



Windows Azure Extreme

Manageable Services on the Cloud

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Microsoft Integration MVP (2003-2013)

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Agenda

- **Strategy & Architectural Styles**
- Manageable Services
- **Virtual Bridge**
- **Tools – Contract Model, Bridge Model**
- **BizTalk Services – Integration Stack**
- **Demo**

Strategy Process



Mapping: Market Requirements To Business Model

Market Requirements



Business Person

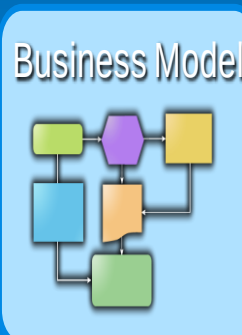
Business Requirements



Analyst



Business Modeler



Strategy Process



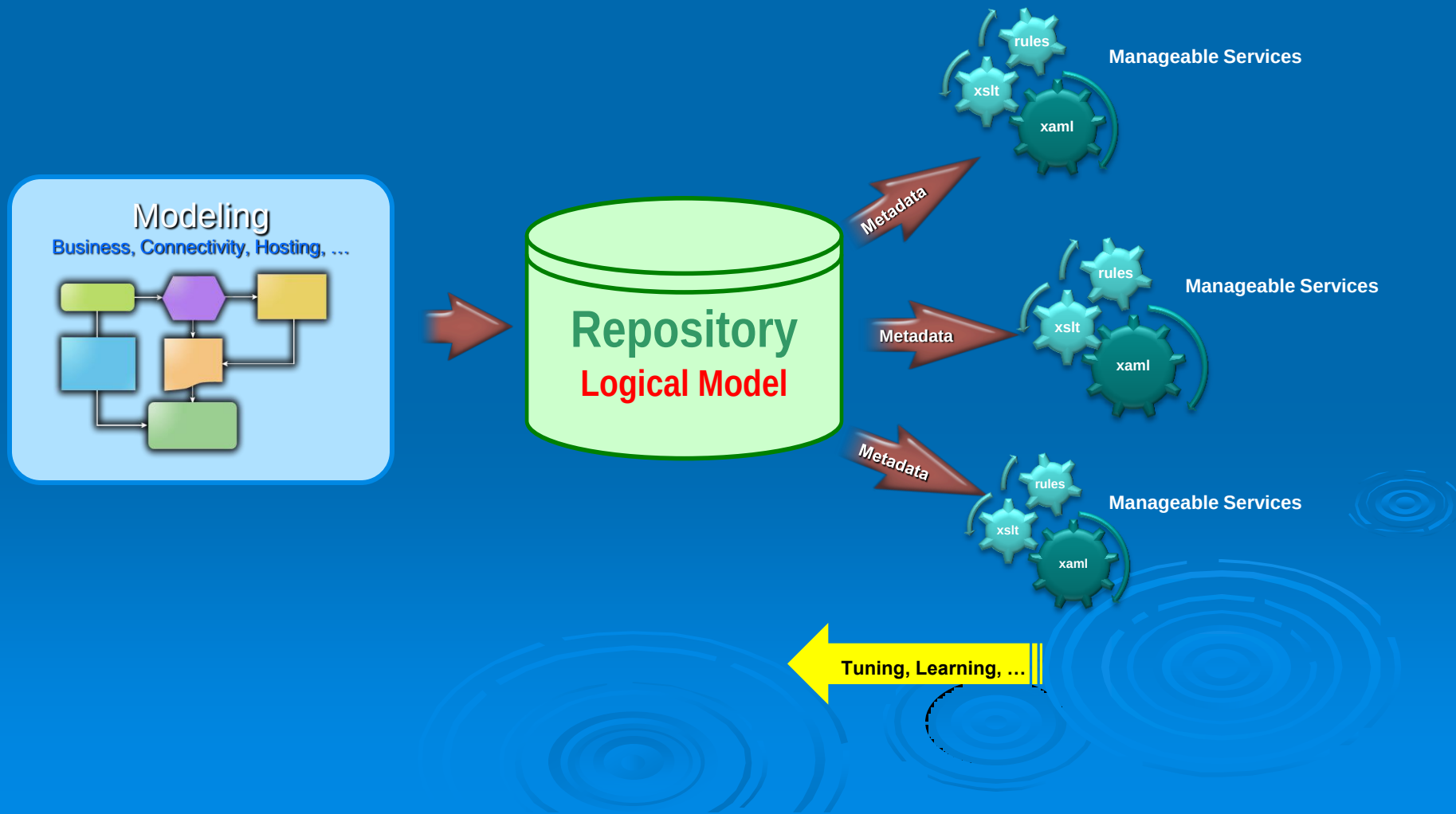
Mapping: Business Model To Runtime Model

- **Design** – *Decomposition process*
 - Logical Centralized Model
- **Deployment** – *Targeting process*
 - Physical Decentralized Model
- **Runtime** – *Composition process*
 - Tuning Model



