Getting to the heart of Service Oriented Architecture (SOA)

SOA on your terms and our expertise

Questions You Need to Consider

- **What is Service Orientation and SOA and why is it important for your business?**

- **Is it real? Are customers really using it today?**

- **What are the core elements brought together under SOA?**

- **How can IBM help you get started?**

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What is …..?

… a service?

A **repeatable business task** – e.g., check customer credit; open new account

… service oriented architecture (SOA)?

An IT **architectural style** that supports service orientation

… service orientation?

A way of integrating your **business as linked services** and the outcomes that they bring

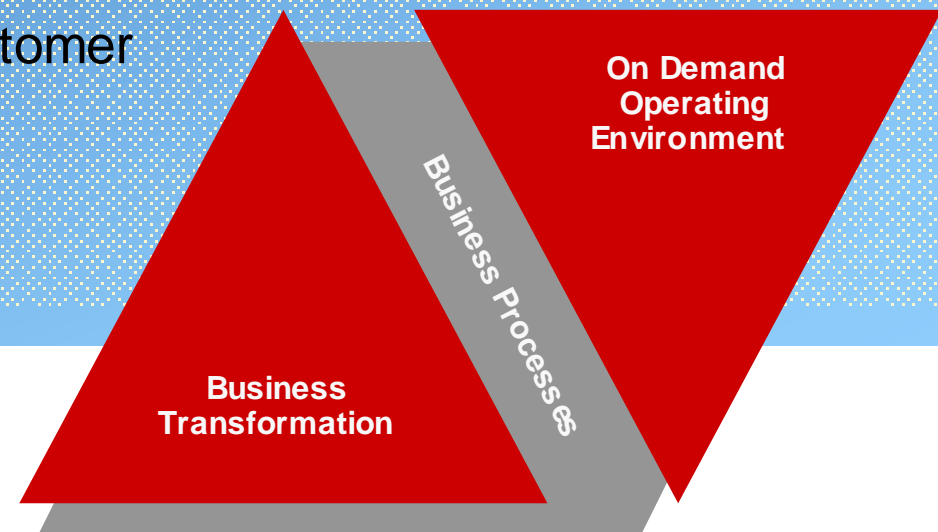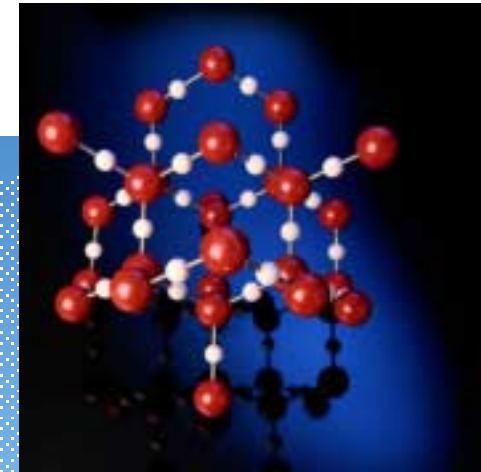### … a composite application?

A set of **related & integrated** services that support a business process built on an SOA

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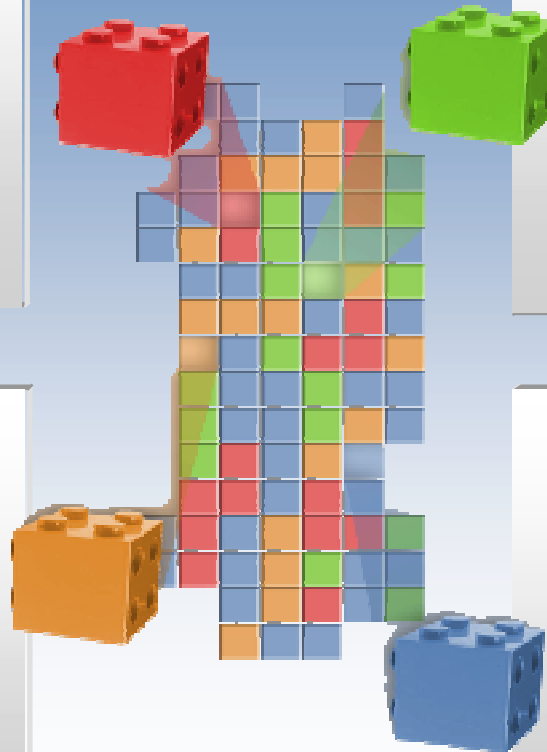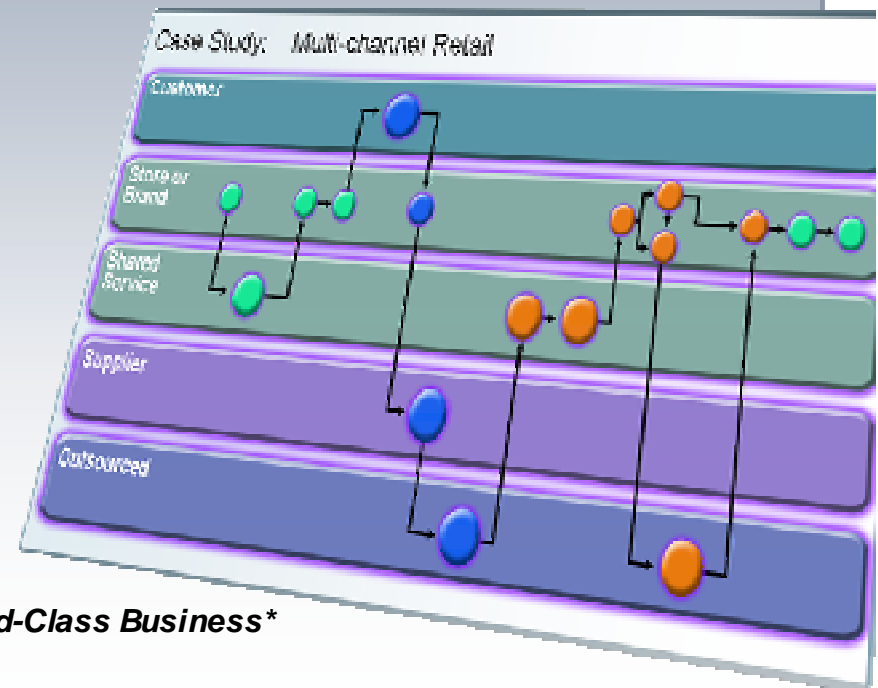
ON DEMAND BUSINESS

SOA is the DNA of onDemand

An on demand business is an enterprise whose business processes — integrated end-to-end across the company and with key partners, suppliers and customers — can respond with speed to any customer demand, market opportunity or external threat.

On Demand Operating Environment

Business Process es

Business Transformation

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Why SOA for business flexibility and reuse?

- **Economics:** globalization demands flexibility

- **Business processes:** changing quickly and sometimes outsourced

- **Growth:** at the top of the CEO agenda

- **Reusable assets:** can cut costs

- **Information:** greater availability

- **Crucial for flexibility and becoming an On Demand Business**

Traditional Business*
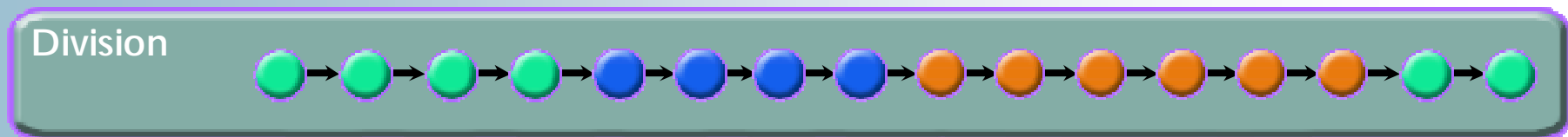

Case Study: Multi-channel Retail
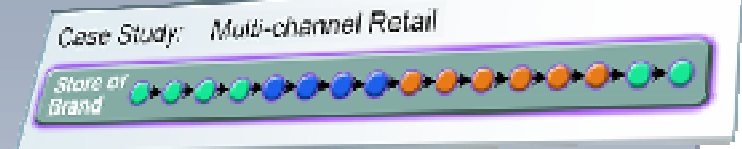
Today's World-Class Business*

*Sources: CBDi

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Next Process scenario (slide 7-14) should be carefully selected based on customer/audience industry and background

