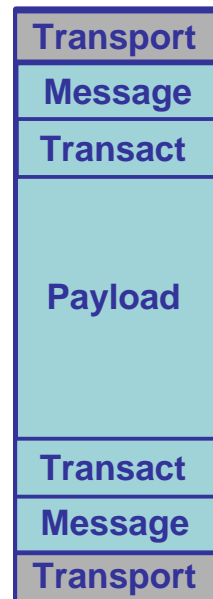
- Message Driven Software
 - Common Interface (WSDL)
 - Common Registry (UDDI)
 - Common Messaging (SOAP)



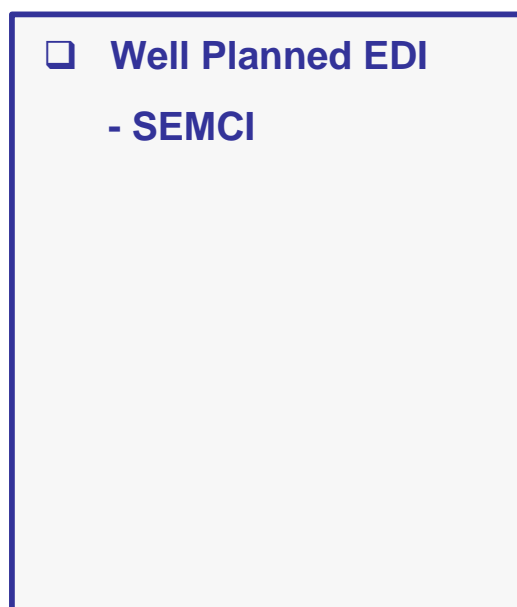
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Payload Evolution

1985-1999



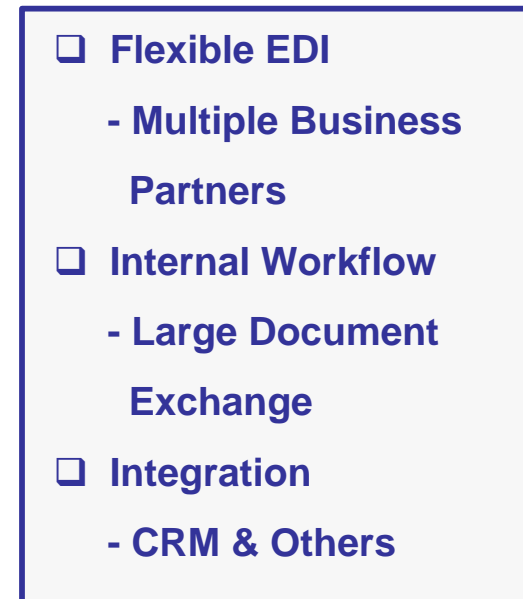
Vertical
ACORD AL3



2004 & Beyond



Hybrid
Combined



New Atomic Products & Services

- ✓ New Uses
- ✓ New Content
- ✓ New Partners
- ✓ New Vendors
- ✓ New Customers
- ✓ New Entities
- ✓ New Environments