Strategy Process

Modeling - Next Generation on the Road map

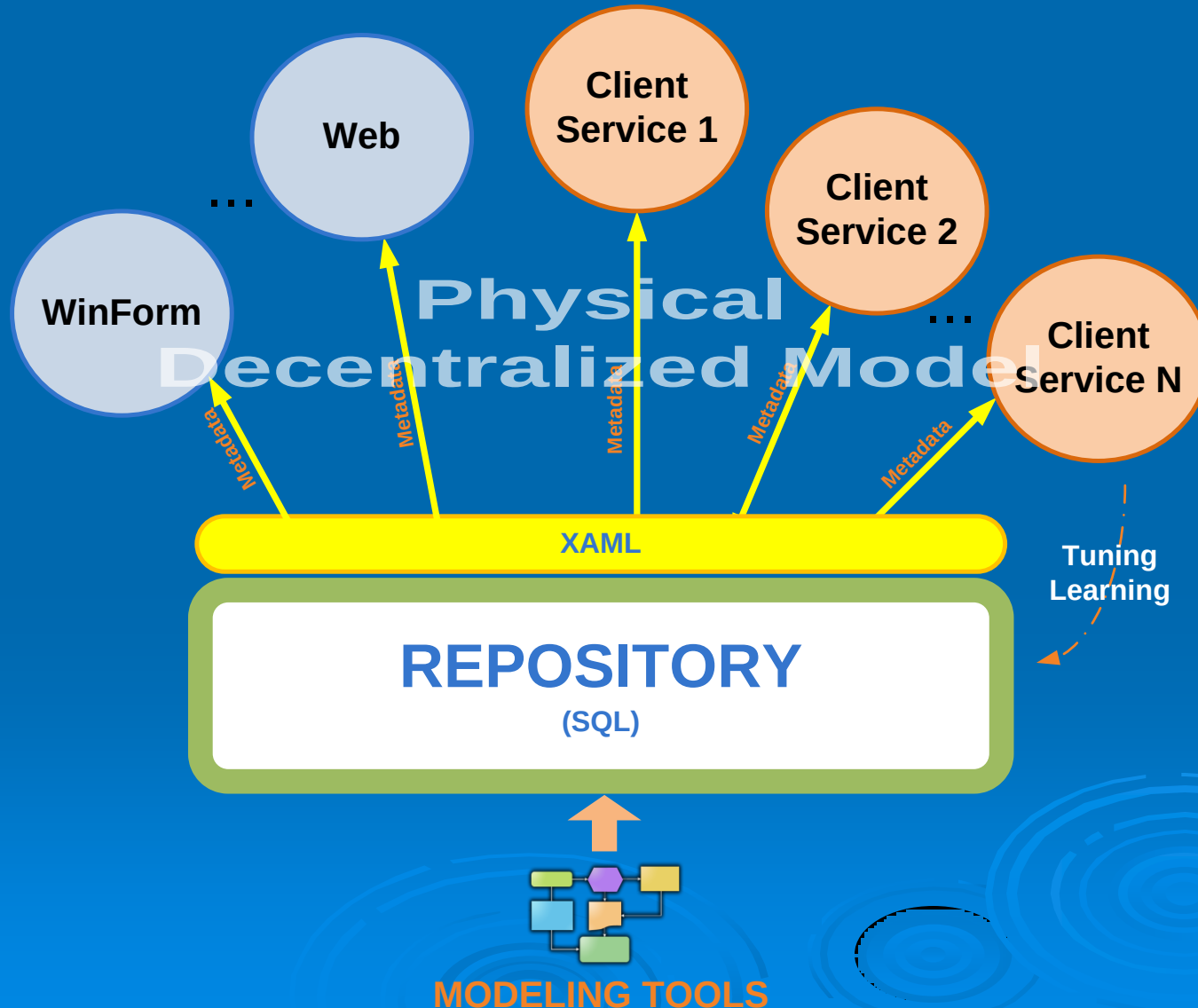


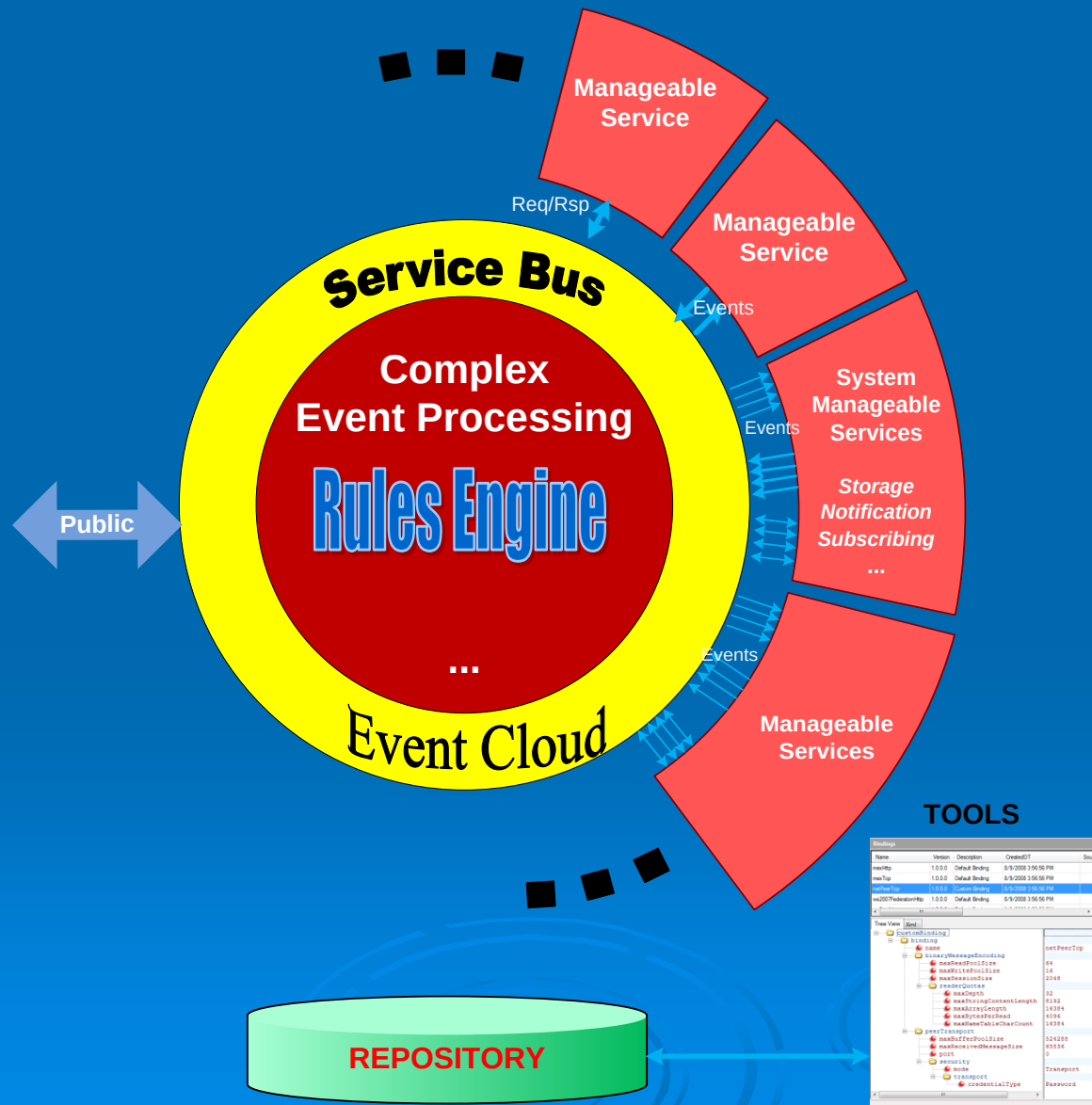
Architectural Styles For Modern Distributed Application

- **Service Oriented Architecture (SOA)**
 - *WSDL*
- **Resource Oriented Architecture (ROA)**
 - *REST*
- ***Event Driven Architecture (EDA)***
- ***Pattern-Oriented Architecture (POA)***
 - *Message Exchange Pattern, Pub/Sub, Service Bus, Router, ...*
- ***Agile-Oriented Architecture (AOA)***
- ***Metadata Driven Architecture (MDA)***

Architectural Styles

Metadata Driven Business Processes





Metadata Driven Architecture Components



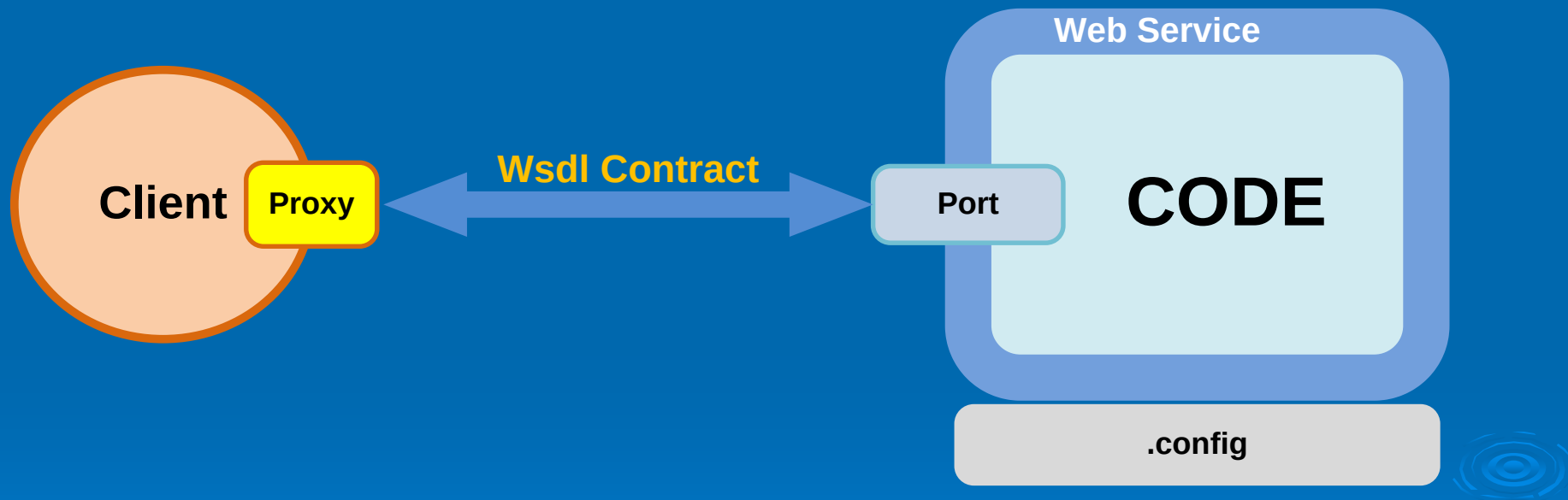
Manageable Services



Manageable Services

Unmanageable Services - .NetFX 1.0 – 2.0

WEB Service



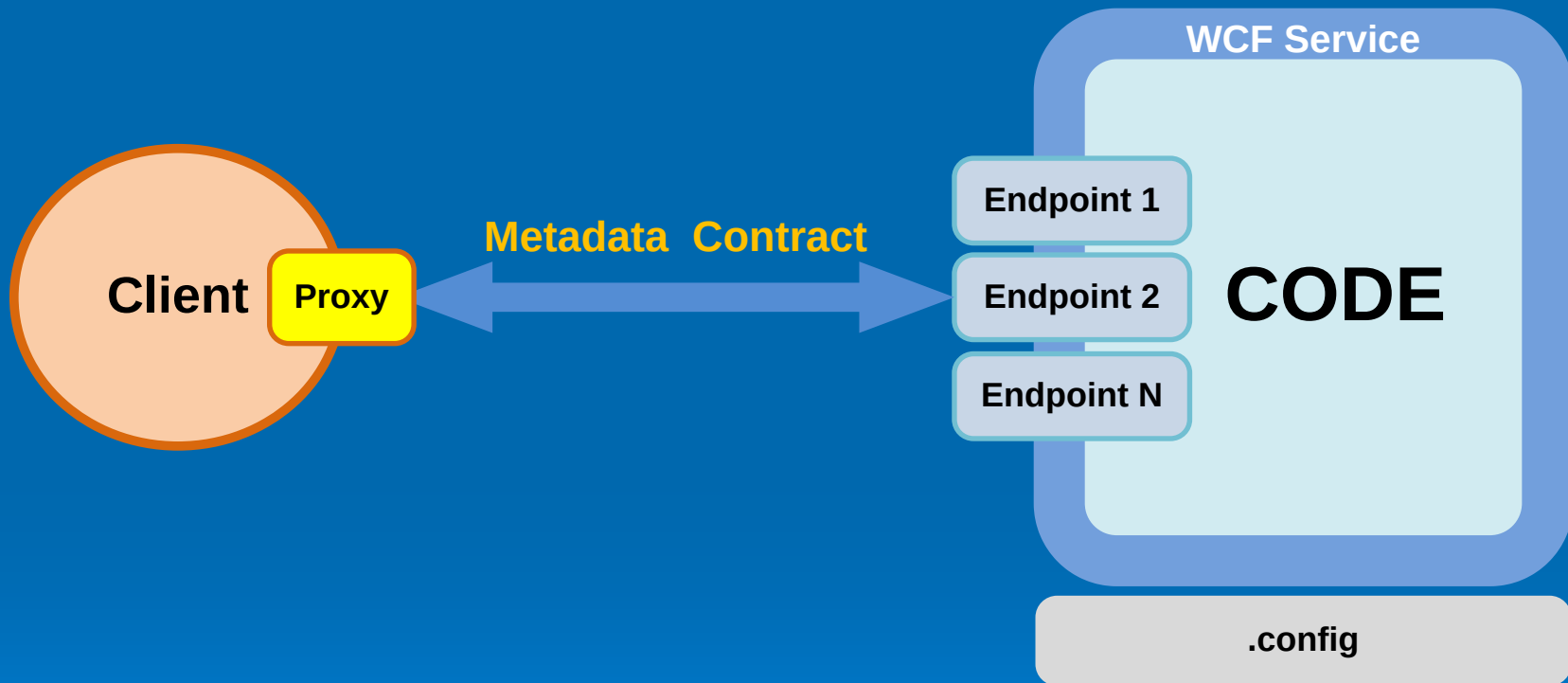
- *Hard coded service implementation*
- *Hard coded connectivity*
- *Very pure manageability*

