IBM SOA PoT

Service Oriented Architecture

A level-set for SOA

Market forces are changing the world in which we live

Thomas Friedman, *The World Is Flat*

"The playing field is being flattened … Technology and geo-economics are fundamentally reshaping our lives—much, much more quickly than many people realize."

"…a platform where intellectual work, intellectual capital, could be delivered from anywhere. It could be disaggregated, delivered, distributed, produced and put back together again—and this gave a whole new degree of freedom to the way we do work, especially work of an intellectual nature."

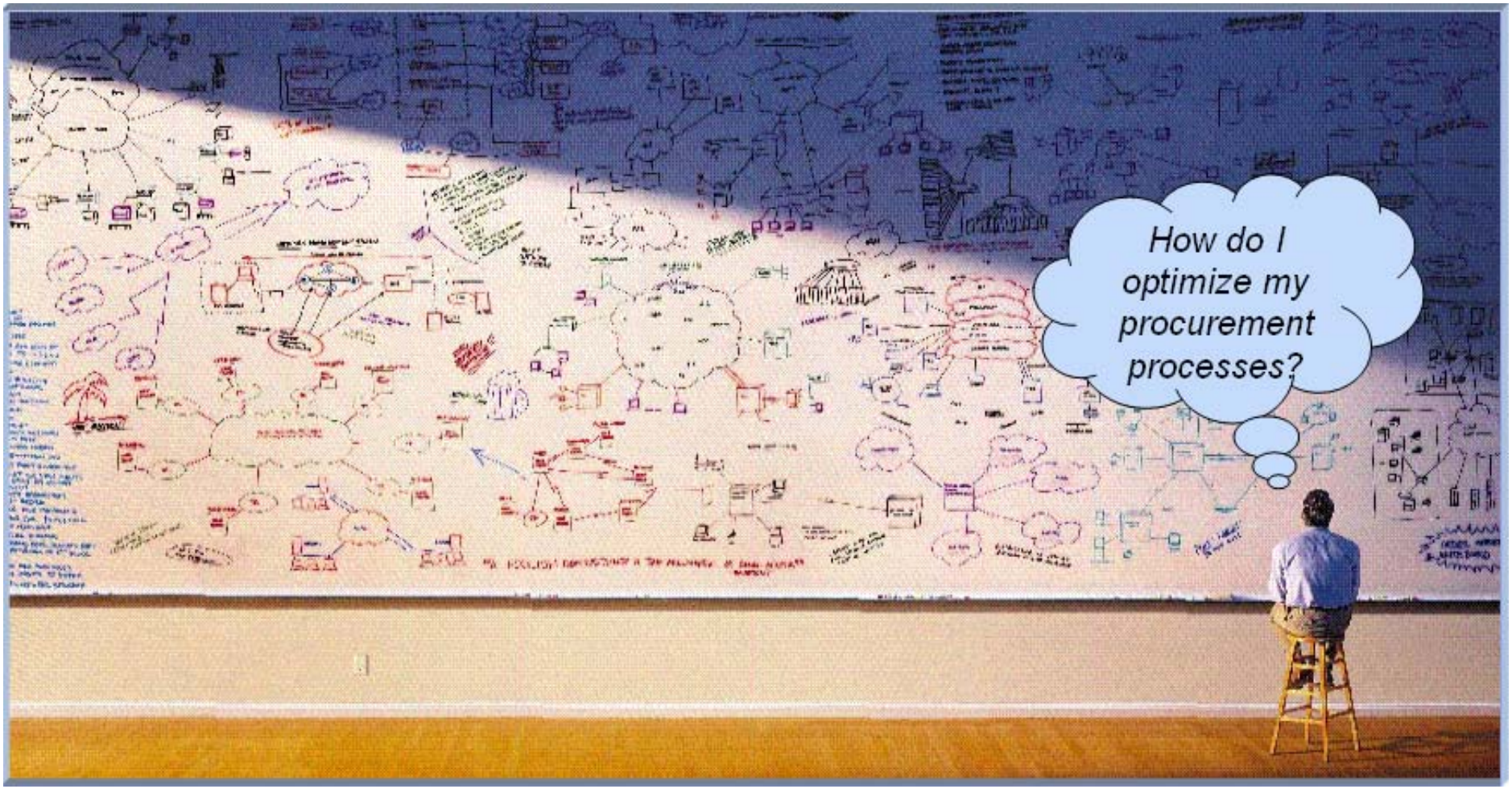
The Cluetrain Manifesto: The end of business as usual

"Few have attempted it (collaboration) beyond their own boundaries. Companies that remain 'secure' within those boundaries will be cut off from the global marketplace..."

Reinventing ways of doing business

Industry	Traditional business model	On Demand Business
Insurance	Auto insurance rates were based on fixed premiums	Auto insurance rates based on driving and usage patterns
Airlines	Passengers waited in line at airport to get boarding pass	Passengers can print their own boarding passes at home
Automotive	Lack of collaboration between OEMs, suppliers and dealers slowed processing of warranty claims	Collaboration across entire supply chain accelerates root cause analysis, resolving warranty claims 5 days faster.
Financial Services	Launch of new credit product taking up to 7 months	Horizontal integration of processes taking product launch down to 8 weeks
Government	It took customs agencies hours to determine the location, origin and contents of containers arriving at their ports	Customs agencies know exact location, origin and contents of containers in a matter of seconds
Retail	Stores offered same promotions across all stores, based on a predetermined schedule	Instant, in-store promotions are based on real-time view of customer buying behaviours and inventory levels

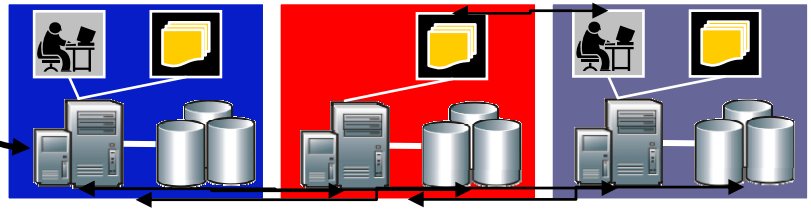
But we are stuck with THIS !



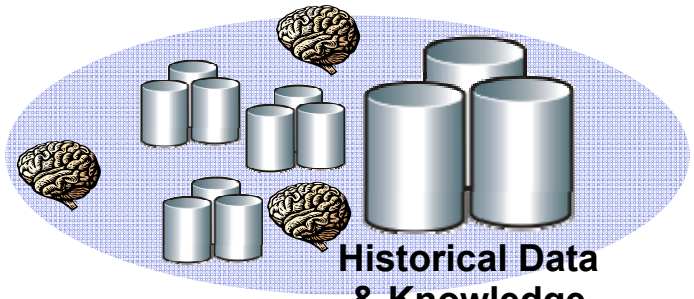
Today

Event

Line of Business Systems and Data



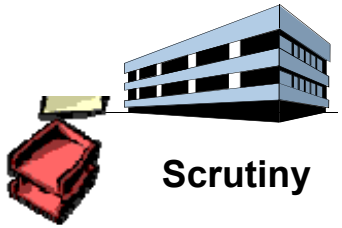
Process is Implemented Like This



Historical Data & Knowledge

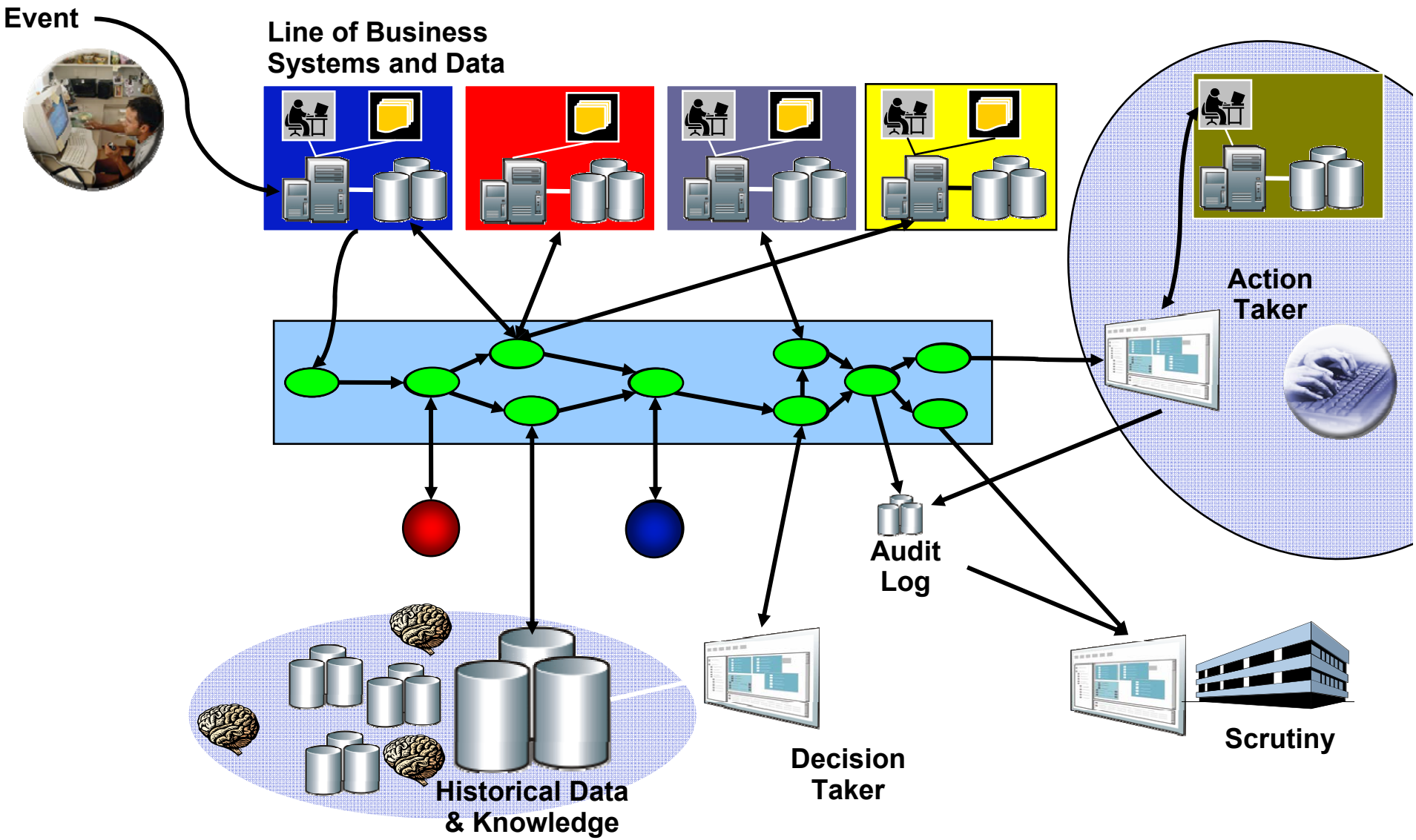
Decision Taker

Action Taker



Scrutiny

With SOA


Event
Line of Business
Systems and Data
Action
Taker
Audit
Log
Historical Data
& Knowledge
Decision
Taker
Scrutiny

