



Service Oriented Architectures for the Adaptive Enterprise

Peter Linkin

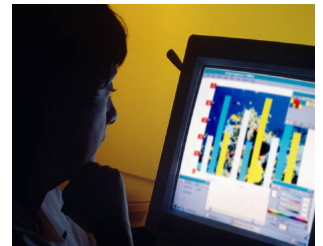
Snr. Director Product Marketing
BEA Systems, Inc.

Agenda

- The significance of SOA
- Strategic transformation examples
- The shared services approach to SOA
- The road to SOA: BEA's in-house IT
- The Adaptive Enterprise
- Q&A

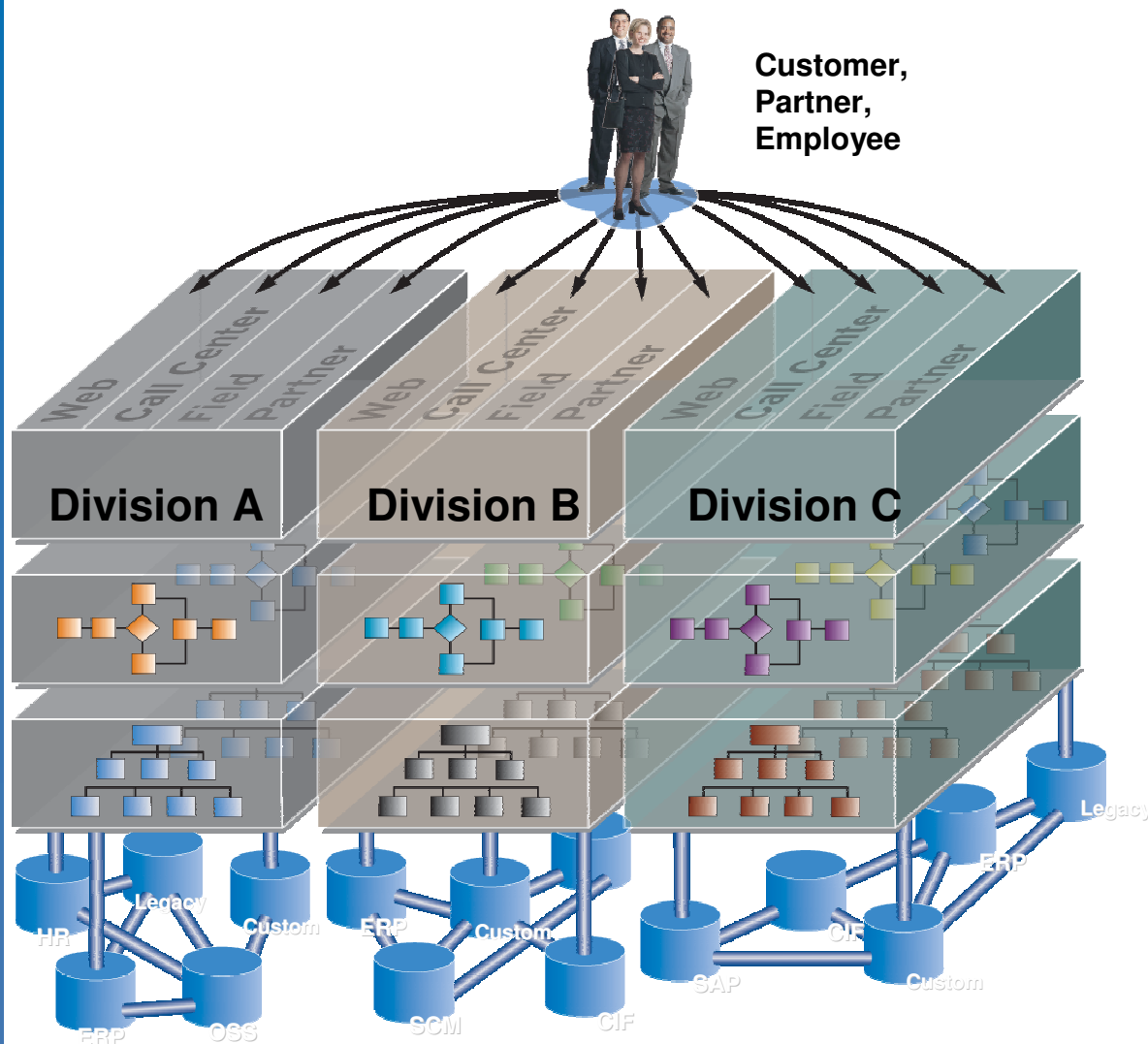
Today's business challenges

- Increased operational efficiency
 - Improve productivity from *existing systems*
 - Streamline and optimize *business processes*
- Responsiveness to customers