Manageable Services

Unmanageable Services - .NetFX 3.0



WCF Service



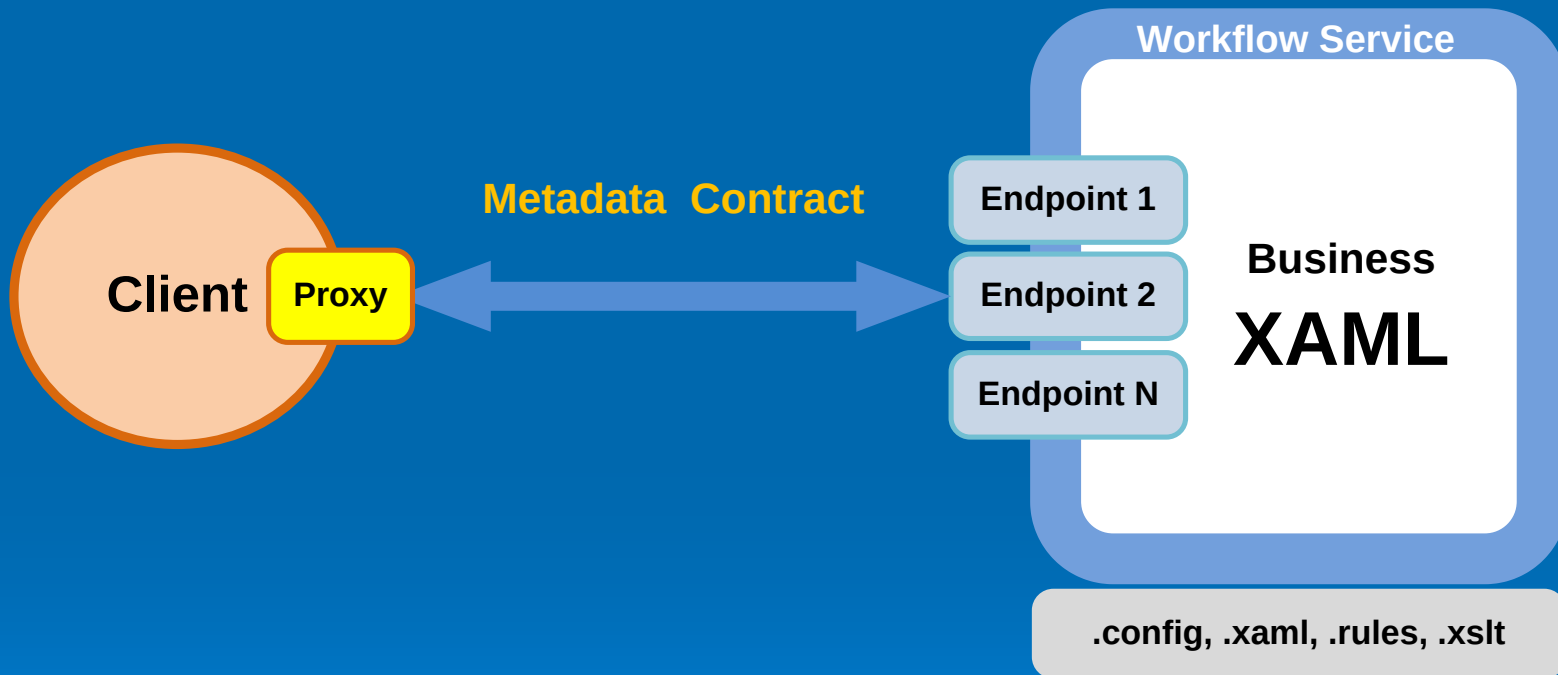
- *Hard coded service implementation*
- *Manageability only for connectivity*
- *No built-in support for Logical Centralized Model*

Manageable Services

Unmanageable Services – .NetFx 3.5



WorkflowService = Integrated model of the WCF and WF



- *WorkflowService Metadata is not integrated*
- *No built-in support for Logical Centralized Model*

Manageable Services

What does it mean?



Services driven by logical centralized model

- Contract Model – Address Binding Contract (ABC)
- Application Model – Service Mediation, Hosting, ...



Manageable Services

Service metadata in the Repository



Application Model

serviceModel, domain, host
xaml, rules, xslt, ...

ServiceEndpoint

Contract Model

WSDL Metadata
(operations, messages, ...)

...

ServiceEndpoint

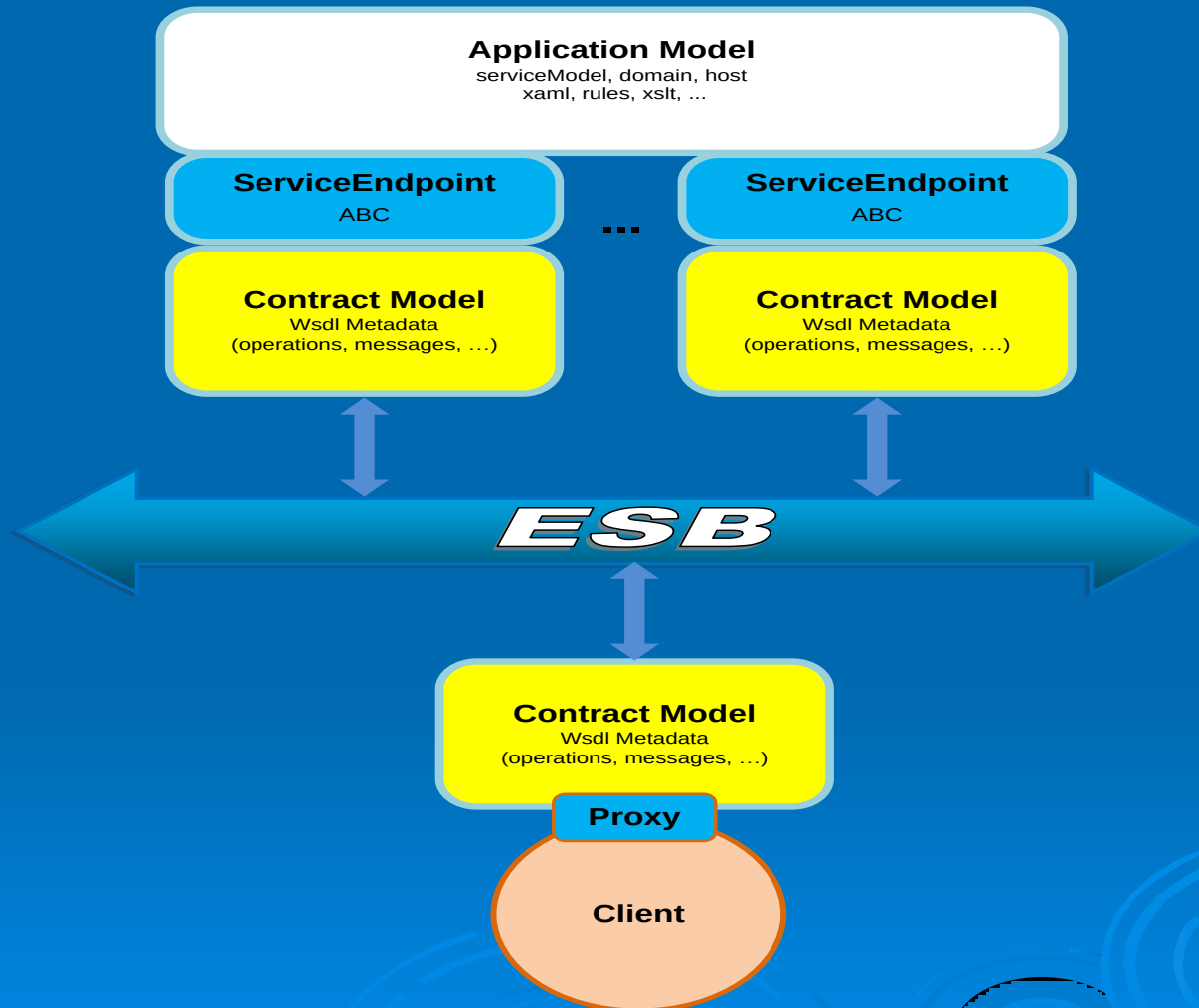
Contract Model

WSDL Metadata
(operations, messages, ...)