SOA – Business Benefits

Agility

Decrease Costs

New Opportunities

Reduce Risk

SOA – IT Benefits

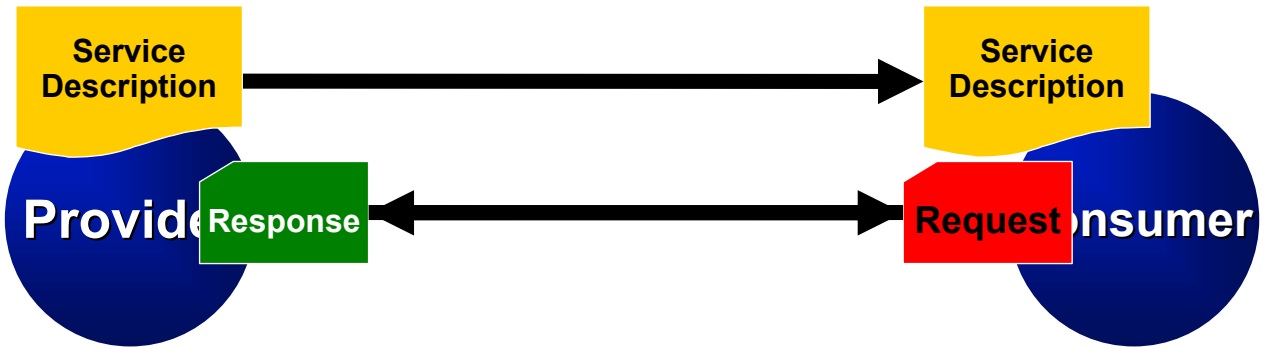
Implicit Interoperability

Embrace Heterogeneity

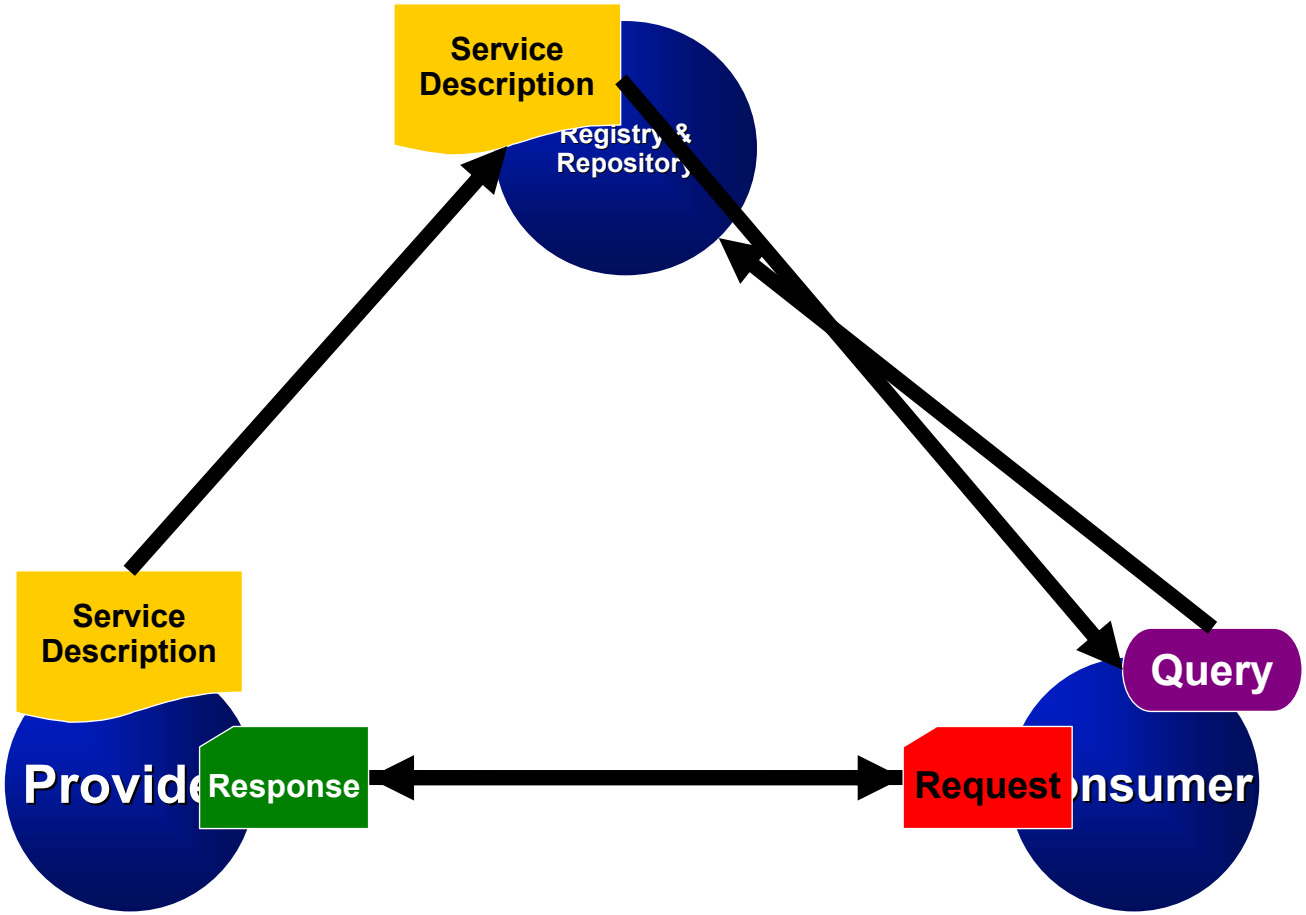
Closer Alignment IT/Business

Reduce IT Burden

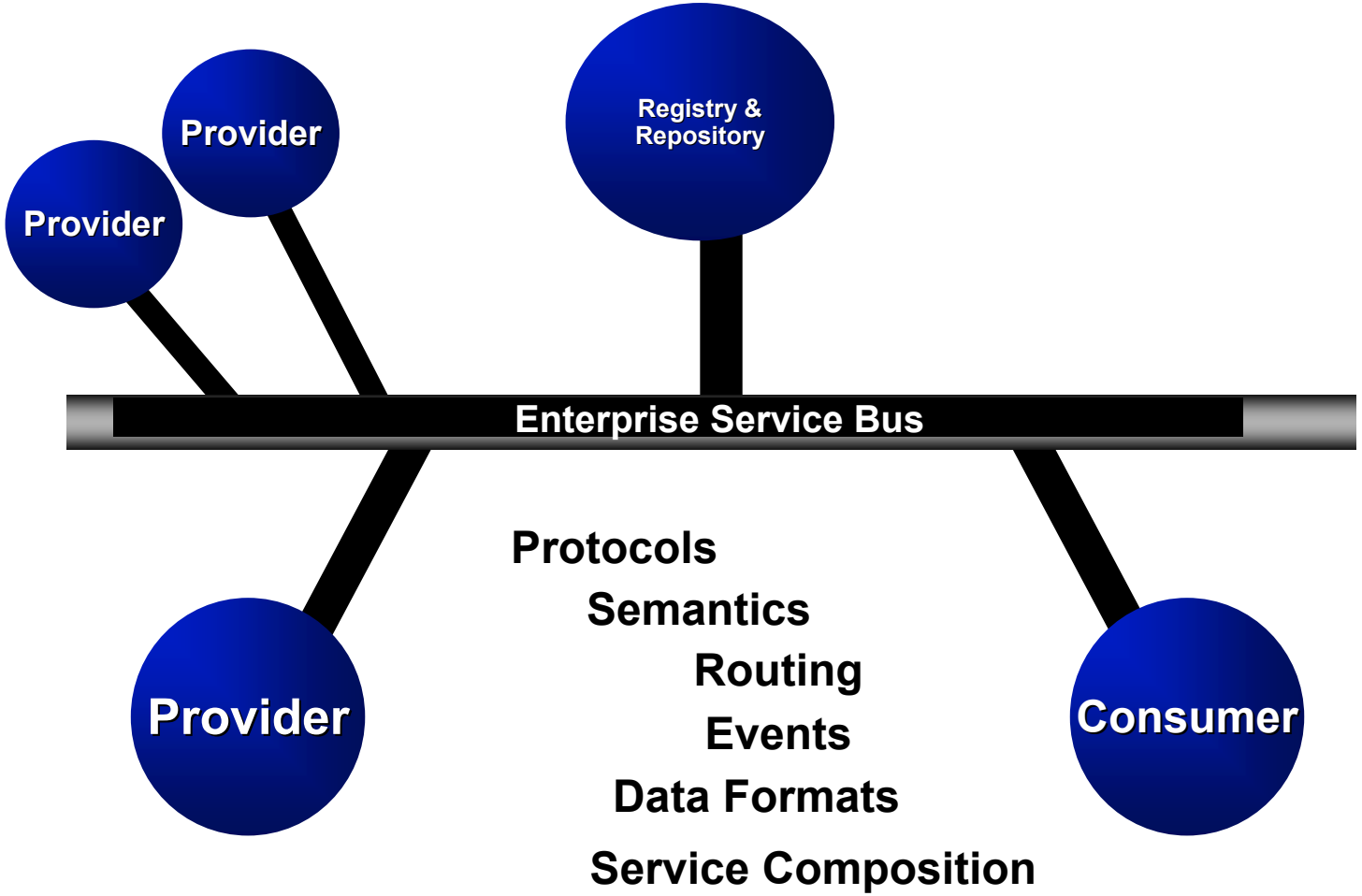
Service Concept



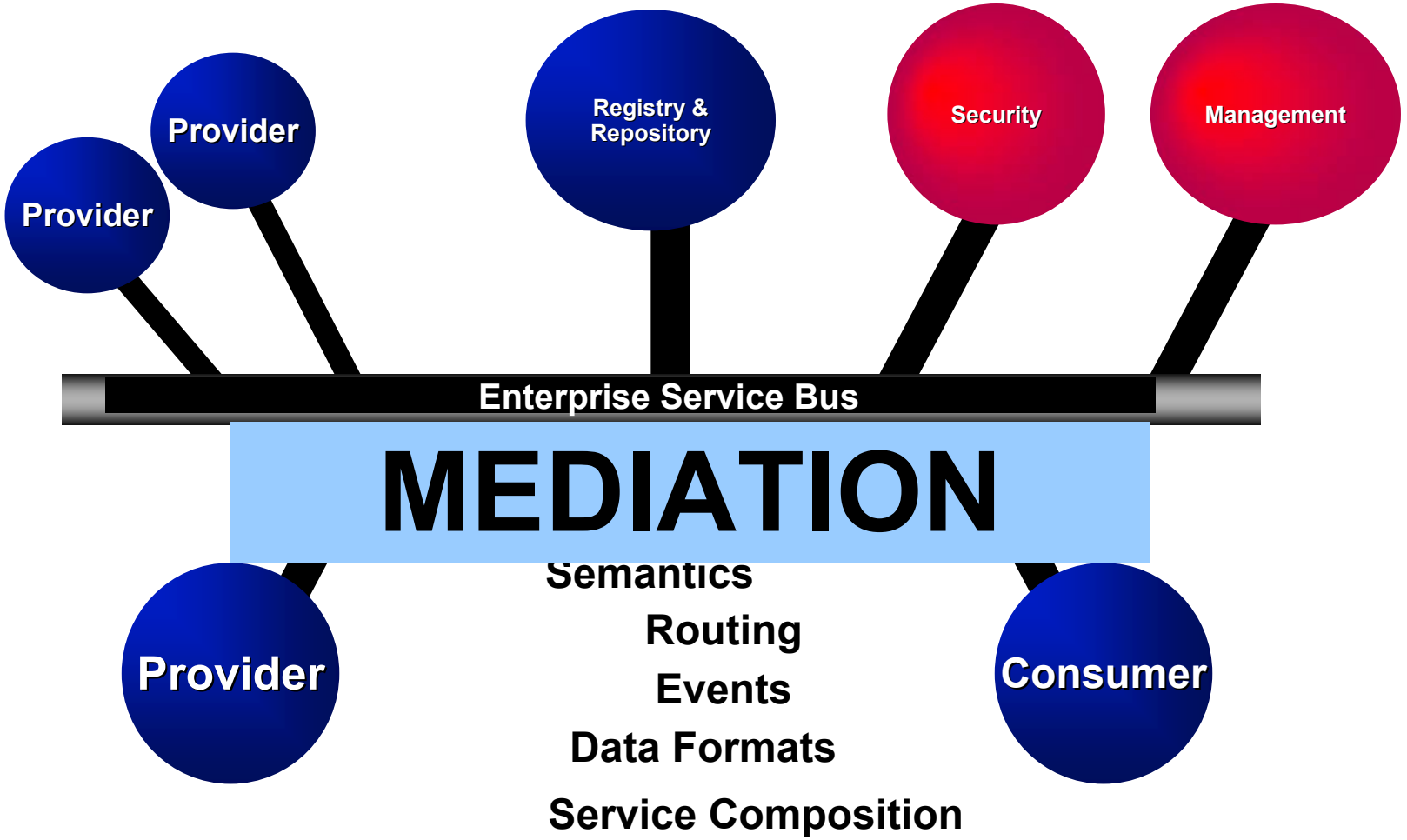
Service Concept with a Registry & Repository



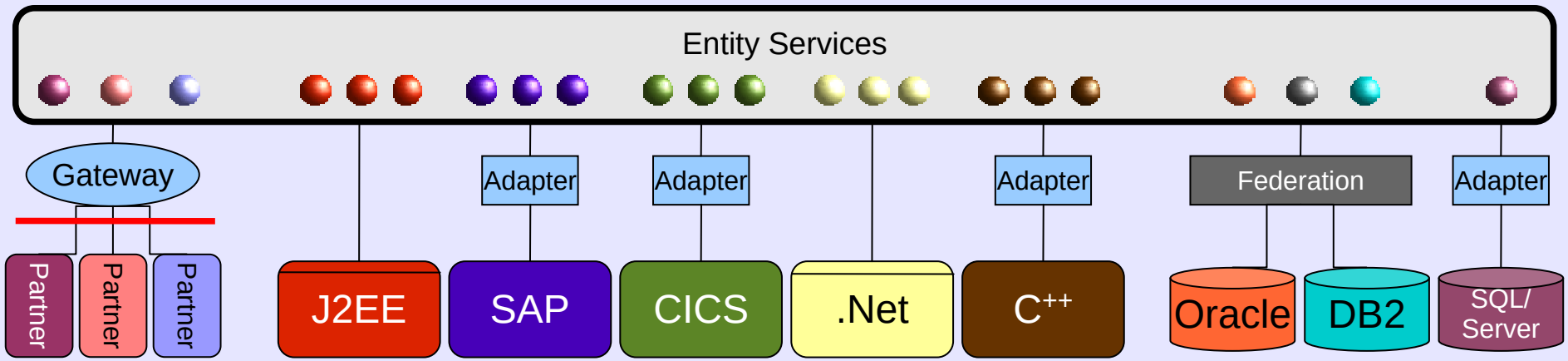
Plumbing !