 - Create end-to-end *visibility* into the business
 - Make the information accessible and *actionable*
- Adaptability to change
 - Built-in *re-use* and *adaptation*, no 'starting over'
 - Turn IT into a competitive *business asset*
- While ...achieving faster time to value
... with same or less resources



Why SOA?

Today's enterprise IT reality



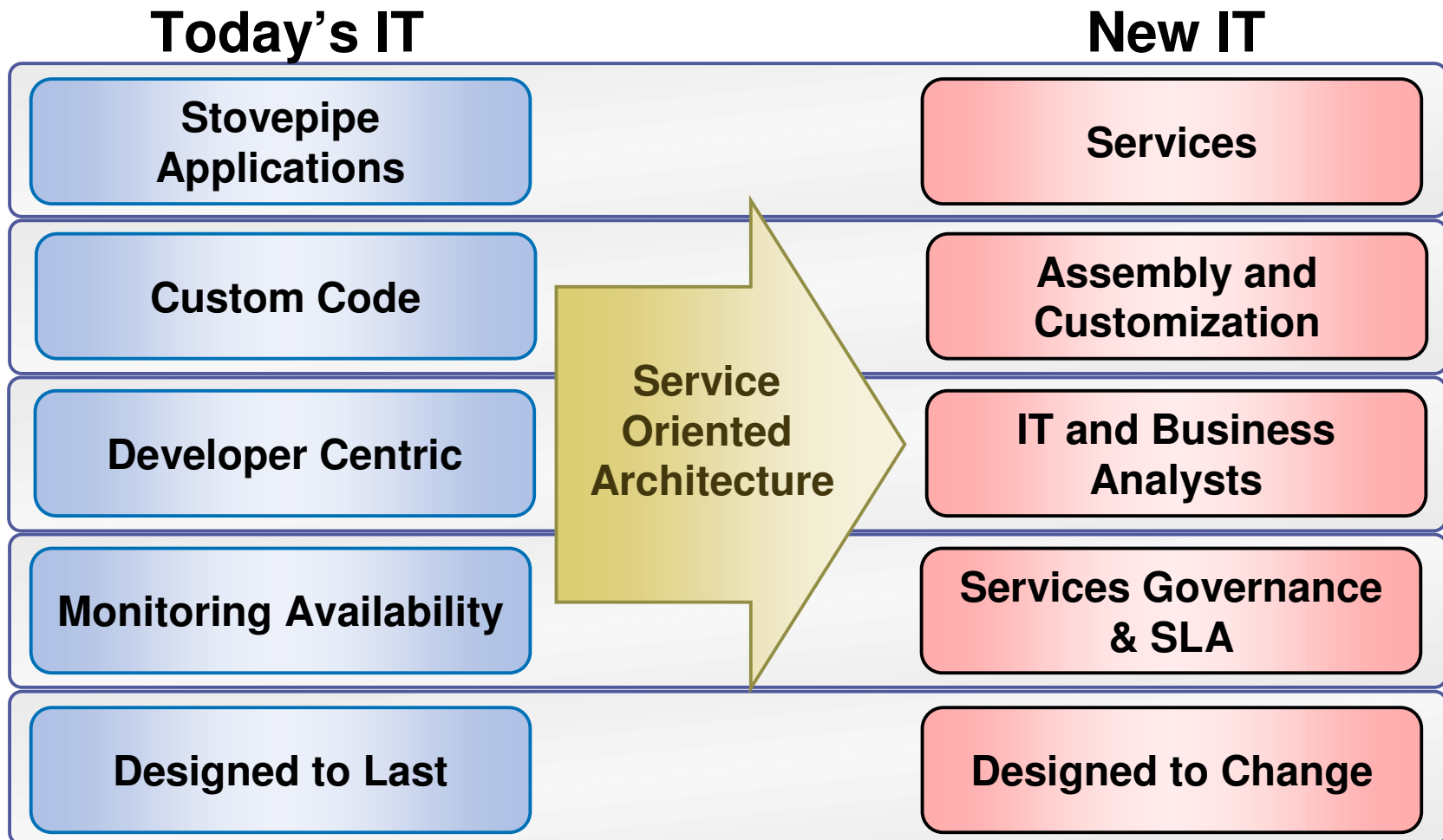
- Monolithic applications
- Redundant code
- Redundant data
- Hard to evolve
- Hard to extend
- Hard to integrate
- Hard to instrument
- Prevents IT from keeping up with the business