Manageable Services

Enterprise Service Bus



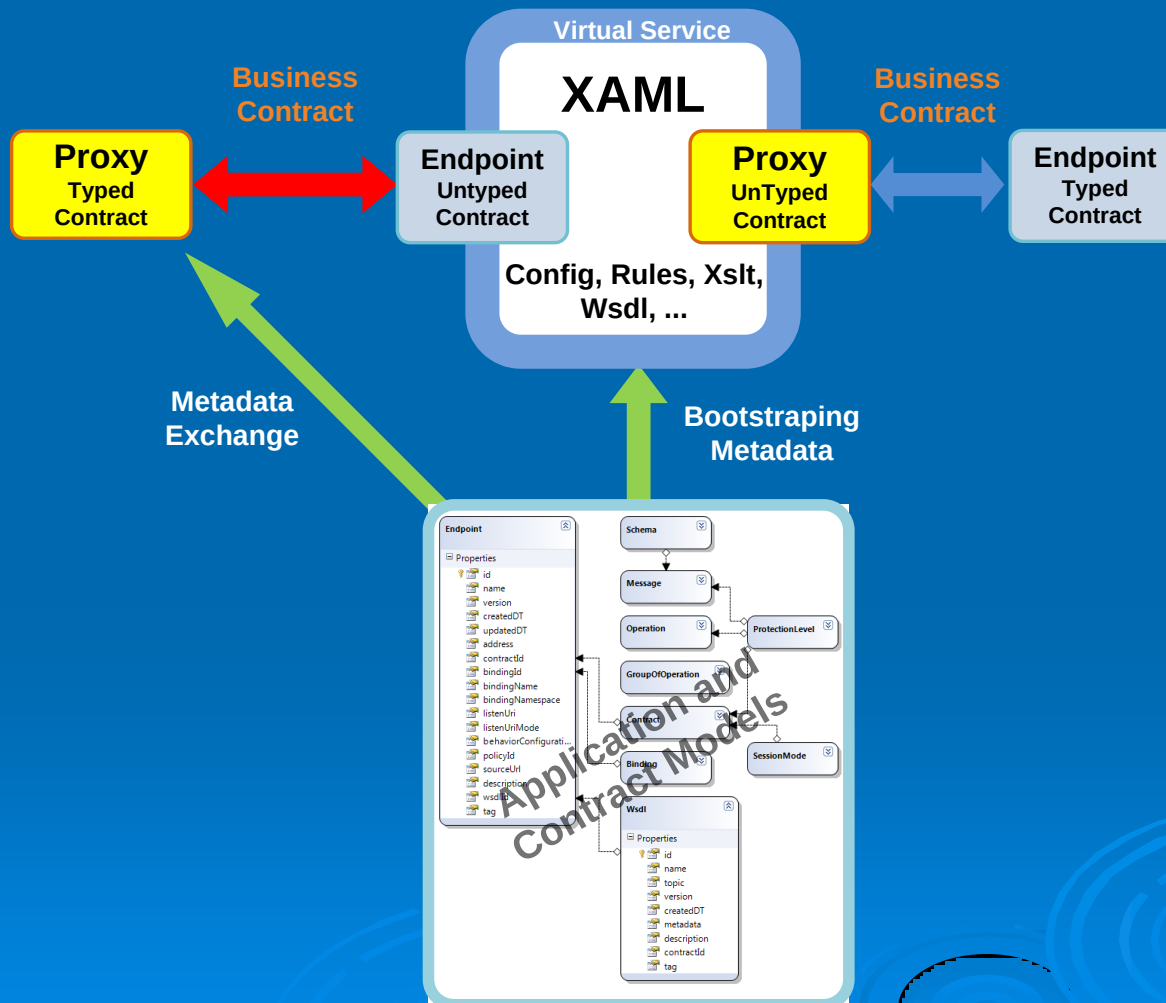
Manageable Services

End-To-End Physical (Unmanageable) Connectivity



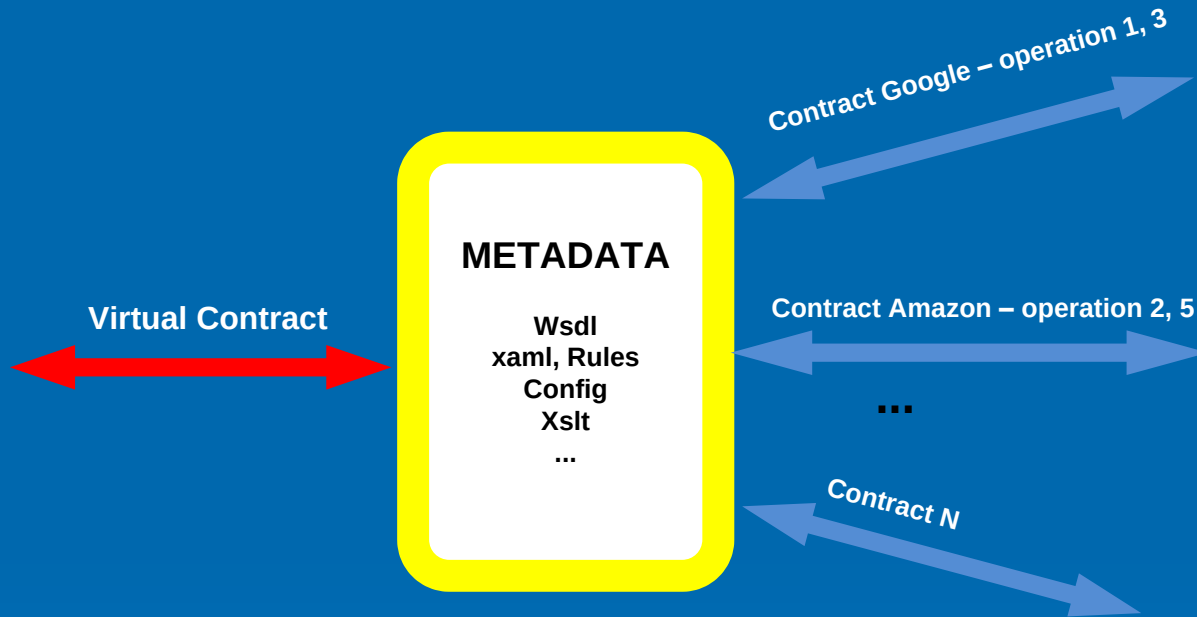
Manageable Services

End-To-End Logical (Manageable) Connectivity



Manageable Services

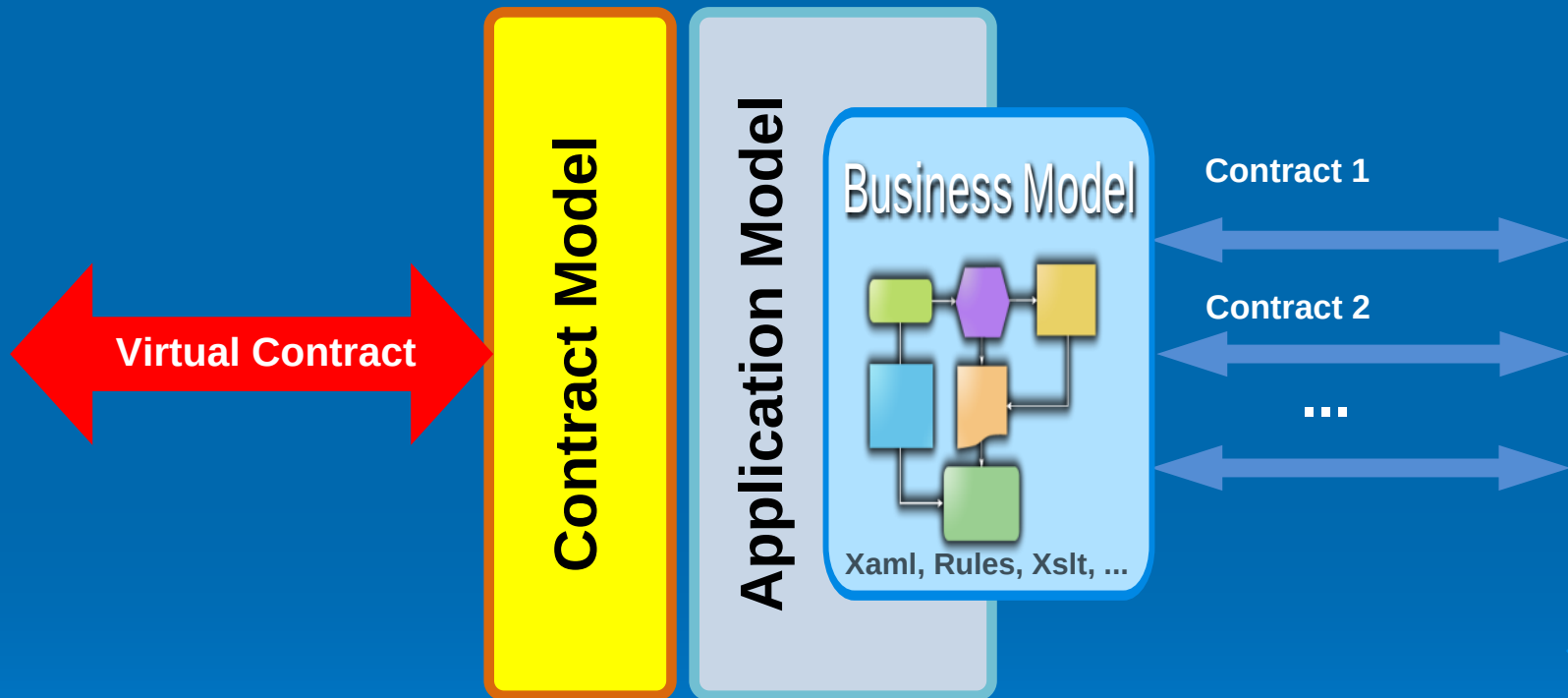
Virtual Contract



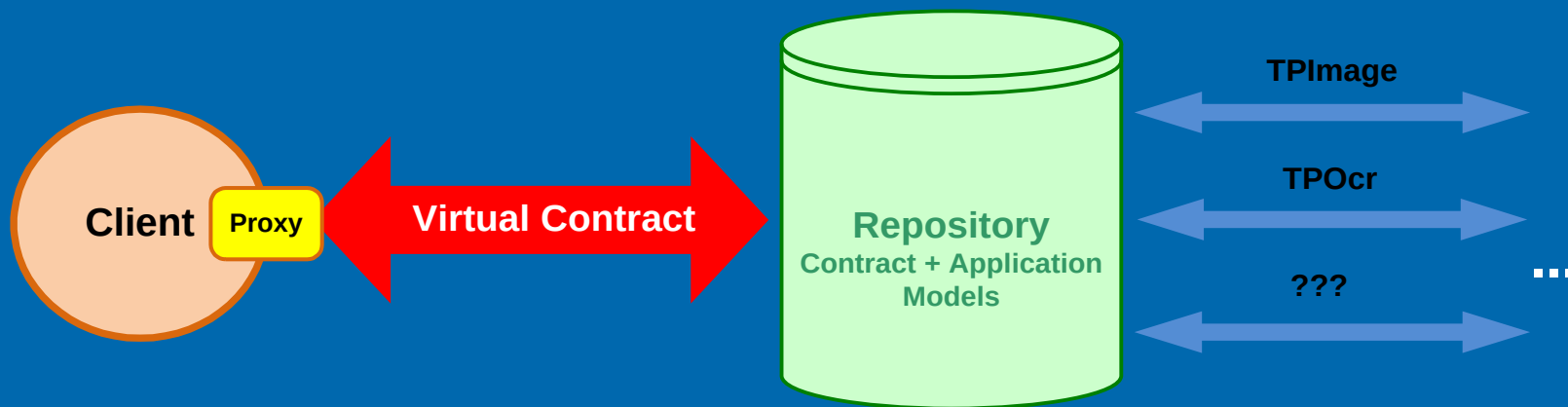
VirtualContract = ContractGoogle + ContractAmazon + ...