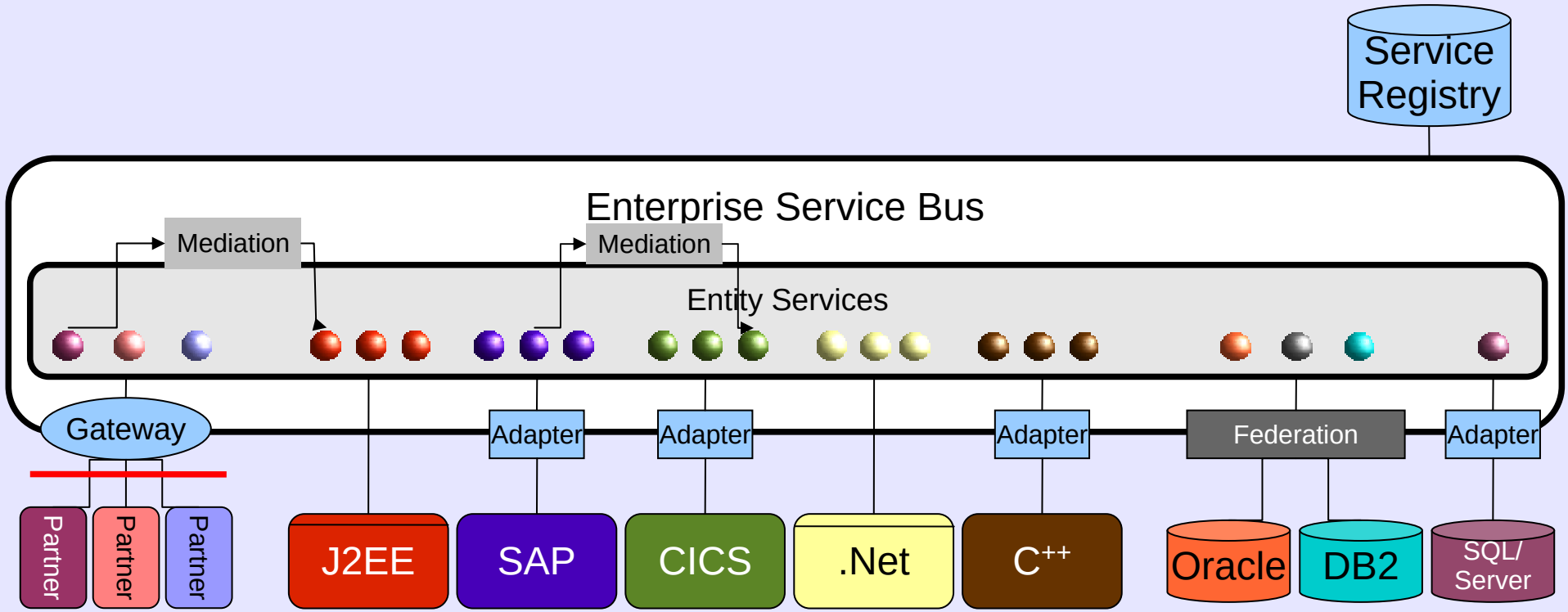

Provider
Provider
Registry &
Repository
Enterprise Service Bus
Provider
Consumer
Protocols
Semantics
Routing
Events
Data Formats
Service Composition

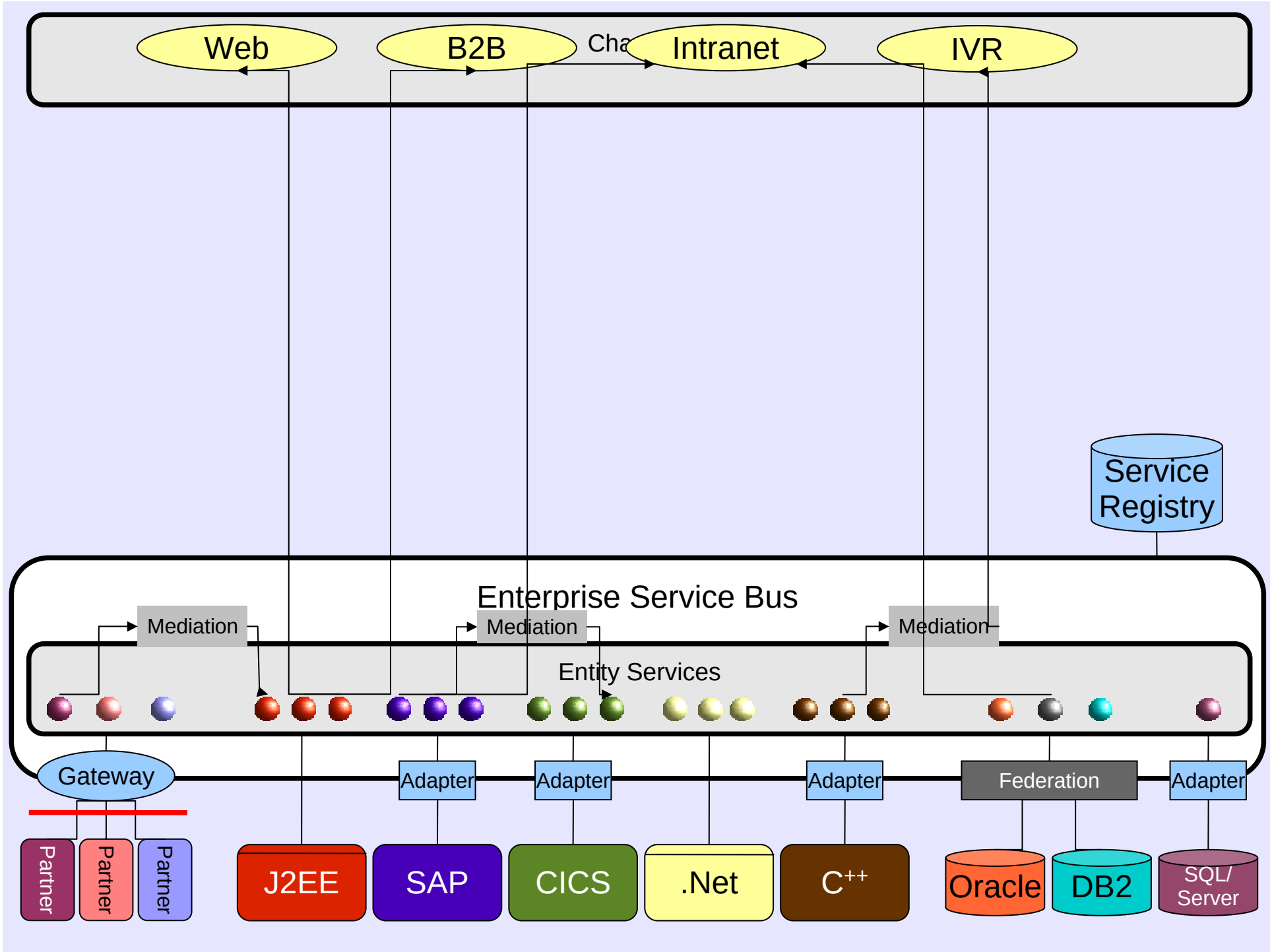
Plumbing ...

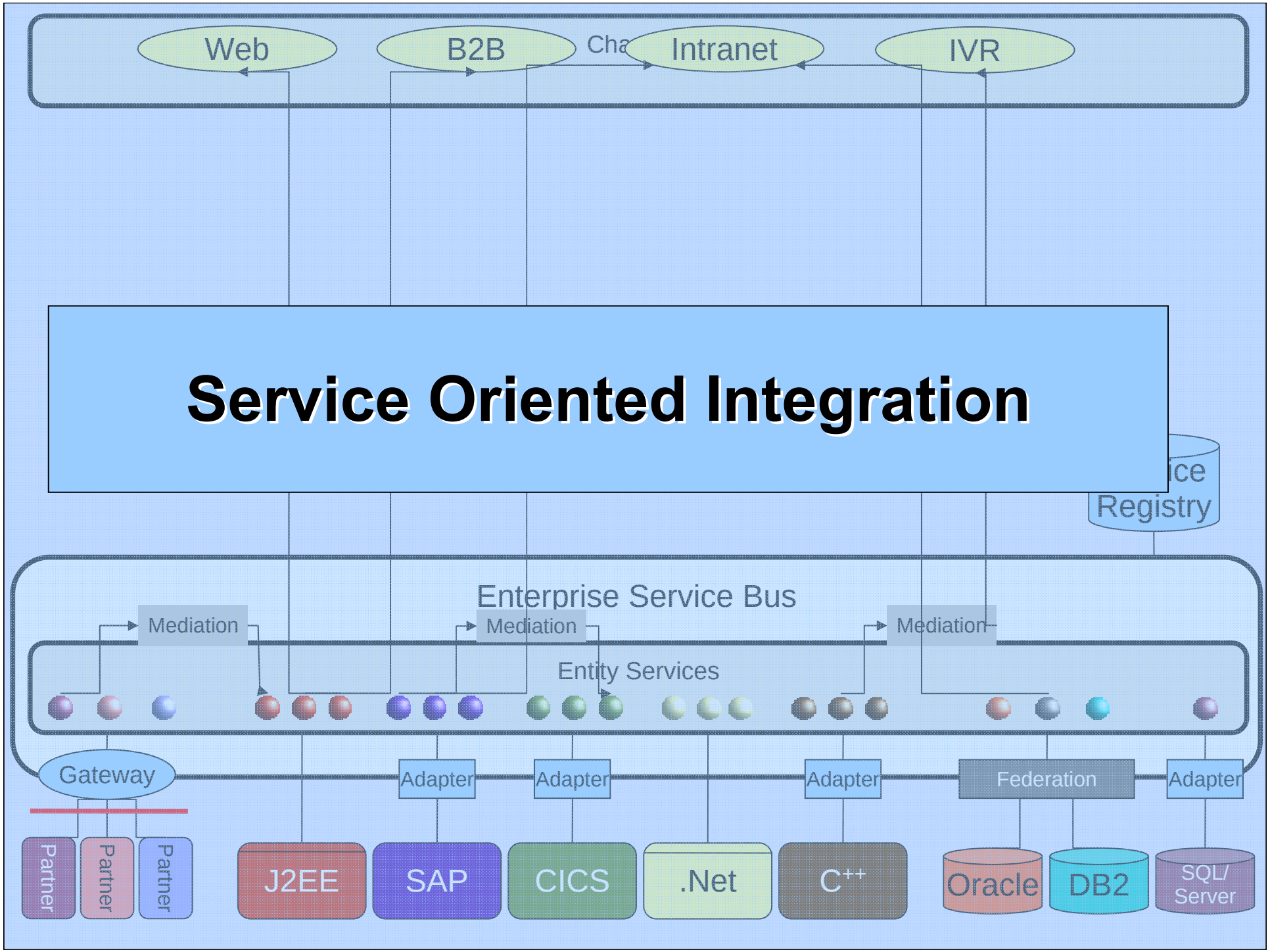

Provider
Provider
Registry & Repository
Security
Management
Enterprise Service Bus
MEDIATION
Semantics
Routing
Events
Data Formats
Service Composition
Provider
Consumer

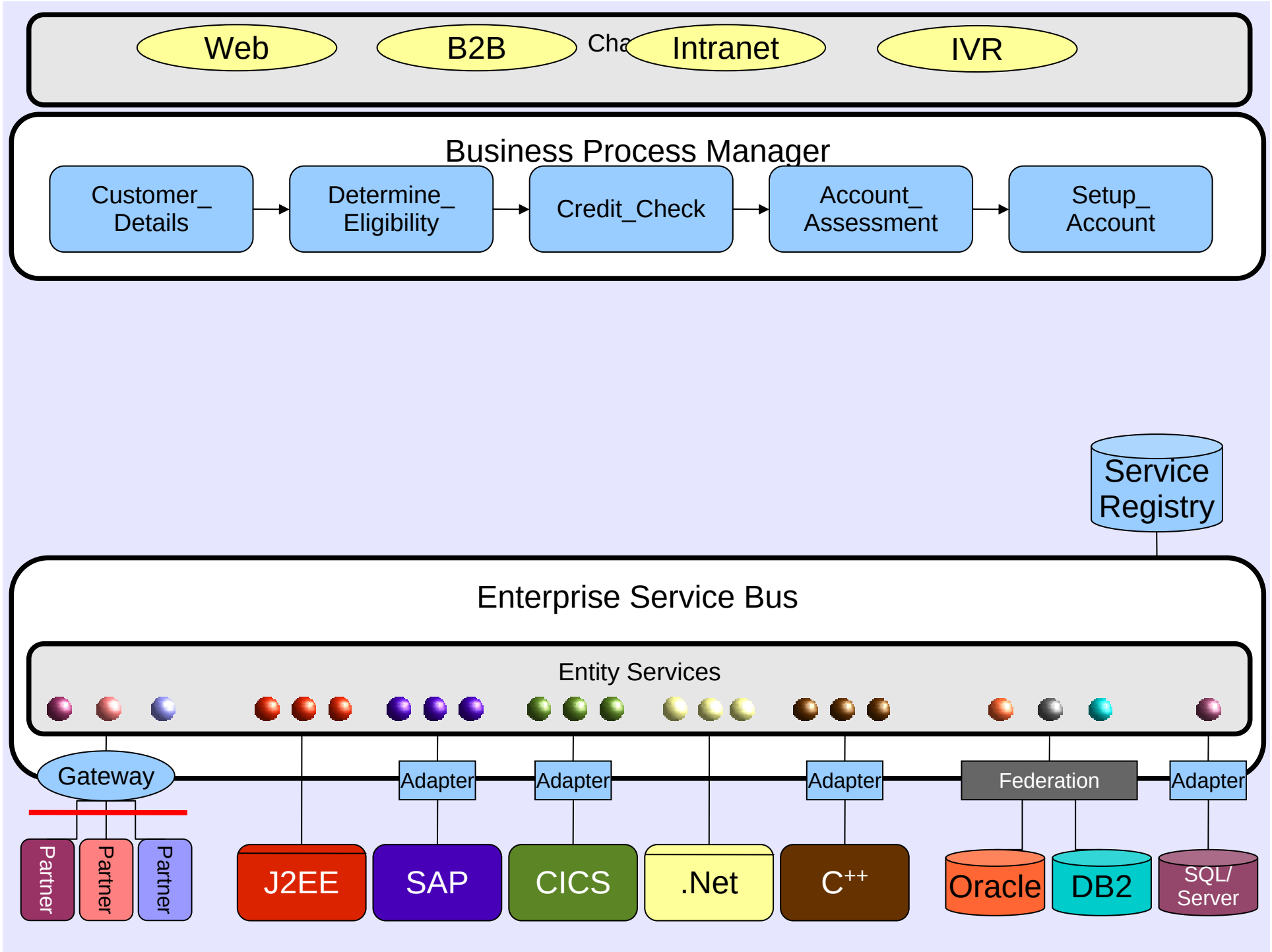
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/
Server