ON DEMAND BUSINESS

Business Flexibility in Action

Case Study: Procure to Pay Process

Division

ON DEMAND BUSINESS

Business Flexibility in Action

Case Study: Procure to Pay Process
Change: Customer Order Entry

Customer

Division

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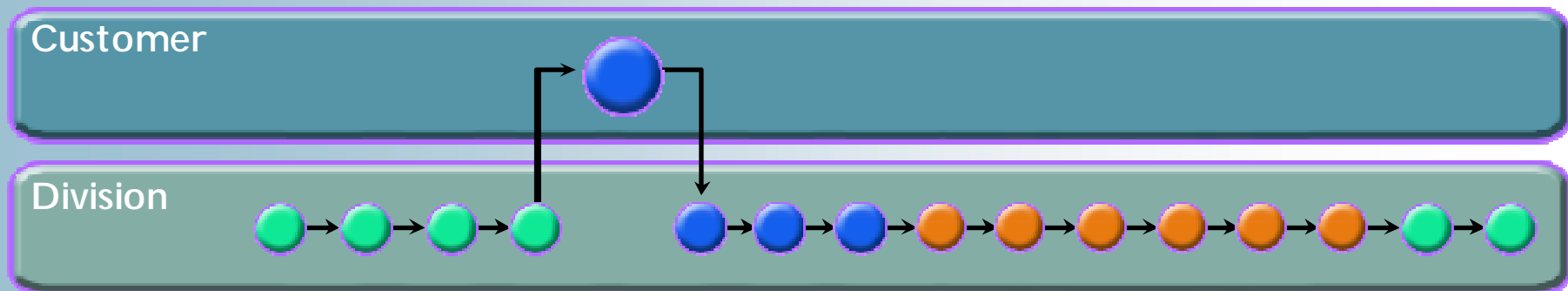
Business Flexibility in Action

Case Study: Procure to Pay Process
Change: Shared Service – Marketing, Billing, Receivables

Customer

Division

Shared
Service

SOA on your terms and our expertise
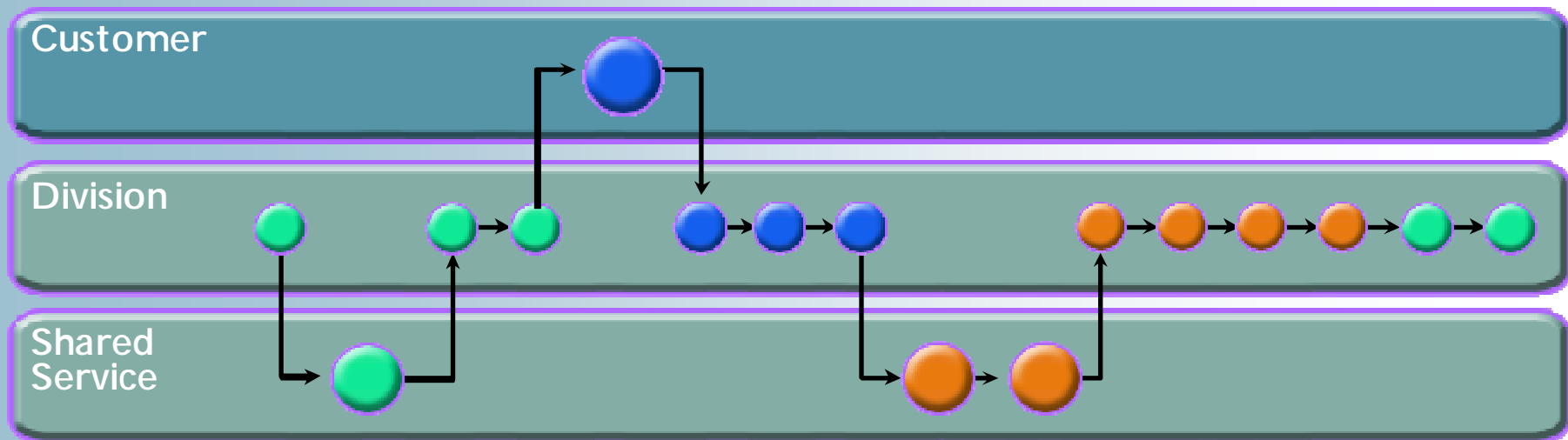
Business Flexibility in Action

Case Study: Procure to Pay Process
Change: Supplier Handles Inventory (VMI)

