



# Service Oriented Architecture Cisco IT Case Study

## Interop 2006

**Brian Christensen**

**Director, IT Infrastructure**





# SOA—Cisco IT View



An Architectural Style Based on the Concept of Breaking Business Processes Into Loosely Coupled, Re-usable and Flexible Services and Components

- SOA is **not** a new concept in software architecture
- What **is** new is the convergence of vendor and user interests, combined with open standards, that make SOA a real possibility

# Cisco IT Future SOA Direction

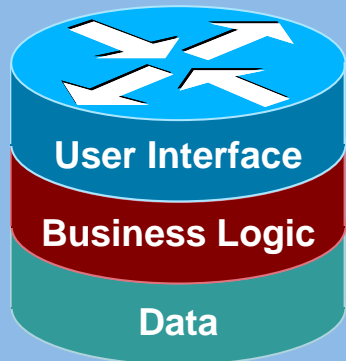
	From	To
 <b>People</b>	Majority Spent Integrating Applications >20% IT Spend on Integration	Time Spent on Business Enabling Tasks
 <b>Data</b>	Data Replicated Everywhere >1 Petabyte Duplicated Data	Single Source of Truth
 <b>Business Logic</b>	Business Logic Re-written in Each Application > 80% of Business Logic Re-Written	Centralize Management of Business Logic With Integration of Business Process Orchestration
 <b>Management</b>	Every Application Rewrites Management Aspects of Services	Standardized Authentication, Logging, Versioning, Transformation and Vocabulary

“Inside Cisco IT we are focused on spending more time innovating and less time integrating.”

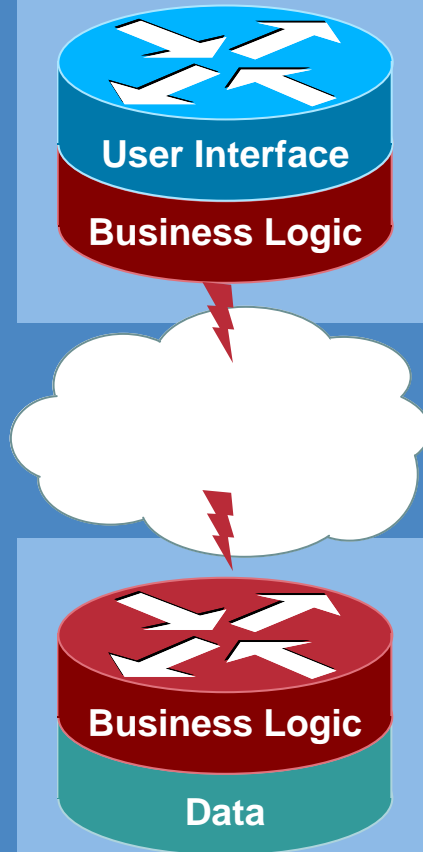
Brad Boston, CIO and Vice President, Cisco Systems