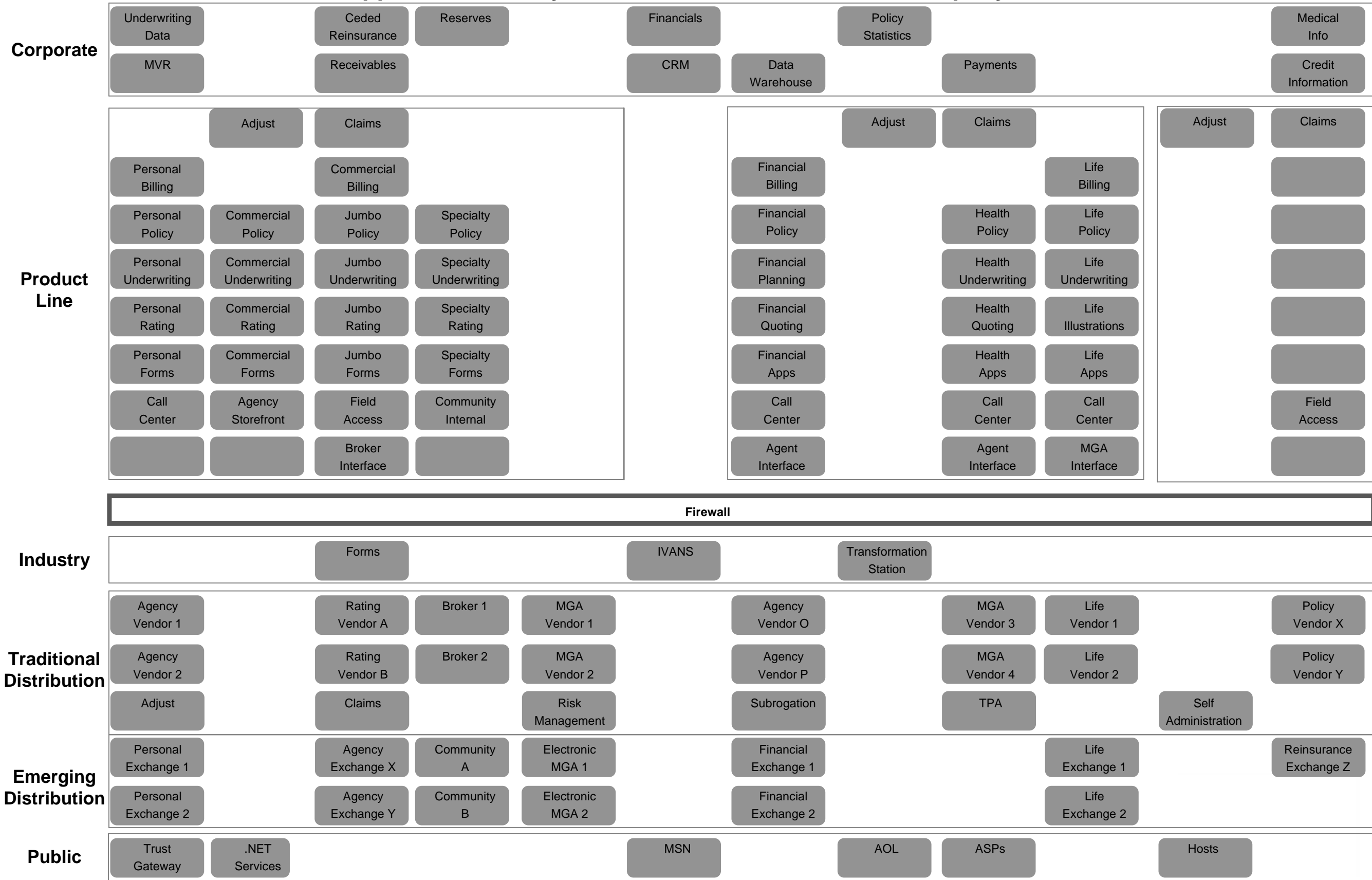
- Portal
- Community
- Agency Vendor
- Rating Vendor
- E-Customer
- E-MGA
- Exchange



