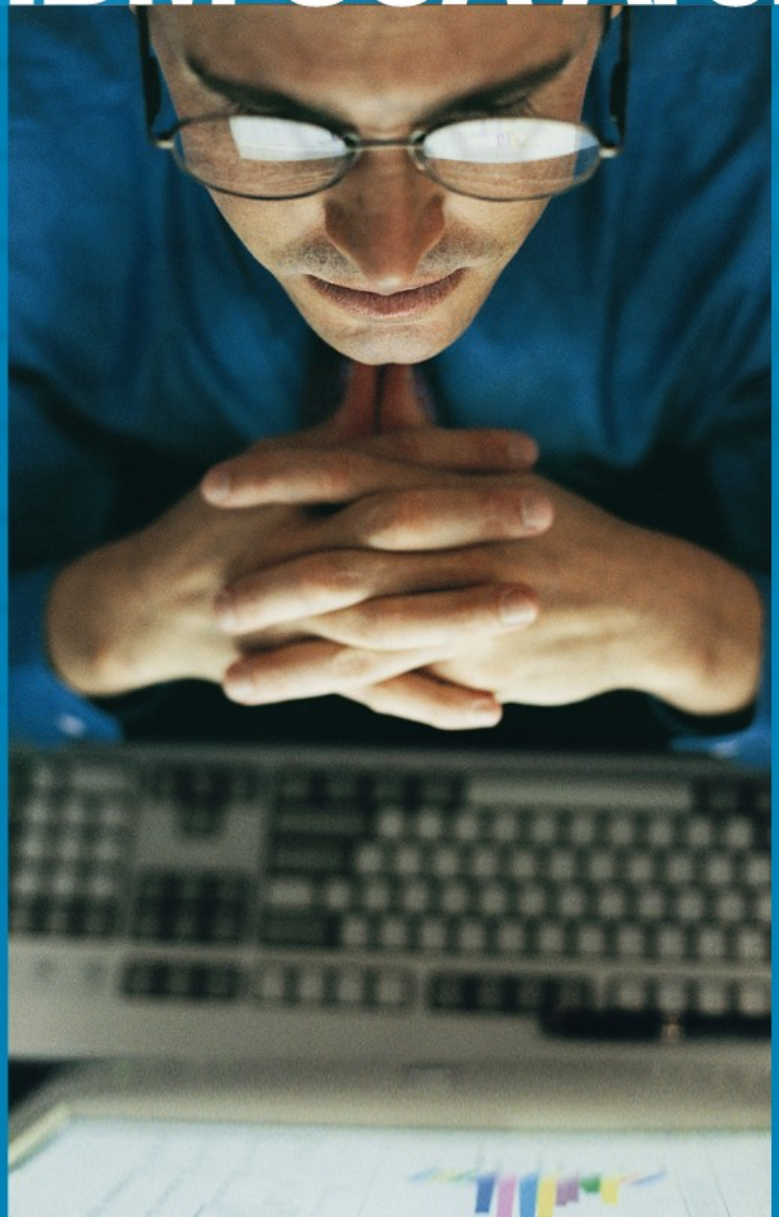
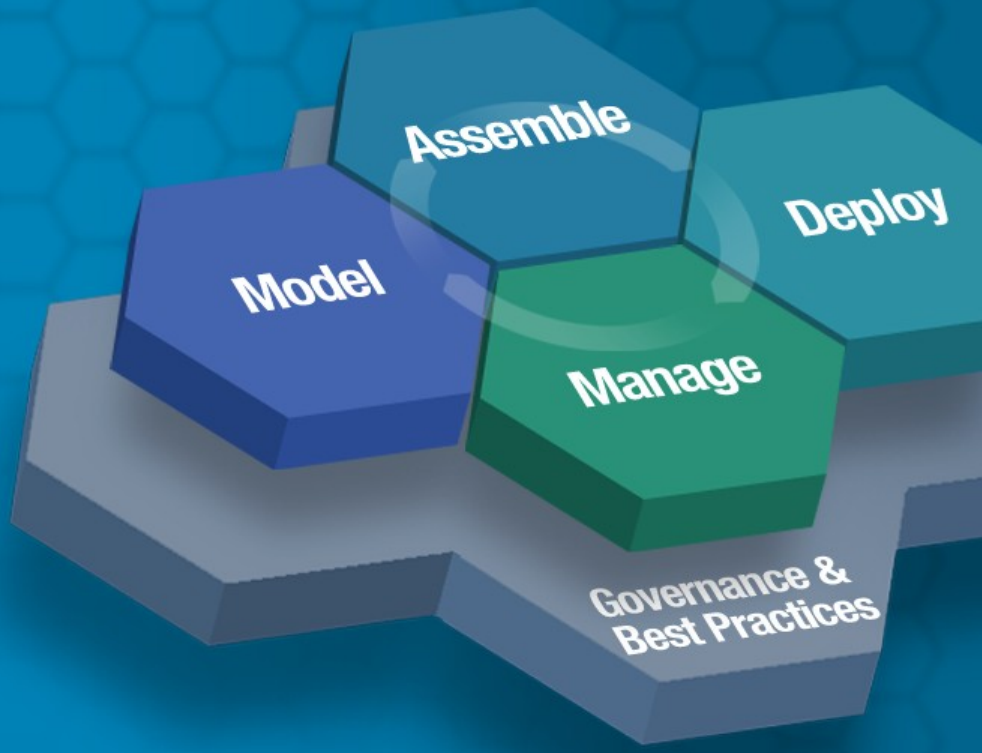
IBM SOA Architect Summit

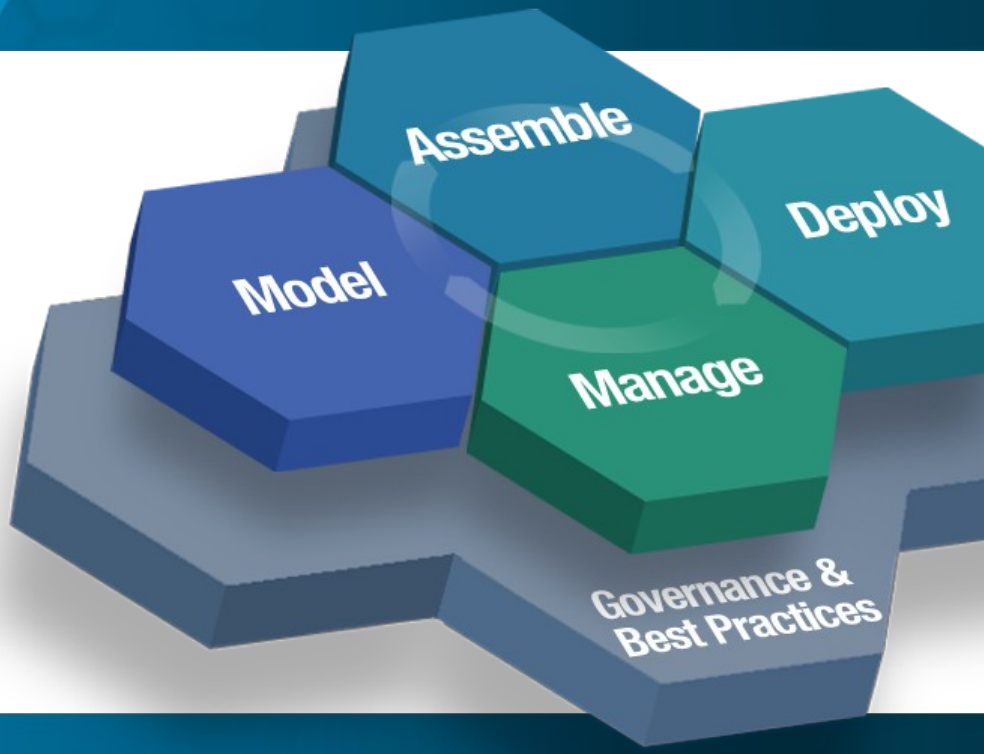




SOA on your terms and our expertise

IBM SOA Architect Summit

Deploy: The SOA Operating Environment



A Presentation for the Enterprise Architect

ON DEMAND BUSINESS™

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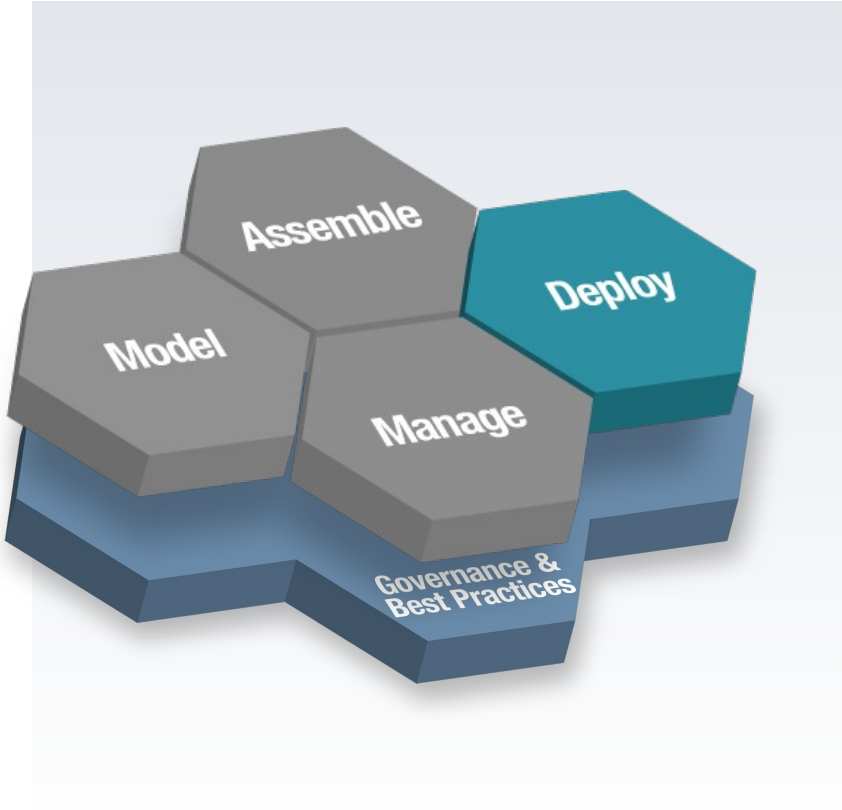
Agenda

- SOA Operating Environment Requirements
  - What is unique about an SOA Operating Environment?
- SOA Operating Environment Key Principles
- Mapping to the IBM Products



SOA Brings New Operating Environment Requirements

Model | **Assemble** | **Deploy** | **Manage**

"What *new* capabilities do I need to deploy SOA solutions?

"Some of our services are used by our partners. Where do I place them in the Operating Environment?"

"How can I manage the flexible work load, while keeping the SLA?"

"What capabilities do I need to effectively reuse existing assets?

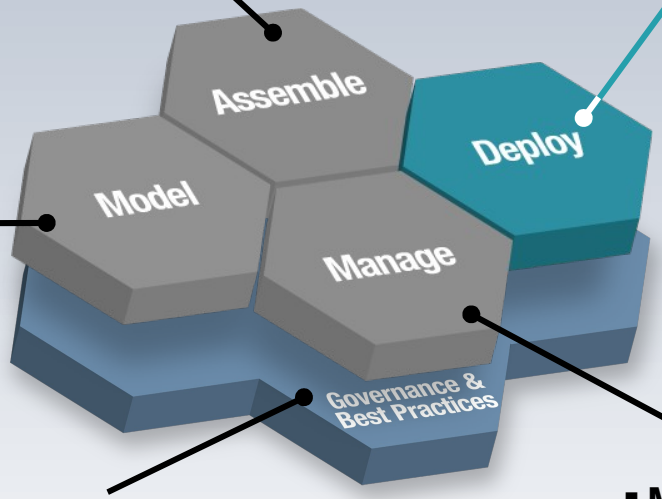
"Why do I need an ESB? How is it different from EAI?"

"Do I need a registry / repository infrastructure? What is it?"

The SOA Lifecycle

- Discover
- Construct & Test
- Compose

- Integrate people
- Integrate processes
- Manage and integrate information



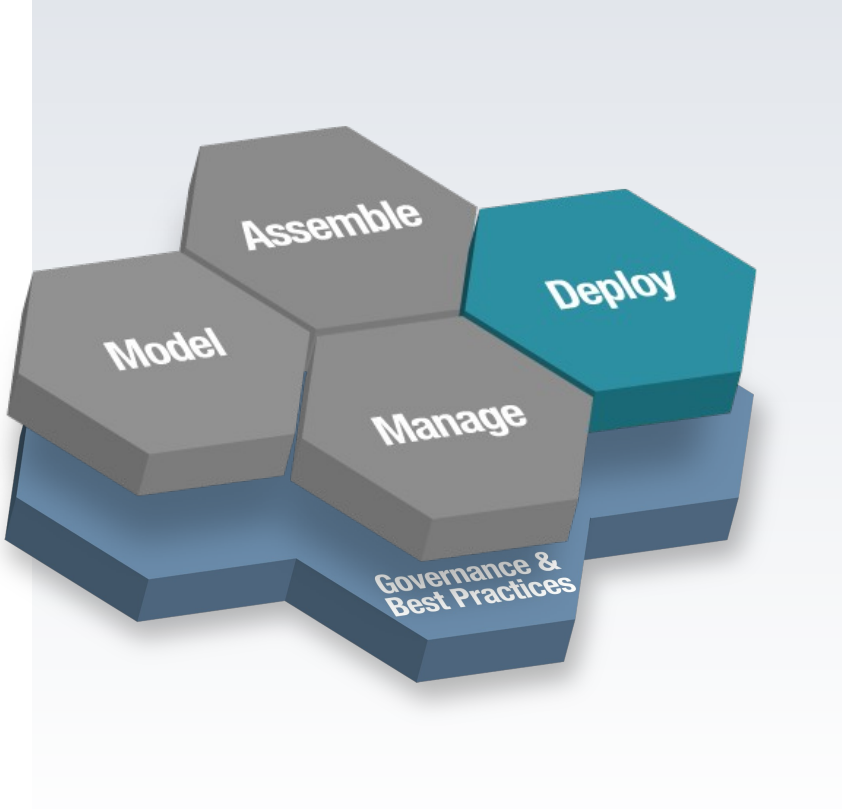
- Gather requirements
- Model & Simulate
- Design