What? How? Why?

- SOA is:
 - an organizational and design **methodology** that more closely **aligns IT with the business**
- SOA is usually implemented
 - as a collection of layered services with standardized interfaces, where the services are **reusable**
- SOA facilitates:
 - a higher level of application_focused on **business processes**
- The benefits of SOA include:
 - **greater re-use** of IT assets
 - **greater interoperability**
 - **greater adaptability** to change



SOA represents a paradigm shift



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Strategic transformations through SOA

1

Service Effectiveness

Lowering the cost-to-serve customers, employees, partners through self-service business models

2

Service Efficiency

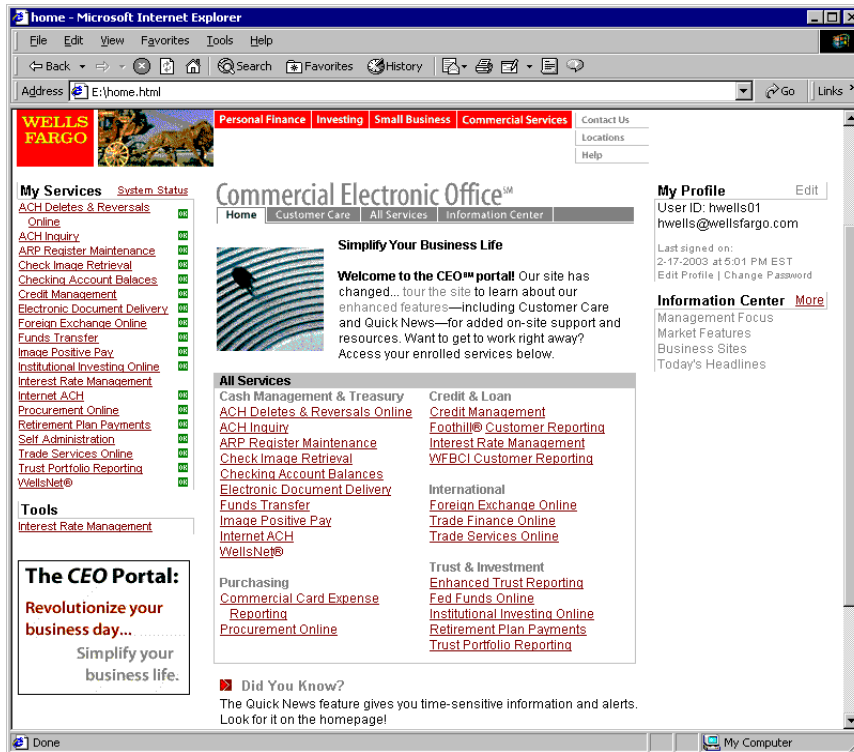
Streamlined business process in zero touch, real-time efficiency

3

Service Innovation

Service enabling physical and technology assets for creation of new services

Service effectiveness: Customer self-service banking portal



Challenge

- Cash management “terminals” expensive and slow to update



Solution

- Online access to 30 commercial banking services
- Faster time-to-market for new features
- Integration with legacy systems
- Single sign-on and self-administration