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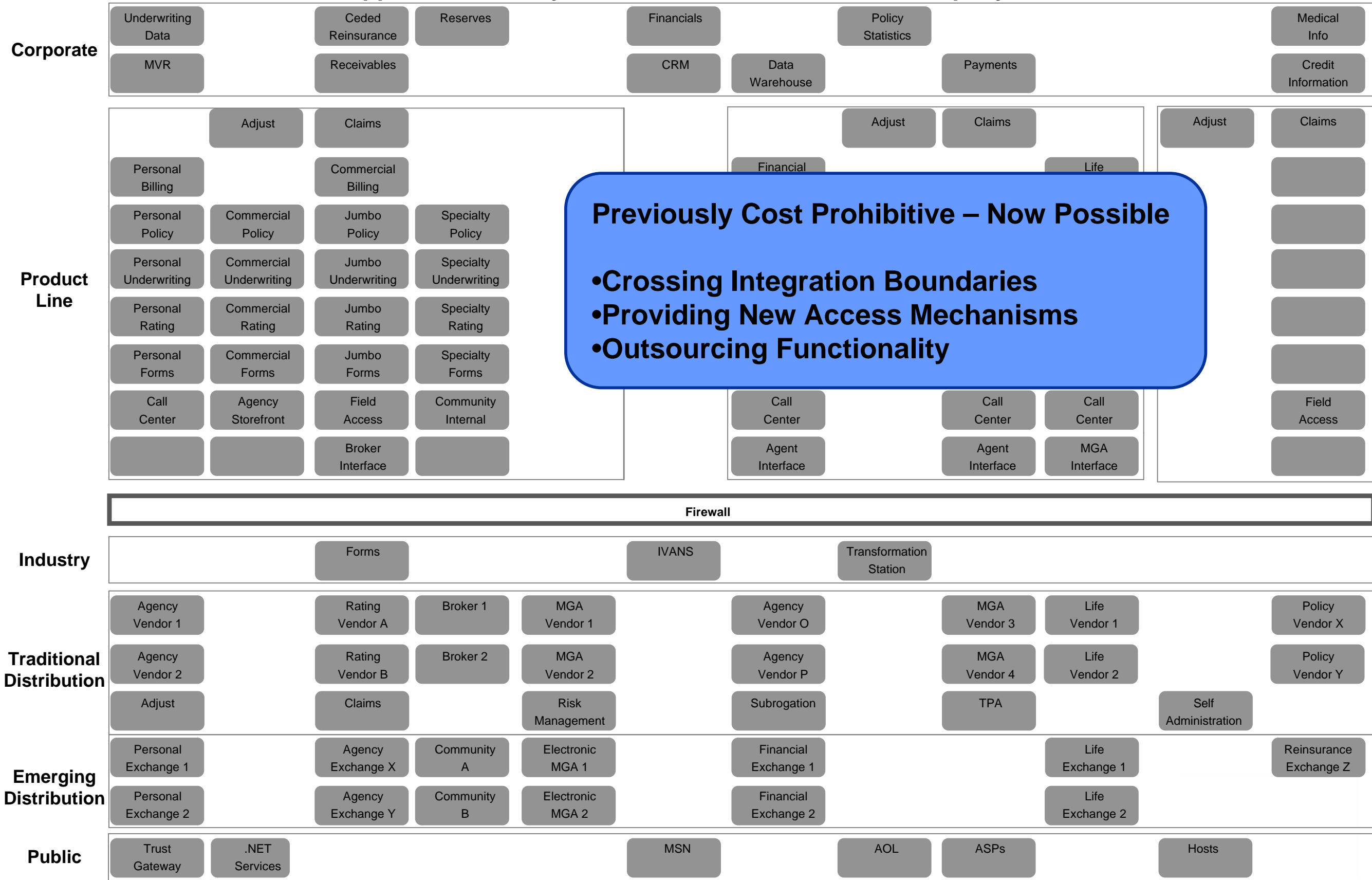
XML Enables Hybrid Product/Transaction/Workflow Processes