Manageable Services

Models in the Virtual (Manageable) Service

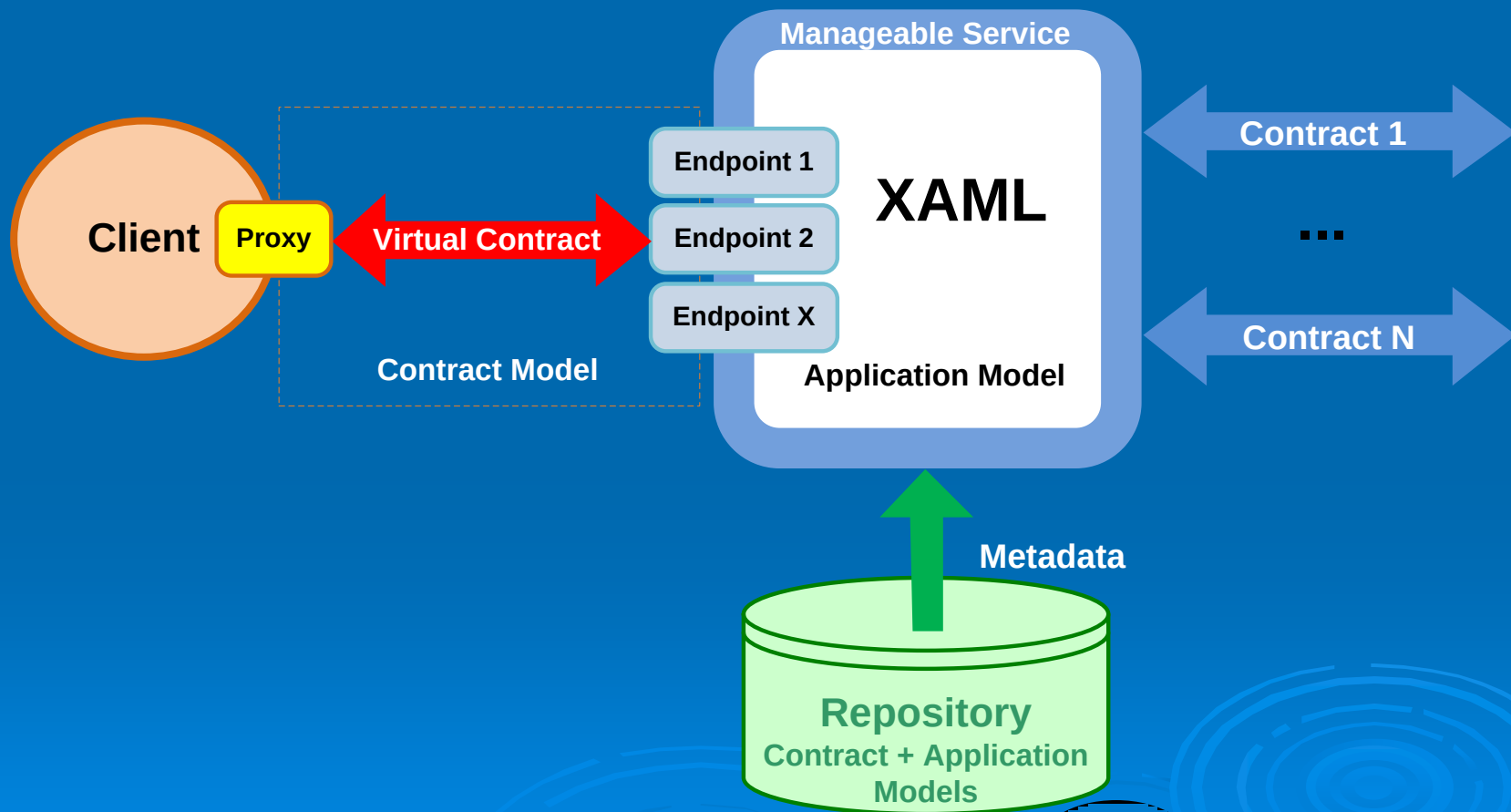


Manageable (Virtual) Services Modeling - Next Generation on the Road map

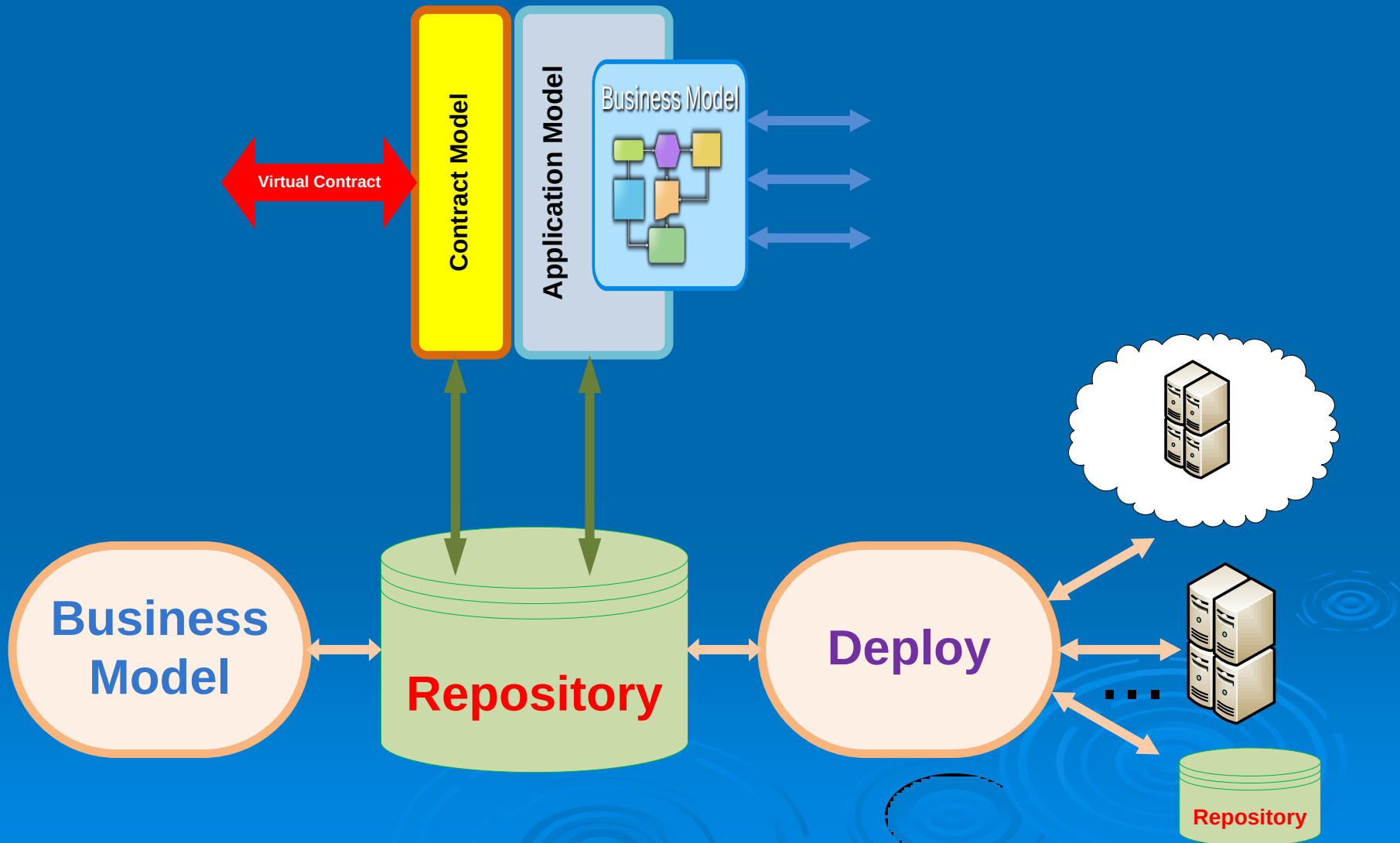


Manageable Services

Virtualization – WorkflowService



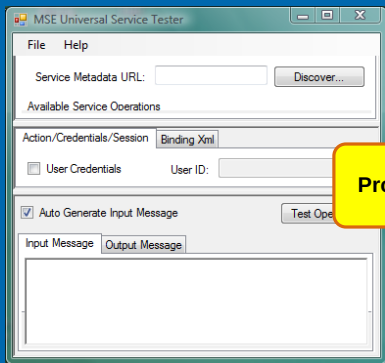
Manageable Services Concept



Manageable Services Example



Client (Tester)



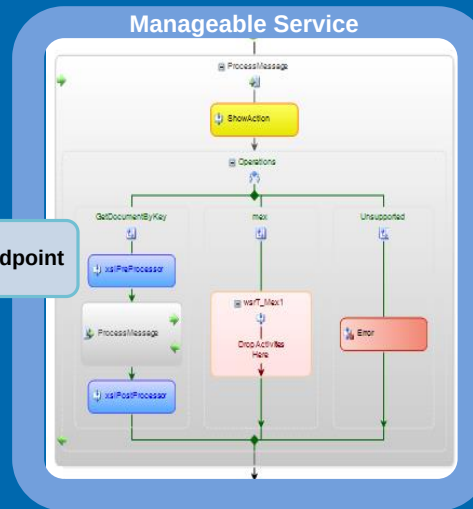
net.pipe://localhost/imaging

Proxy

Virtual Contract

Endpoint

```
byte[] GetDocumentByKey  
(  
    string source,  
    string key  
)
```