Customer

Division

Shared Service

Partner
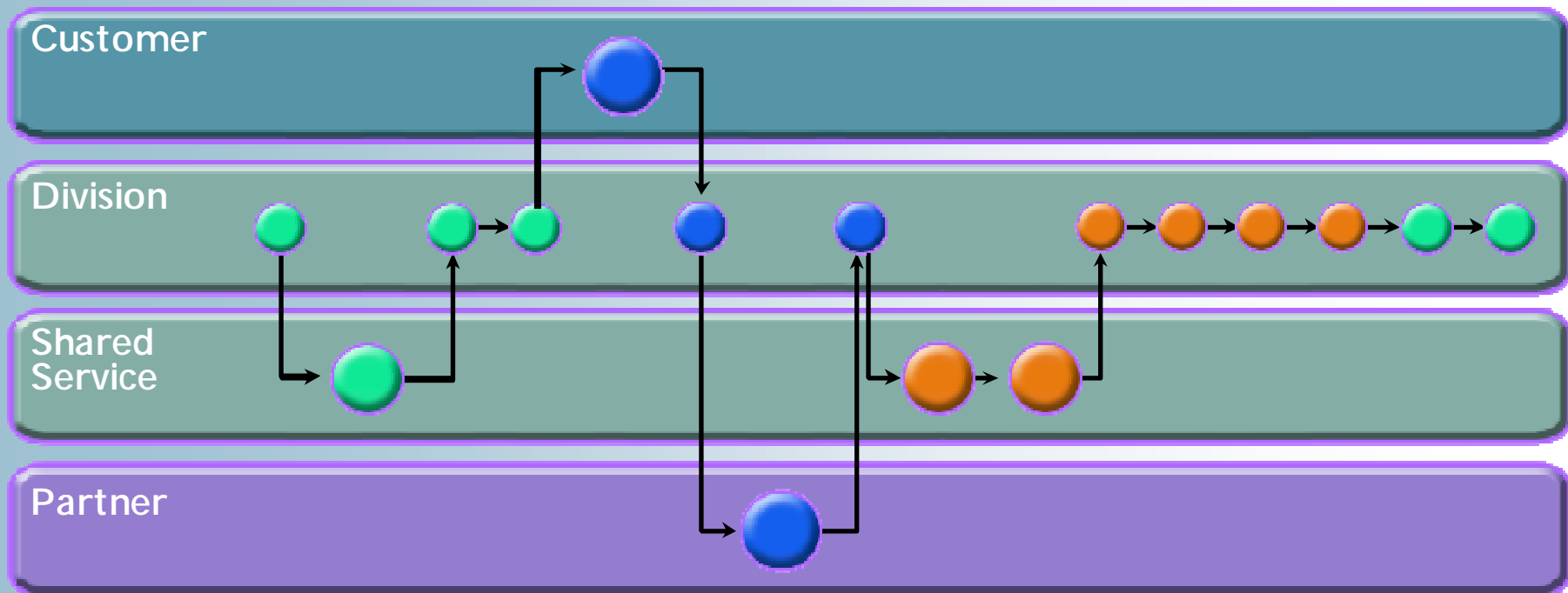
Business Flexibility in Action

Case Study: Procure to Pay Process
Change: Shipping by FedEx, DHL or UPS

Customer

Division

Shared Service

Partner

Outsourced

SOA on your terms and our expertise
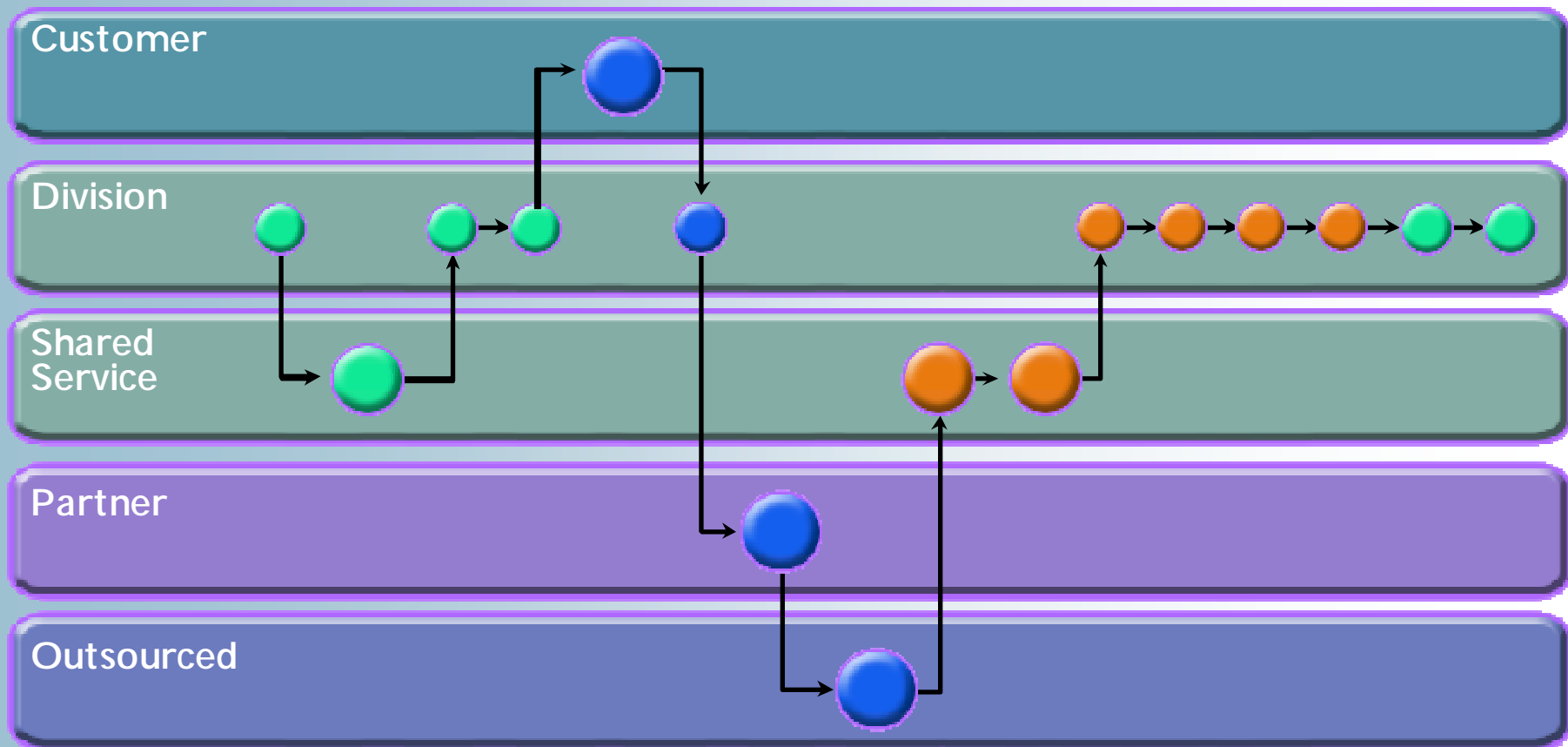
Business Flexibility in Action

Case Study: Procure to Pay Process
Change: Collections Outsourced

Customer

Divsion

Shared
Service

Partner

Outsourced

SOA on your terms and our expertise
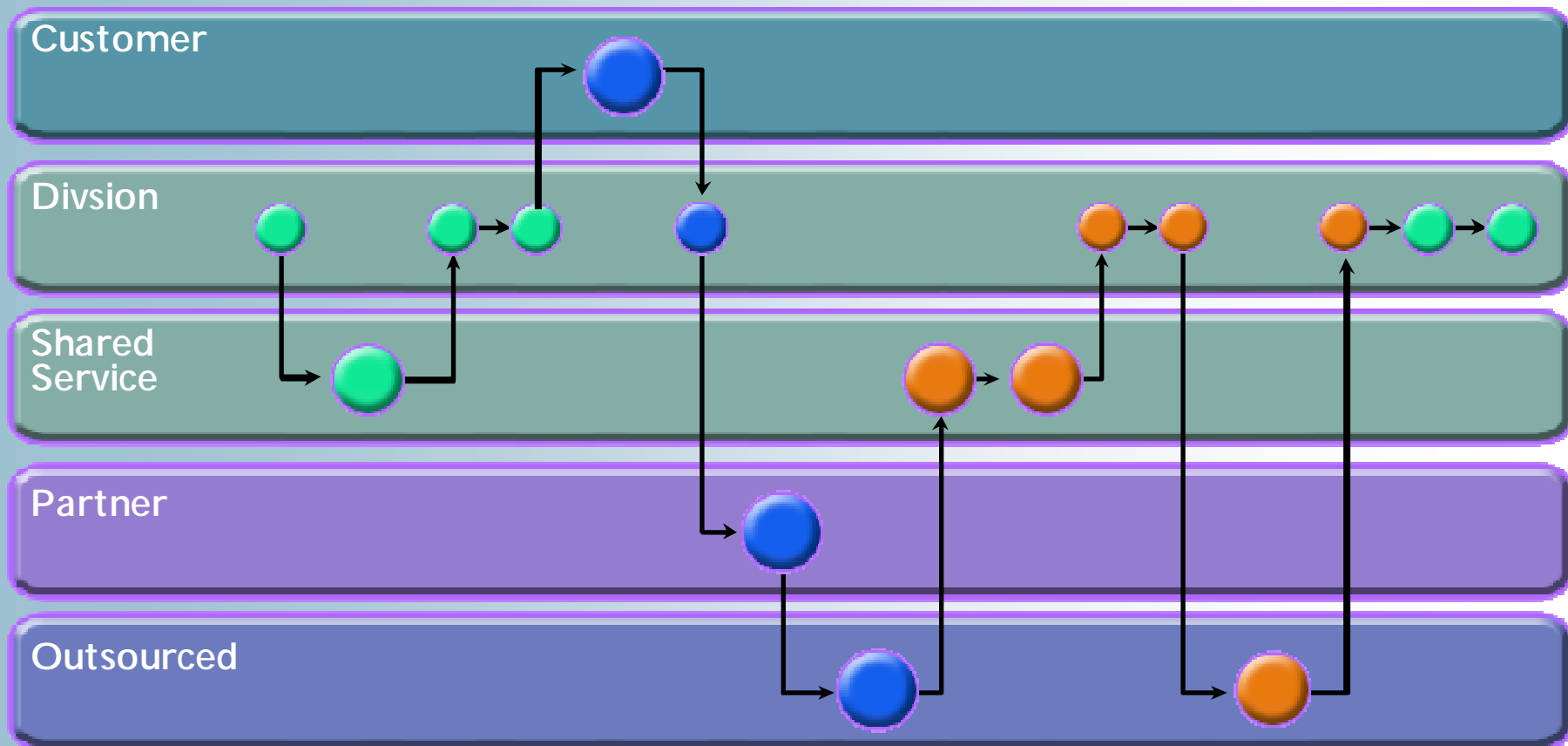
Business Flexibility in Action