# Evolution of Application Architecture

## Monolithic



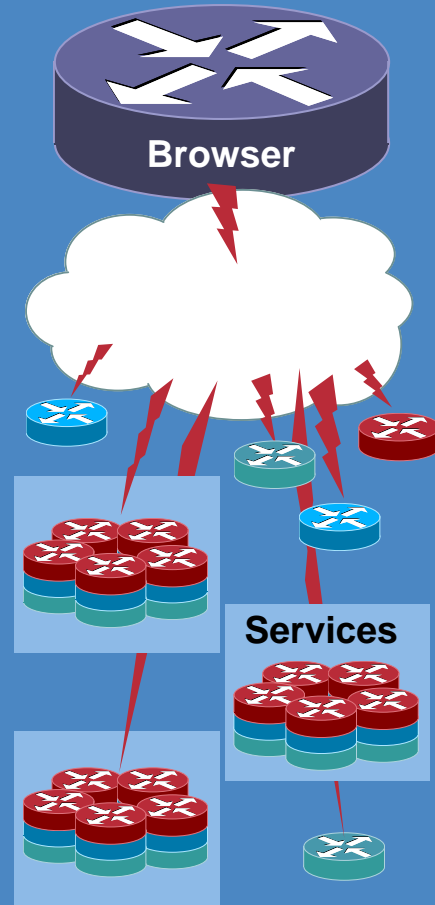
## Client-Server



## WEB/3-TIER



## SOA



# Most Applications Are Custom



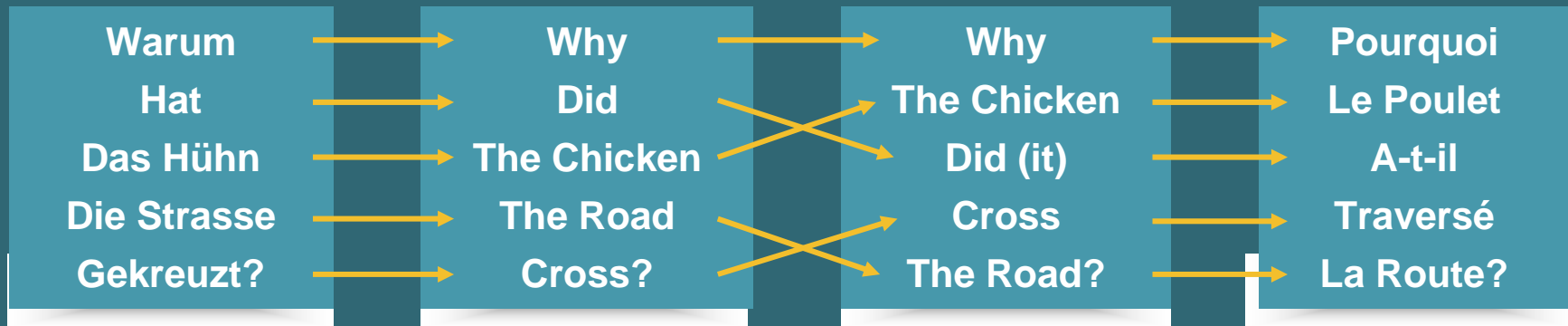
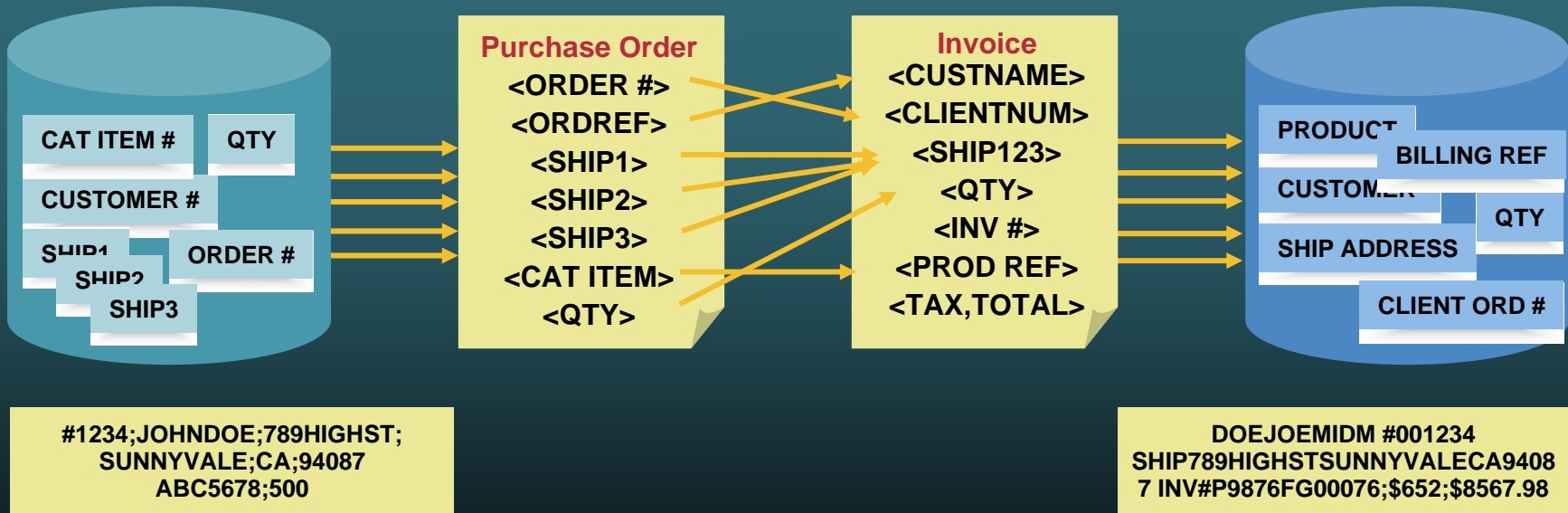
## Application 1

The screenshot shows the Cisco Employee Connection application interface. It features a search bar, navigation tabs, and several content sections including news articles, business metrics, and personal information. The interface is clean and professional, typical of an enterprise intranet.