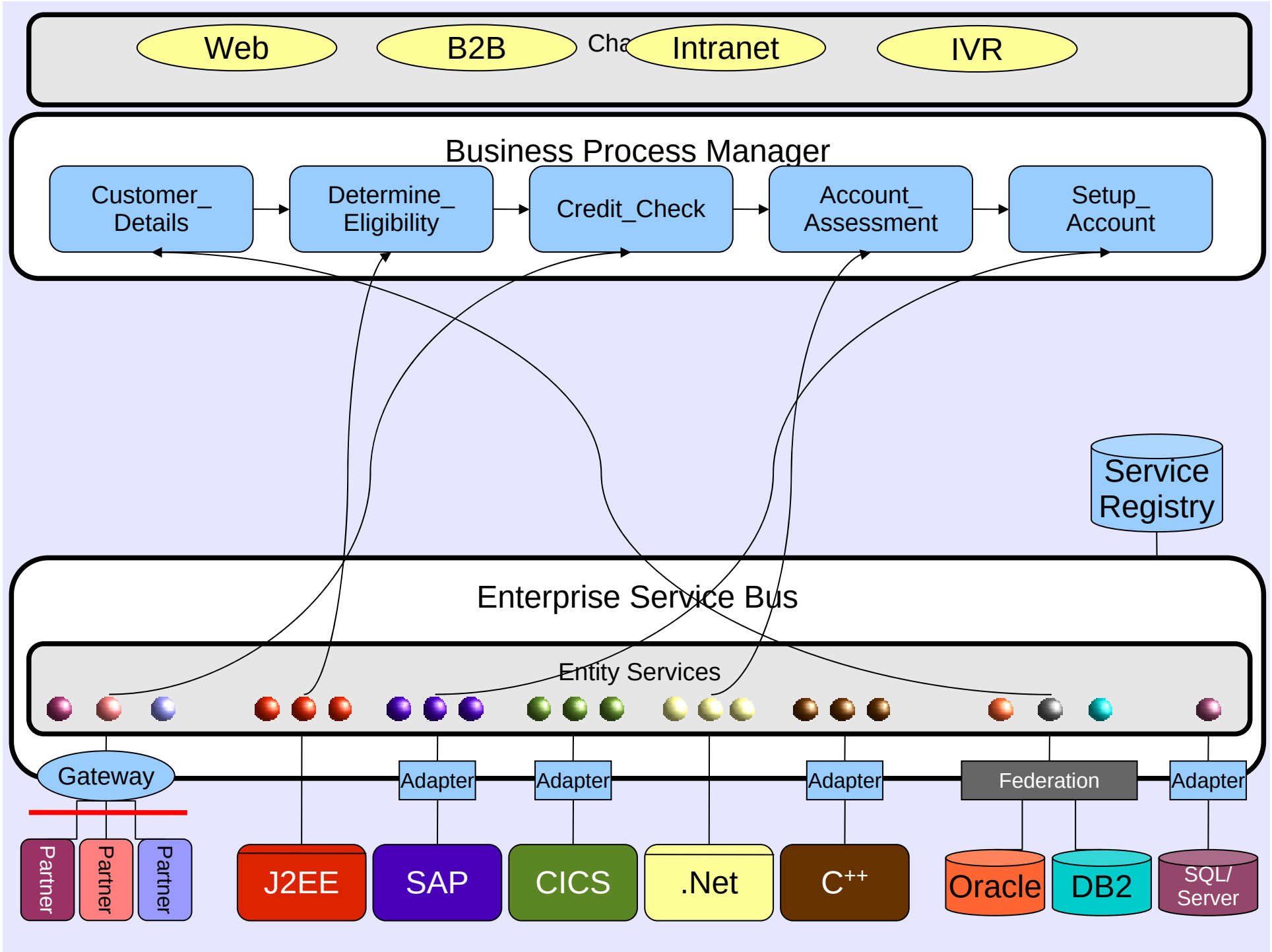

Entity Services
Gateway
Partner
Partner
Partner
J2EE
Adapter
SAP
Adapter
CICS
.Net
Adapter
C++
Federation
Oracle
DB2
Adapter
SQL/
Server

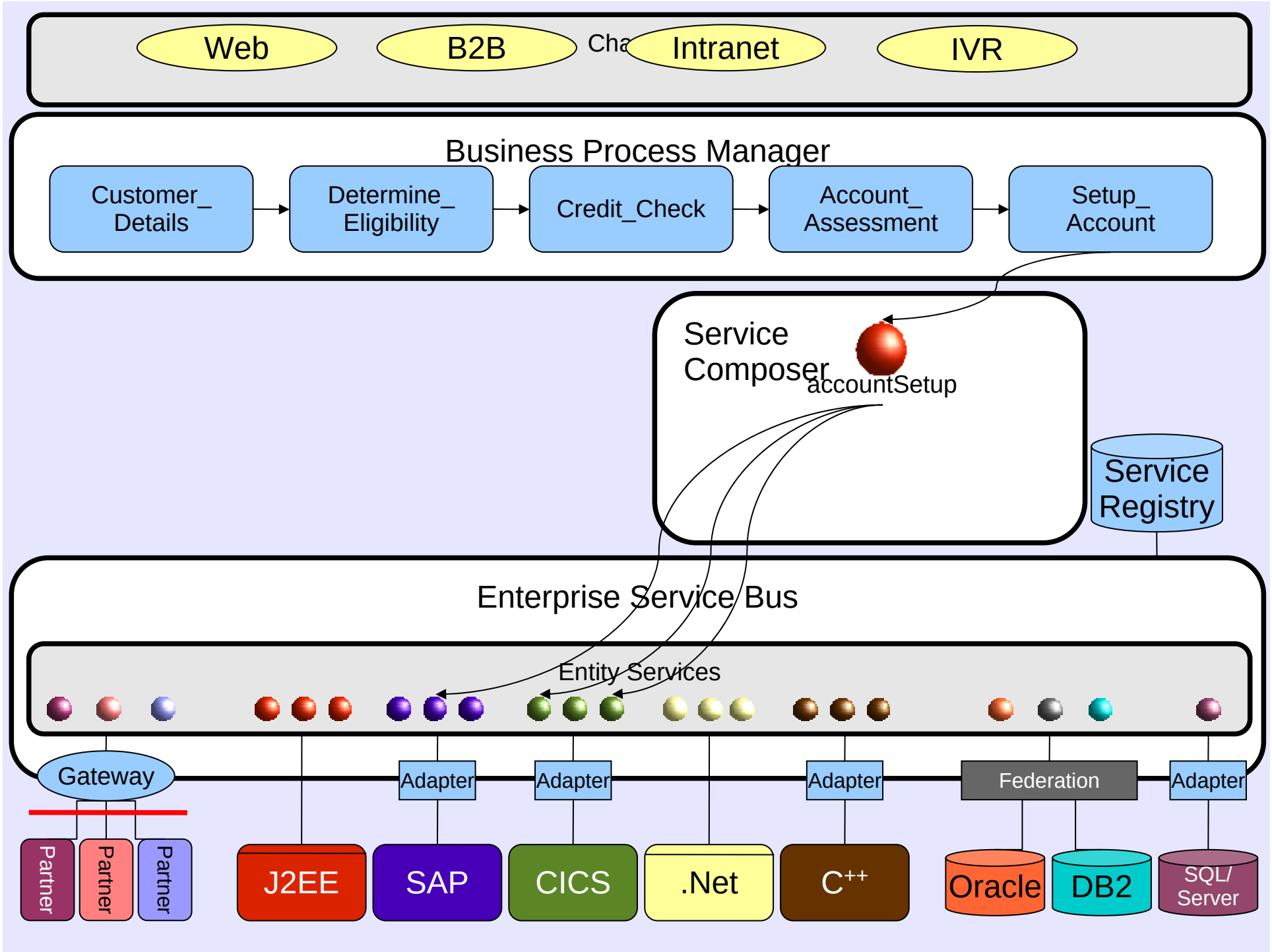

Service Registry
Enterprise Service Bus
Mediation
Mediation
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/ Server

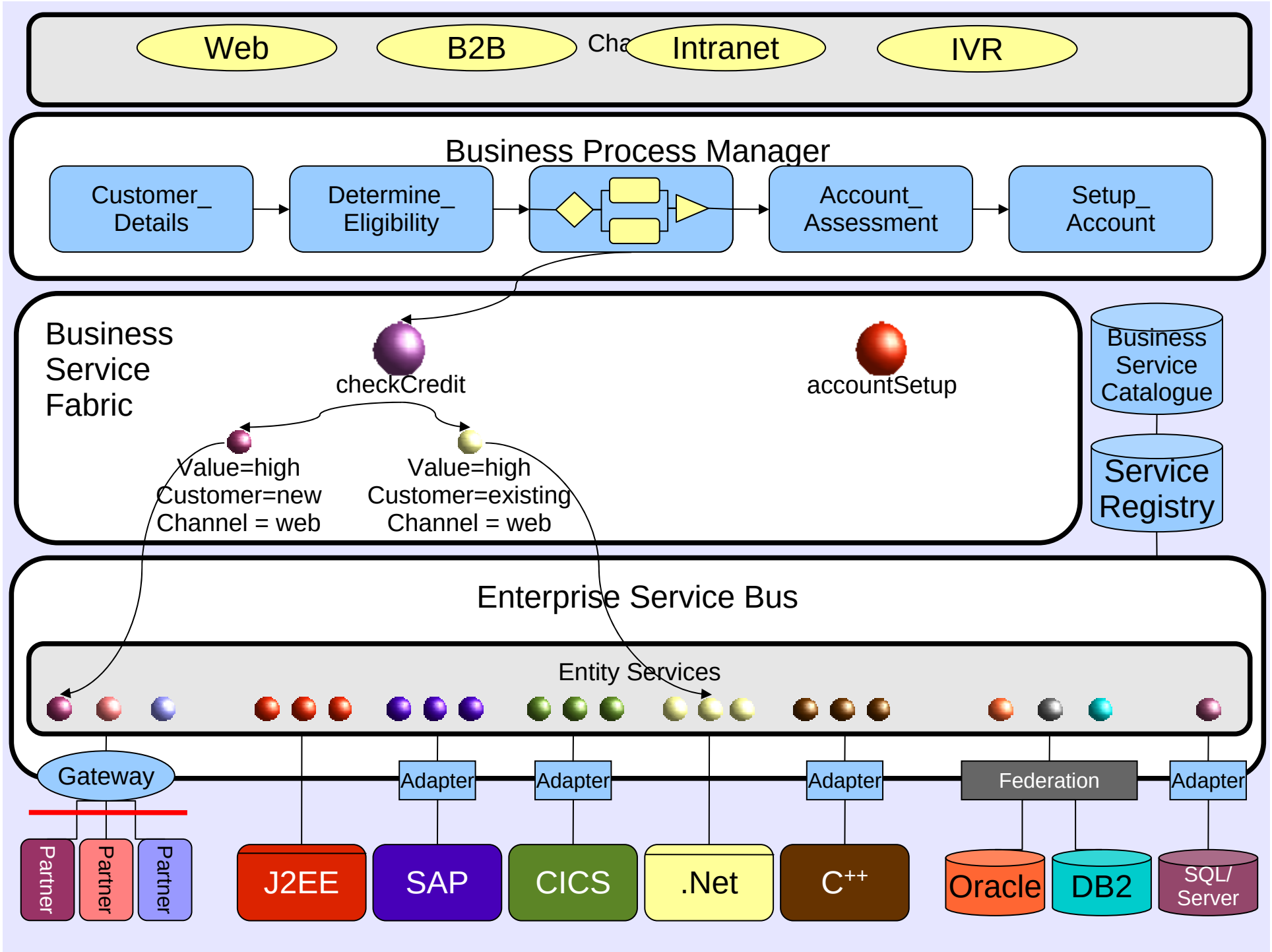

Web
B2B
Cha
Intranet
IVR
Service Registry
Enterprise Service Bus
Mediation
Mediation
Mediation
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/ Server