Results

- 20,000 corporations & institutions signed on
- Expanded from 4 services to 30 on CEO in just two years
- Increased average number of products used by each customer
- Grew # of users by 95%, revenue through portal by 35% in one year

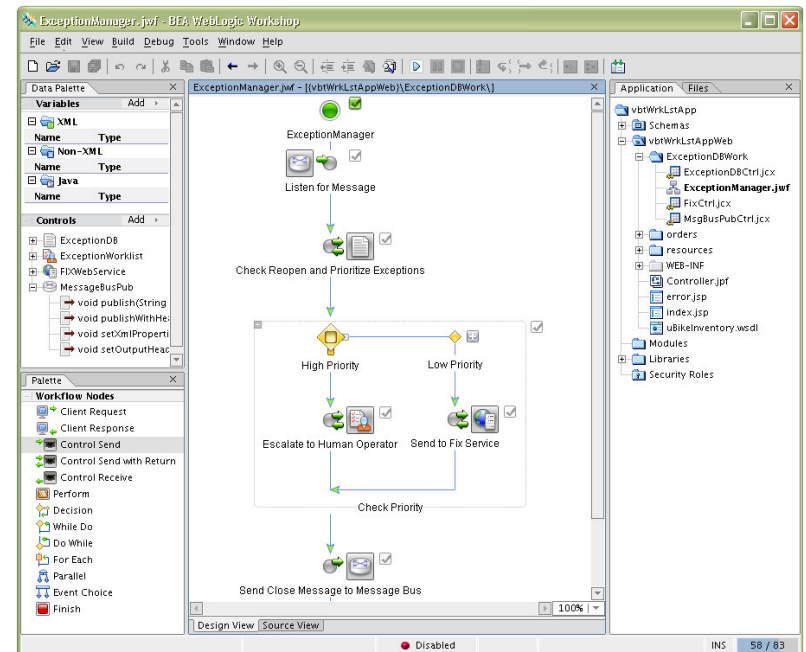
Service efficiency: Streamlined securities processing

Opportunity / Challenge

- Automate manual, paper-driven trade enrichment and exception handling

Solution

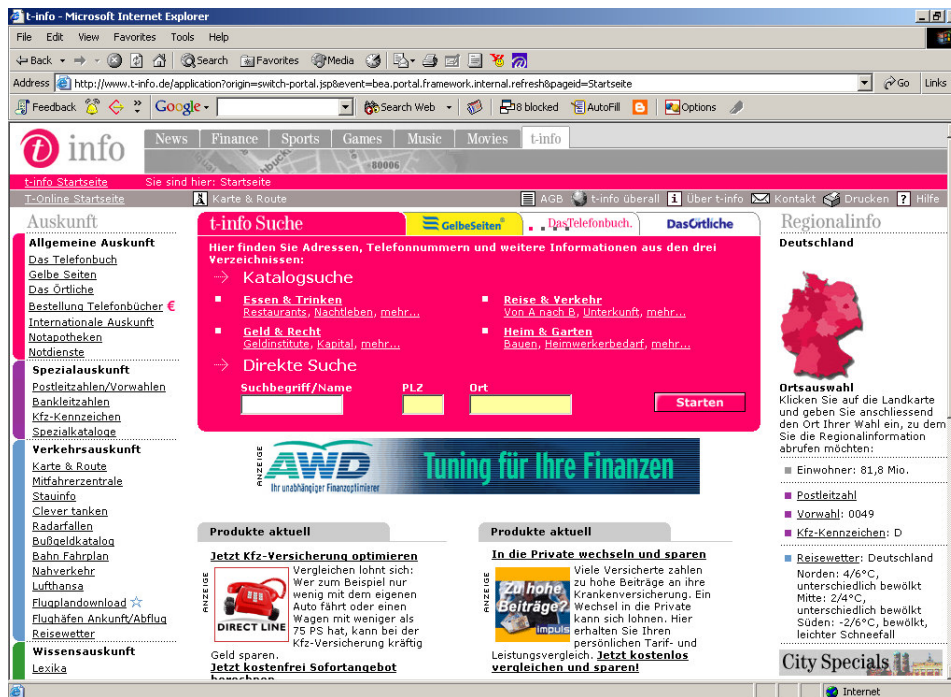
- Implements a single point of capture, validation, edit/enrichment and repair
- Streamlines operations staff workflow
- Integrates multiple custody, cash and reporting systems