Application Eco-System for Multi-line Insurance Company



XML Enables Hybrid Product/Transaction/Workflow Processes

Application Eco-System for Multi-line Insurance Company



Considerations – Develop Expertise

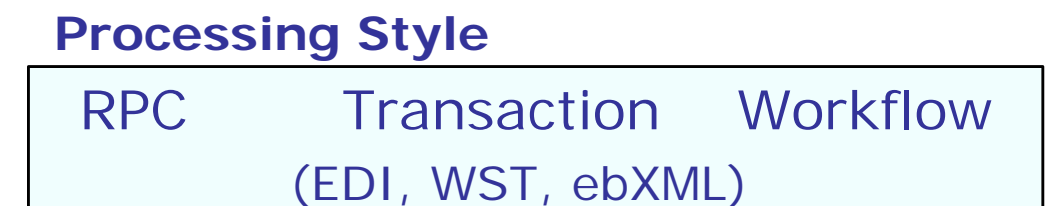
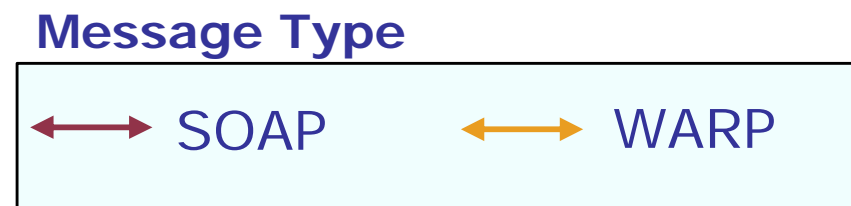
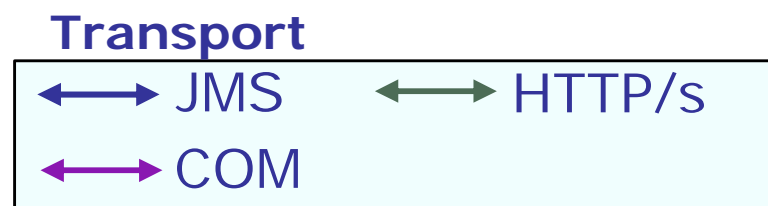
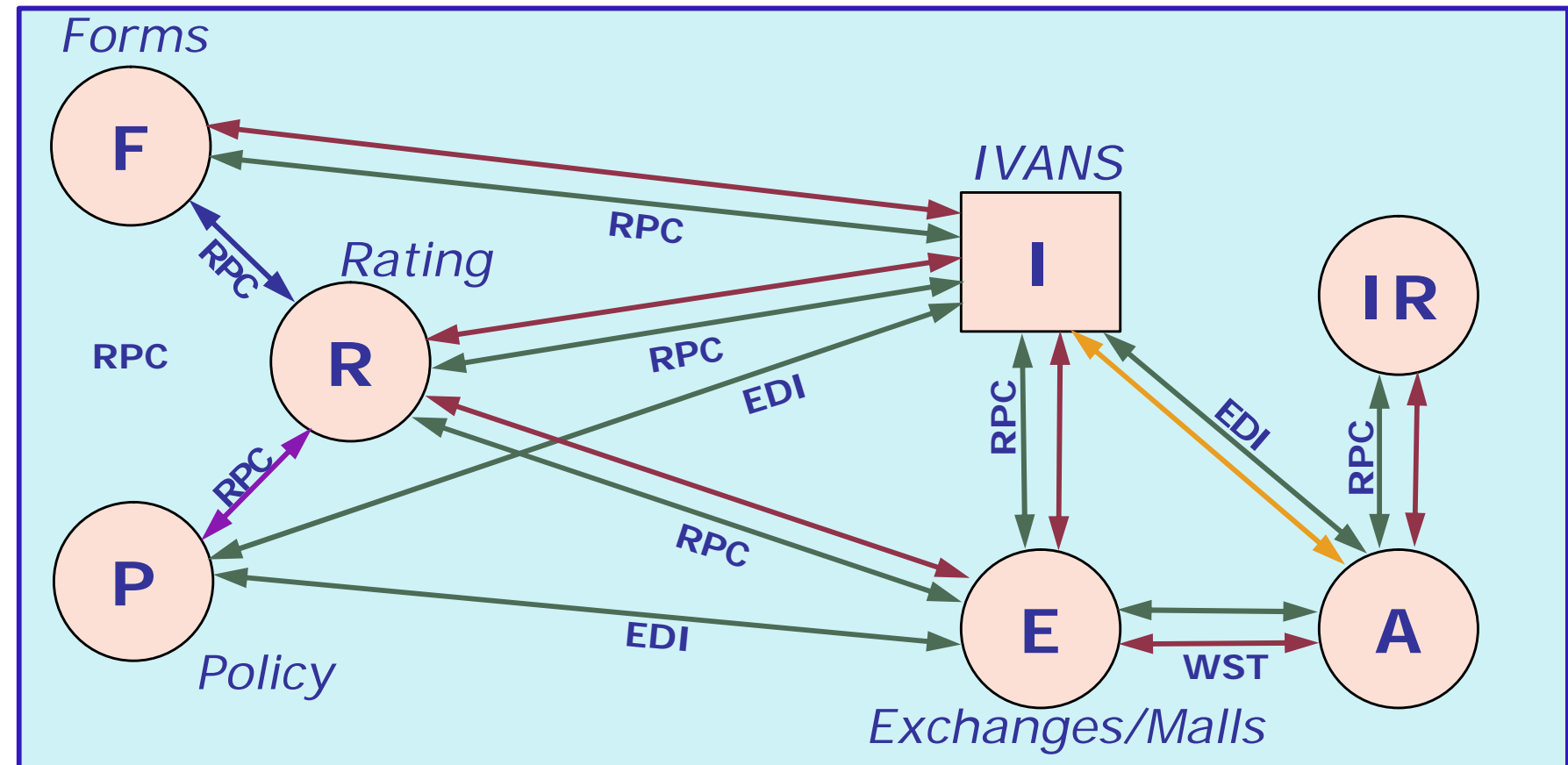
- ❑ **The Nomenclature of the Hybrid World**
 - ✓ Repurposed Services
 - ✓ EDI – Workflow – Services
 - ✓ WS Transaction – WS Orchestration – WS Reliability
 - ✓ Service Oriented Architectures
 - ✓ Logical Network Management – Web Services Management
 - ✓ Intermediaries – Gateways – Buses
 - ✓ Discovery – Registration – Monitoring
 - ✓ SAML – WS Security – XML Signature
 - ✓ JMS – HTTP – SMTP
 - ✓ WS I – OASIS – W3C / ACORD