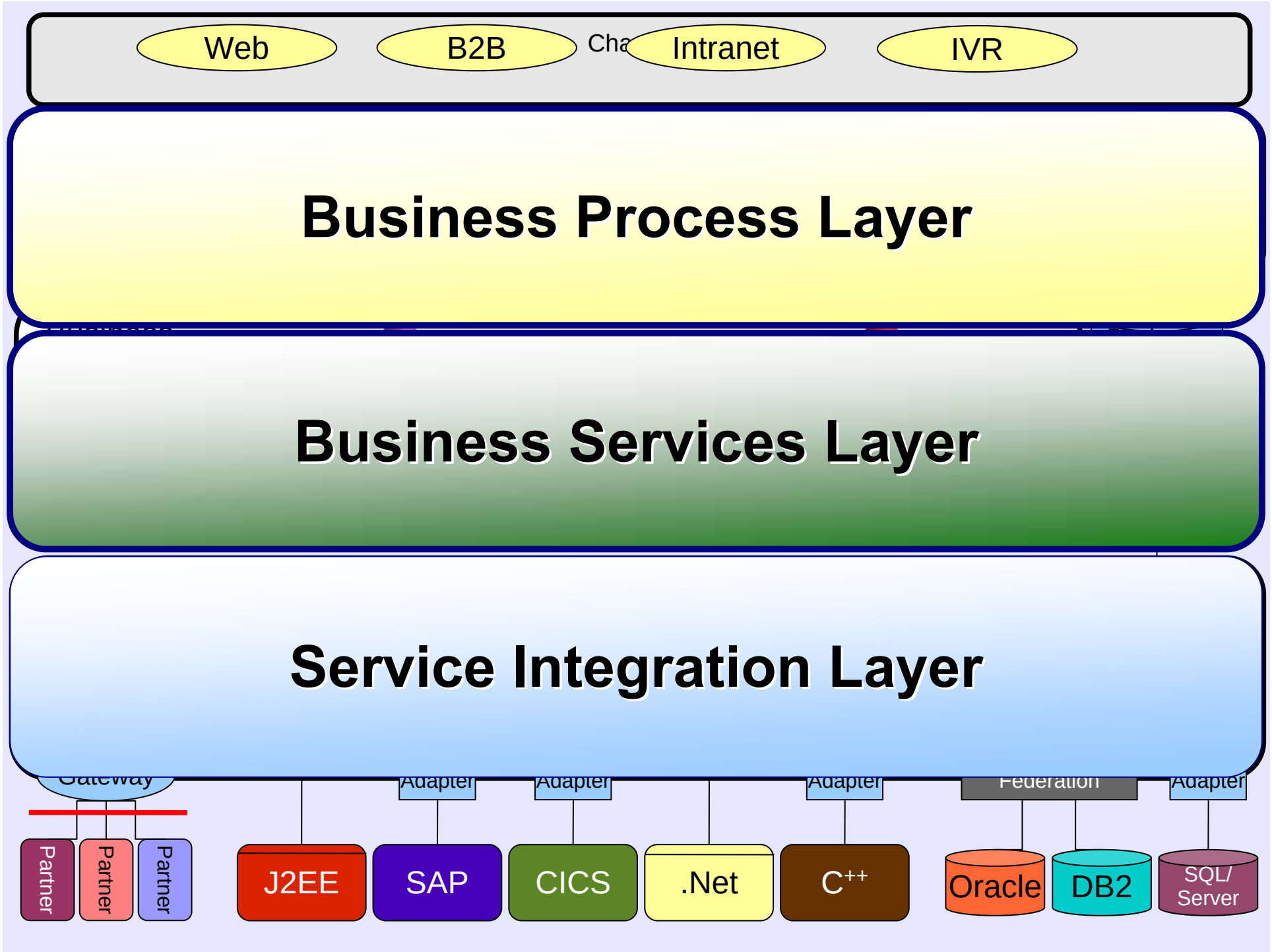

Web
B2B
Cha
Intranet
IVR
Service Oriented Integration
ice
Registry
Enterprise Service Bus
Mediation
Mediation
Mediation
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/
Server

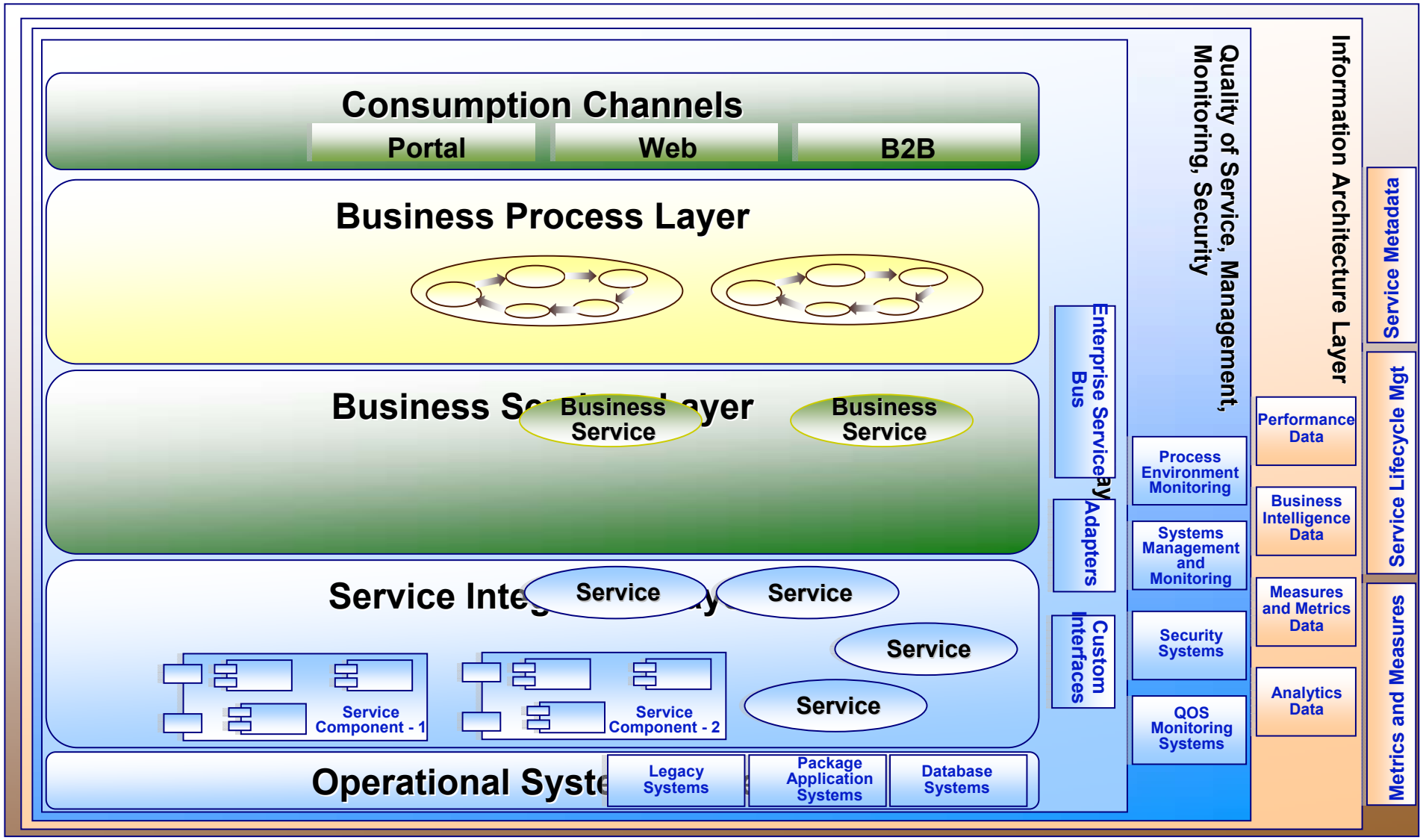

Web
B2B
Cha
Intranet
IVR
Business Process Manager
Customer_ Details
Determine_ Eligibility
Credit_Check
Account_ Assessment
Setup_ Account
Service Registry
Enterprise Service Bus
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/ Server


Web
B2B
Cha
Intranet
IVR
Business Process Manager
Customer_ Details
Determine_ Eligibility
Credit_Check
Account_ Assessment
Setup_ Account
Service Registry
Enterprise Service Bus
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/ Server

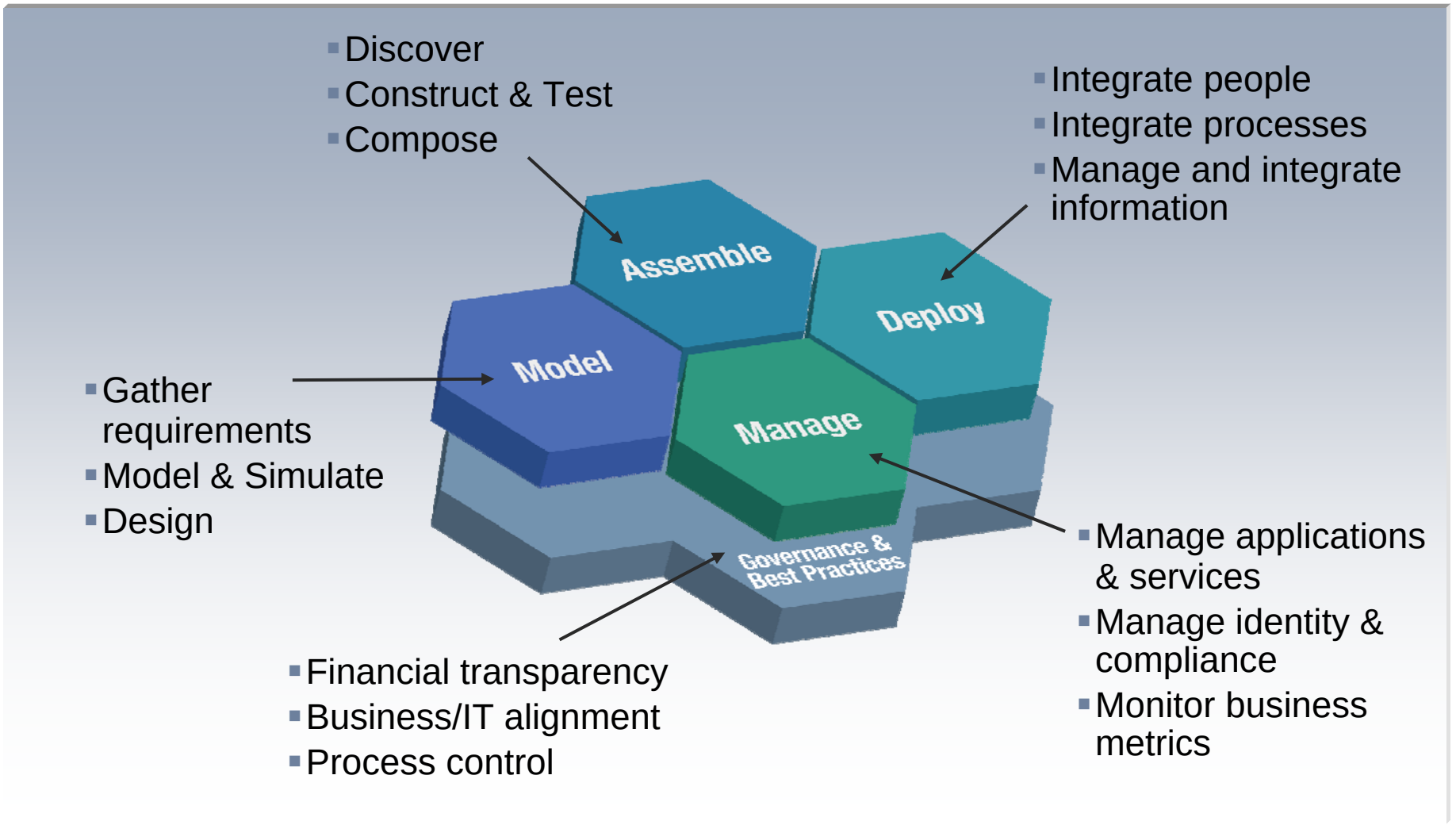

Web
B2B
Cha
Intranet
IVR
Business Process Manager
Customer_ Details
Determine_ Eligibility
Credit_Check
Account_ Assessment
Setup_ Account
Service Composer
accountSetup
Service Registry
Enterprise Service Bus
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/ Server


Web
B2B
Cha
Intranet
IVR
Business Process Manager
Customer_ Details
Determine_ Eligibility
Account_ Assessment
Setup_ Account
Business Service Fabric
checkCredit
accountSetup
Value=high Customer=new Channel = web
Value=high Customer=existing Channel = web
Business Service Catalogue
Service Registry
Enterprise Service Bus
Entity Services
Gateway
Adapter
Adapter
Adapter
Federation
Adapter
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/ Server