- Financial transparency
- Business/IT alignment
- Process control

- Manage applications & services
- Manage identity & compliance
- Monitor business metrics

Agenda

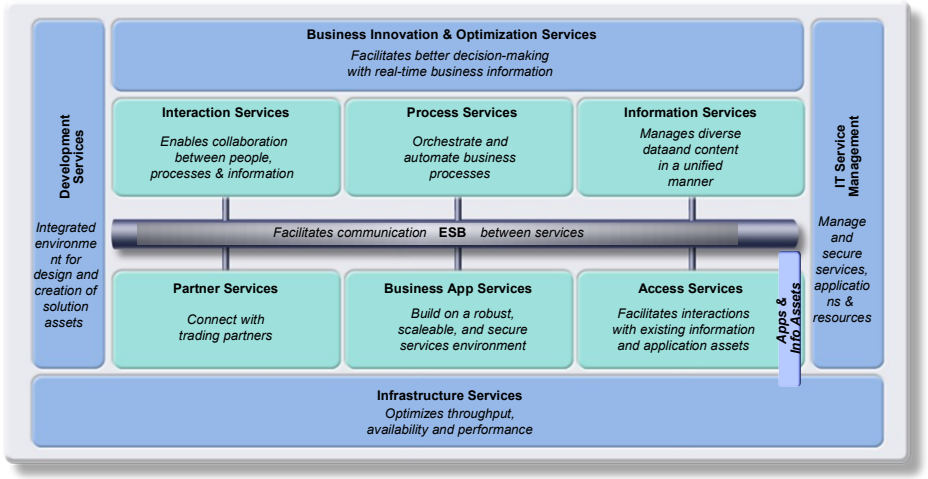
- SOA Operating Environment Requirements
- SOA Operating Environment Key Principles
  - Separation of Concerns
  - Loose Coupling
  - Composite Applications
  - Quality of Service
- Mapping to the IBM Products



IBM's SOA Reference Architecture

Key Principles for IT Flexibility

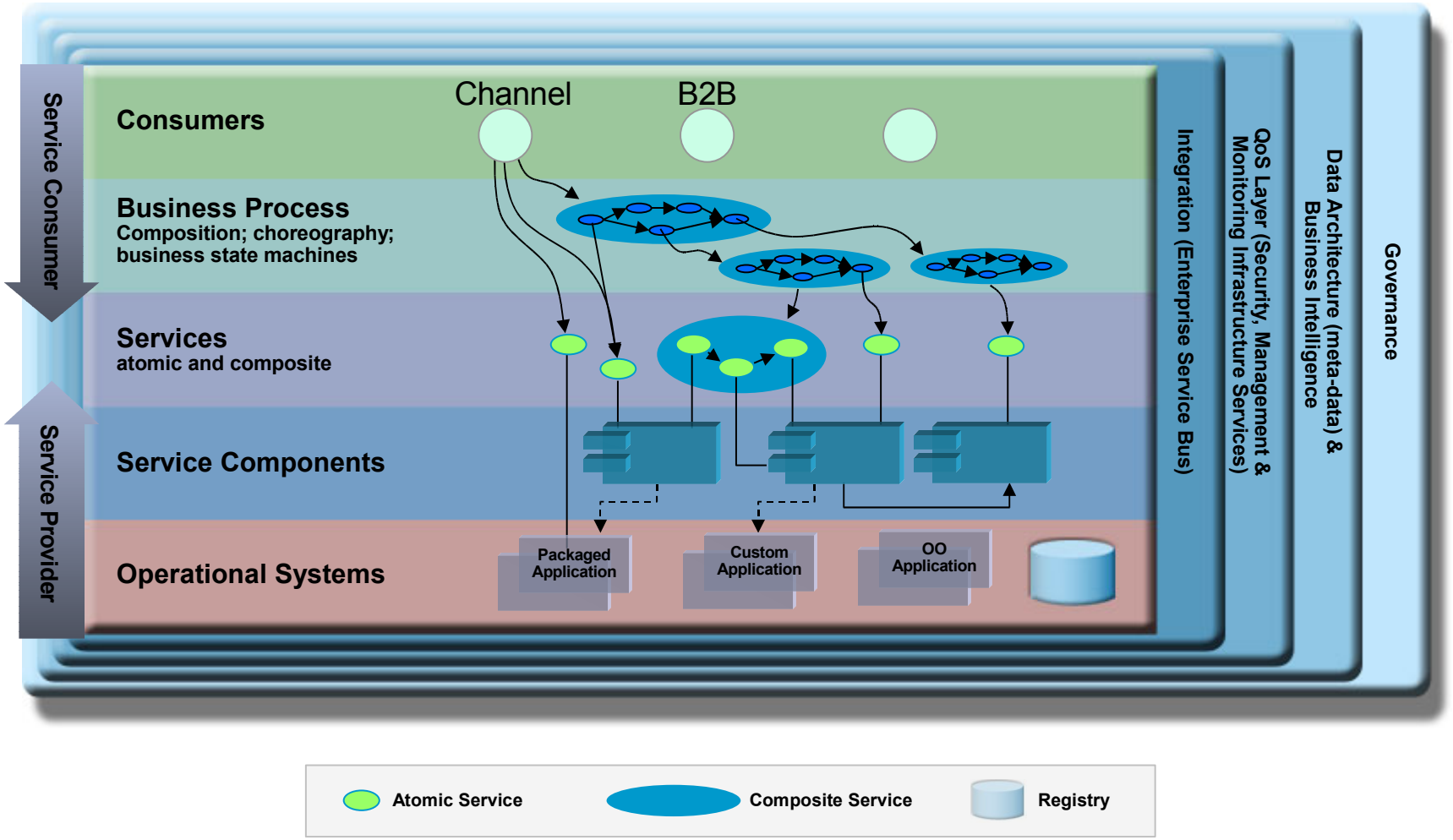
- Open Standards
- Linkage between business and IT
- Component based programming and solution development
- Separation of Concerns
- Connectivity and Loose Coupling
- Composite Applications
- Quality of Service
- Business and IT level monitoring and management



The IBM SOA Reference Architecture provides the level of *IT flexibility* required to meet the demands of business