Case Study: Procure to Pay Process
Change: Process Optimization

Customer

Division

Shared
Service

Partner

Outsourced
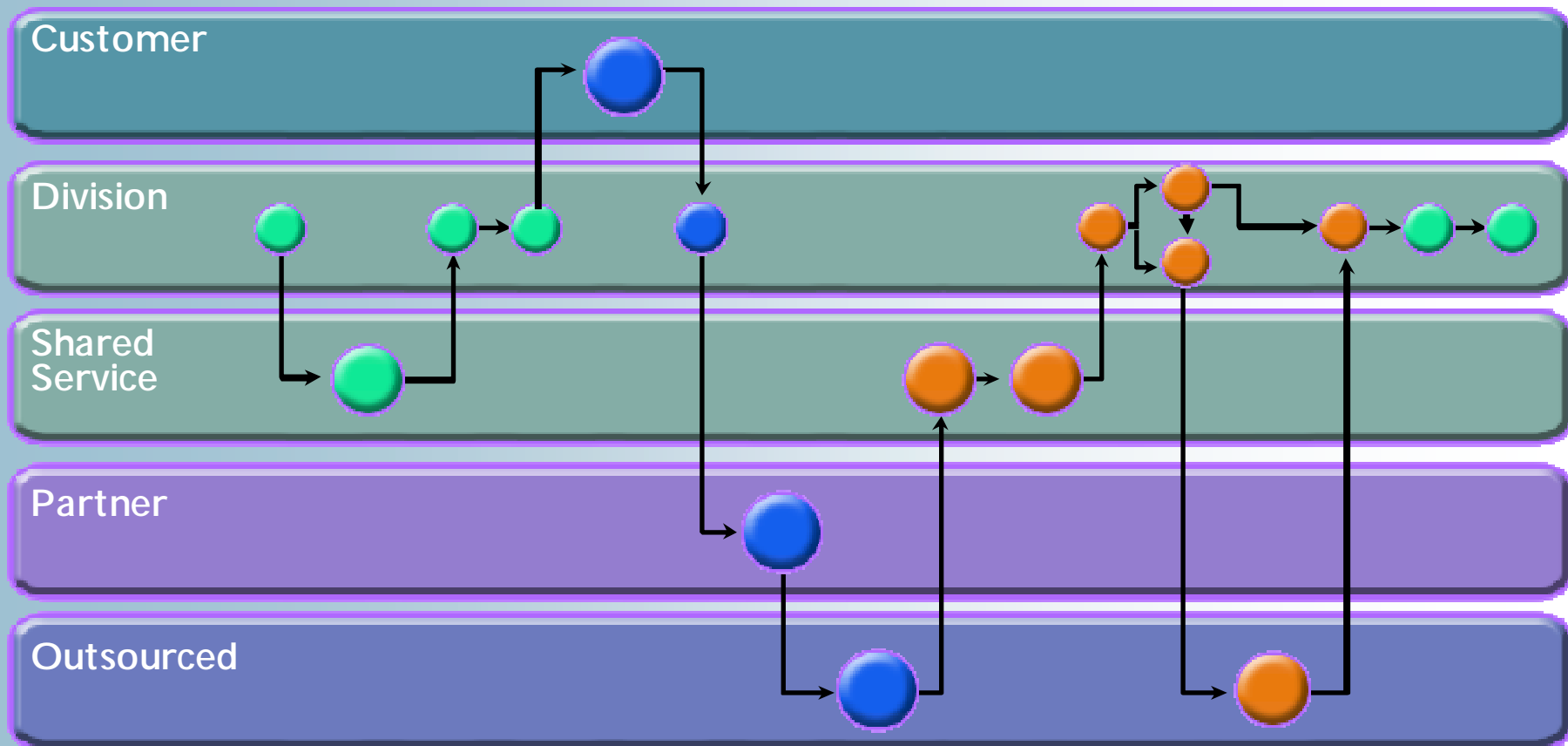
Aligning Technology with Business Objectives: Paving the Way for Business Flexibility

Case Study: Procure to Pay Process

Customer

Division

Shared Service

Partner

Outsourced
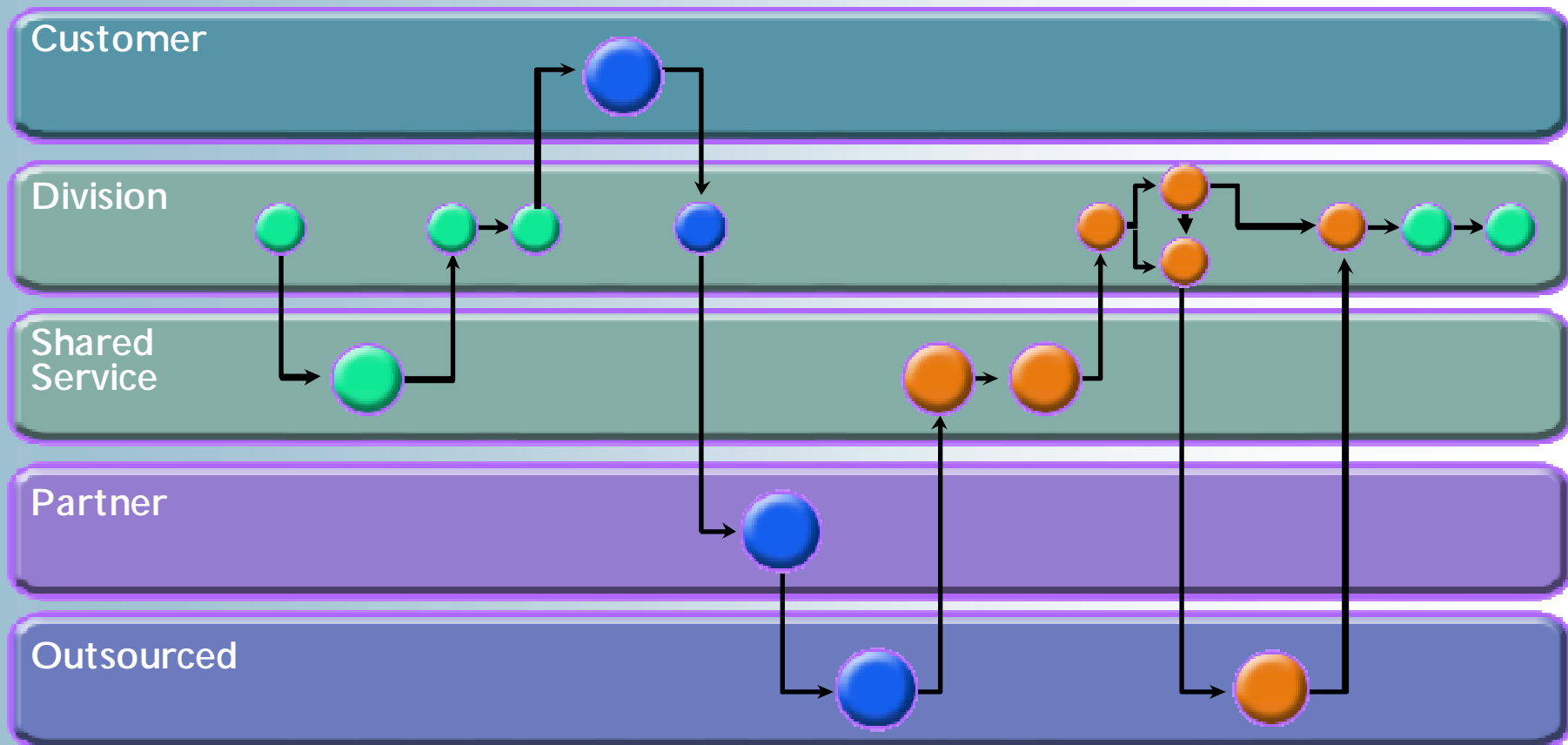
Why is this Scenario So Desirable?

Why Business need SOA?

Business Optimization Enabled Through Innovation and Technology

- A much more pragmatic approach to re-engineering efforts
    - Incremental deployments
    - Clearly tied to tangible business benefits
    - Compelling Regulation/Public Policy Shifts

- Move function to the organization that can best meet your business needs – within the organization, to a business partner or completely outsourced

- Allows for ongoing business tuning and monitoring without widespread disruption – optimization in *chunks*

Technology adoption keeps increasing and the need for speed, flexibility. Adaptability to change is becoming that much more important.

What are the barriers to business flexibility and reuse?