Results

- \$1MM per month savings
- Retired expensive mainframe applications
- Accelerated set up time for new clients
- Increased business process responsiveness to market changes
- Complete audit trail on all exceptions

Service innovation: Delivering web-based services



Opportunity

- Use Internet to offer new services to customers on mobile devices

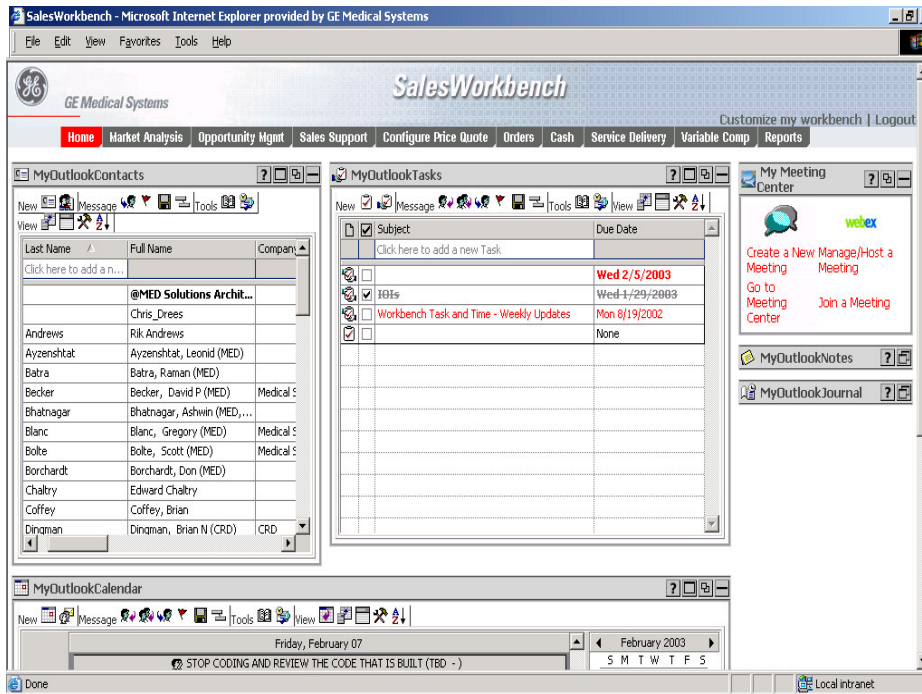
Solution

- Multi-access portal, simplified integration with backend-databases and 3rd party applications
- Rapidly offering new services from 3rd party providers on mobile devices through web services interfaces

Results

- Increasing customer usage and satisfaction, drawing millions of subscribers
- Enabling new campaigns and services to drive increased customer acquisition
- Market-launch after just 2 months of development, new offerings quarterly
- Migrating the HW architecture to further lower license & support costs