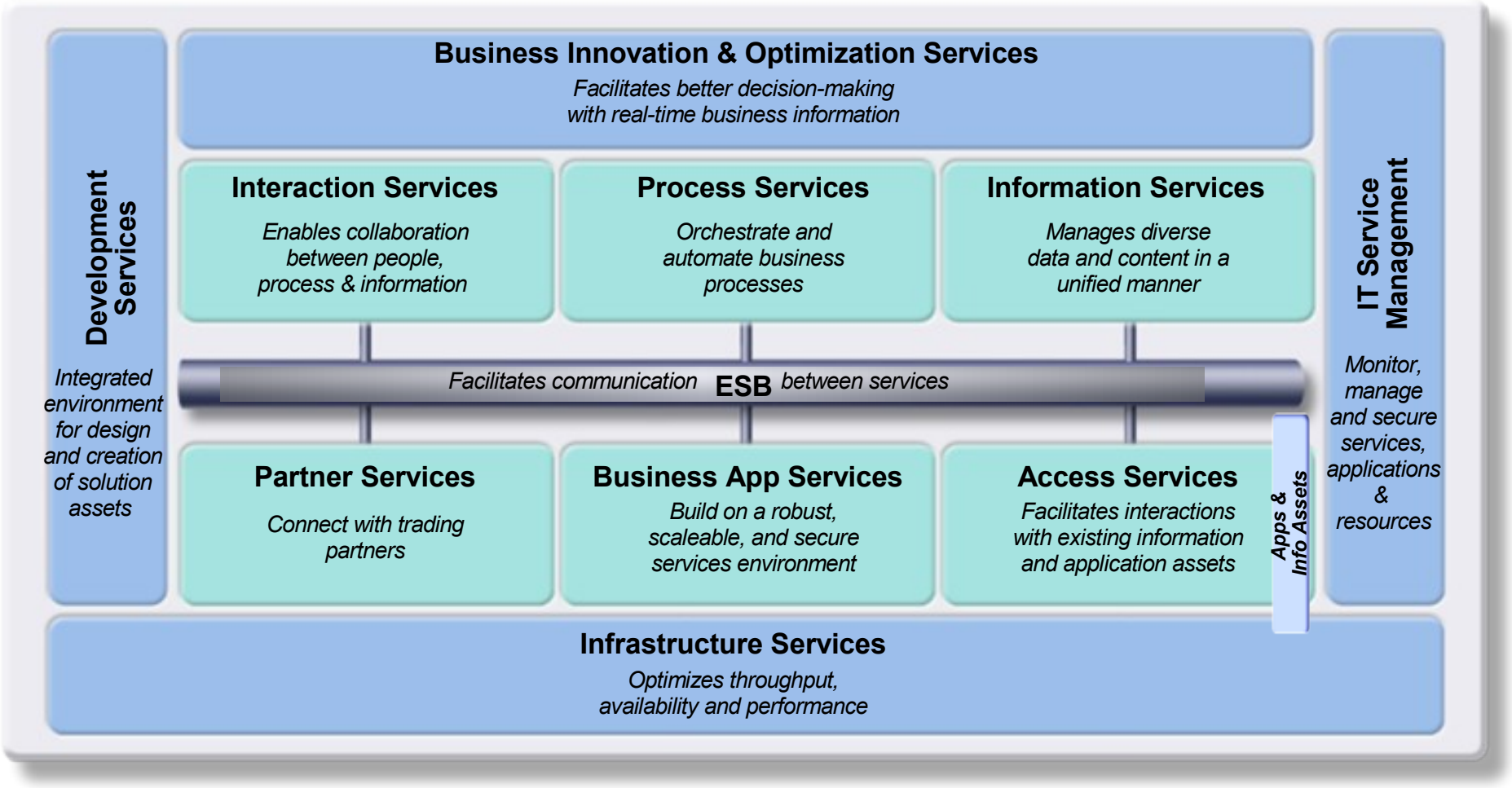
SOA Solution Layers

Layers Connecting the Service Consumers and Providers



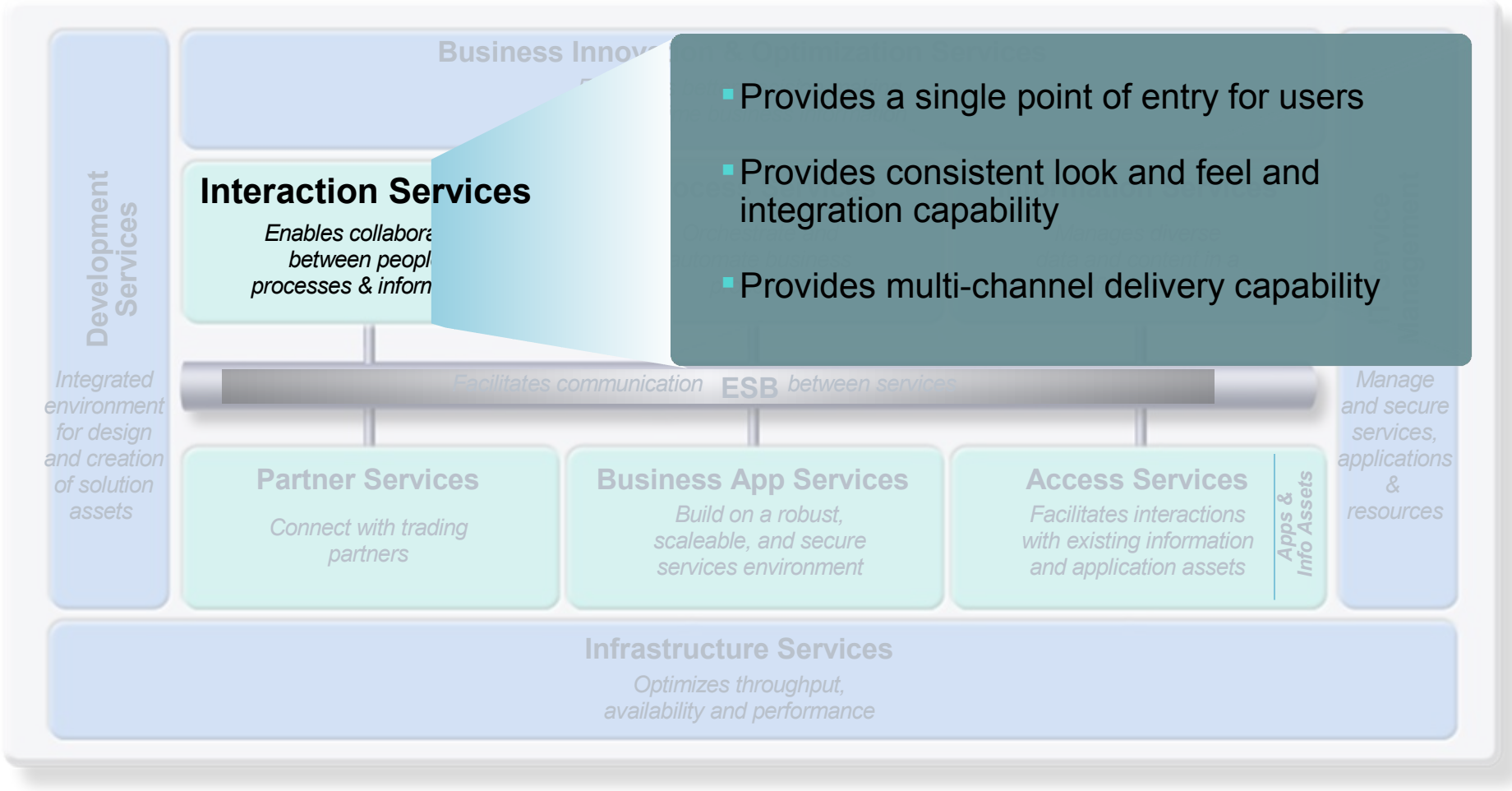
SOA Reference Architecture

Supporting the SOA Lifecycle



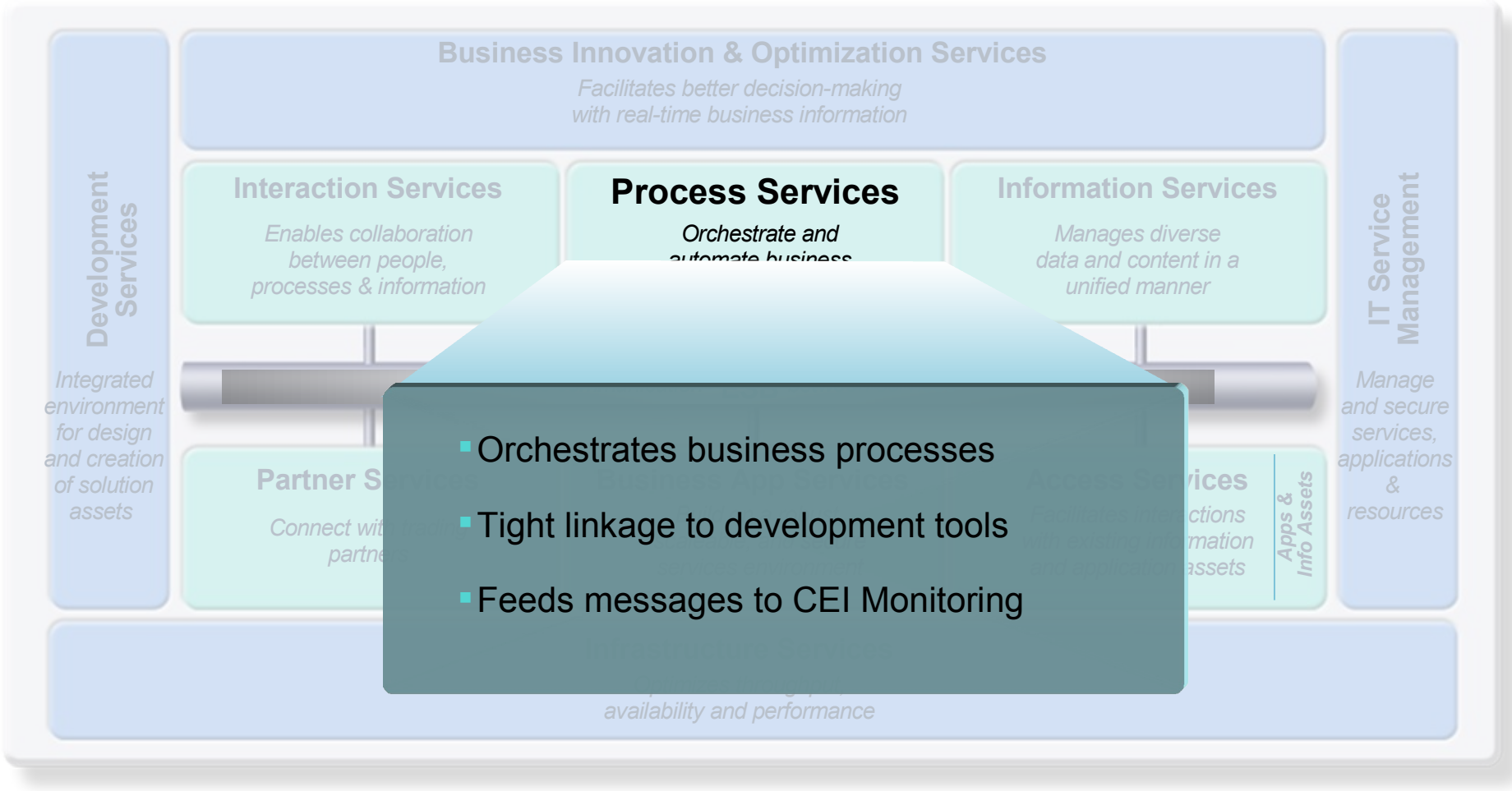
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns



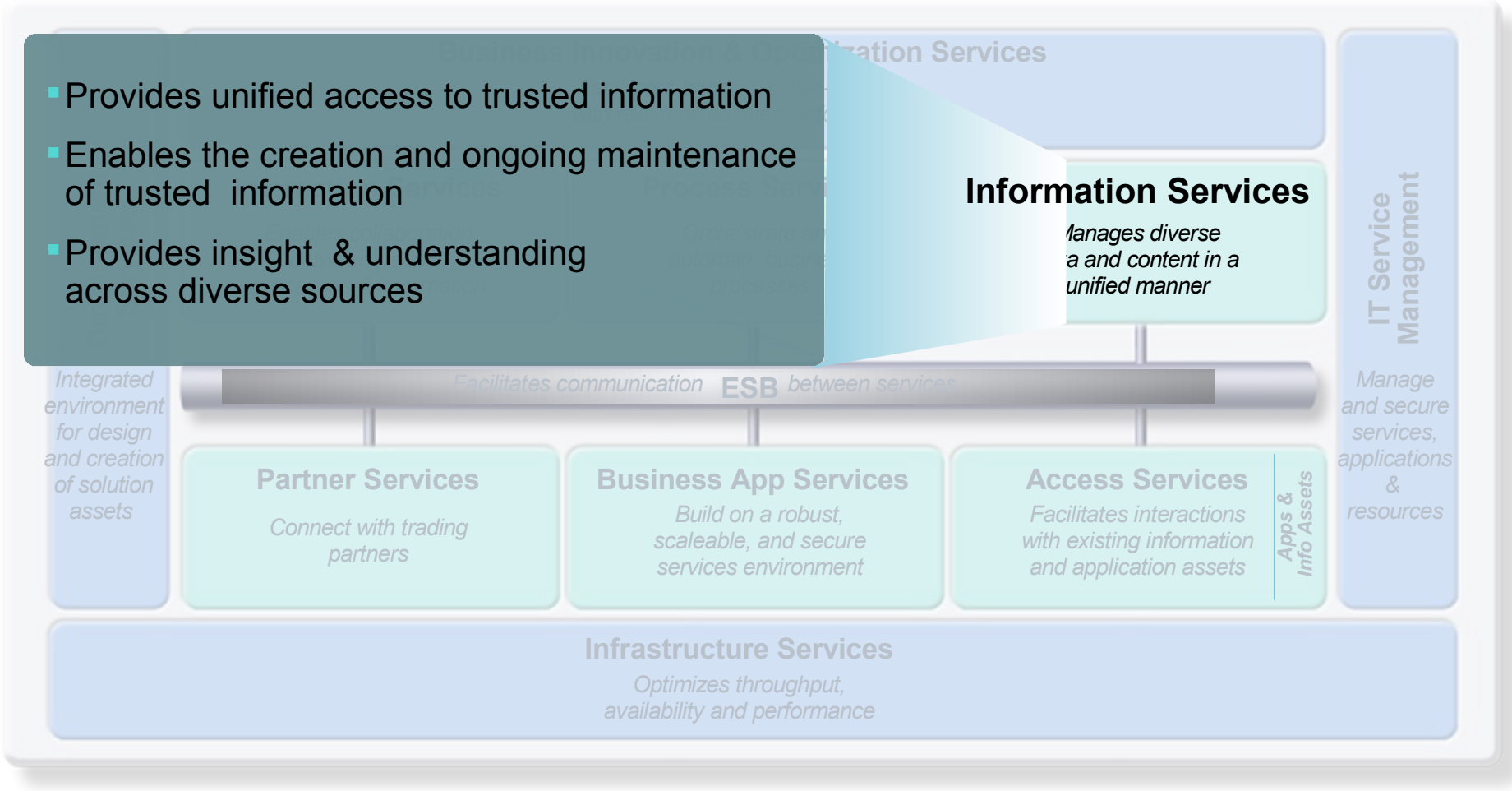
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns



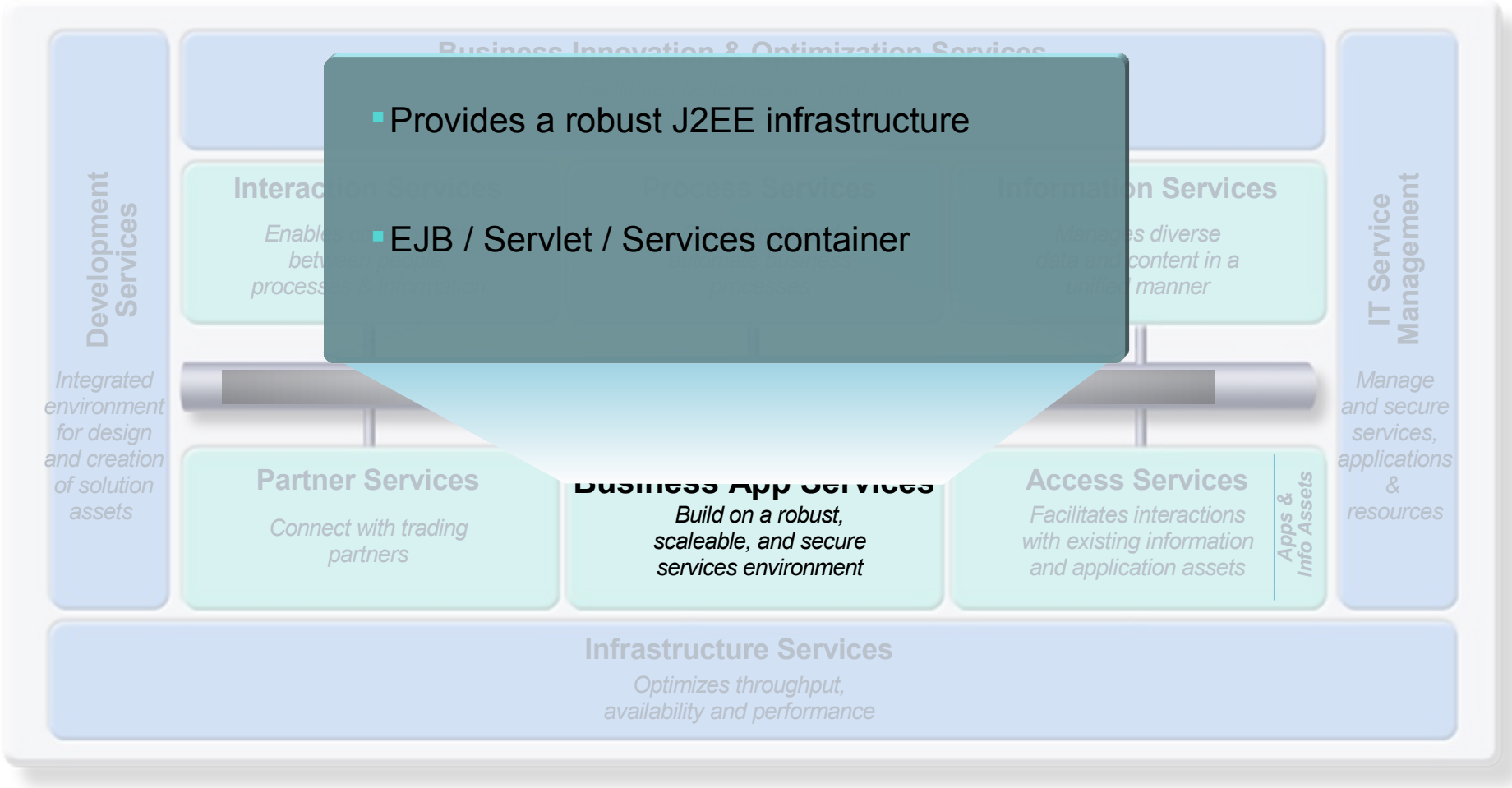
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns



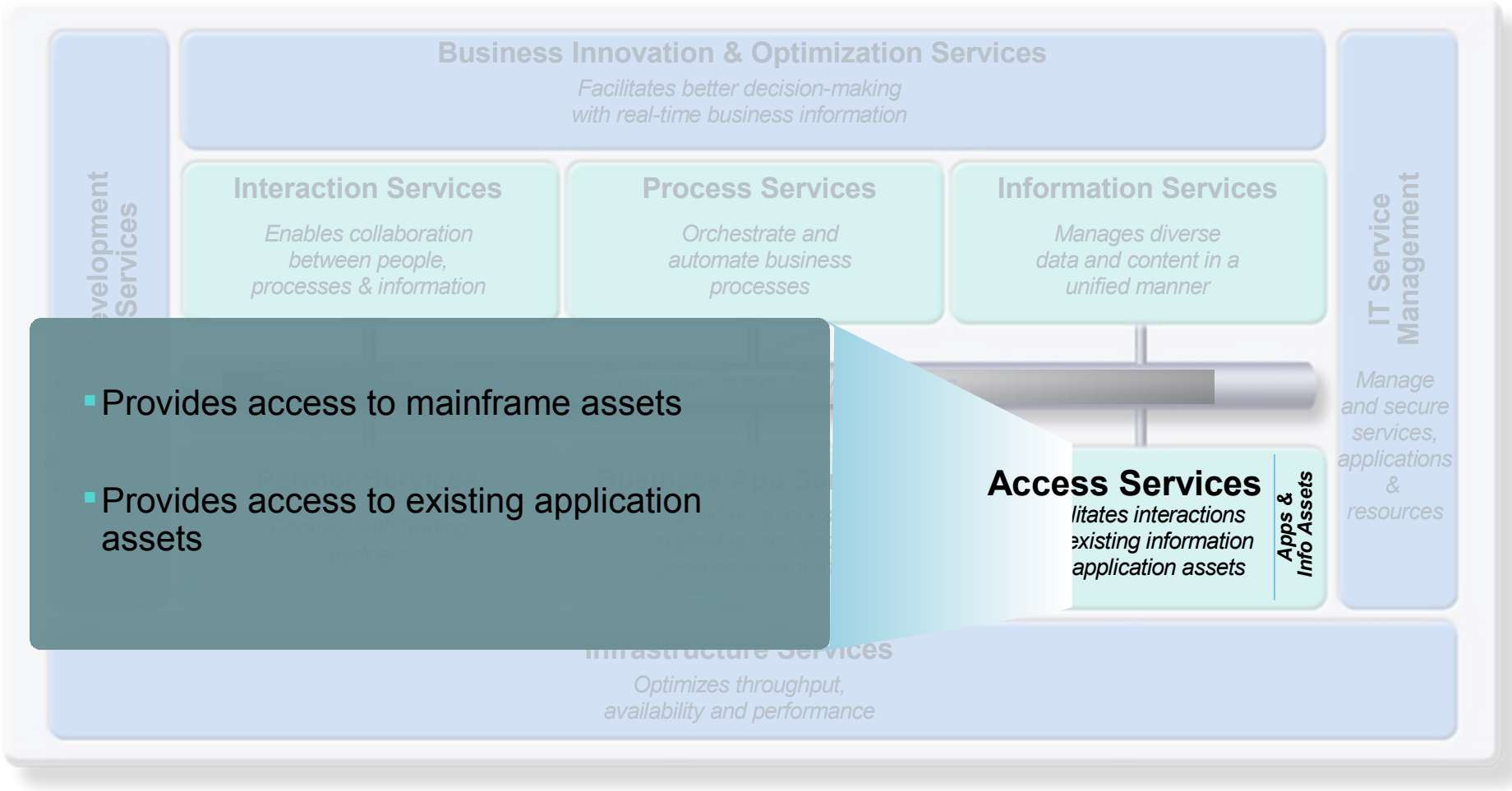
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns



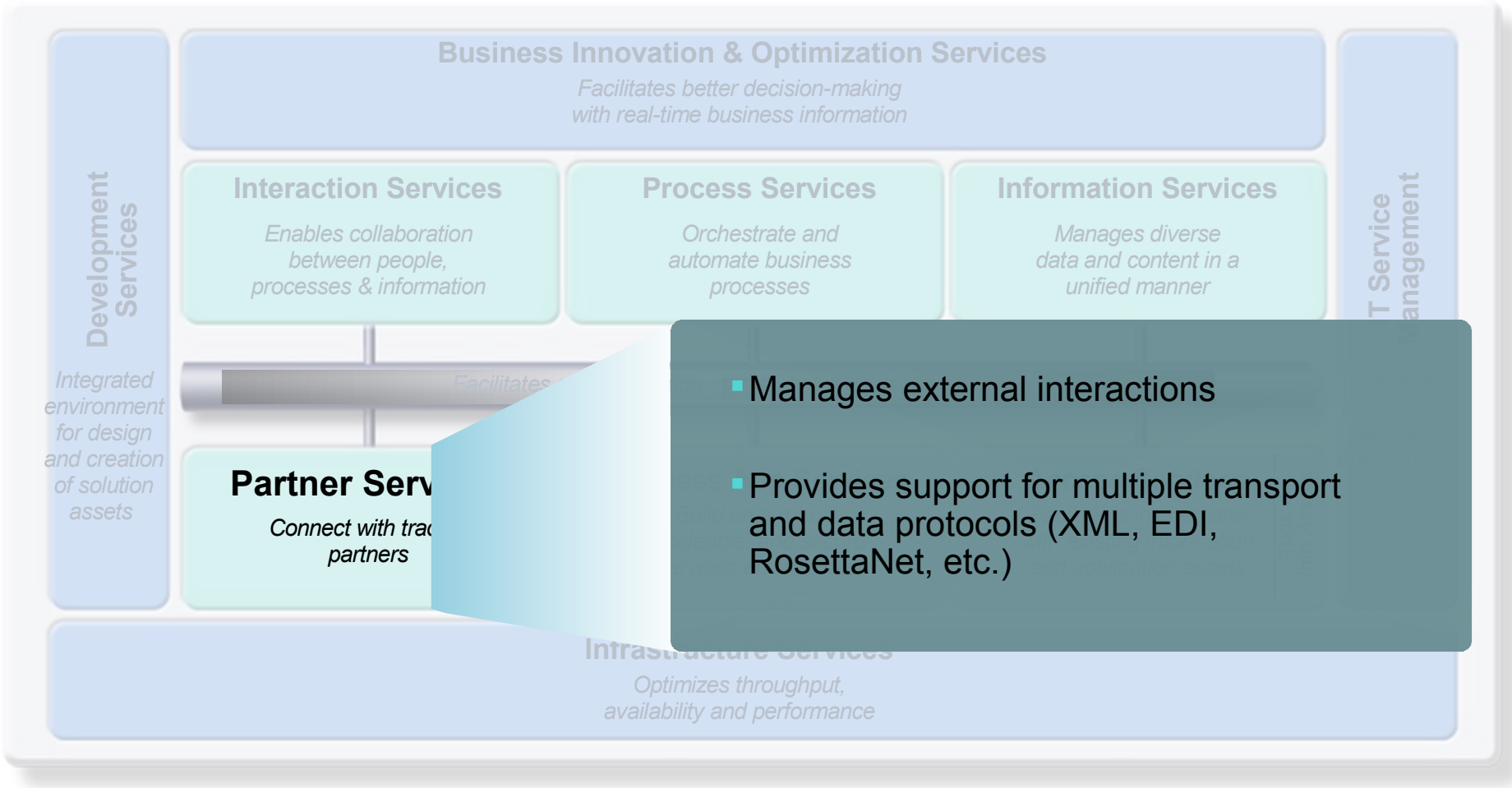
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns



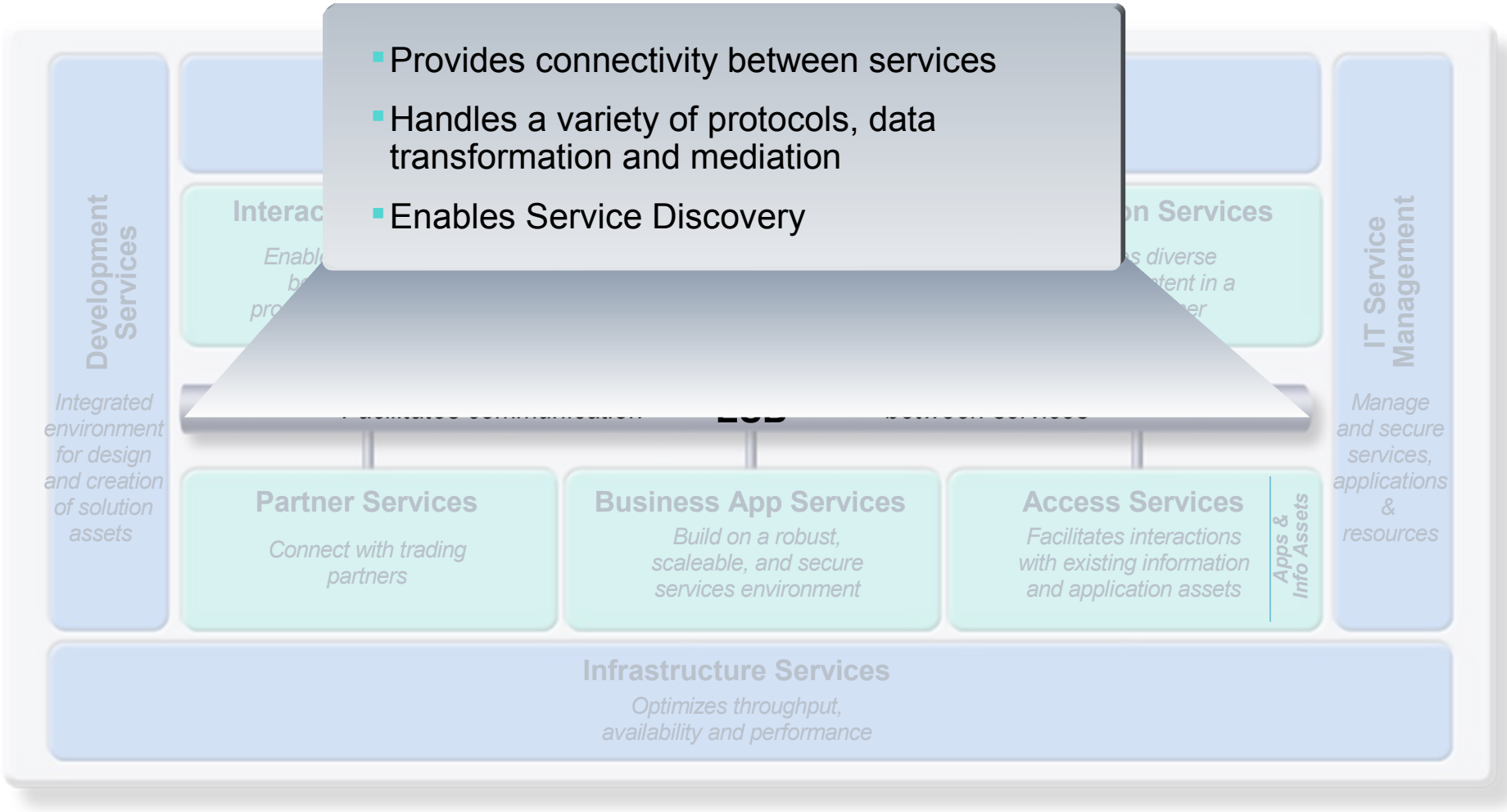
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns



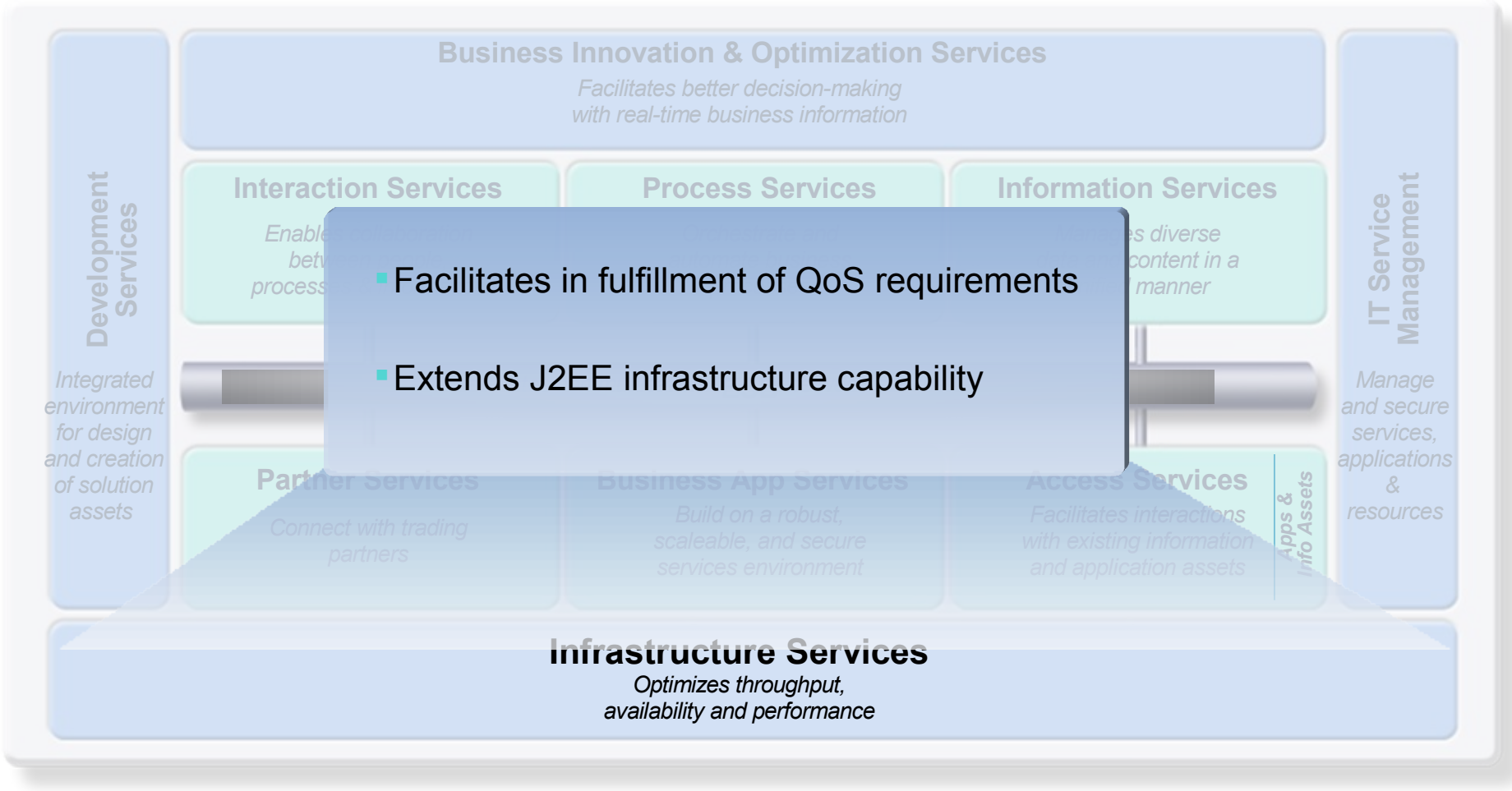
Mapping Solution Layers to SOA Reference Architecture