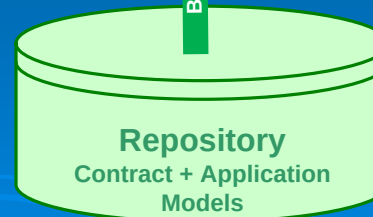


TP Contract

Services

Bootstrap

Metadata:
config, xaml, rules, xsit, wsdI

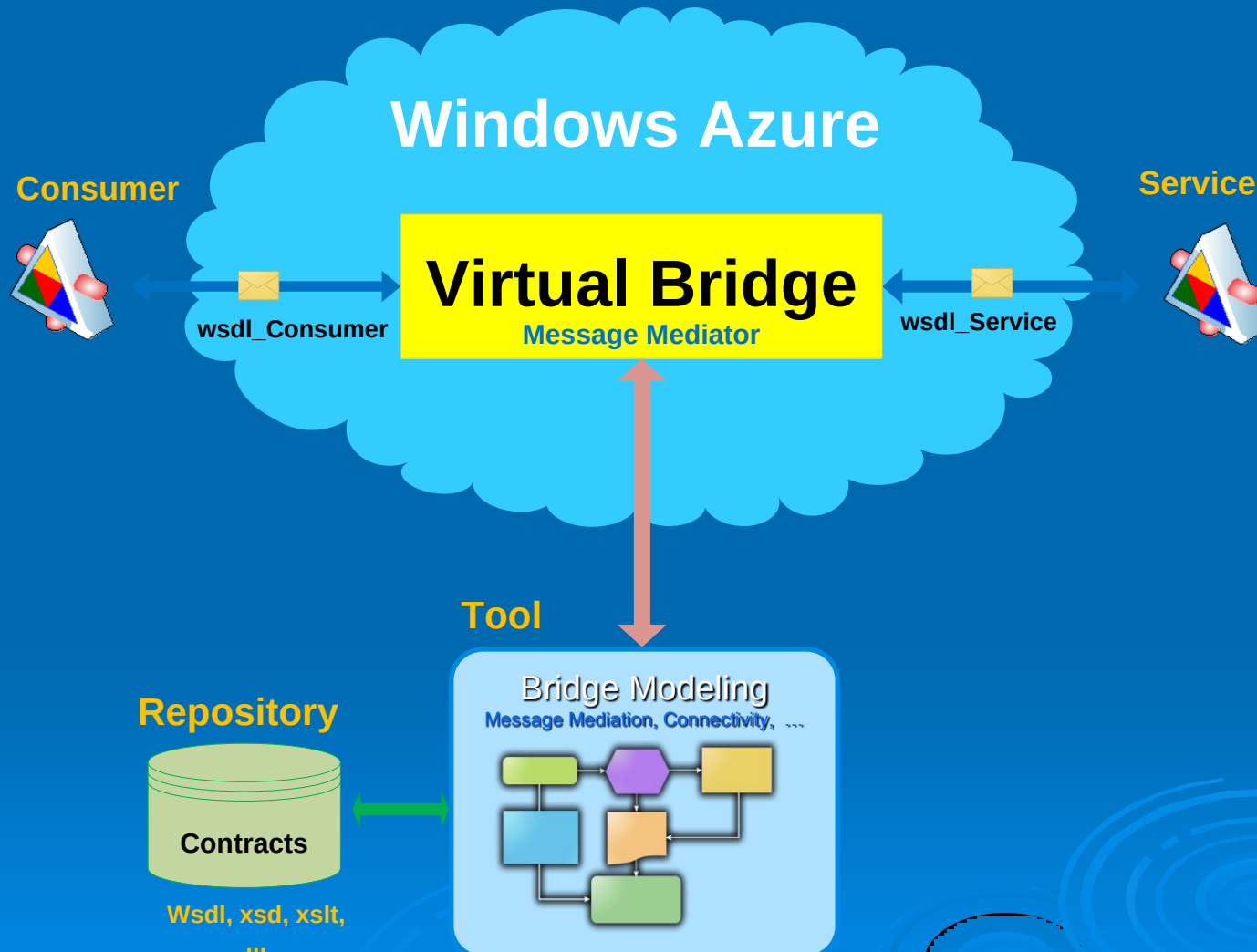


Virtual Bridge



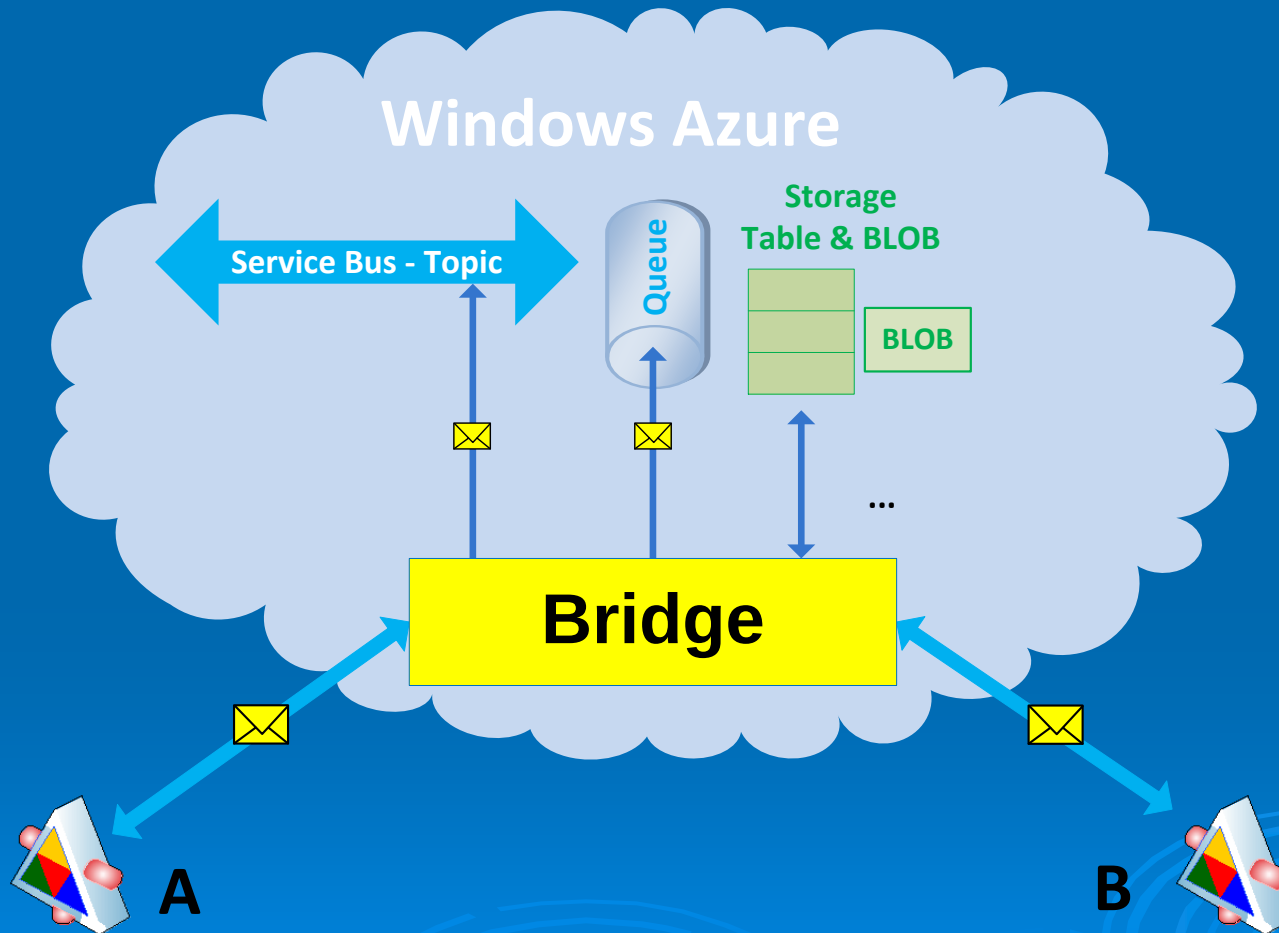
Manageable Services

Virtual Bridge



Manageable Services

Virtual Bridge



Manageable Services Virtual Bridge



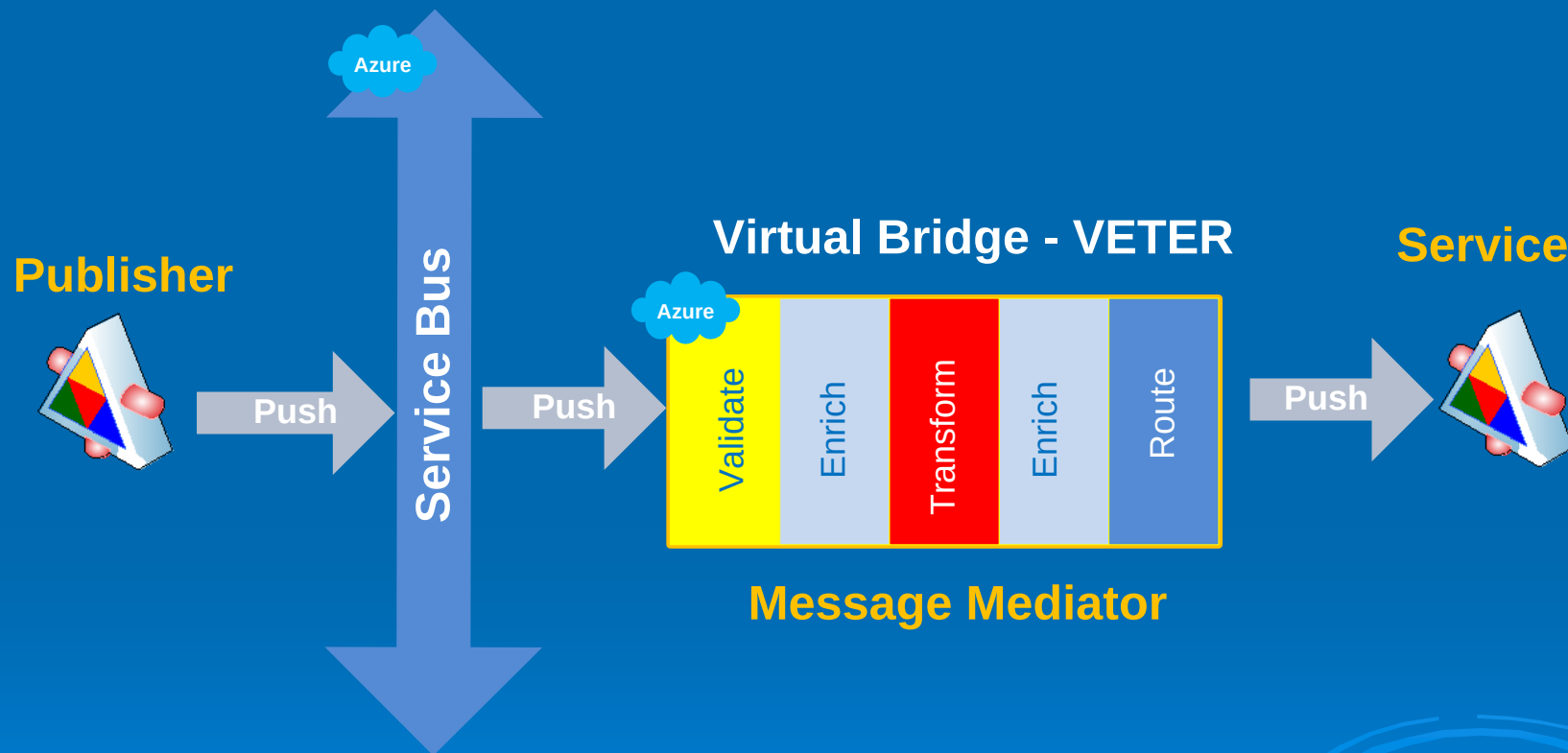
OneWay Virtual Bridge



Message VETER Mediator

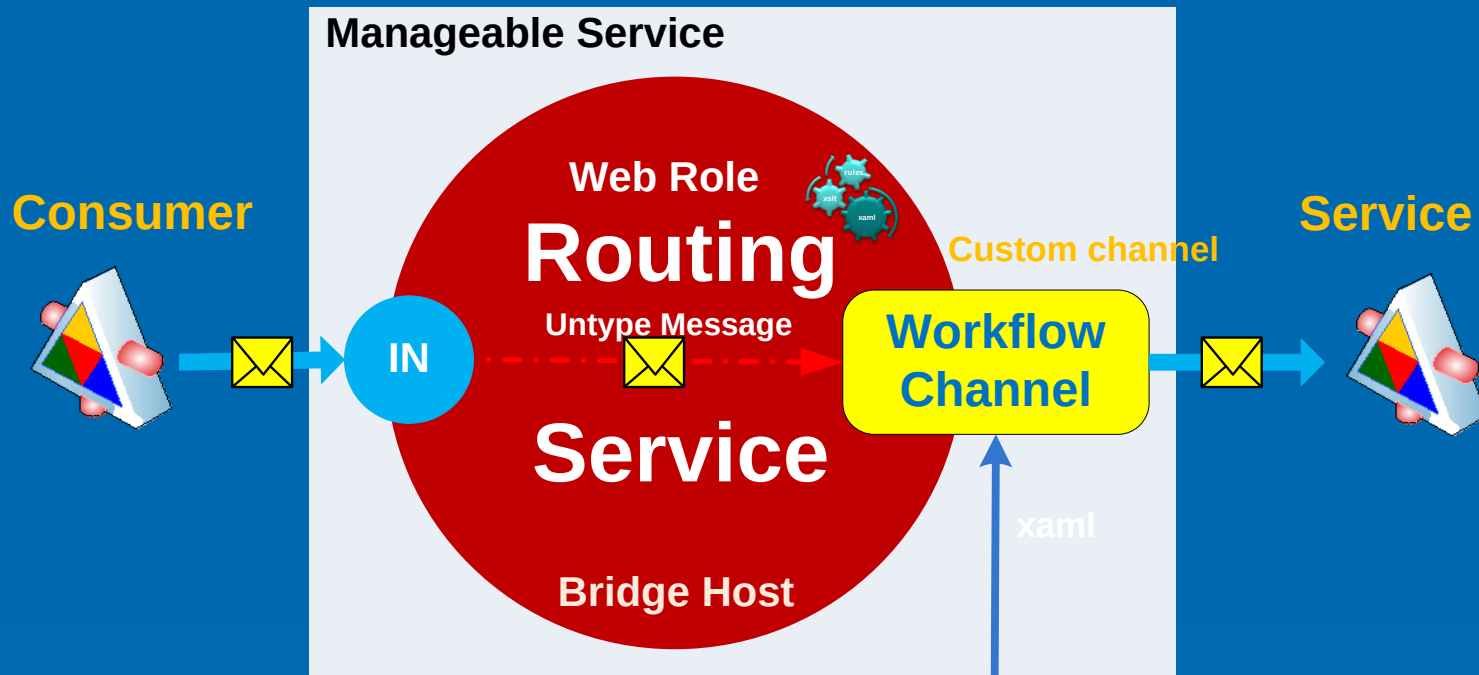
Manageable Services

Virtual Bridge – Push Example



Manageable Services

Bridge Definition



**Azure
Blob Storage**

Name	Last Modified	Length	Content Type
HelloCloud	4/25/2012 8:01:55 PM	4 KB	application/xaml+xml
Publisher1	4/25/2012 8:44:02 PM	7 KB	application/xaml+xml
Publisher2	4/25/2012 8:26:11 PM	4 KB	application/xaml+xml
SearchStarterMediator	5/1/2012 2:13:45 AM	79 KB	application/xaml+xml
SearchStarterMediator2	4/26/2012 7:37:46 PM	45 KB	application/xaml+xml
Test.ByPass	4/30/2012 6:23:27 PM	3 KB	application/xaml+xml
Test.ZipCodeByPass	4/25/2012 8:04:56 PM	7 KB	application/xaml+xml

Manageable Services



Bridge Definition Metadata

Name	Value
_password	*