Integrated, self-service sales portal



Opportunity

- Use end-to-end sales process to increase sales productivity



Solution

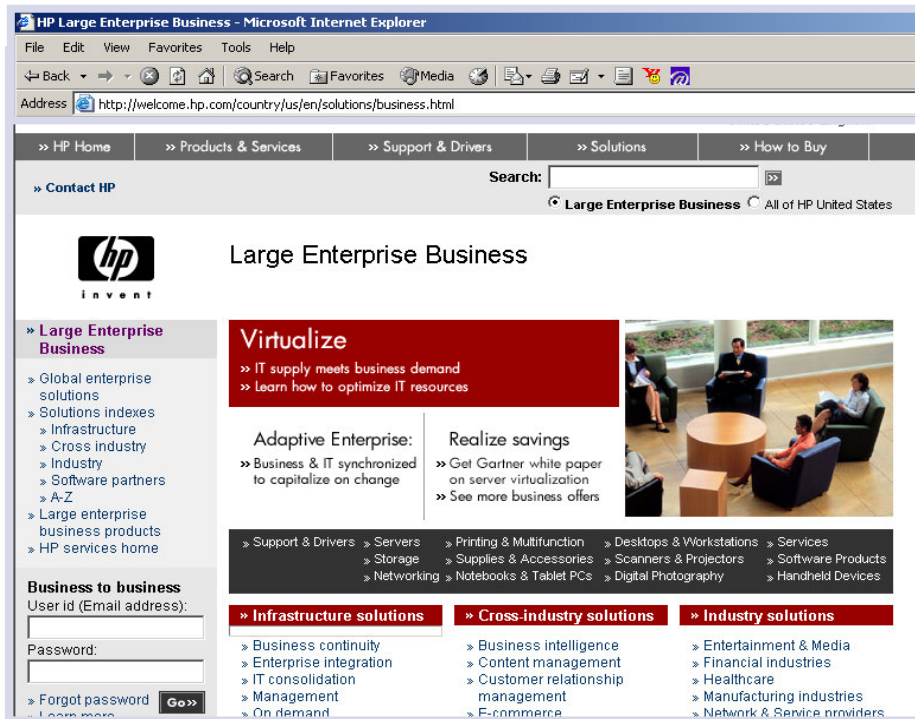
- Personalized portal access
- End-to-end sales process, from configure-to-order through close
- Leverage 15 best-of-breed applications
- Single sign-on and self-administration



Results

- Target boosting face-time selling by 25% for 4500 sales personnel
- Controlling margin erosion
- Retiring 400 disparate back-end systems
- Reuse in similar portals: Service, Engineering, Customers (30%-90% target)

Growing products per customer



Opportunity

- Use Internet to boost revenue per customer through cross-sell, up-sell

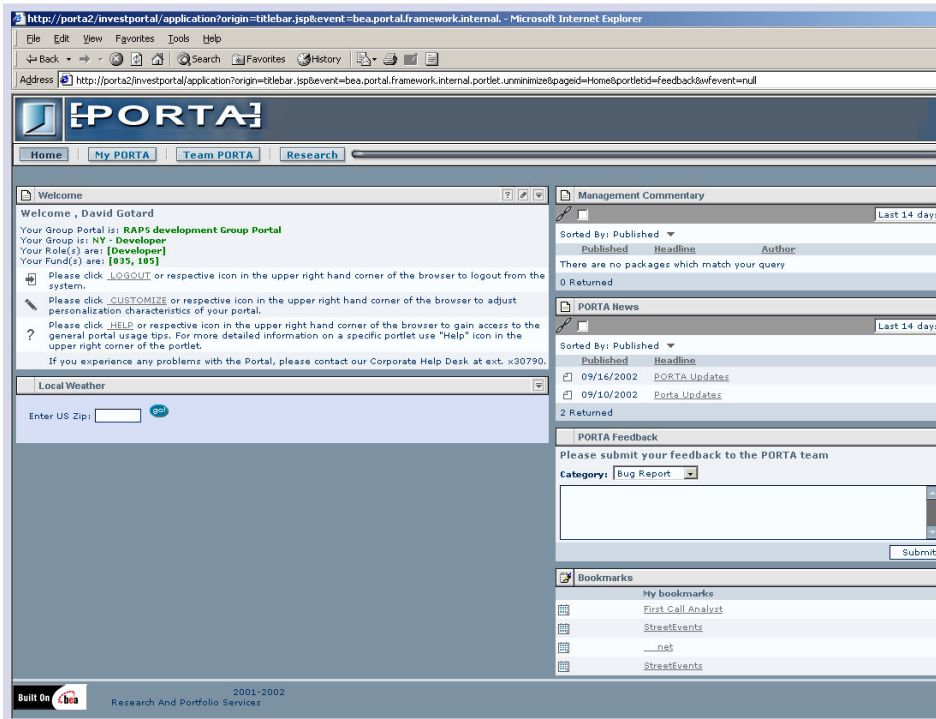
Solution

- Personalized portal access to drive high-volume revenue from products across multiple lines of business
- Configuration and customized price quotes, bundling products and services
- Web service to multiple shopping sites