Supporting Separation of Concerns

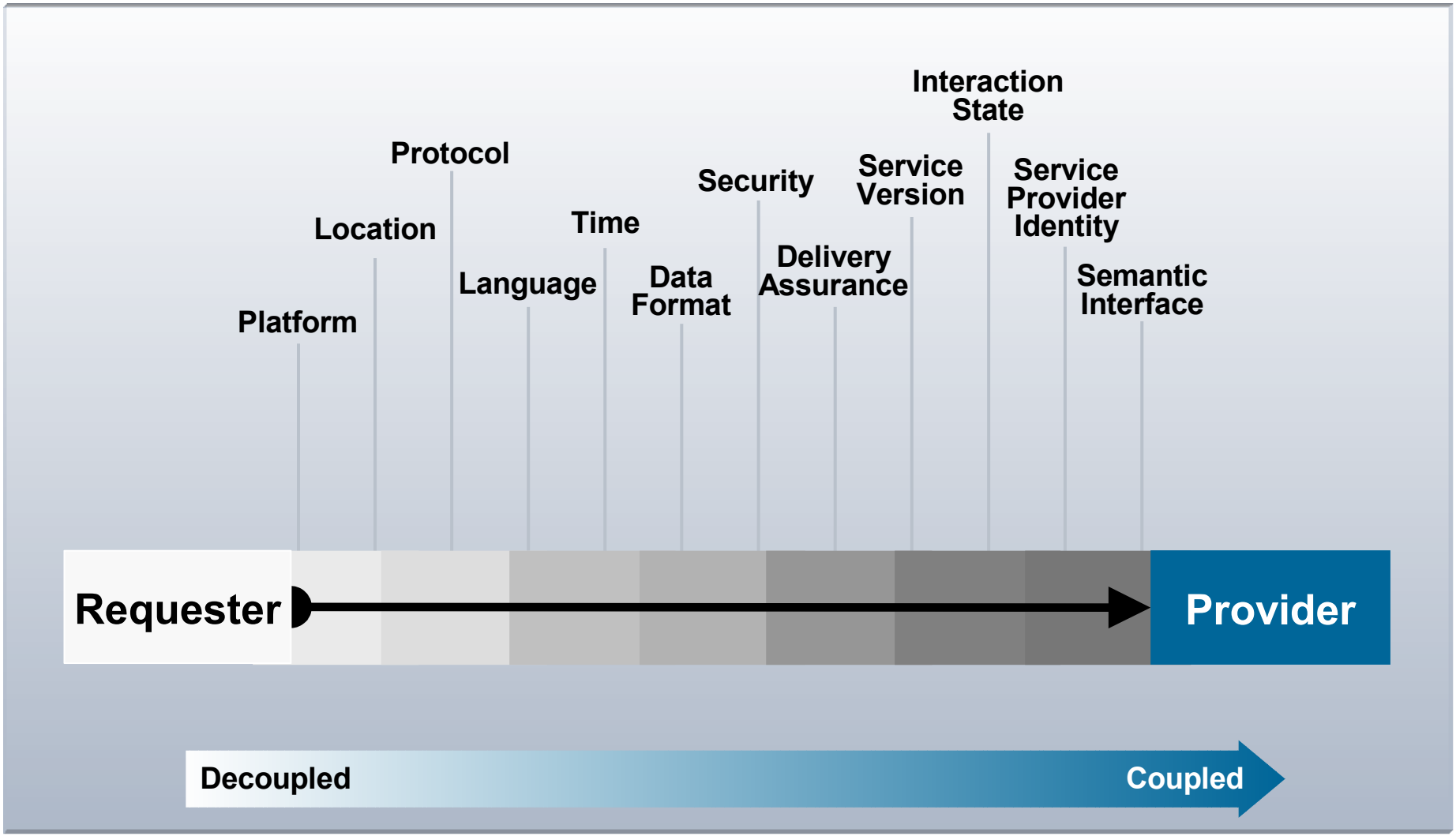


Mapping Solution Layers to SOA Reference Architecture

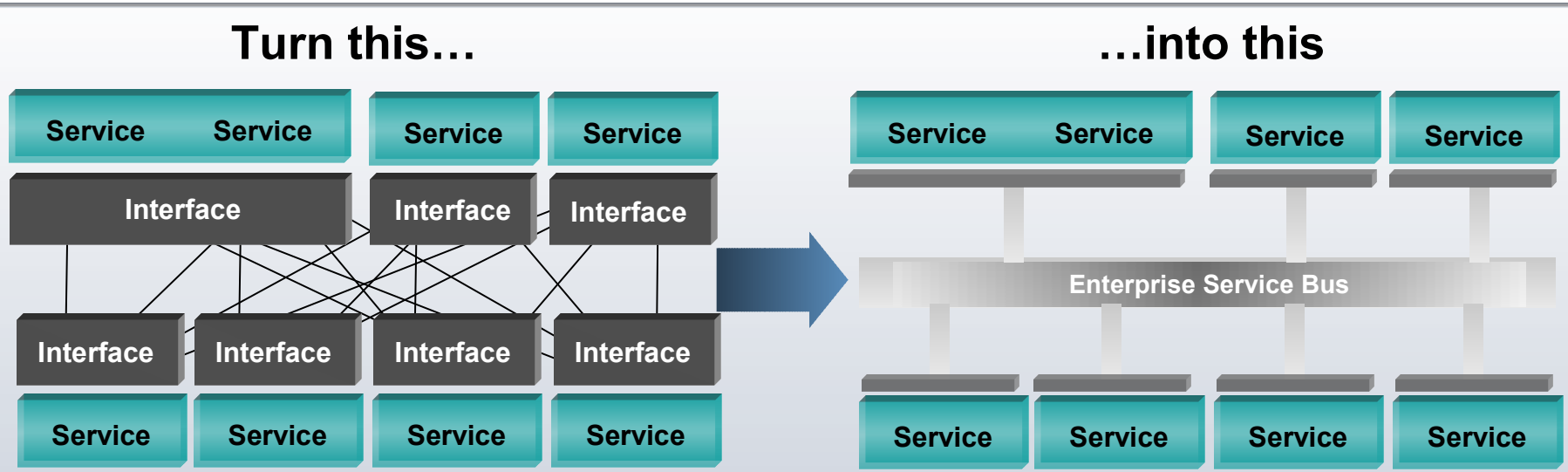
Supporting Separation of Concerns



Degree of Coupling Impacts Service Flexibility



Loose Coupling: Increases Flexibility and Reuse



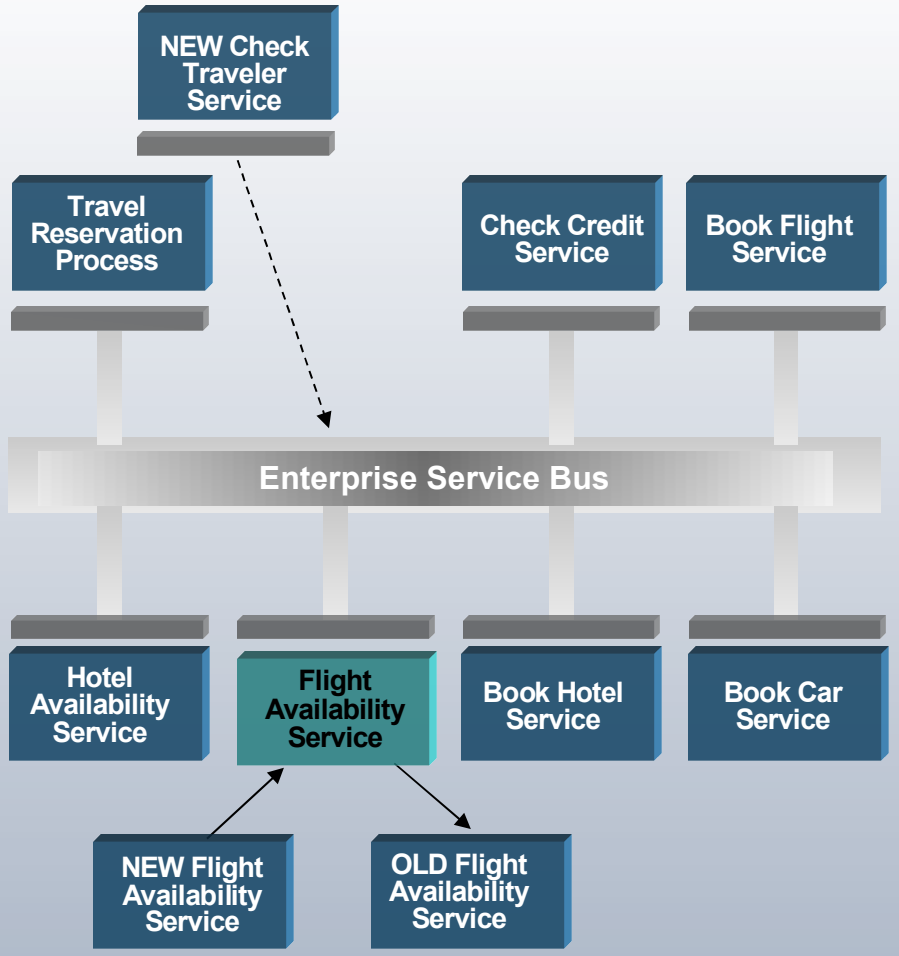
- Decouples the point-to-point connections from the interfaces
- Allows for dynamic selection, substitution, and matching
- Enables more flexible coupling and decoupling of the applications
- Enables you to find both the applications and the interfaces for re-use

Result → Greater Business Responsiveness

Loose Coupling: Makes it Easier to Add & Change Services

Add new services faster

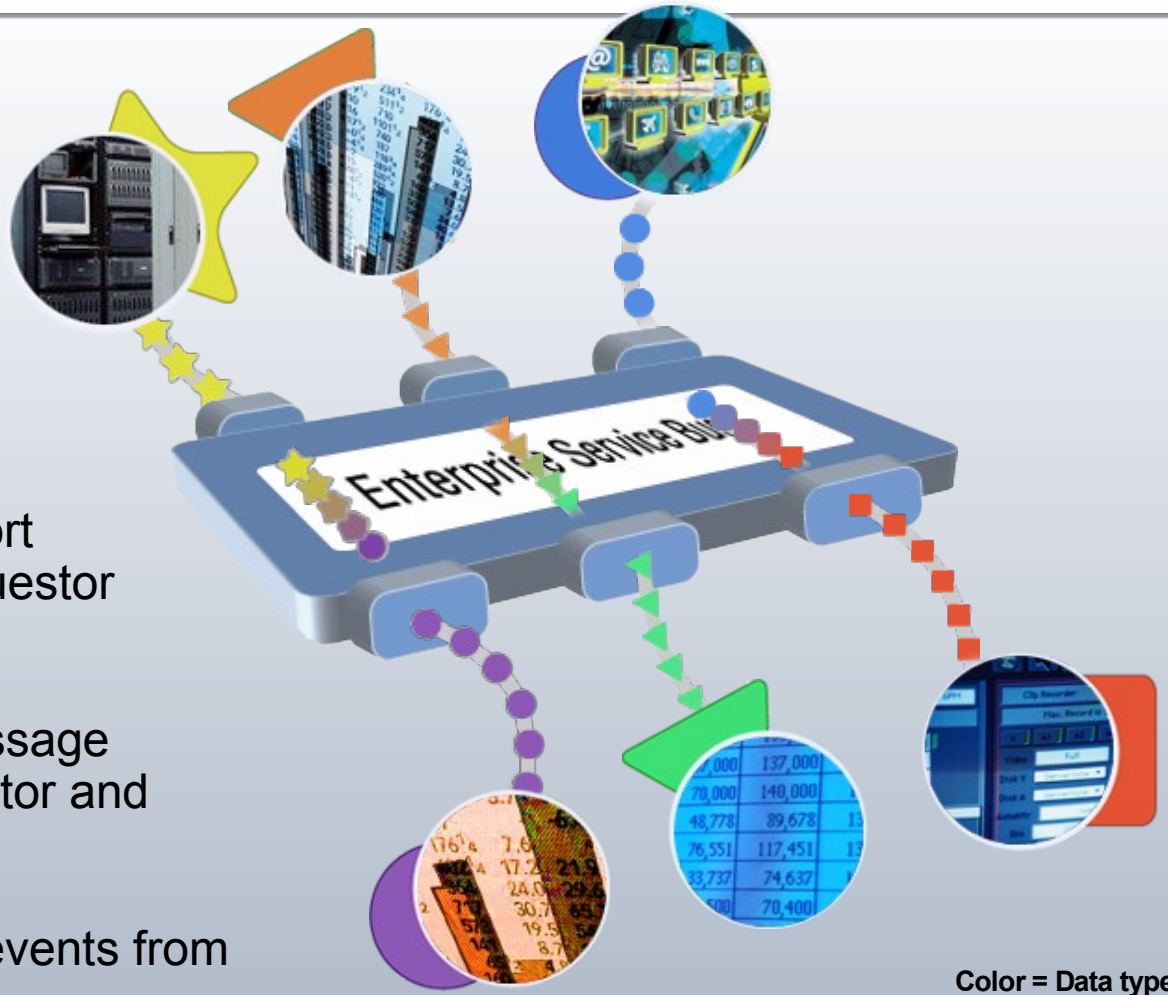
Change services with minimal impact to existing services



What is an Enterprise Service Bus (ESB)?