_username	*
envScope	QA
text	@Hello Roman
trackingProfileName	Troubleshooting
version	1.0.0.0

Bridge Definition Arguments

Name	Direction	Argument type
_inMessage	In	Message
_outMessage	Out	Message
_metadata	In	NameValueCollection

Bridge Definition

XmlOneWayBridge

Validate Double-click to view

Mediator

Pre-Processor Double-click to view

Processor Double-click to view

Post-Processor Double-click to view

Dispatcher Double-click to view

Enterprise Variables

PartitionKey	RowKey	Timestamp	Value	ApplicationScope	Description
Hello Roman	*	5/4/2012 10:23:57 PM	This is a test!	*	
notify	*	5/4/2012 10:26:06 PM	http://xxxx.cloudapp.net/VirtualBridge	*	testing
servicebusAccount	*	5/4/2012 10:24:24 PM	AccountName=owner; AccountKey=5a.		test
servicebusAccount	DEV	5/4/2012 10:24:39 PM	AccountName=owner; AccountKey=5a.		test
servicebusAccount	Production	5/4/2012 10:22:16 PM	12345		This is a test
servicebusAccount	QA	5/4/2012 10:24:54 PM	AccountName=owner; AccountKey=5a.		test
storageAccount	*	5/4/2012 10:25:16 PM	DefaultEndpointsProtocol=https;Accou		
storageAccount	DEV	5/4/2012 10:25:29 PM	DefaultEndpointsProtocol=https;Accou		