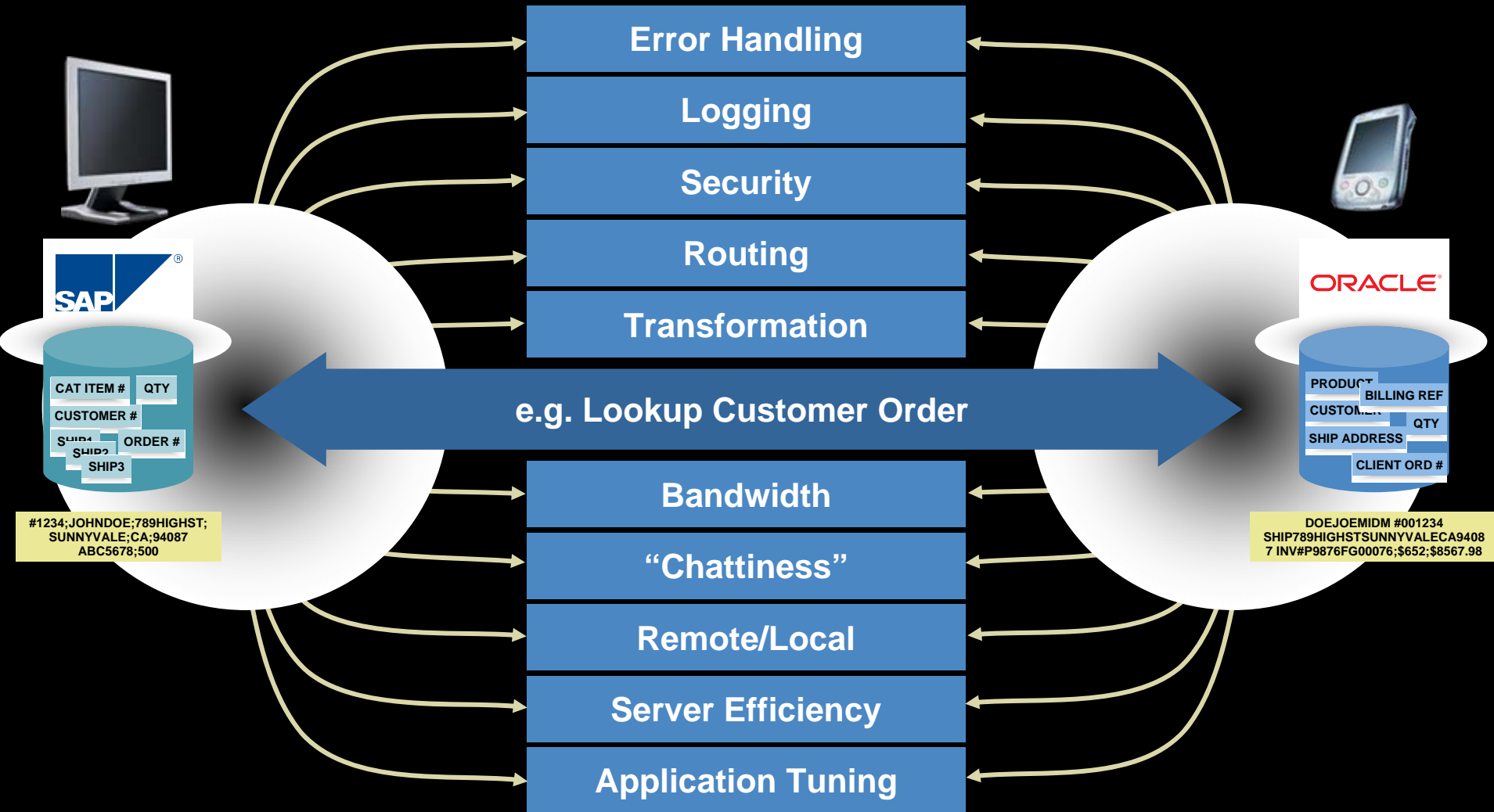
## Application 2

The screenshot shows the E-Sales Sales Dashboard application interface. It features a navigation menu, a main content area with various sections like 'Sales Rack', 'Sales News and Success Stories', and 'Frequently Used Links'. The interface is complex and data-driven, typical of a sales management application.