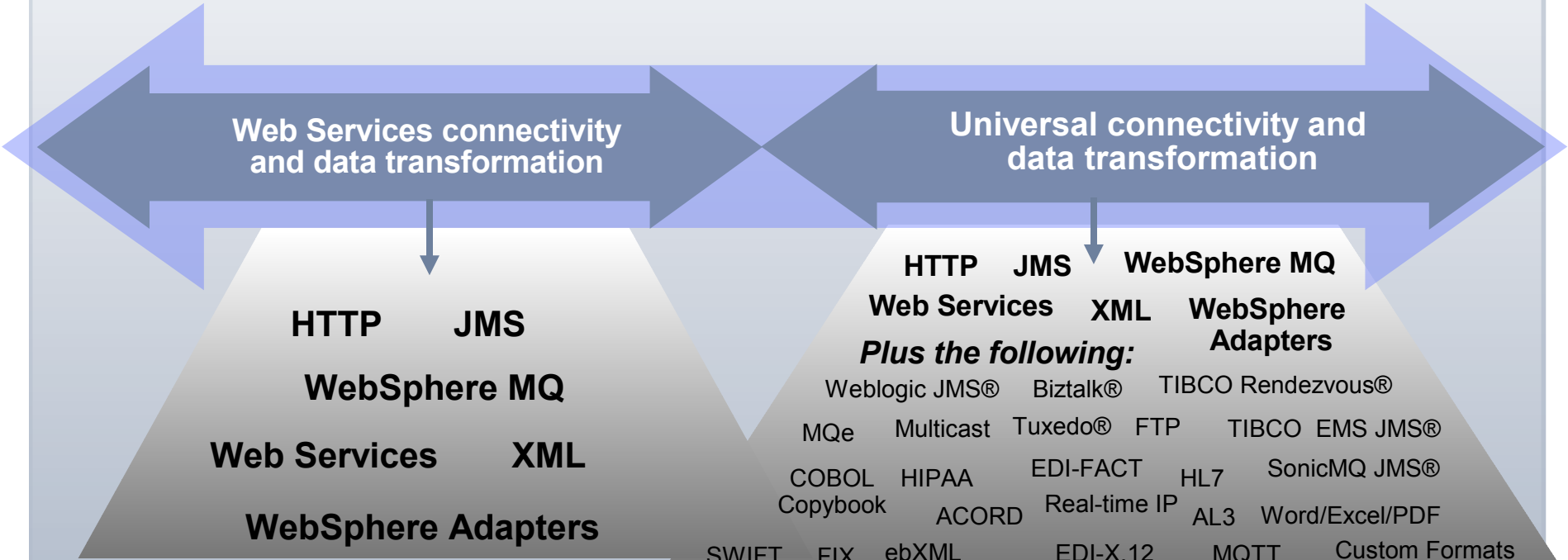
Flexible connectivity infrastructure for integrating applications and services to power your SOA

- **ROUTING** messages between services
- **CONVERTING** transport protocols between requestor and service
- **TRANSFORMING** message format between requestor and service
- **HANDLING** business events from disparate sources



ESB Capabilities

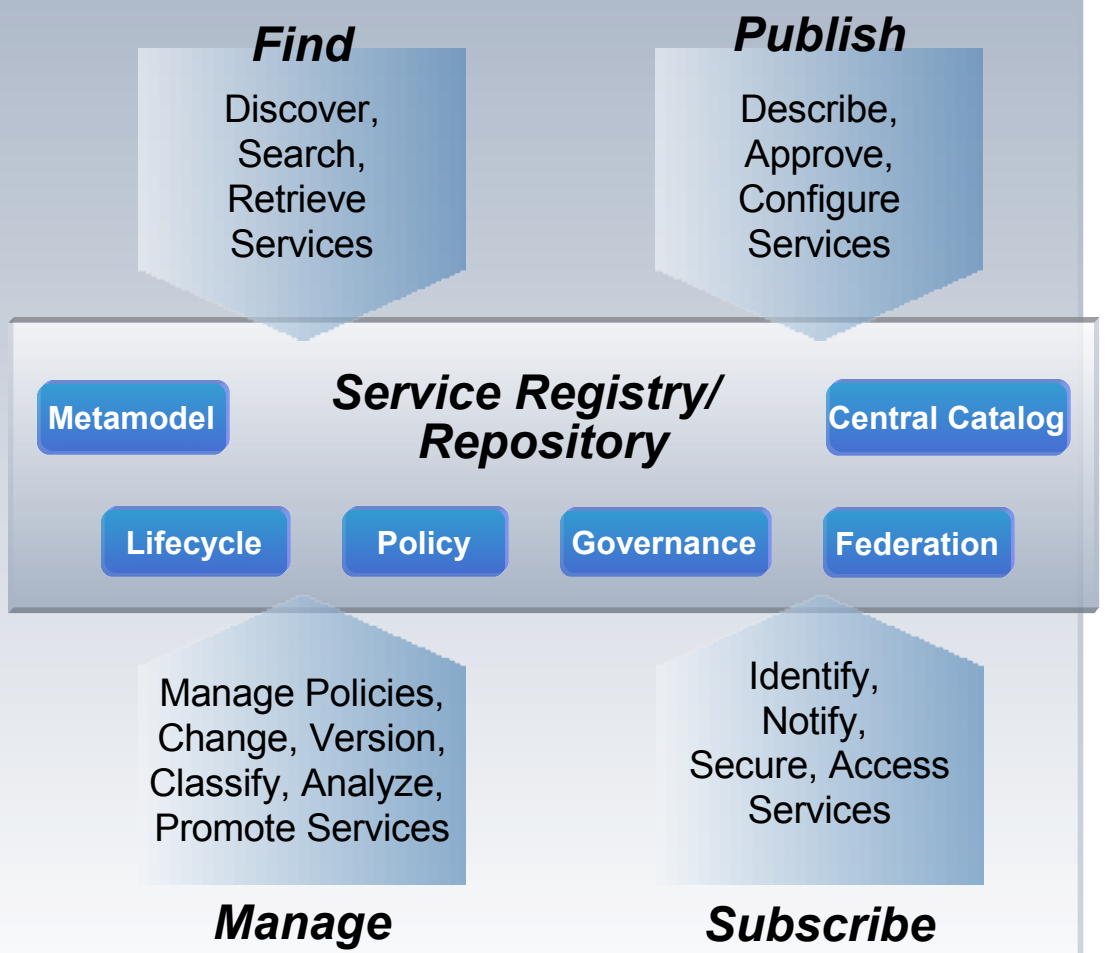
Develop ESB Infrastructure capability in a continuum on an as-needed basis



A Service Registry/Repository Helps Manage Services

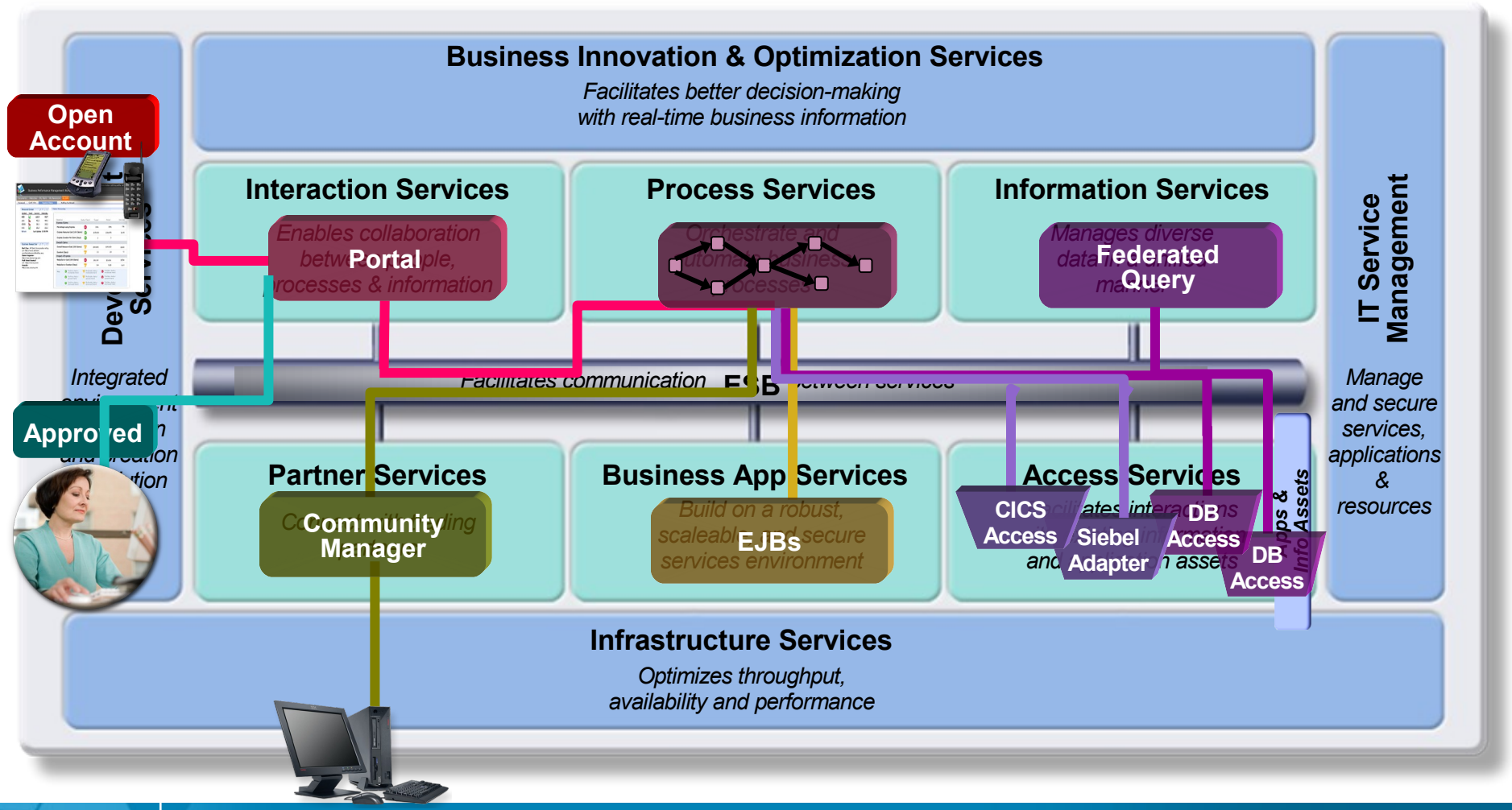
A Registry/Repository is an enterprise-wide system

*for **Storing, Accessing**, and **Managing SOA Metadata** to provide for service virtualization and management of the service-based environment*