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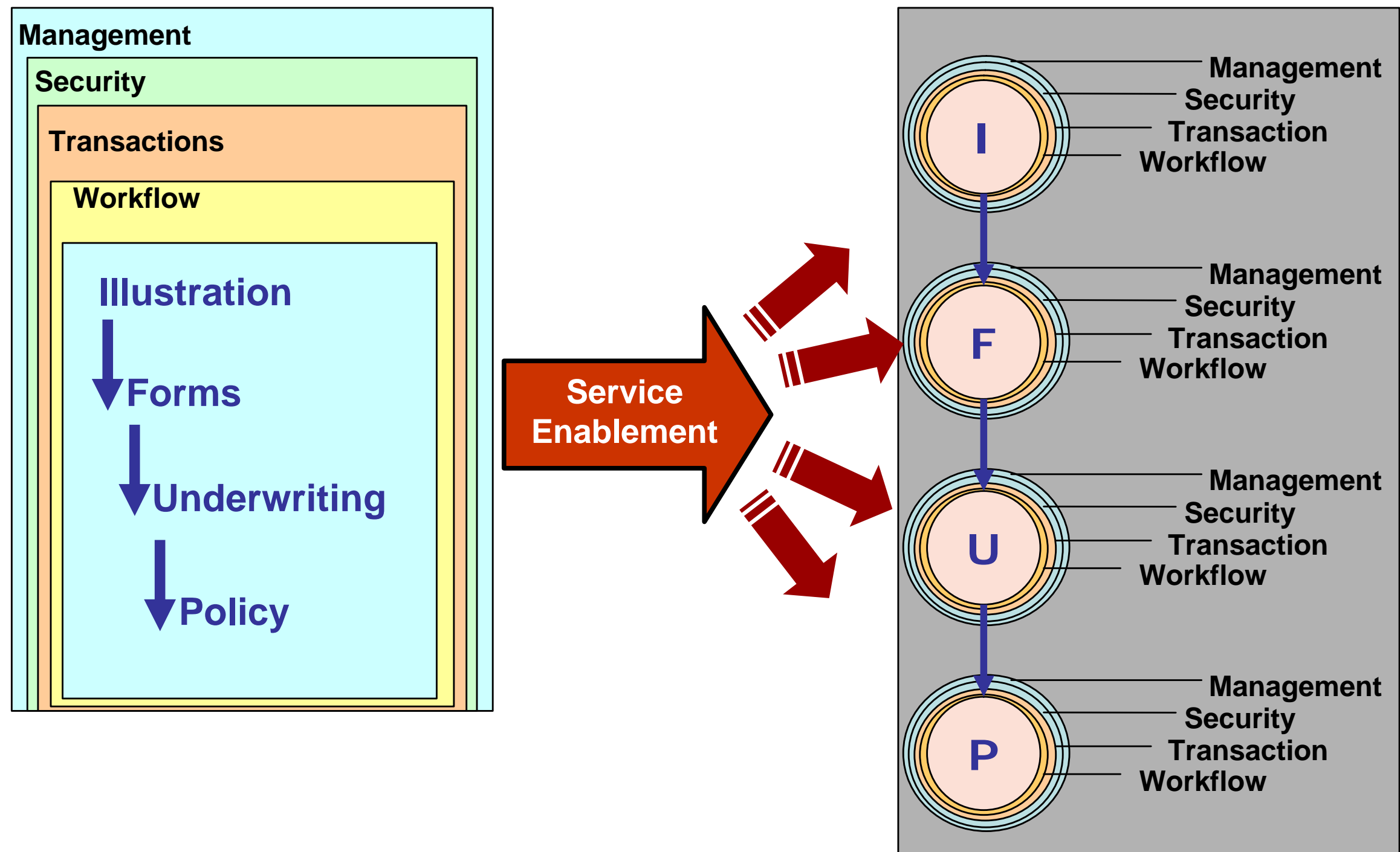
Considerations - Heterogeneity