Azure Table Storage

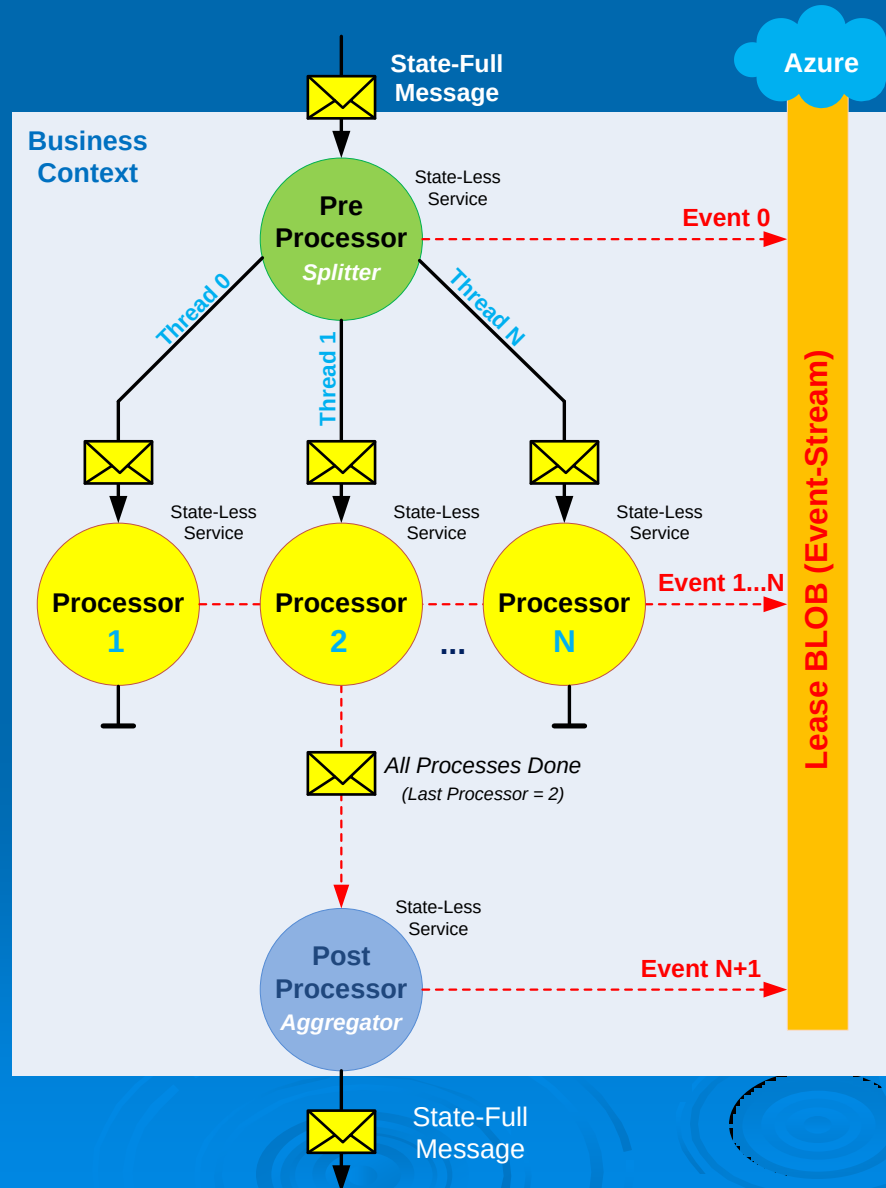
Bridge Definitions

Name	Last Modified	Length	Content Type
HelloCloud	4/25/2012 8:01:55 PM	4 KB	application/xml+xml
Publisher1	4/25/2012 8:44:02 PM	7 KB	application/xml+xml
Publisher2	4/25/2012 8:26:11 PM	4 KB	application/xml+xml
SearchStarterMediator	5/1/2012 12:13:45 AM	79 KB	application/xml+xml
SearchStarterMediator2	4/26/2012 7:37:46 PM	45 KB	application/xml+xml
Test.ByPass	4/30/2012 6:23:27 PM	3 KB	application/xml+xml
Test.ZipCodeByPass	4/25/2012 8:04:56 PM	7 KB	application/xml+xml

Azure Blob Storage

Manageable Services

Service Orchestration



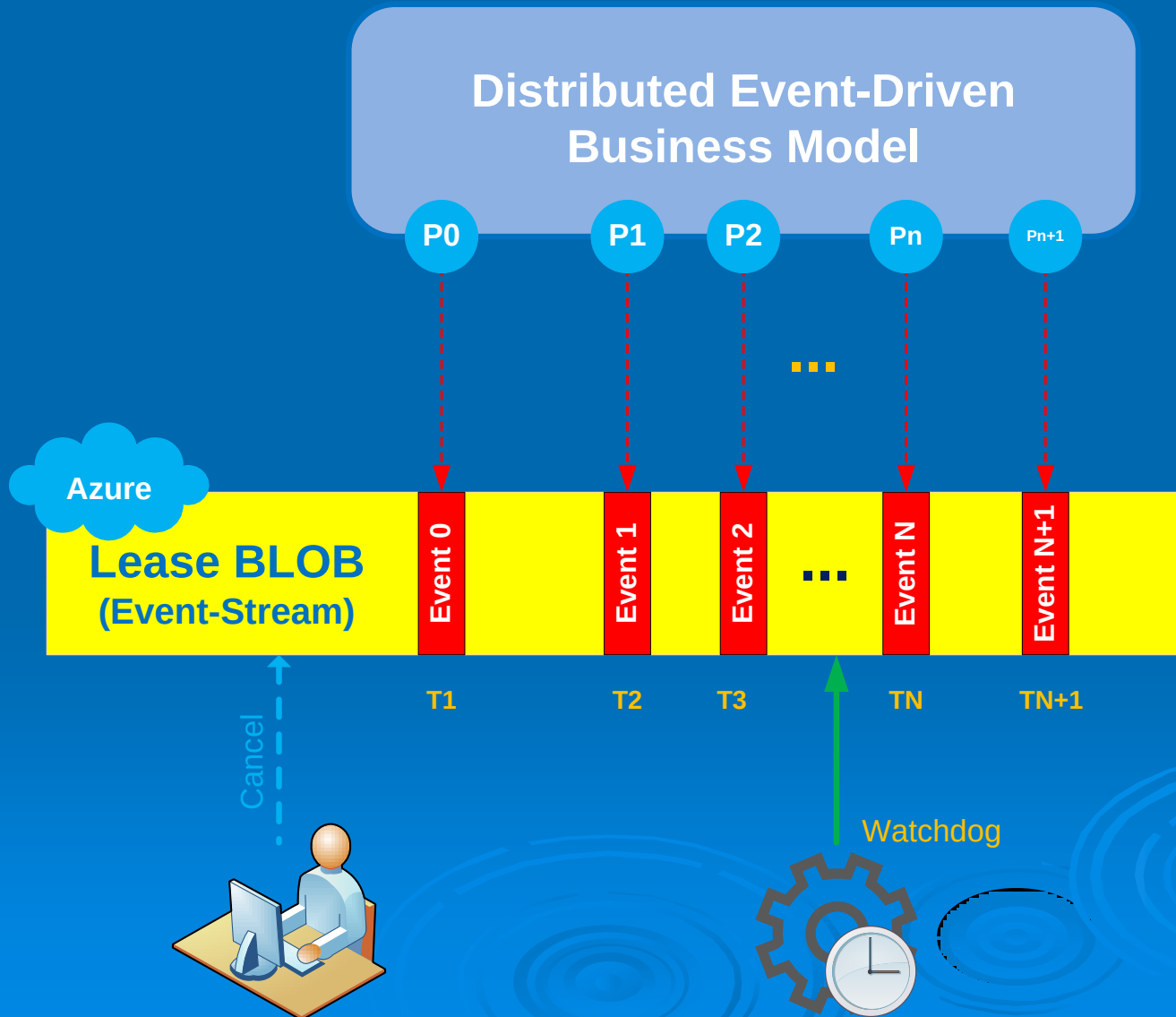
Manageable Services



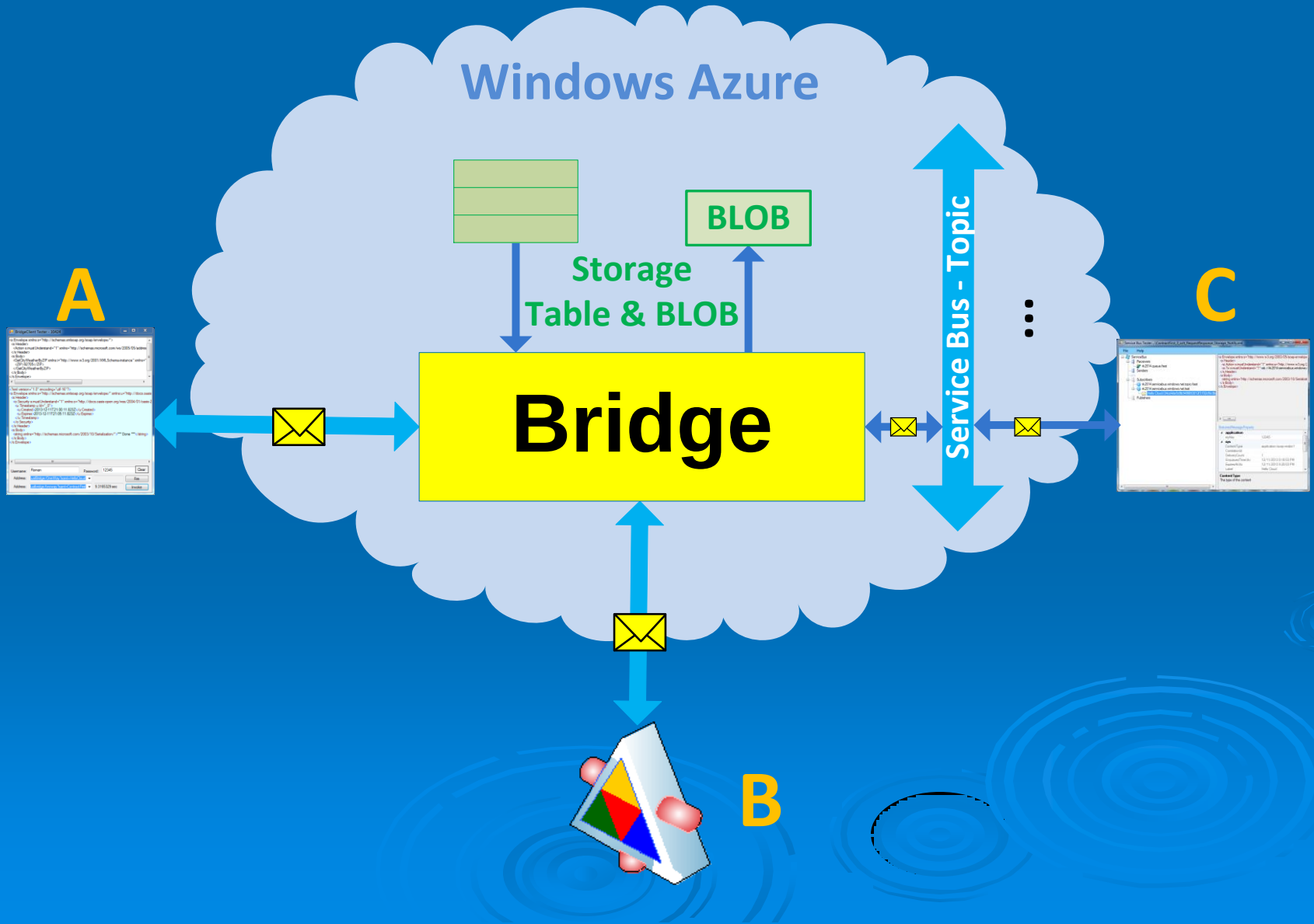
DEMO



Manageable Services



Manageable Services - Demo



Manageable Services

Logical Model Connectivity – Pub/Sub