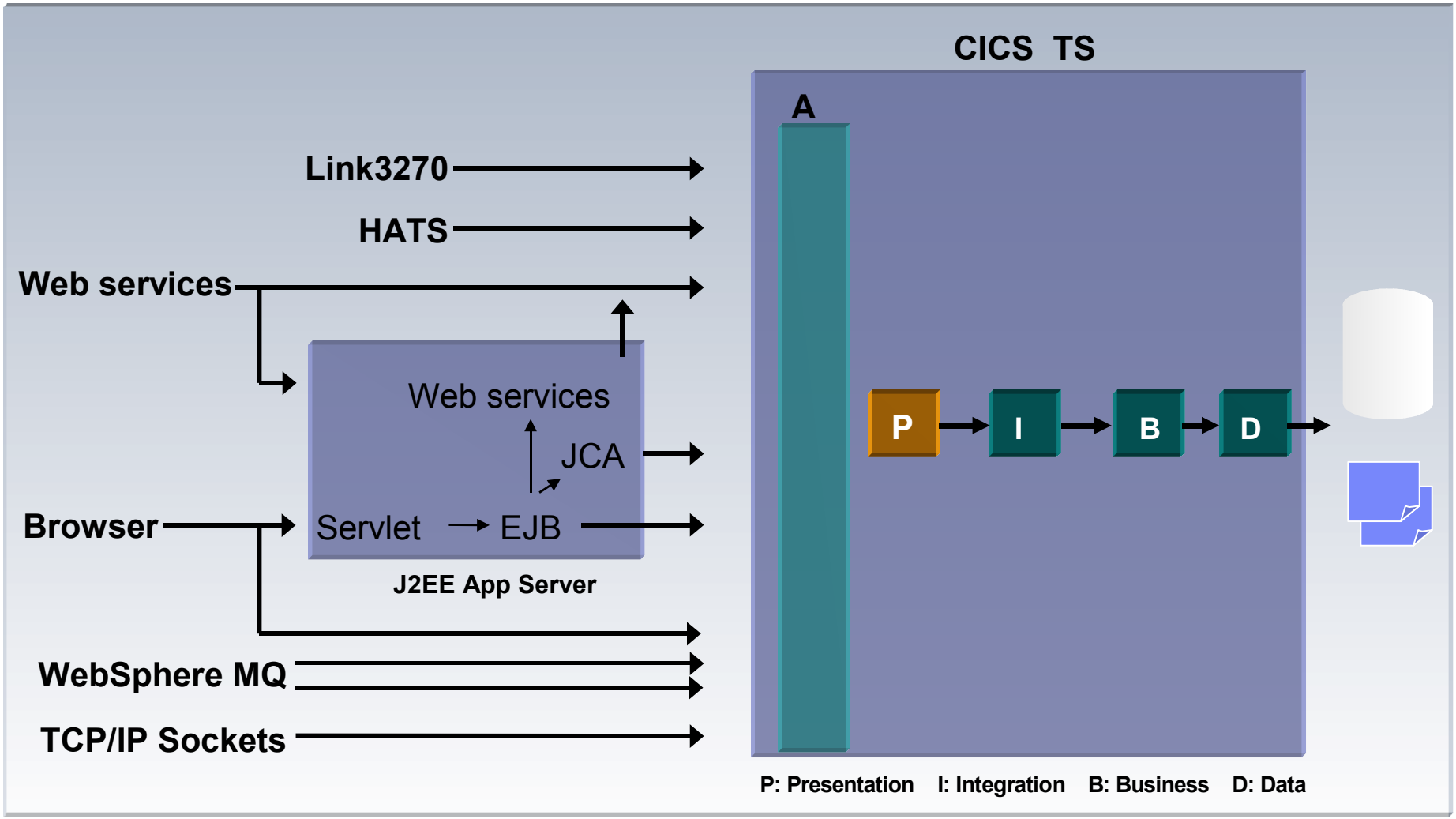


Composite Applications

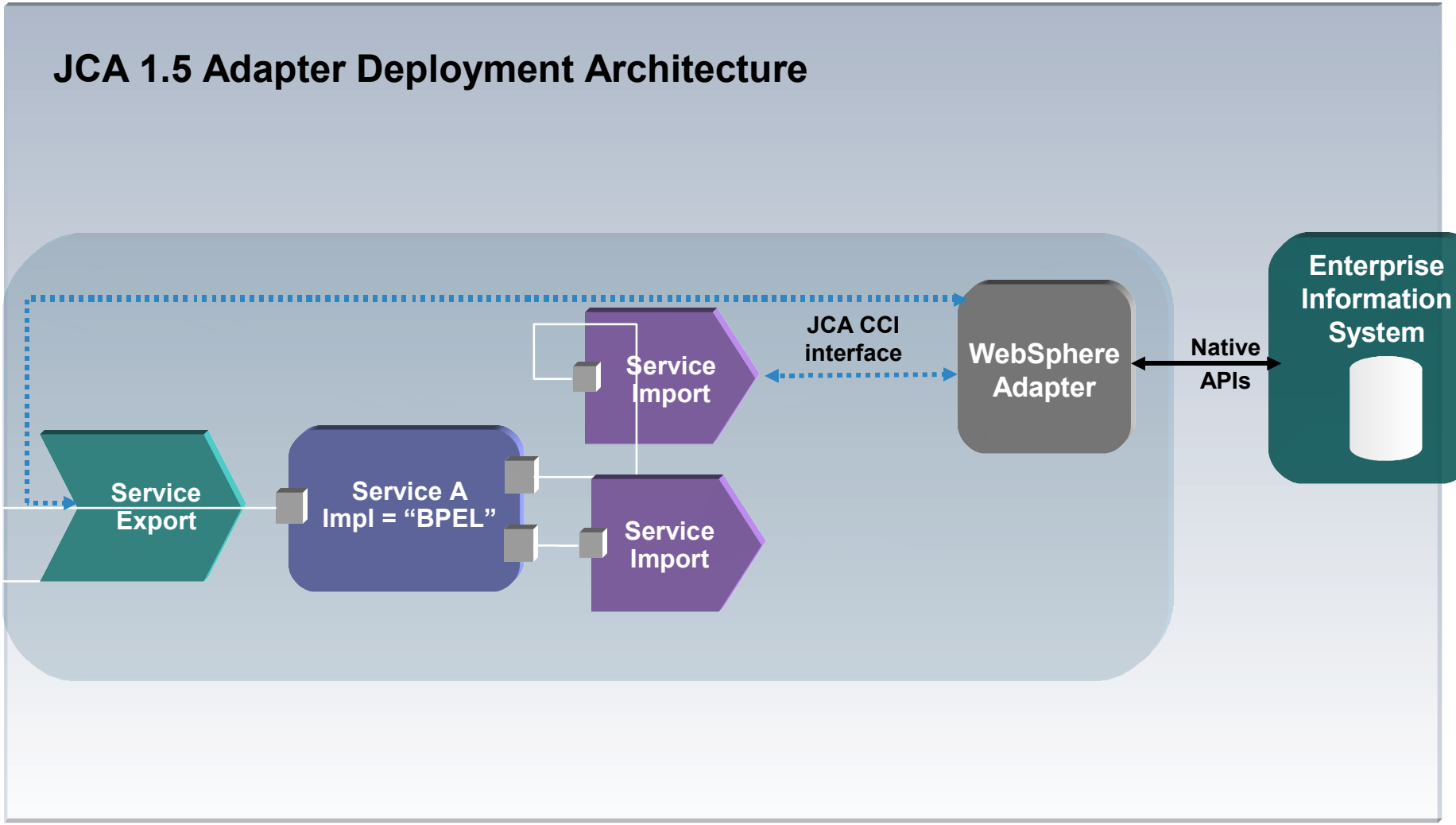
Solutions built around processes combining multiple services, which may be both new services and existing business assets



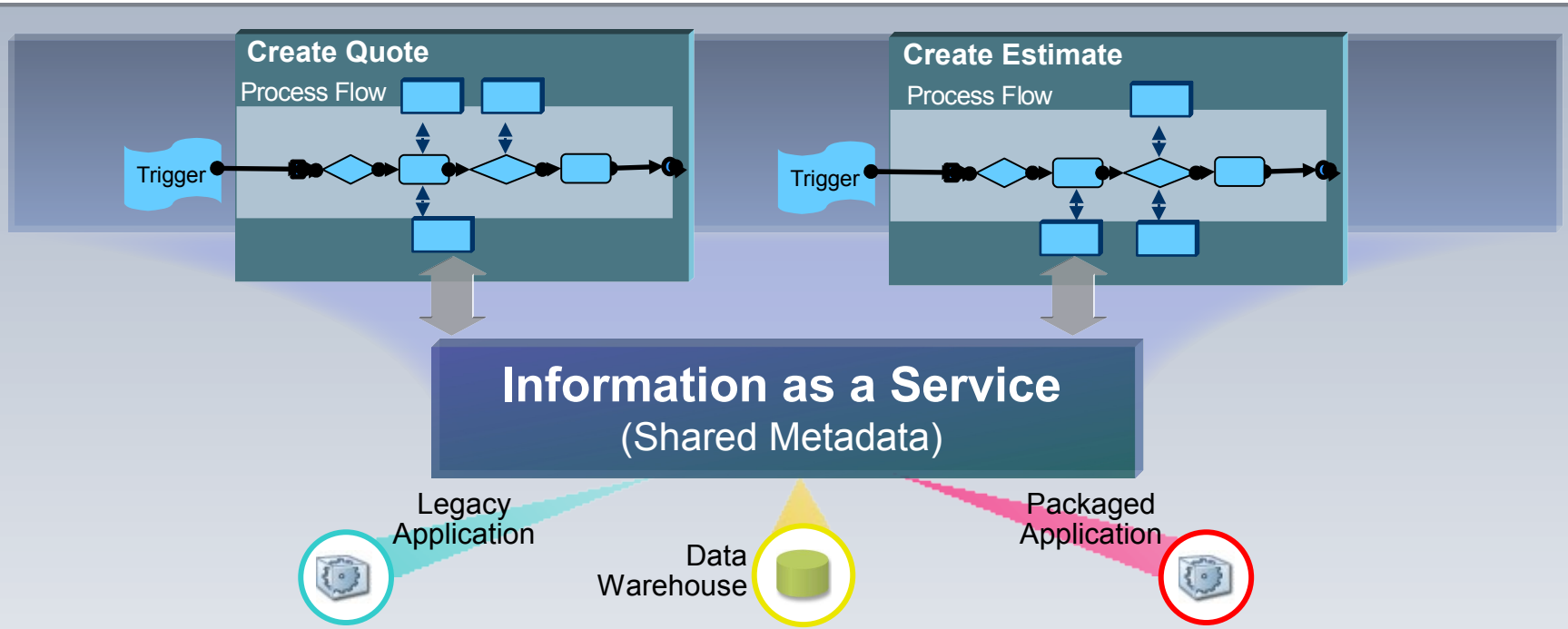
Integrating with Mainframe Applications



Integrating with Assets in Distributed Applications



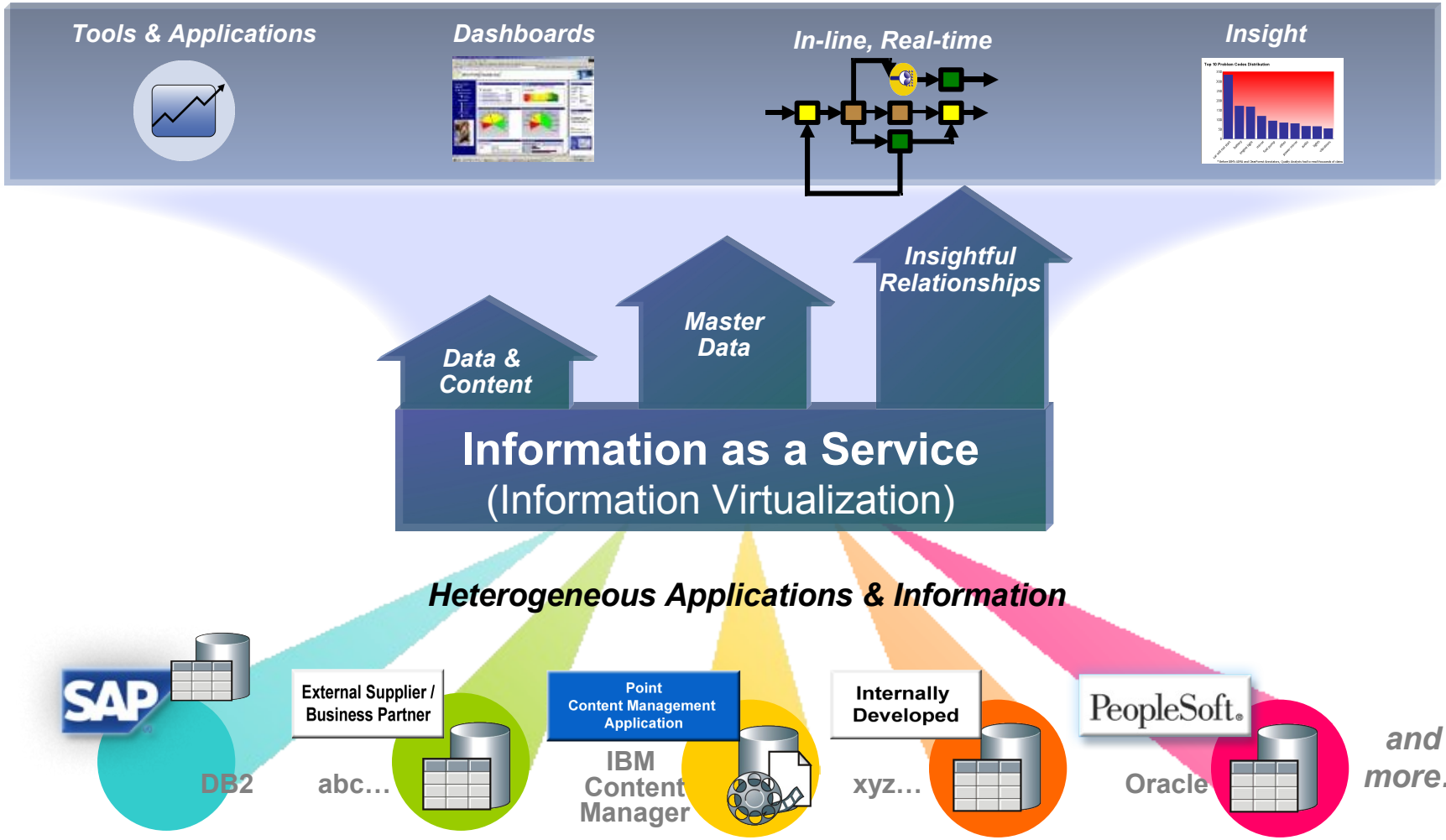
Integrating with Information



- Consistent packaging of data
- Leverages understanding of metadata relationships
- Applies consistent rules to data
- Centralized control and maintenance
- Flexibility to change information sources and formats

Information as a Service

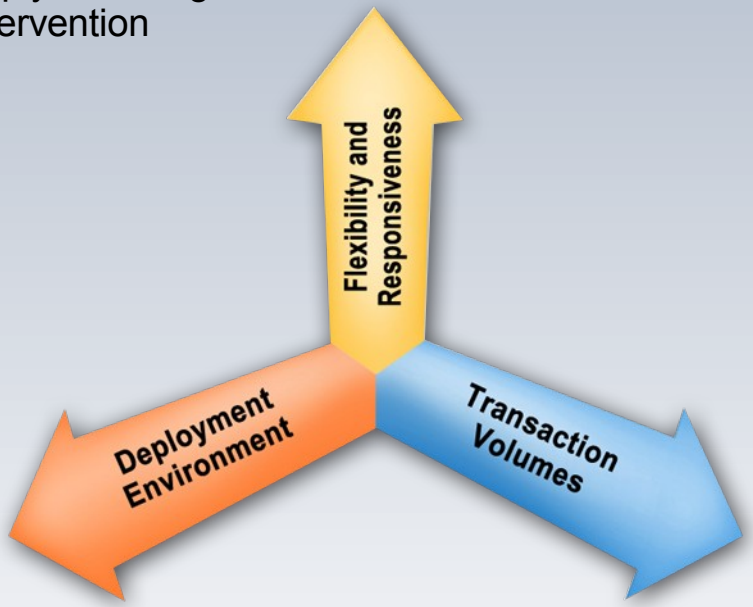
Moving From a Project-Based to a Flexible Information Architecture



Quality of Service Considerations

Dynamic Operations

- Adapt to business changes automatically
- Performance goals for differing workloads
- Apply IT intelligence to reduce the need for manual intervention



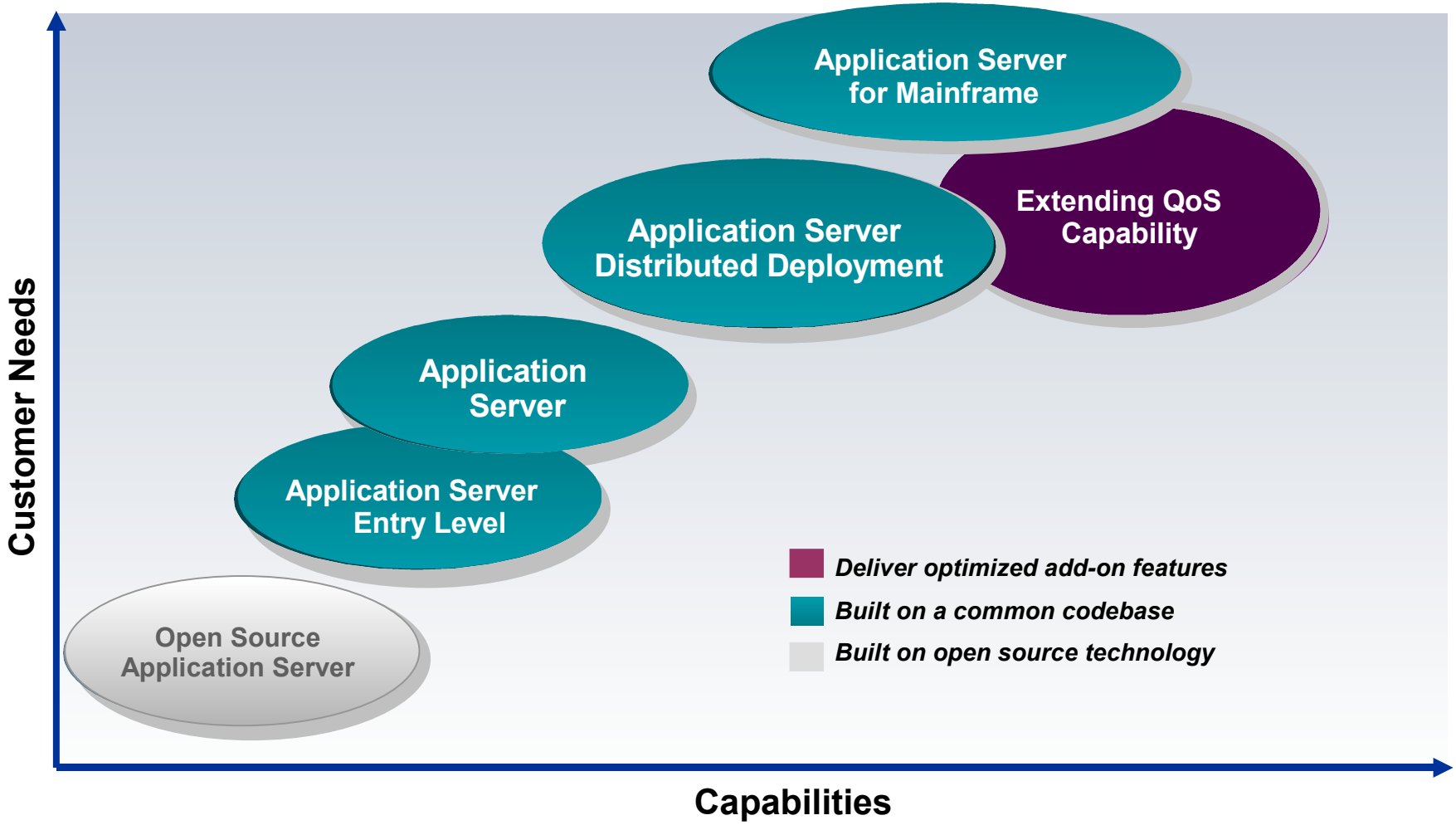
Extended Manageability

- At-a-glance system assessments for health and vitality

High Performance Computing

- Optimize your transactions for improved performance and availability

Middleware Suite Quality of Service Capabilities



Quality of Service Considerations

Leverage Middleware Infrastructure Capabilities

Flexibility for heterogeneous environment

- Efficiently support mixed workloads
- Effectively enable quality of service management for a mixed application servers and data sources