- **Lack of business process standards**

- **Architectural policy limited**

- **Point application buys to support redundant LOB needs**

- **Infrastructure built with no roadmap**

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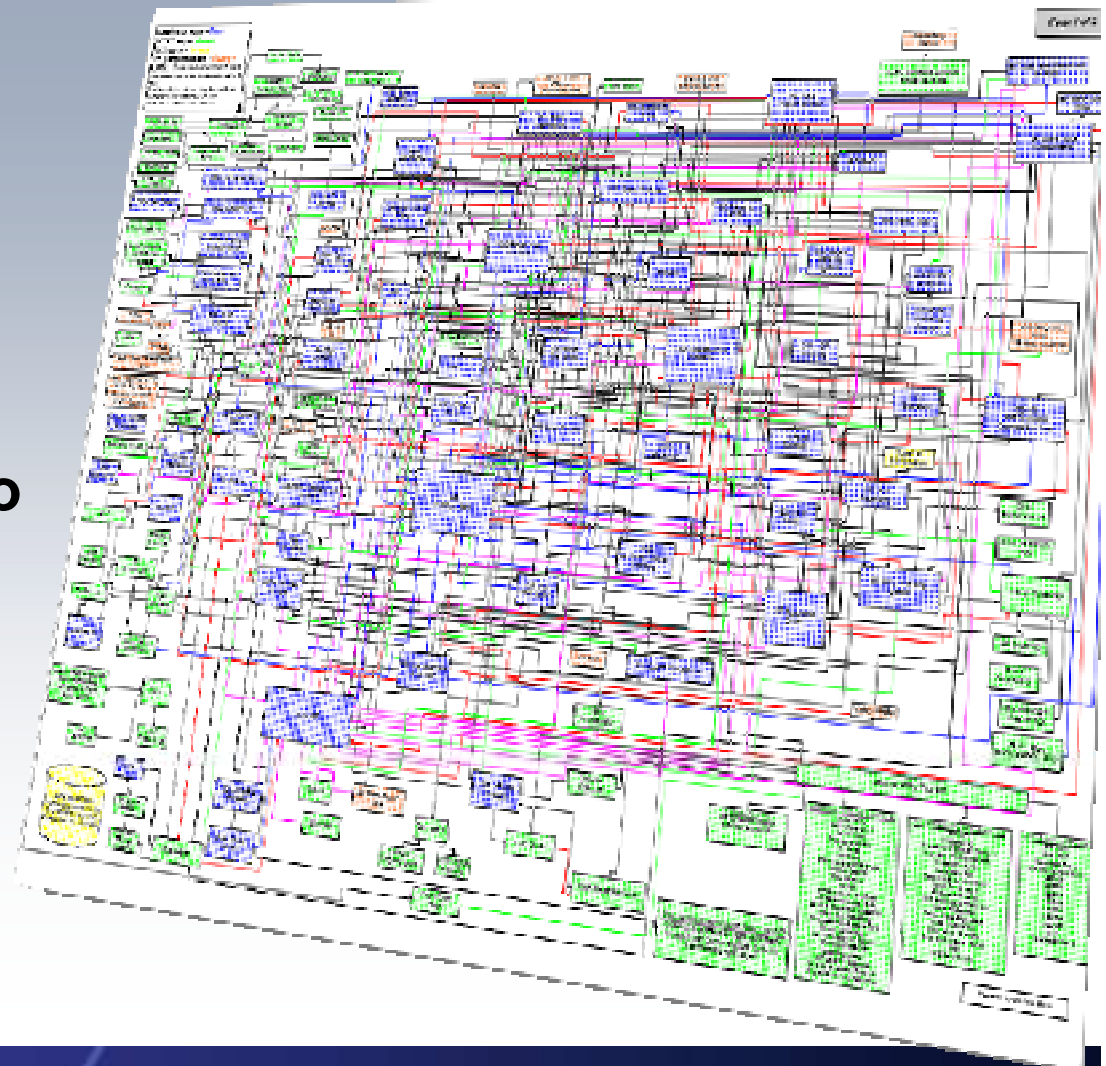
But… Technology applied the right way can pave the way for business innovation

- **Standards for interoperability**

- **Infrastructure that supports self-defined, loosely coupled interfaces emerging**

- **Tools incorporate existing assets through automation, virtualization, and integration**
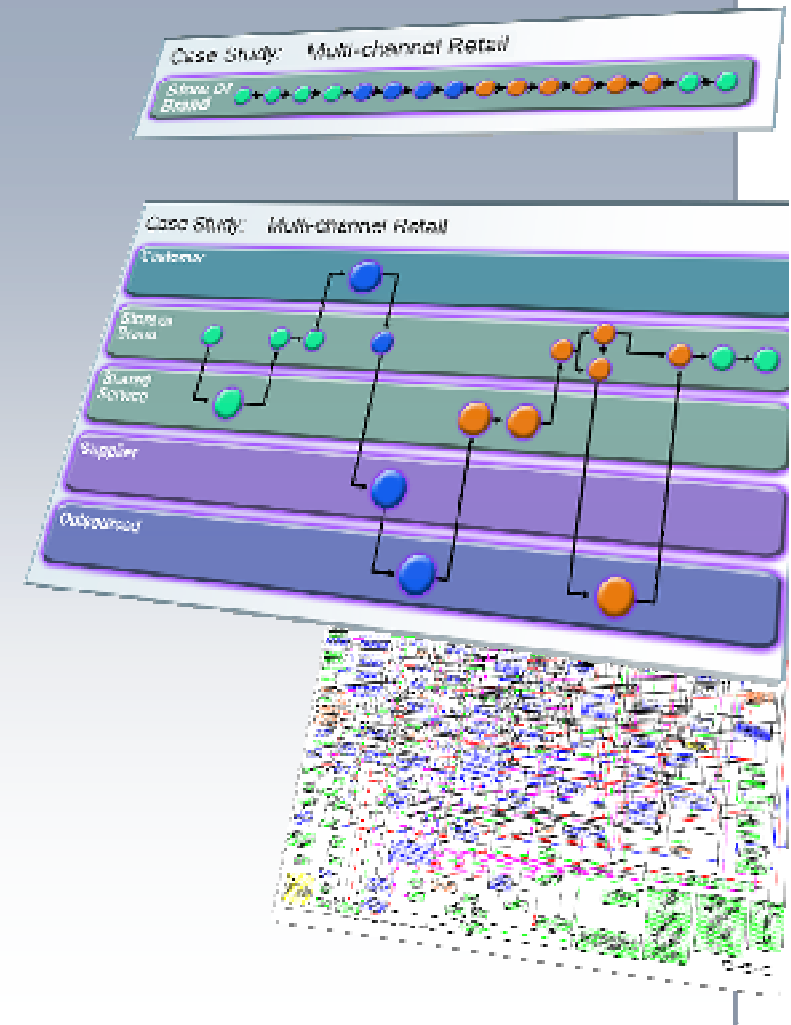
What is needed to succeed in this environment

- **Flexibility**
  to create competitive advantage.

- **Efficiency**
  to handle increasing frequency of change.

- **Responsiveness**
  to outperform competition and meet increasingly demanding customer expectations.

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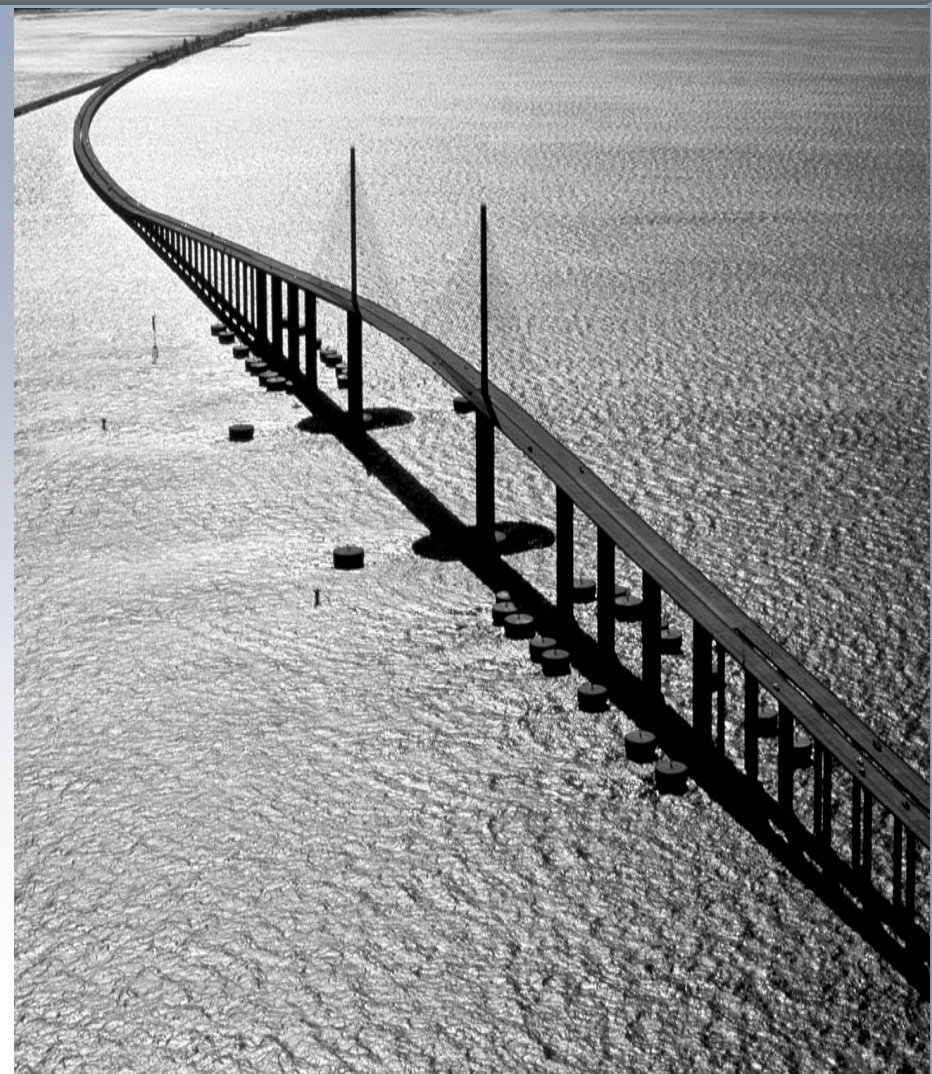
Facilitating the ability to …