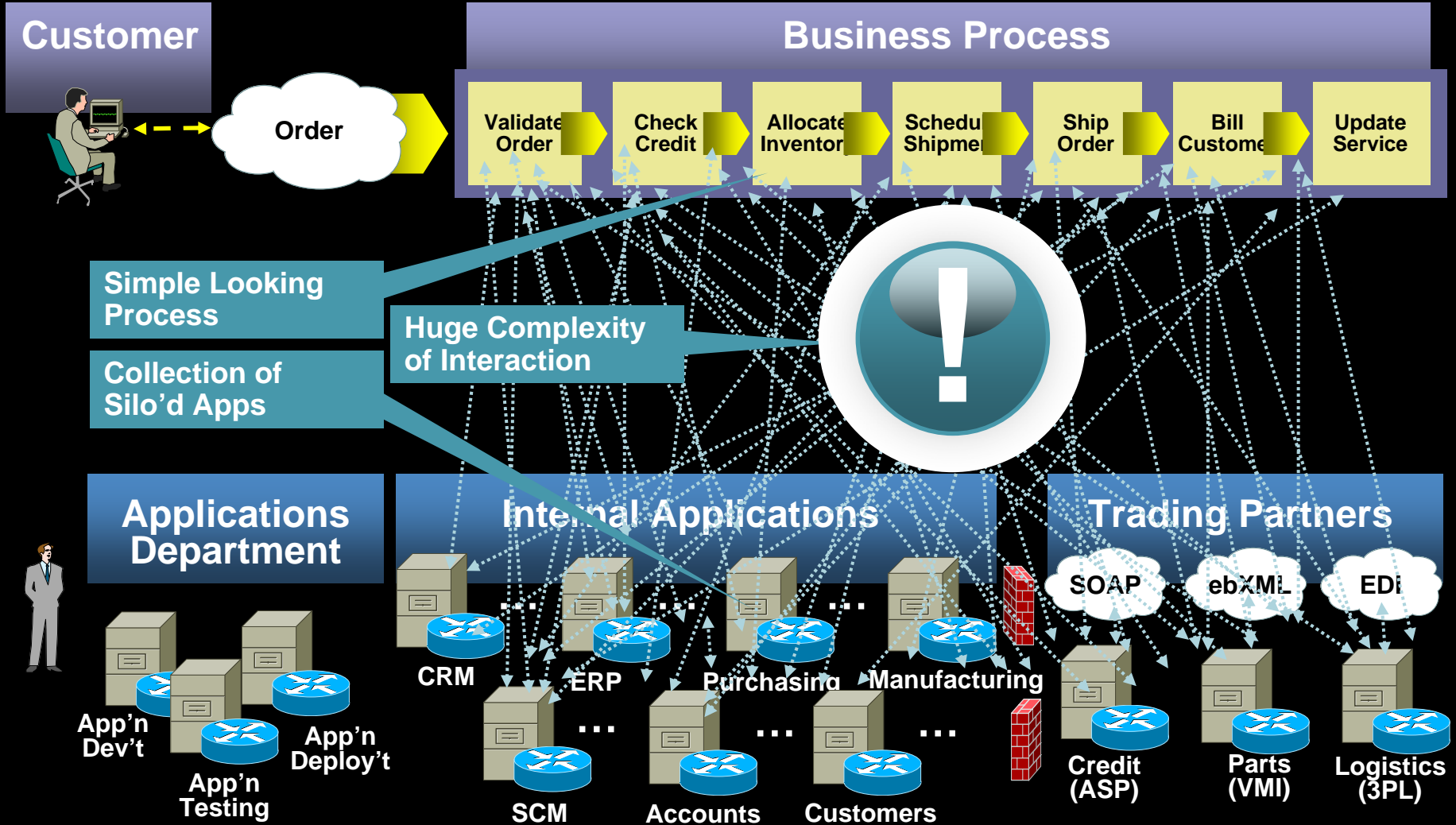
# Applications Don't Talk the Same Language...