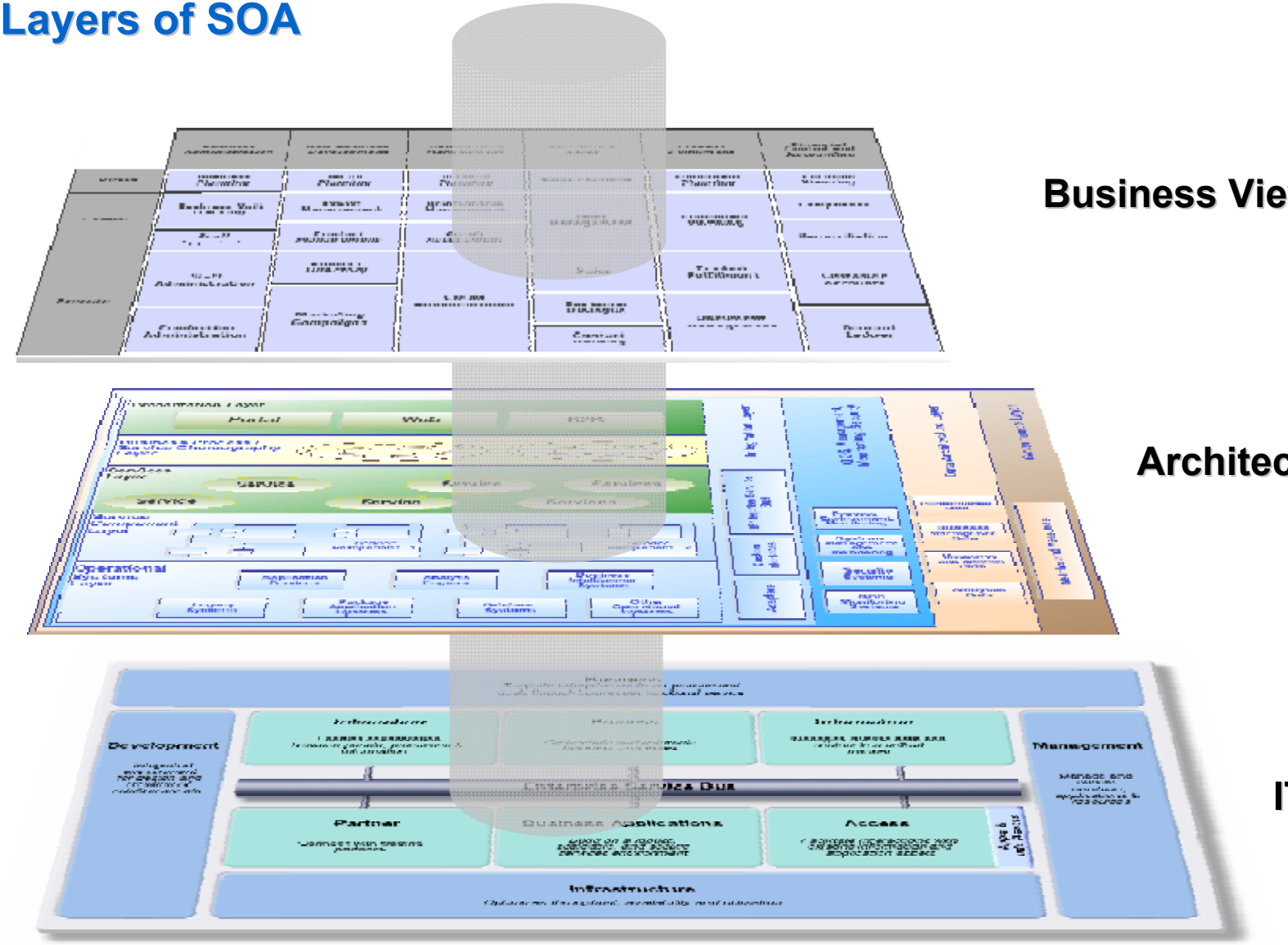

Web
B2B
Intranet
IVR
Business Process Layer
Business Services Layer
Service Integration Layer
Partner
Partner
Partner
J2EE
SAP
CICS
.Net
C++
Oracle
DB2
SQL/
Server


Consumption Channels
Portal
Web
B2B
Business Process Layer
Business Service
Business Service
Service
Service
Service
Service
Service Component - 1
Service Component - 2
Operational Syste
Legacy Systems
Package Application Systems
Database Systems
Enterprise Service Bus
Adapters
Custom Interfaces
Quality of Service, Management, Monitoring, Security
Process Environment Monitoring
Systems Management and Monitoring
Security Systems
QOS Monitoring Systems
Information Architecture Layer
Performance Data
Business Intelligence Data
Measures and Metrics Data
Analytics Data
Service Metadata
Service Lifecycle Mgt
Metrics and Measures

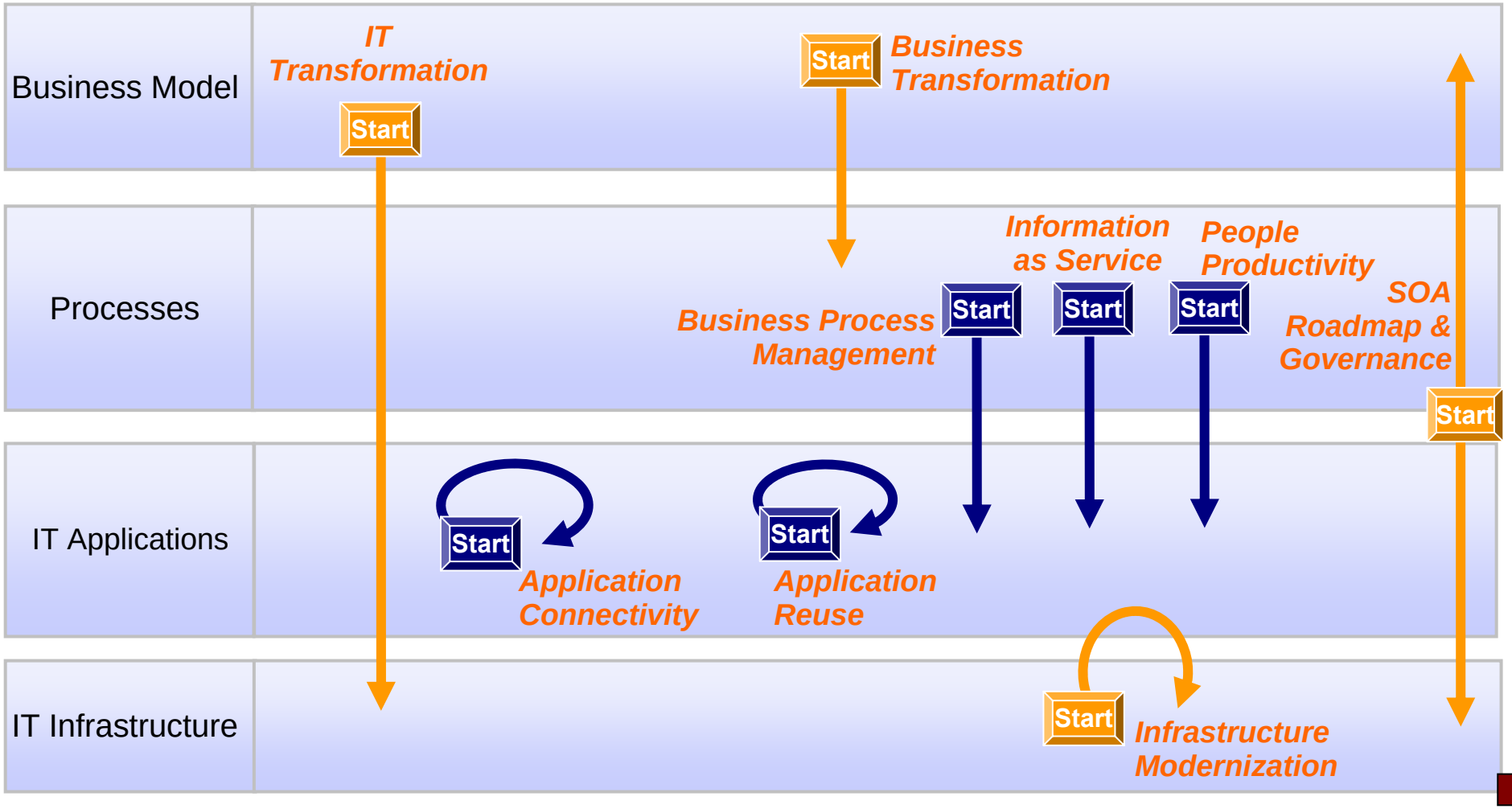
The SOA Lifecycle



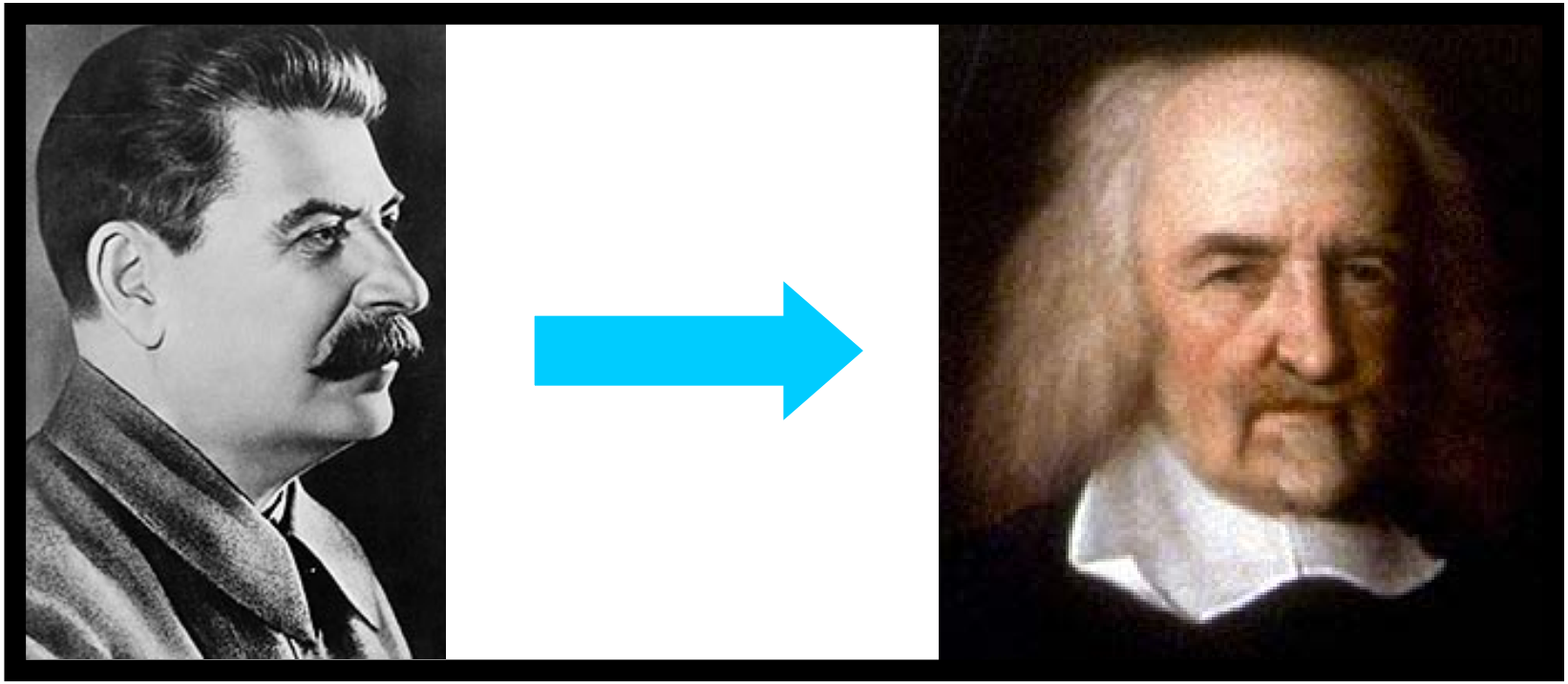
Layers of SOA



9 Entry Points for a SOA Transformation, allow companies to identify the individually best suited starting point



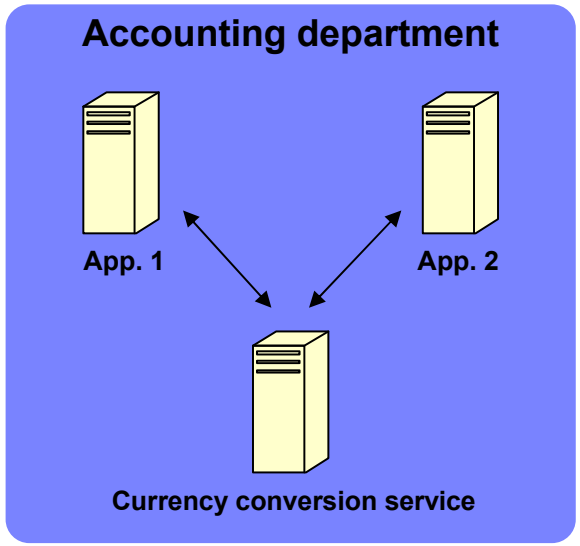
So what type of Governance do we want to use?



Stalin

Hobbes

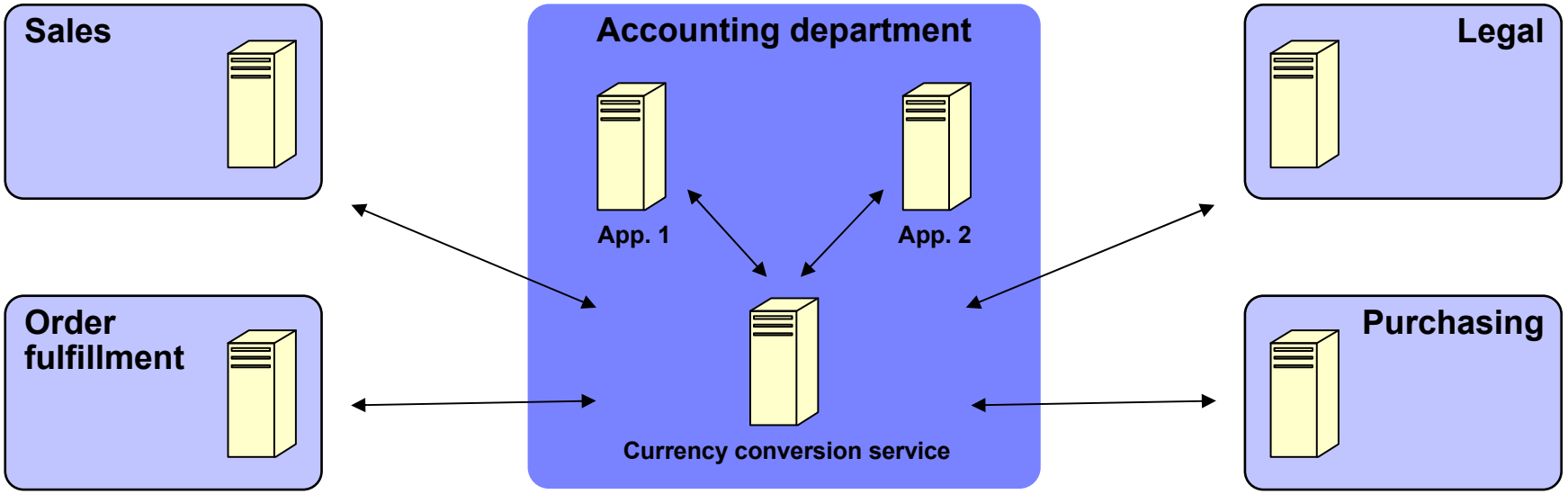
A scenario on the importance of SOA governance – step 1



1. Provide a currency service that fills a specific line of business (LOB)

* Scenario from *Introduction to SOA Governance,* Bobby Woolf.