Flexibility

… Grow faster

- Bekins increased revenue by $75M through integration with business partners to serve a new market

- PineBank increased customer traffic by 300% and revenues by $8M

Efficiency

… Spend less

- Kookmin Bank should save $250 million from reduction of duplicate processes

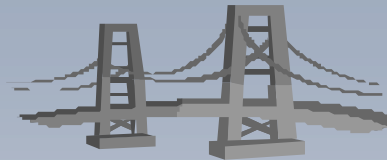- Volkswagen realized a 20% productivity gain

Responsiveness

… Increase customer satisfaction
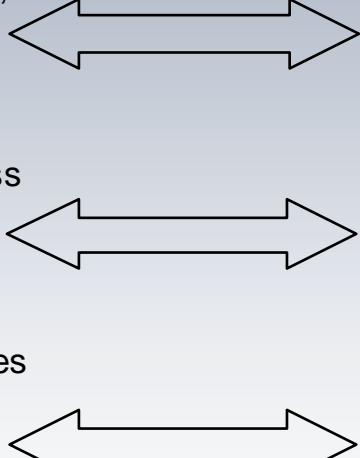
- Dassault Aviation reduced concept-to-runway development time by 30%

- British Petroleum decreased user-provisioning time from 5 days to 10 minutes

How is this achieved?
… by bridging the gap between Business and IT

Business Domain

IT Domain

- Defining Business Models, Processes, and Metrics

- Implementing Business Models Processes, and Metrics

- Coordinating activities within a business process

- Running systems composed of services implemented as software components from a model

- Continually refining Business Processes through execution experience

- Continually refining business performance through runtime monitoring and management

Aligning IT and business goals to grow revenue and contain costs

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Flexible business requires flexible IT

Full Business view
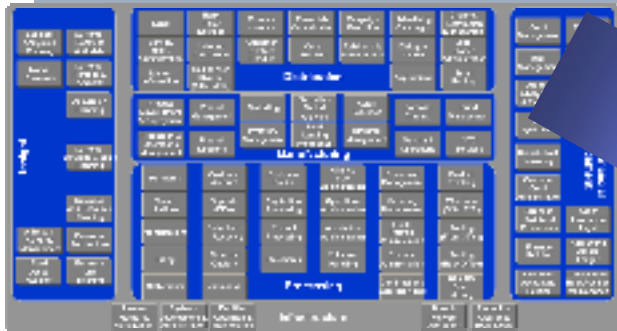
Process to optimize

Case Study: Payments Processing

Customer

Bank

Shared Service

Bank 2 – "Supplier"

Outsourced
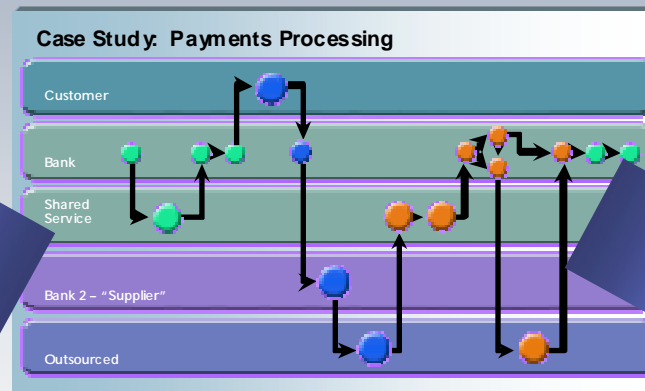
Creating IT flexibility

SOA on your terms and our expertise
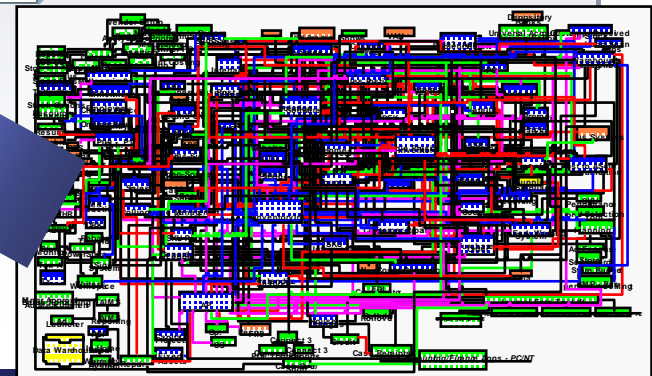
Composite Business Architecture
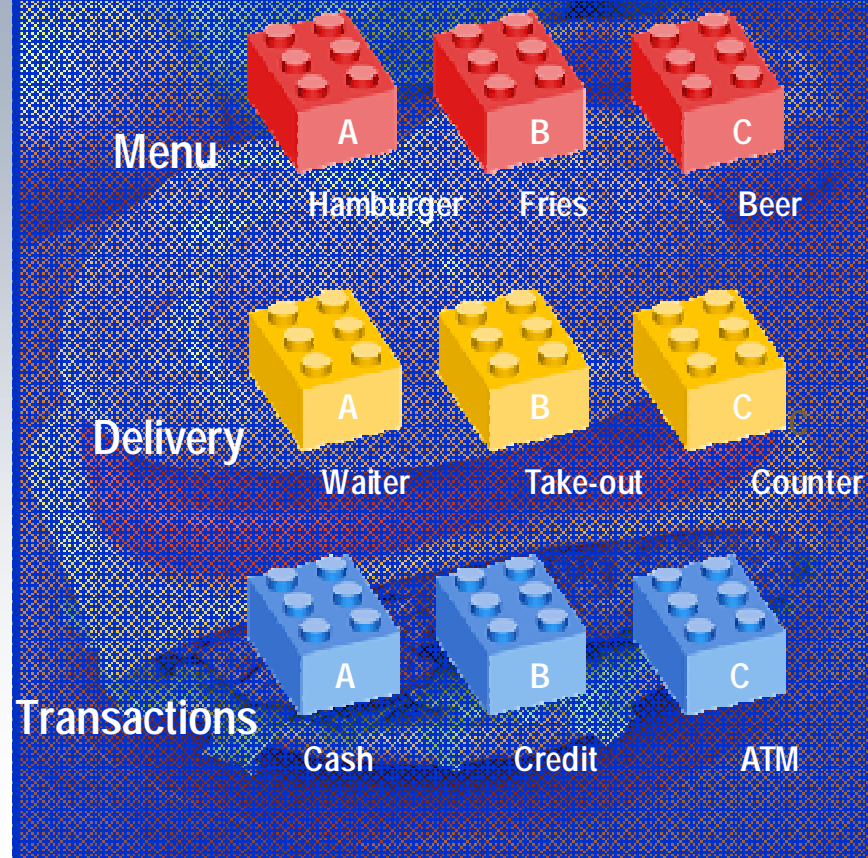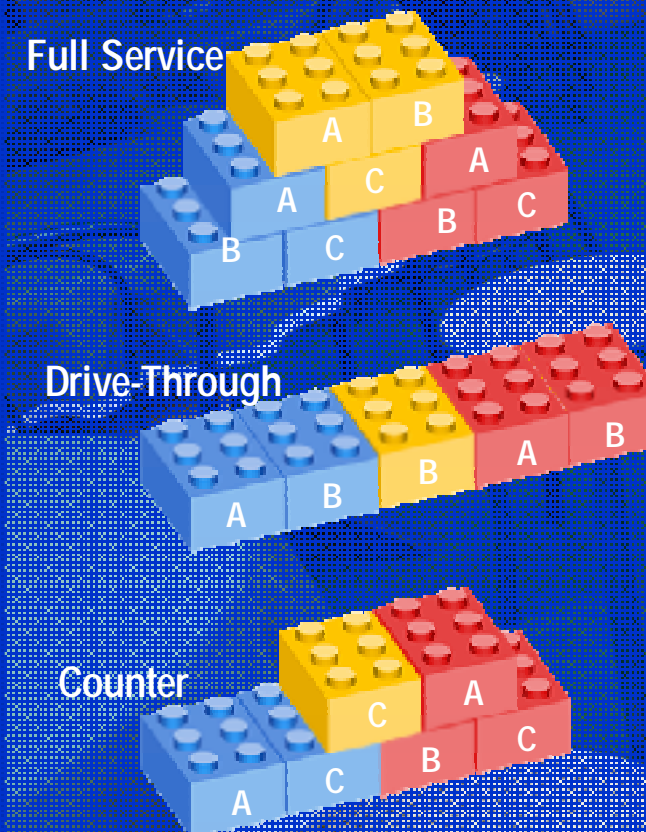
SOA builds flexibility on your current investments
The next stage of integration