# Application Interaction Is Complex

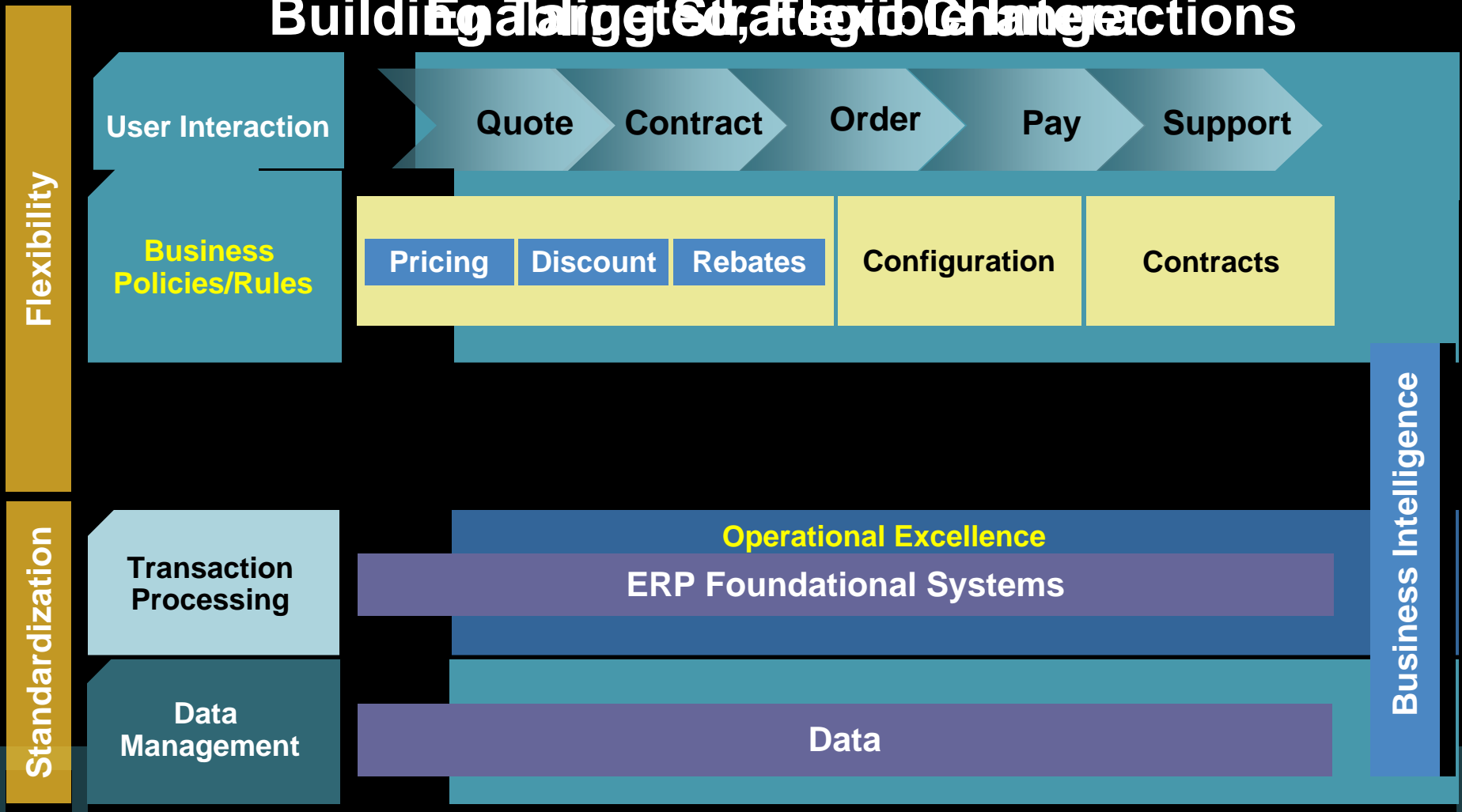


# Why IT Spends So Much on Applications



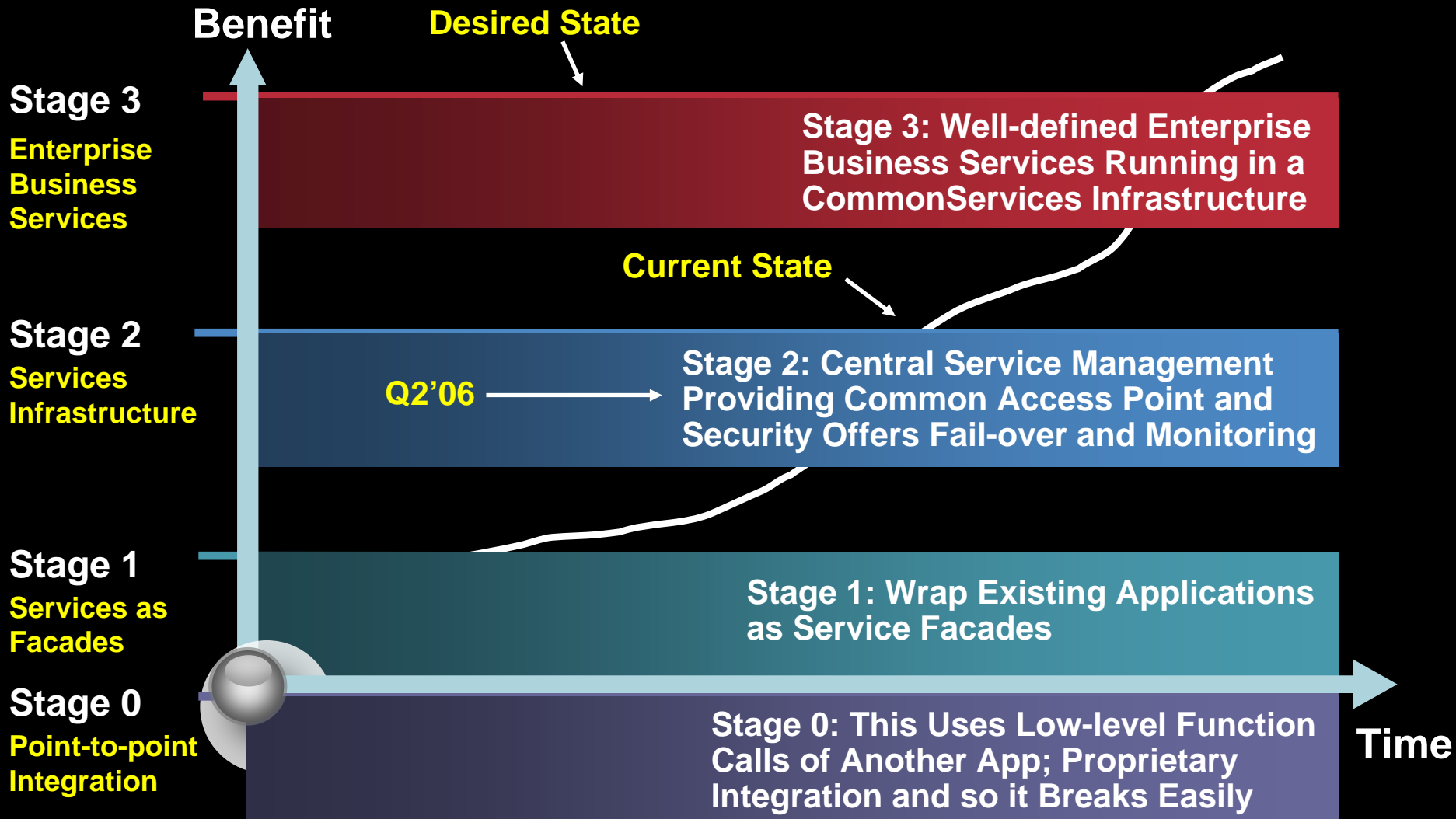
# Building World Class Architecture

## Building a Targeted, Flexible, and Scalable Architecture



## Using Biz Initiatives to Evolve Architecture

# Services Evolution at Cisco IT



# SOA Challenges

Challenge	Example
Security	Application Messages Traversing HTTP Introduce New Security Challenges
Interoperability	Multiple Implementations of Core Standards Means Interoperability Is a Challenge
Scalability	Scale Required Across the Whole Network, Not Just in the Server
Reliability	Transaction-level Reliability Is Required for Messages Traversing HTTP
Manageability and Visibility	Distributed, Loosely Coupled Applications Across Platforms, Domains, Geographies Hard to See and Manage
Availability	Services Must Be Made Universally Available and Callable on the Network, 24x7

# Summary

- Cisco expects to achieve a 20% increase in IT productivity by implementing SOA
- We believe SOA will enable us to invest in innovation
- Reduces complexity, and expenses
- Saves resources
- Increases efficiency, control, performance, and flexibility

## Applications and the Network Working Together

- Improved value from existing deployments
- New value from service-based infrastructure



# Q and A



# CISCO SYSTEMS