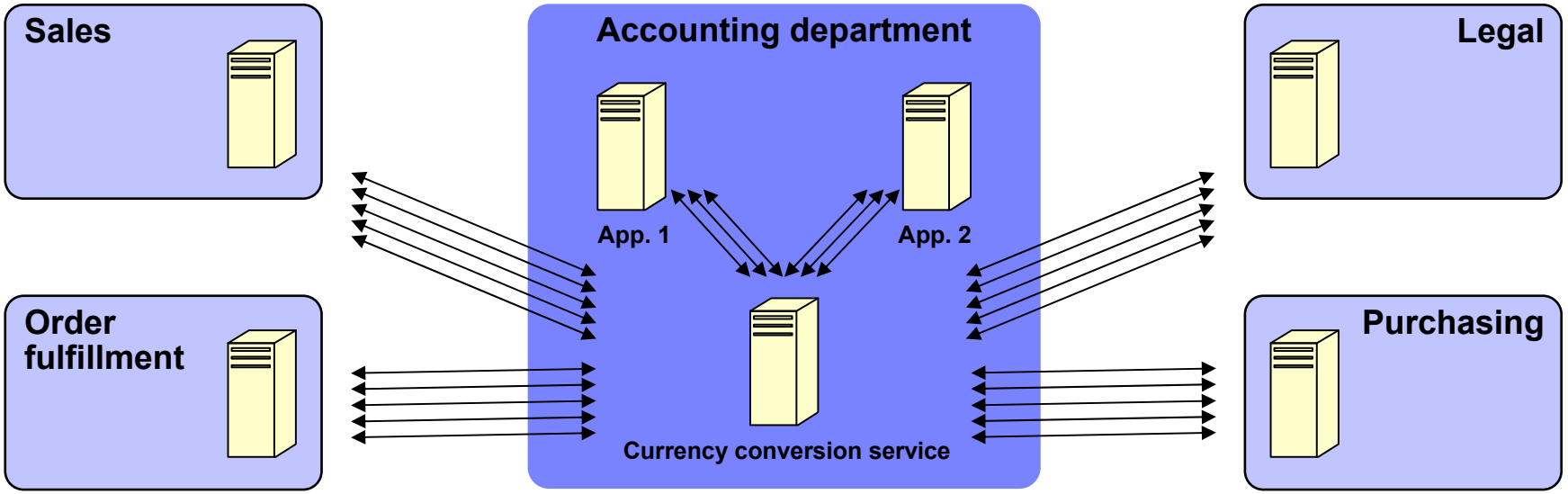
A scenario on the importance of SOA governance – step 2



1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service

Reuse

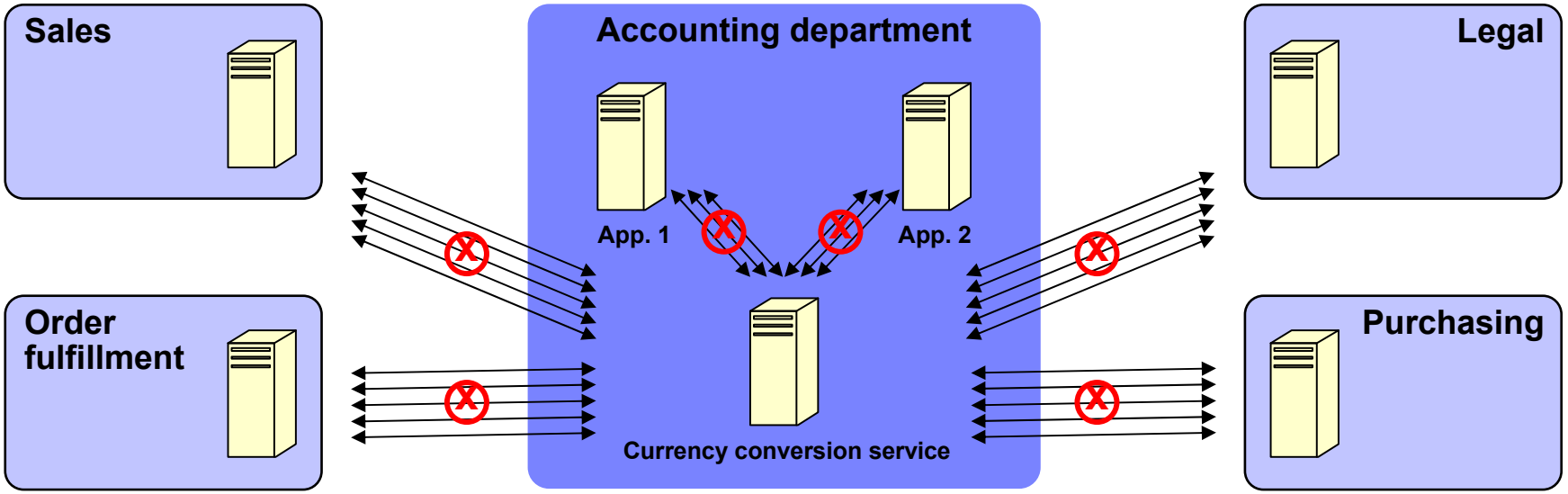
A scenario on the importance of SOA governance – step 3



1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service
3. LOBs increase use of services / quality suffers

Overload ?

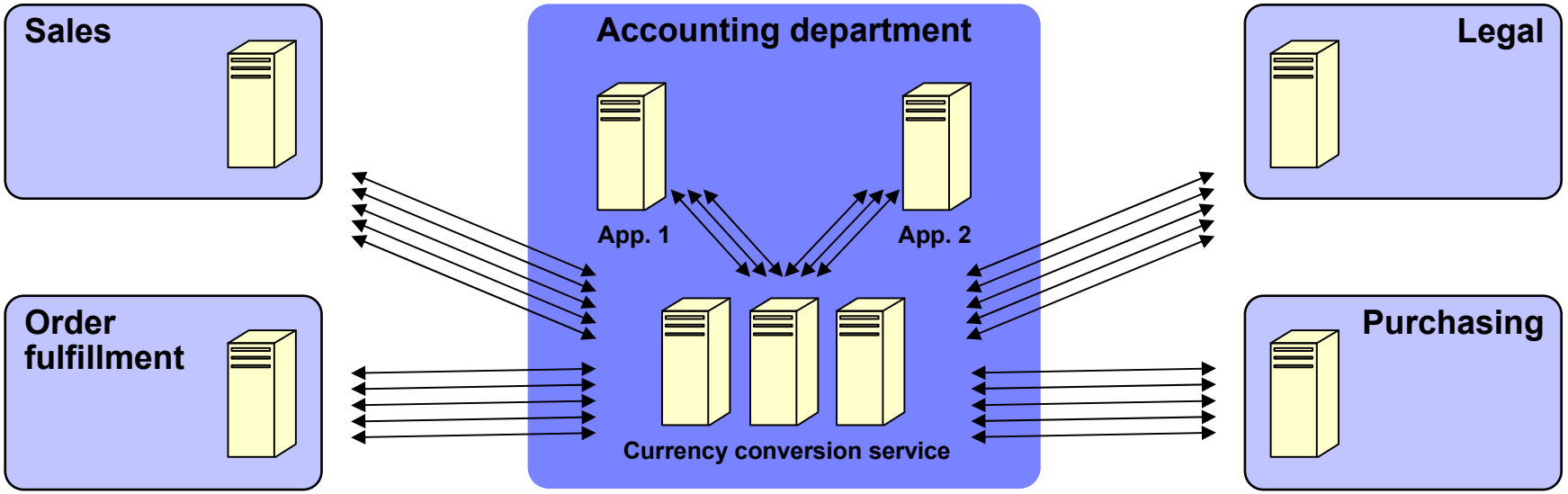
A scenario on the importance of SOA governance – step 3



1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service
3. LOBs increase use of services / quality suffers

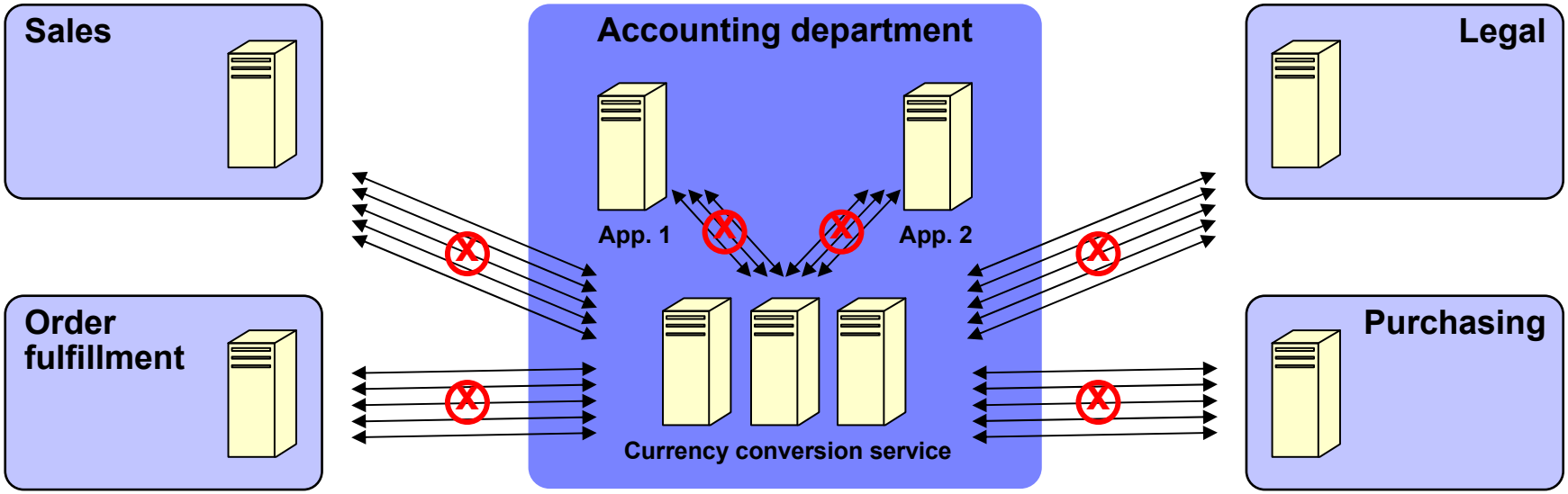
QoS

A scenario on the importance of SOA governance – step 4



1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service
3. LOBs increase use of services / quality suffers
4. Service is fixed at provider's expense

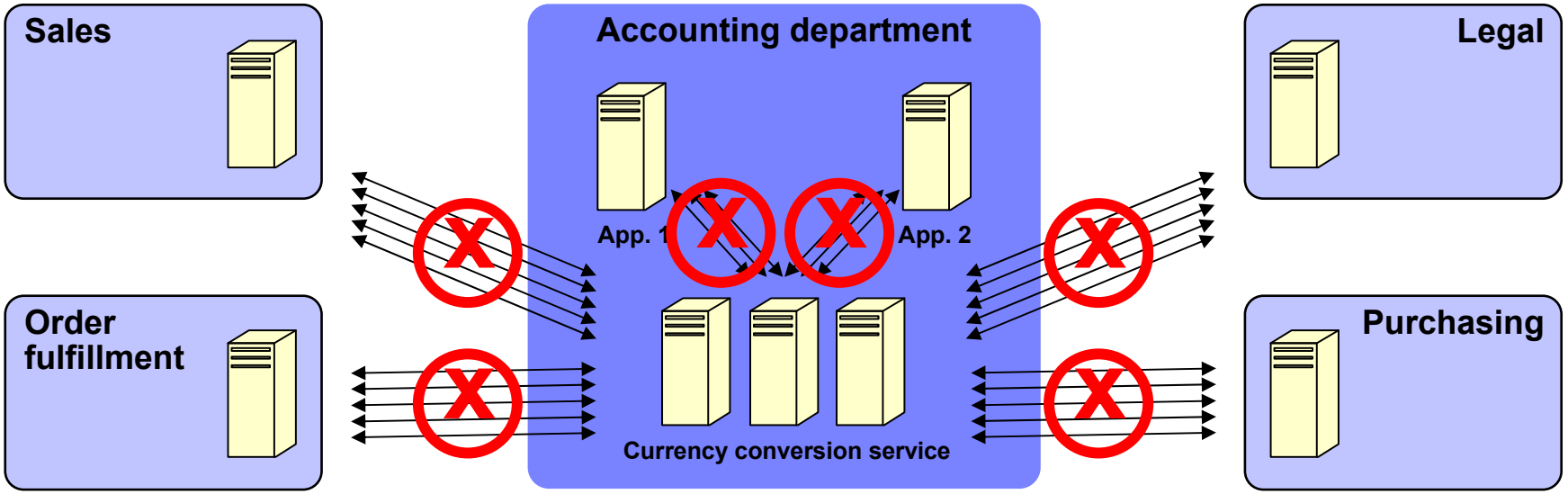
A scenario on the importance of SOA governance – step 5