Service Orientated Integration

Enterprise Application Integration (EAI)

Messaging Backbone
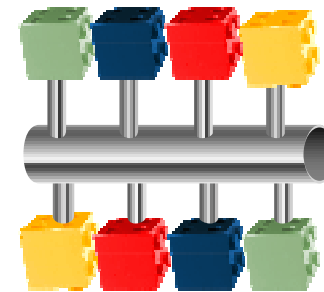
- Integration of services through an Enterprise Service Bus
- Flexible connections with well defined, standards-based interfaces

- EAI connects applications via a centralized hub
- Easier to manage larger number of connections

- Point-to-Point connection between applications
- Simple, basic connectivity

Flexibility

As Patterns Have Evolved, So Has IBM

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Getting To SOA

Business Domain

IT Domain

On Demand Transformation

On Demand Transformation

Optimize

Automate

Integrate

Connect

Effectiveness

Composite Applications

Efficiency

Interactions

Tasks

Connections

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ON DEMAND BUSINESS
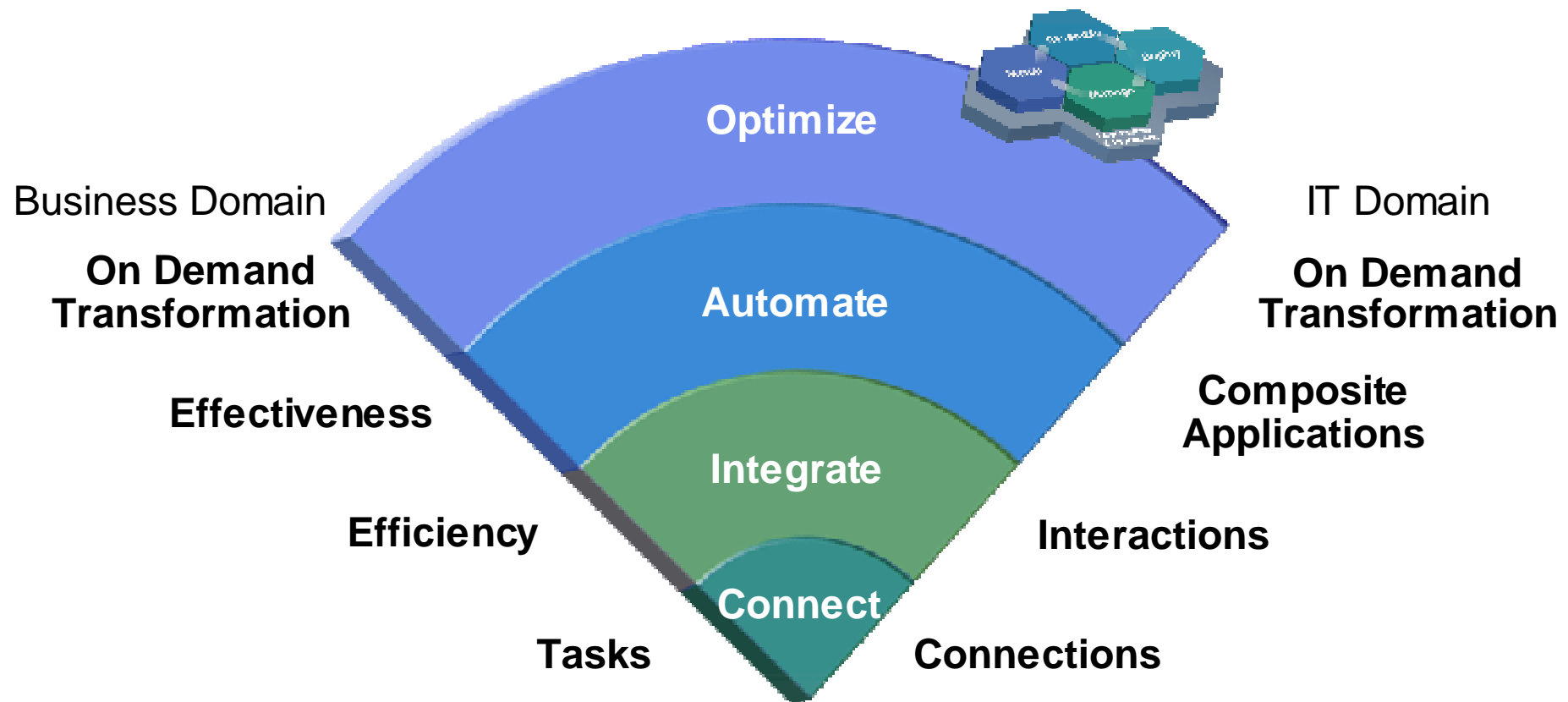
Why SOA now?

- **To keep pace with global competition:**
  - "We are taking apart each task and sending it … to whomever can do it best, … and then we are reassembling all the pieces"
    from Thomas Friedman's 'The World is Flat'

- **The standards and technology are finally in place, with broad industry support**

- **Availability of best practices for effective governance**

- **The necessary software to get started is available today**

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SOA Foundation strategy starts with business processes management

Assembling and constructing the service components to support the optimized processes

Deploying the optimized processes into your operating environment

Assemble

Deploy

Model

Manage

Governance & Processes

Modeling and analyzing end-to-end business processes

Monitoring and managing the deployed processes

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IBM WebSphere Software and SOA

Helping you address today's challenges and improve your flexibility for tomorrow

Simple-to-use integration development tools

Flexible, robust deployment environment, **supporting processes, people, information and applications across your organization and beyond**

Process modeling and analysis tools **for business analysts**

Model

Assemble

Deploy

Manage

Governance & Processes

Process monitoring tools **for business users**
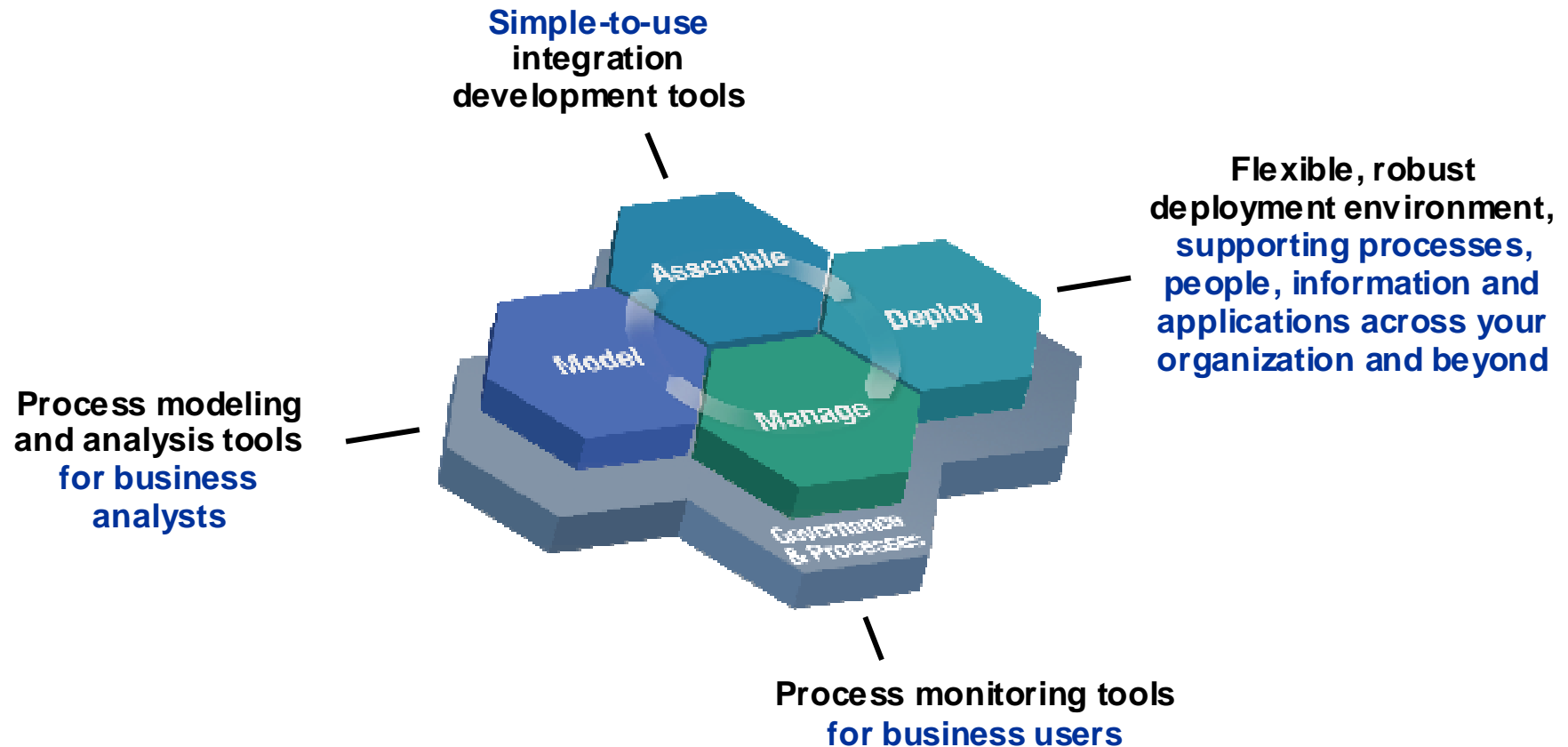
End-to-end business process capabilities