Optimizing the performance and throughput of transactions

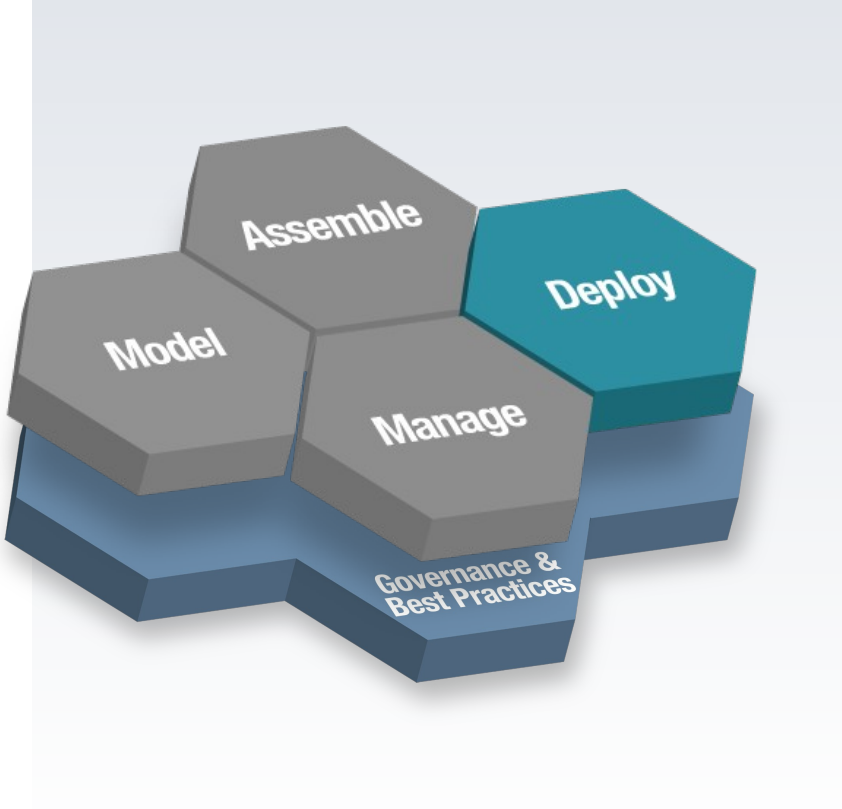
- ObjectGrid, a caching fabric which enables object data to be shared among multiple clients
- Partitioning facility enables the development of highly scalable, high performance J2EE applications

Enhanced manageability

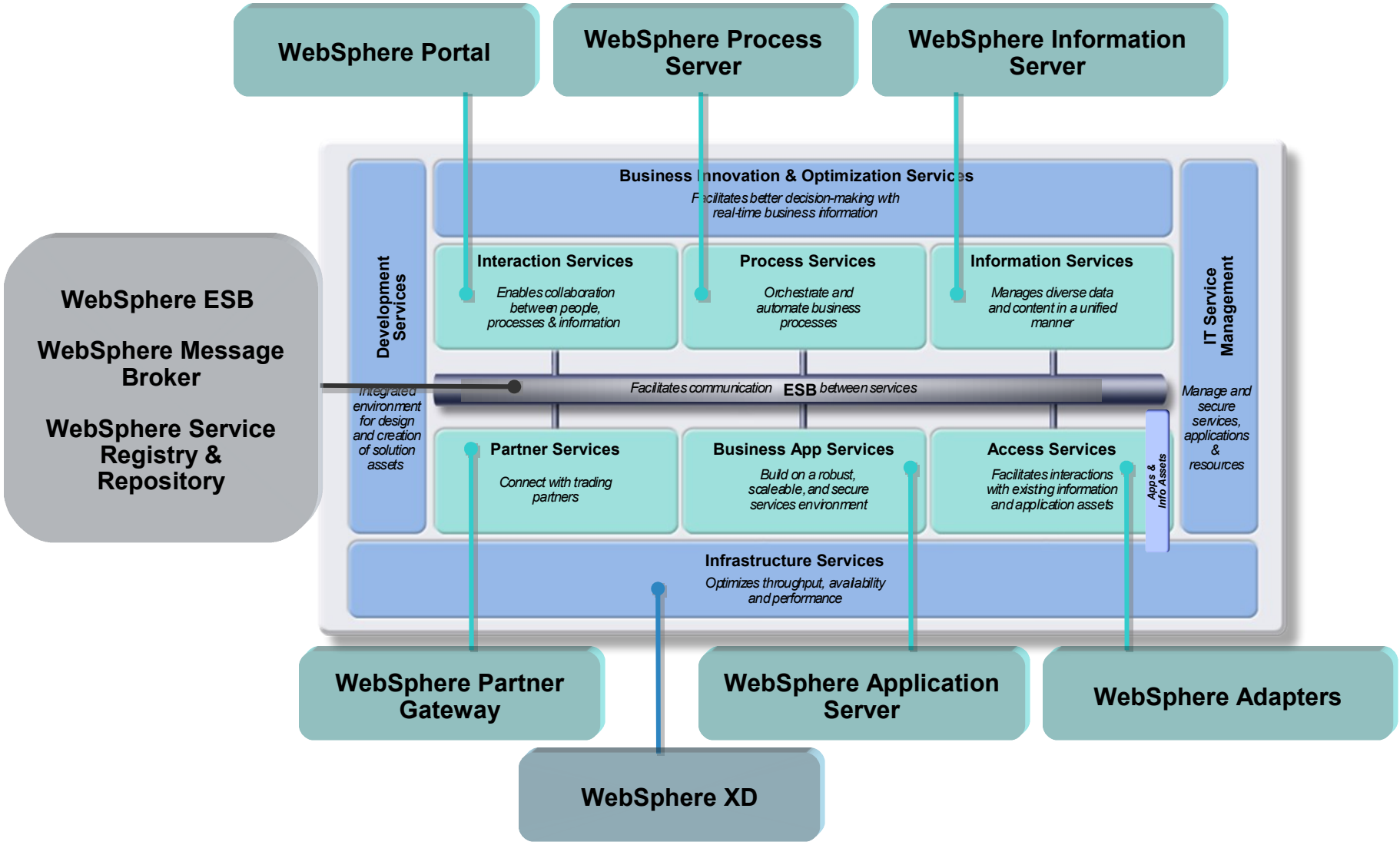
- At-a-glance assessments of system vitality and improved application manageability
- Interruption-free application updates to manage the deployment of multiple application versions

Agenda

- SOA Operating Environment Requirements
- SOA Operating Environment Key Principles
- Mapping to the IBM Products
  - Products in the Operating Environment



SOA Operating Environment – Mapping to IBM Offerings



Summary

- SOA Operating Environment brings in new considerations at deploy time
- SOA Reference Architecture enables separation of concerns
- ESB provides for loose coupling & flexibility
- Composite Applications enable the reuse of existing assets
- SOA Quality of Service considerations are same as traditional applications but may manifest differently in the infrastructure

धन्यवाद
Hindi
多謝
Traditional Chinese
ขอบคุณ
Thai
Спасибо
Russian
Gracias
Spanish
شكرا
Arabic
Thank You
Obrigado
Brazilian Portuguese
Grazie
Italian
Danke
German
Merci
French
நன்றி
Tamil
多谢
Simplified Chinese
감사합니다
Korean
ありがとうございました
Japanese

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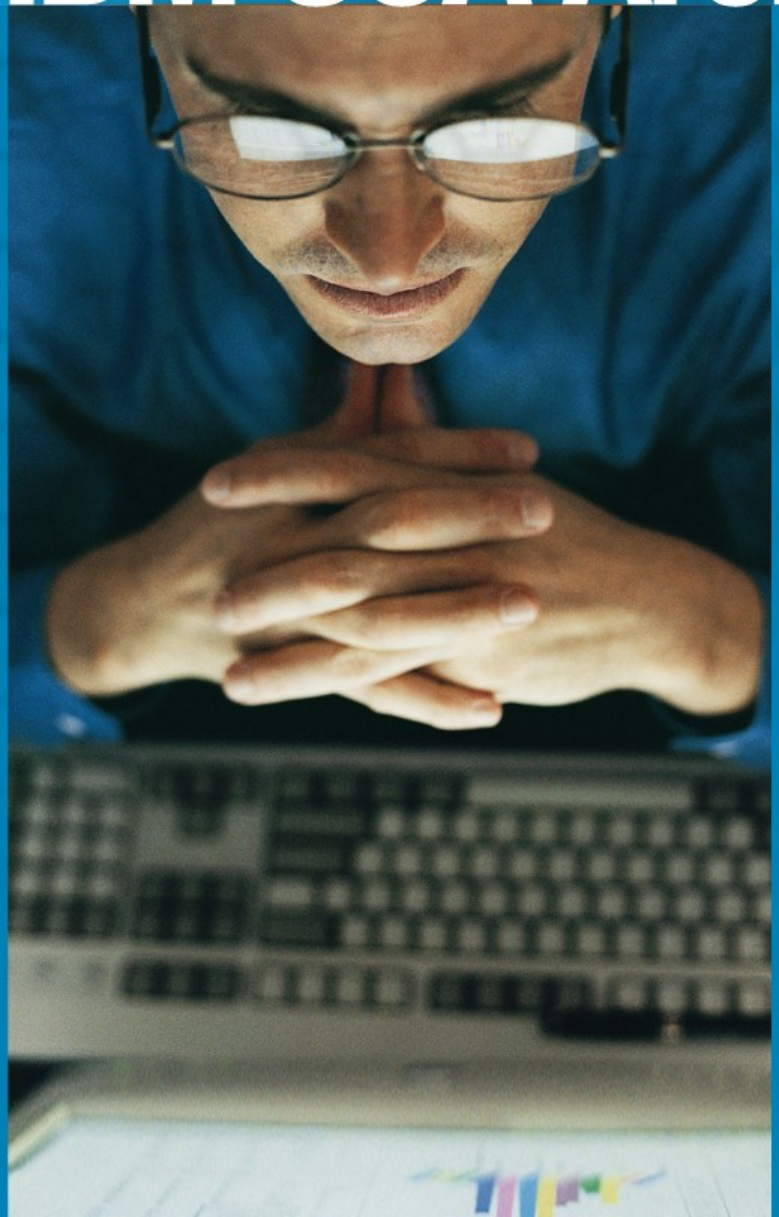

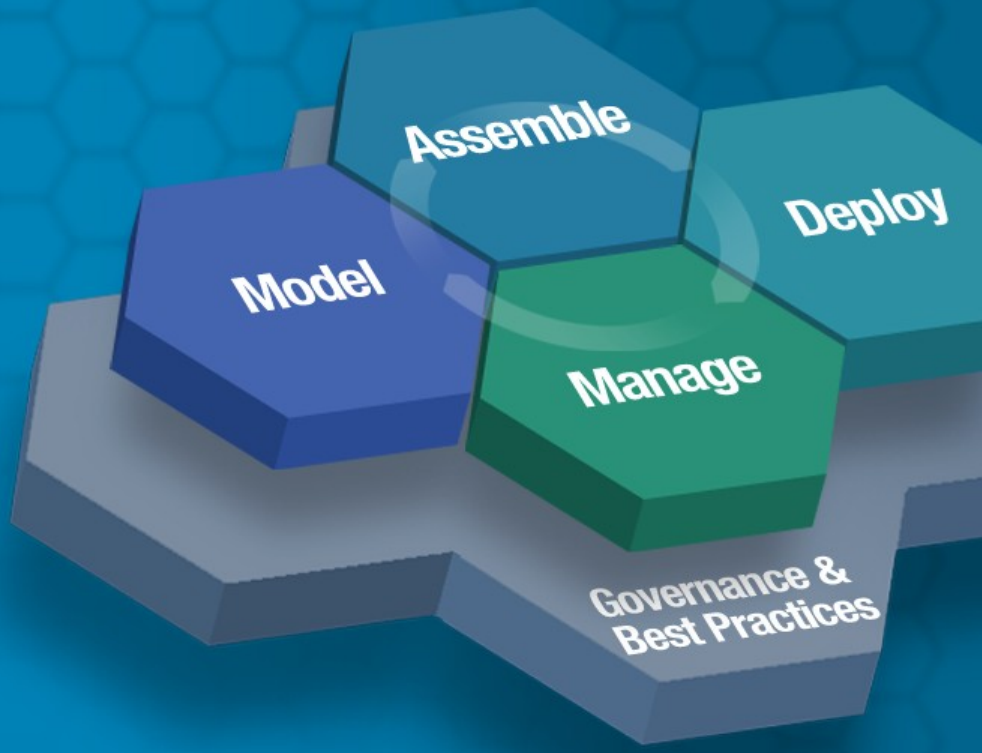

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