- ❑ Transport Type
 - ✓ JMS
 - ✓ HTTP/s
 - ✓ COM
- ❑ Message Type
 - ✓ SOAP
 - ✓ WARP
- ❑ Processing Style
 - ✓ Transaction
 - ✓ Workflow
 - ✓ RPC

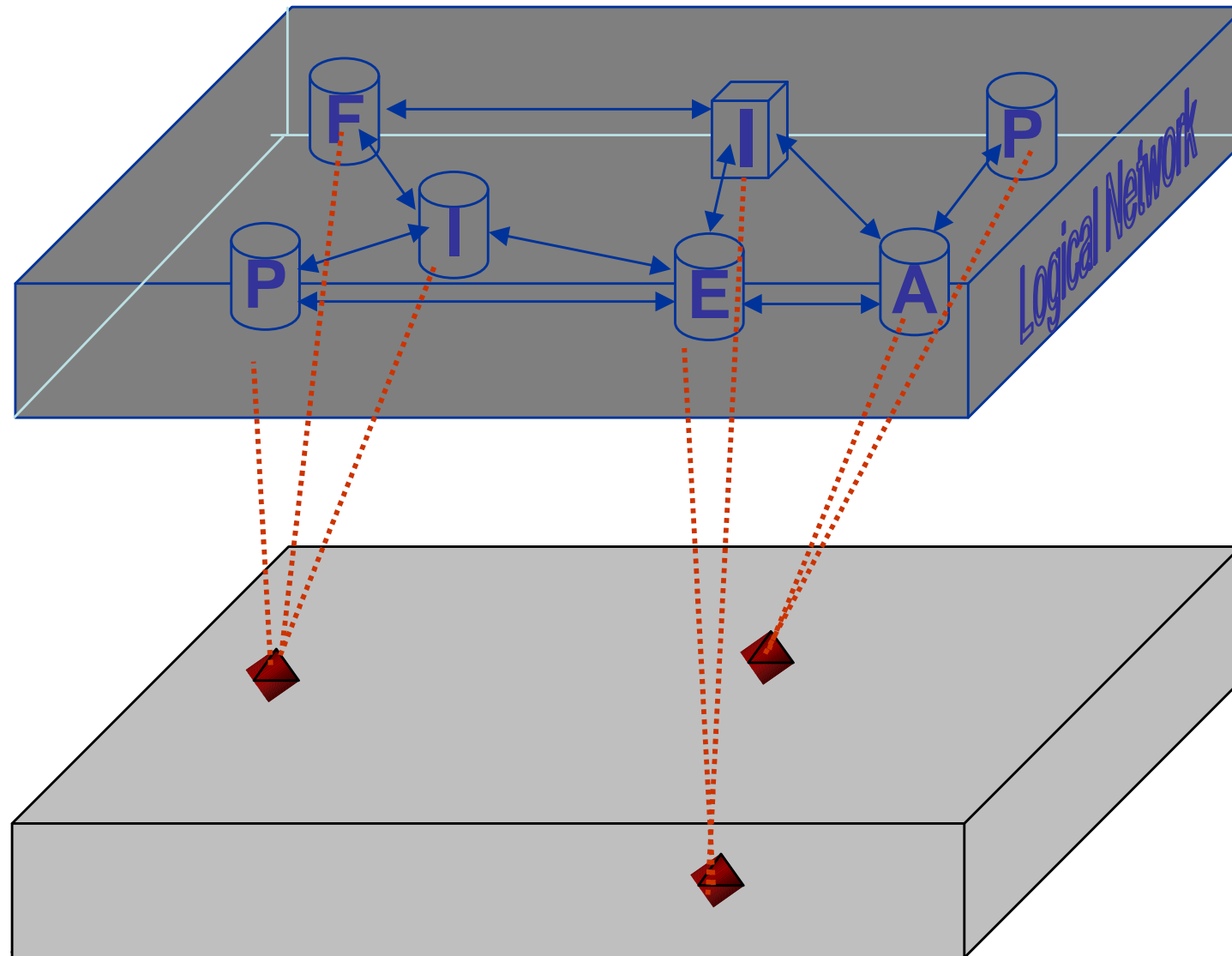


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Considerations - Interoperability



Considerations - Management



New Management Considerations

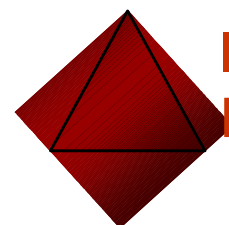
- ✓ Interoperability – Schemas and styling
- ✓ Visibility – use of sensors
- ✓ Scalability – re-purposing capabilities
- ✓ Manageability – event management and usage
- ✓ Maintainability – change management

Traditional Physical Considerations

- ✓ Failover
- ✓ Load balancing
- ✓ Server power

New Physical Considerations

- ✓ Edge Servers
- ✓ Proxies
- ✓ XML Connectors



Infrastructure devices with sensors tie the Physical Network to the Logical Network



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Considerations - Heterogeneity

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Standards Proliferation

Security Standards

SAML, WS-Security, XML Signature, XML Encryption, XKMS

Description & Discovery Standards

Discovery

WSIL, UDDI

Description

WSDL, WSEL

Wire Standards

Payload

ACORD, MISMO

Transaction

ebXML, WS-Transaction

Workflow

BPEL4WS, WS-Coordination, WSCI, WS-Routing, WS-Referral

Logical Messaging

SOAP

Transport

HTTP, HTTPR, JMS, SMTP

Competing Standardization Efforts

Standards Bodies

OASIS

WS-Security, SAML, ebXML, WS-Transaction, WSCI, WS-Coordination

W3C

XML Signature, XML Encryption, XKMS, SOAP, XML, HTTP, SMTP

WS-I

Interoperability guidelines

Industry Approaches

Java (JCP)

J2EE, JMS, JCA, JSRs

Microsoft

.NET, BizTalk



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Tips

❑ Moving Forward - Recommendations

IT Departments must reassess internal systems and shift resources to better respond to external pressures

Integration Strategy

To connect internal systems that use legacy technologies with external entities that use newer technologies

Because no Financial Services company wants to be isolated or potentially passed by competition

Understand Eco-System Impact

To establish knowledge of how the architecture and product evolution of external entities will impact existing eco-system of applications

Because no Financial Services company will solely control the IP of future distribution channels



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Thank You

Kirk Fallbacher – Swingtide



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