Breadth of SOA deployment capabilities

WebSphere software

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SOA Foundation
Part of a broader portfolio to meet your every need

WebSphere Integration Developer*
Rational Application Developer*

WebSphere Business Modeler*
Rational Software Architect*

WebSphere Business Monitor*
Tivoli Composite Application Manager*
Tivoli Identity & Access Manager

Process:
WebSphere Process Server*
WebSphere ESB* & Message Broker*
WebSphere Partner Gateway & Adapters
People:
WebSphere Portal*
WebSphere Everyplace Deployment*
Workplace Collaboration Services*
Information:
WebSphere Information Integrator*
Application Infrastructure:
WebSphere Application Server & XD*

* New or Enhanced

End-to-end process capabilities for your SOA

New! *From IBM WebSphere software*

WebSphere Integration Developer

Easy-to-use integration to simplify and speed the assembly of composite applications

WebSphere Process Server

Flexible deployment of business processes, making plug-and-play of components a reality

WebSphere ESB

Connectivity infrastructure for integrating applications and services to power your SOA

WebSphere Business Modeler

Simple to use process modeling for the business analyst to help maximize process and business resource re-use

WebSphere Business Monitor

Real-time visibility into process performance enabling process intervention and continuous improvement

What differentiates SOA from claims like this in the past?

Standards

- Broadly adopted Web services ensure well-defined interfaces.
- Before, proprietary standards limited interoperability

Organizational Commitment

- Business and IT are united behind SOA (63% of projects today are driven by LOB)*
- Before, communication channels & 'vocabulary' not in place

Degree of Focus

- SOA services focus on business-level activities & interactions
- Before, focus was on narrow, technical sub-tasks

Connections

- SOA services are linked dynamically and flexibly
- Before, service interactions were hard-coded and dependent on the application

Level of Reuse

- SOA services can be extensively re-used to leverage existing IT assets
- Before, any reuse was within silo'ed applications

*Source: Cutter Benchmark Survey

Real results from IBM WebSphere software

Extending SOA to the user interface at Volkswagen

Drivers wanted. VW

The Challenge

Improve the productivity of procurement department
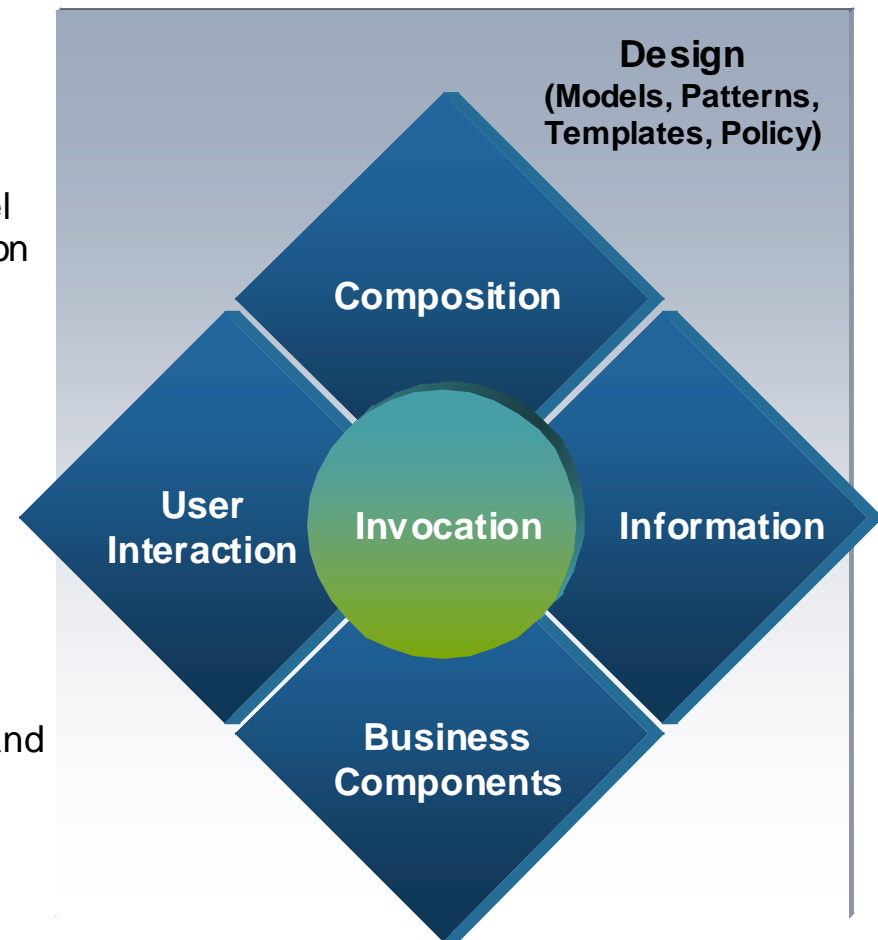
The Solution

- On Demand Workplace including enterprise wide portal for employees and suppliers

- Sensing, analytic and workflow capabilities

- Streamlined the way employees access and act on information

Real Results

- 20% increase in staff productivity
- Significant decrease in supplier and inventory costs
- Expect 100% payback within a year
- Reuse of portal platform for every kind of portal (B2X)

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Supported by a common SOA Programming Model

- **Focus on business design modeling, simplification, and role-based collaboration**

- **Composition of Business-level Applications**
  - ▶ Wired assembly of services to form business-level applications, workflows, and business orchestration

- **User Interaction**
  - ▶ Dynamic support for people integration into the business design

- **Business Components**
  - ▶ Composable and reusable services

- **Information**
  - ▶ Built-in access to service state, disconnected service-data exchange, information composition and transformation

- **Invocation**
  - ▶ Loosely-coupled call-style and event-driven interconnection of services

Design
(Models, Patterns, Templates, Policy)

Composition

User Interaction

Invocation

Information

Business Components

With adherence to the standards that enable flexibility

⬡ **Model**	⬡ **Assemble**	⬡ **Deploy**	⬡ **Manage**
IBM Modeling Essentials	**IBM Development Essentials**	**IBM SOA Runtime Essentials**	**IBM SOA Management Essentials**
▪ **UML**	▪ **Deployment Policy**	▪ **Web Services**	▪ **WS-DM**
▪ **Industry Frameworks**	▪ **Modules/Systems**	▪ **Java**	▪ **CIM**
▪ **SOMA**	▪ **Portlets**	▪ **Industry standard data formats** (AL3, HL7, SWIFT, HIPAA, EDI, etc.)	▪ **ARM**
▪ **RUP**	▪ **BPEL**		▪ **CBE**
▪ **BPEL**	▪ **Service Components**	▪ **Open Mobile Alliance**	▪ **WS – Security**
▪ **WSDL**	▪ **Service Data Objects**	▪ **W3C**	
	▪ **Java**	▪ **OASIS**	
	▪ **Eclipse**	▪ **UDDI**	
	▪ **XML**	▪ **Gluecode**	
	▪ **SQL**		
	▪ **WSDL**		

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Thank You

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WebSphere Live for SOA

Getting to the heart of Service Oriented Architecture (SOA)

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