1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service
3. LOBs increase use of services / quality suffers
4. Service is fixed at provider's expense
5. Fix works temporarily but problem reappears

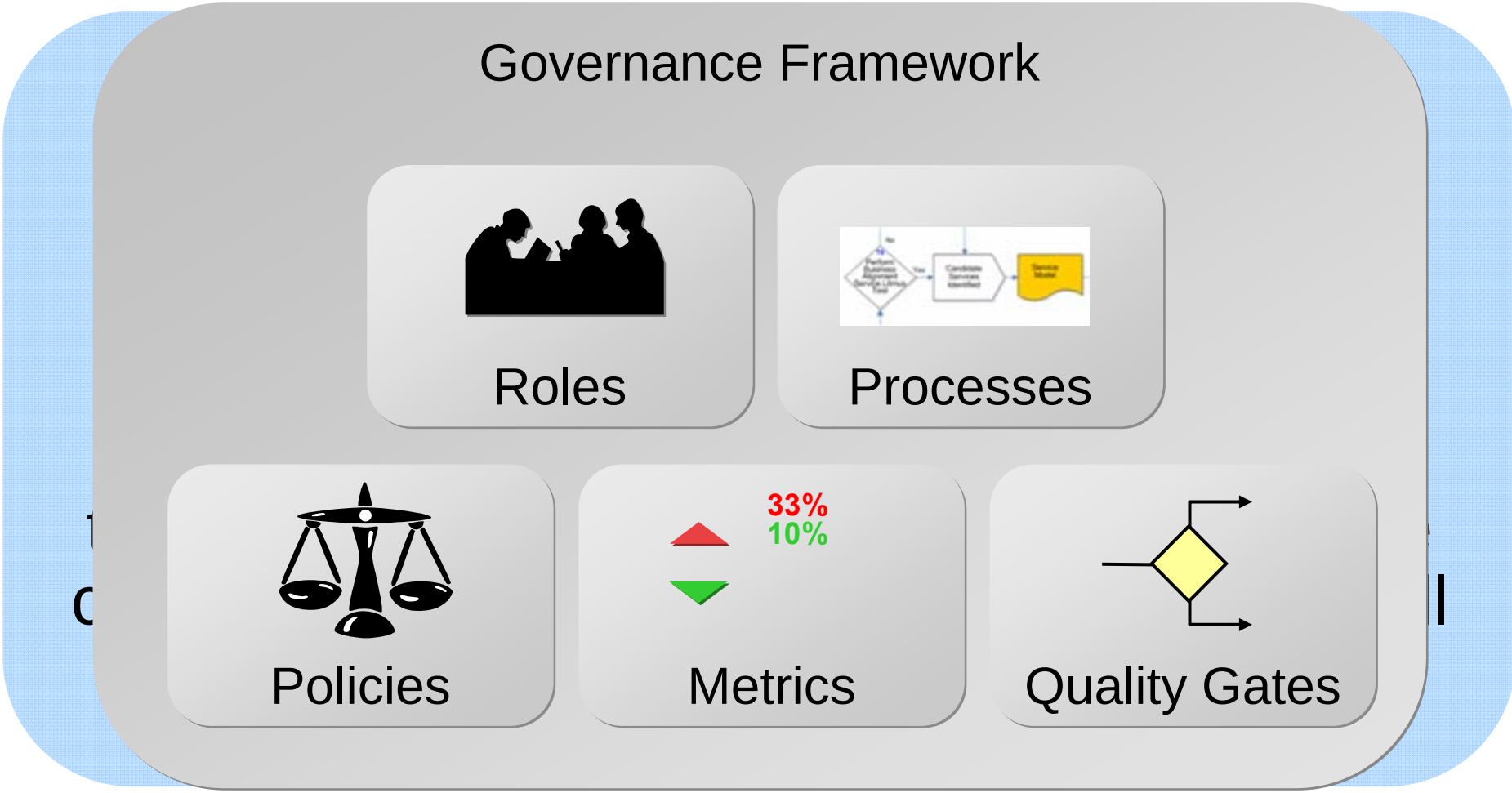
More Overload

A scenario on the importance of SOA governance – step 6

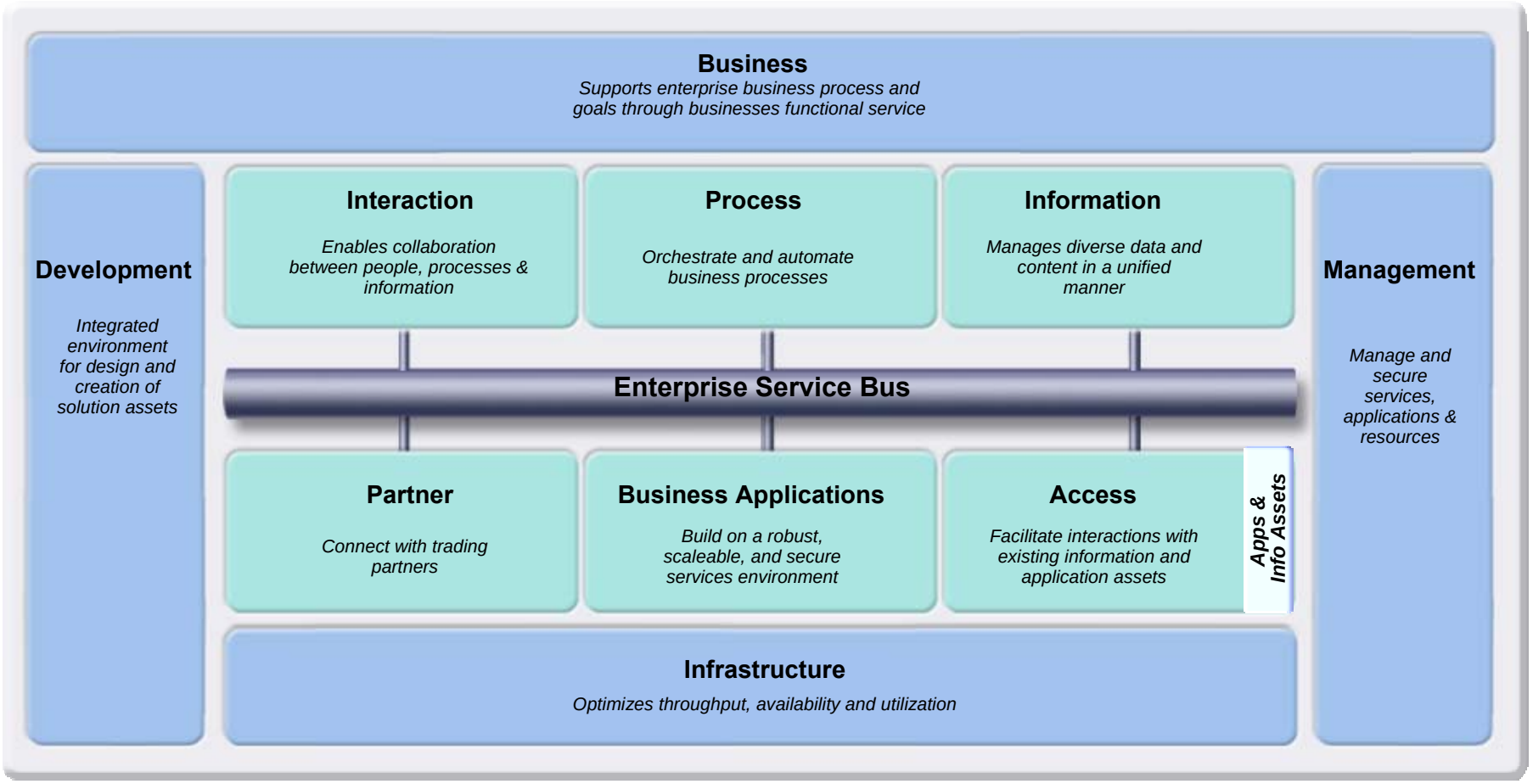


1. Provide a currency service that fills a specific line of business (LOB)
2. Other LOBs start using the service
3. LOBs increase use of services / quality suffers
4. Service is fixed at provider's expense
5. Fix works temporarily but problem reappears
6. Maintenance costs soar / provider ends service

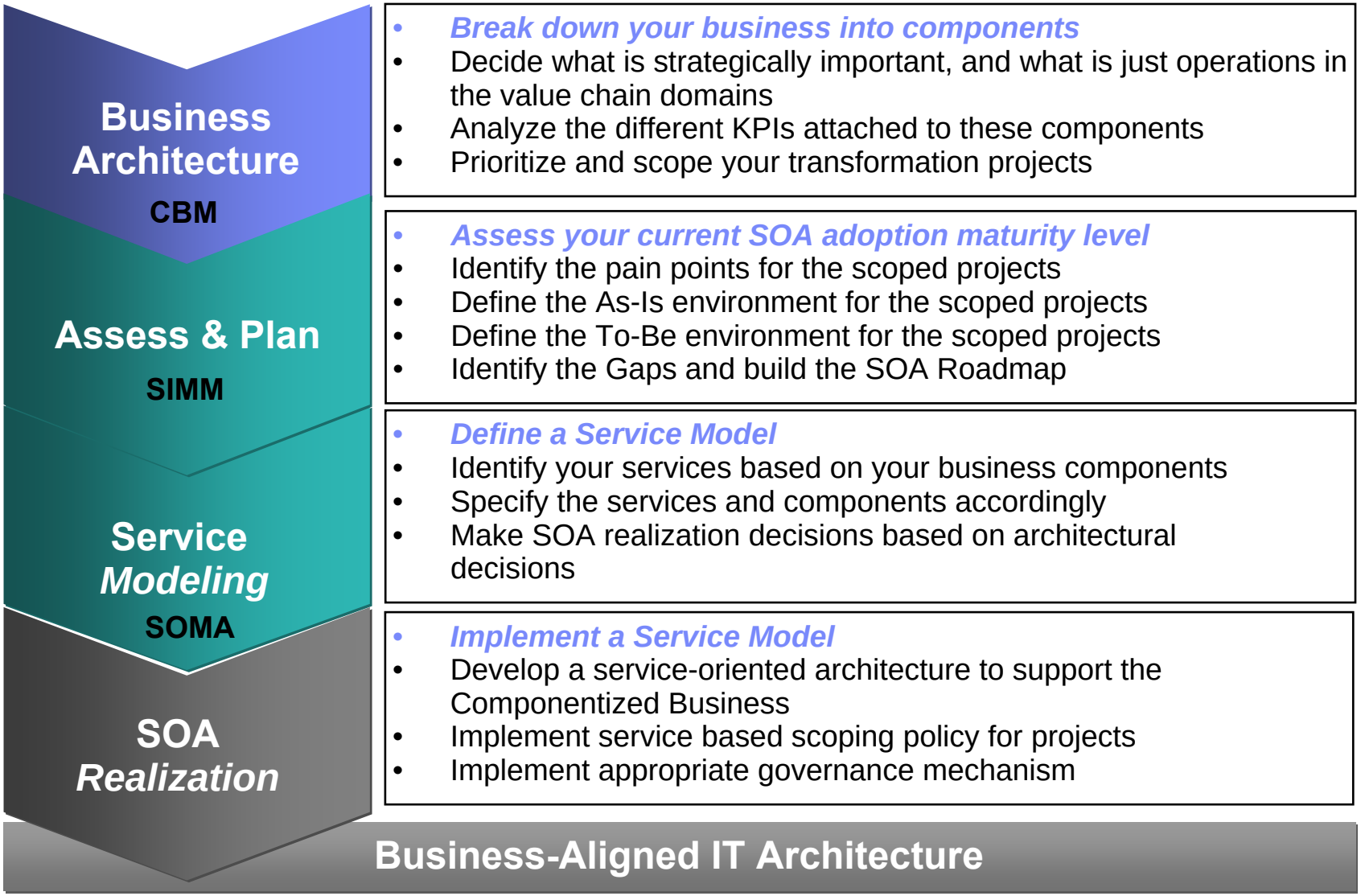
What is Governance ?



IBM SOA Platform



Align business architecture and IT architecture



- ***Break down your business into components***
- Decide what is strategically important, and what is just operations in the value chain domains
- Analyze the different KPIs attached to these components
- Prioritize and scope your transformation projects

- ***Assess your current SOA adoption maturity level***
- Identify the pain points for the scoped projects
- Define the As-Is environment for the scoped projects
- Define the To-Be environment for the scoped projects
- Identify the Gaps and build the SOA Roadmap

- ***Define a Service Model***
- Identify your services based on your business components
- Specify the services and components accordingly
- Make SOA realization decisions based on architectural decisions

- ***Implement a Service Model***
- Develop a service-oriented architecture to support the Componentized Business
- Implement service based scoping policy for projects
- Implement appropriate governance mechanism