Results

- Driving revenue by deepening product depth & service for major corporate customers
- Processing several thousand transactions daily, driving cross-sell at time of price quotes
- 8-week launch of pricing/configuration web service; greater ROI on SAP assets
- Reuse of services by multiple e-commerce applications, reducing dev/management costs

Enterprise services platform



Opportunity

- Single point of access to services-based investment research platform



Solution

- Portal access for all necessary data, personalized by group and individual
- Real-time collaboration features
- Seamless services-based integration with external institutions for data
- Flexible application assembly for teams



Results

- Orders of magnitude productivity gains through personalized research access
- Immediate value via information-sharing, collaboration
- Significant reductions in time-to-market for data, processes through services
- Decreased management costs, for research data, emails, disaster recovery

Summary: strategic SOA transformation is underway

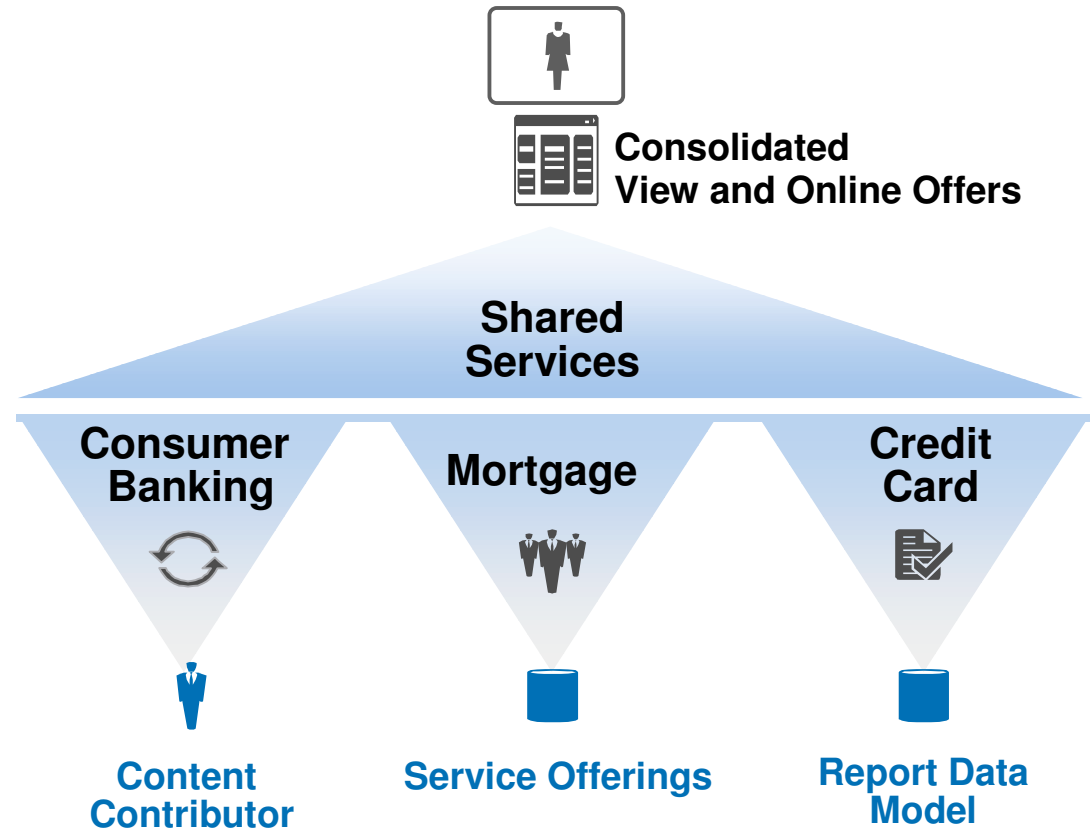
- Strategic **business transformation** is occurring among industry leading enterprises
 - Driving operating efficiency
 - Improving customer responsiveness
 - Enabling agility of the business
- Transformation is enabled by **SOA** and **Shared Services**
- Shared Services on an **integrated platform** yield significant advantages to the enterprise

Agenda

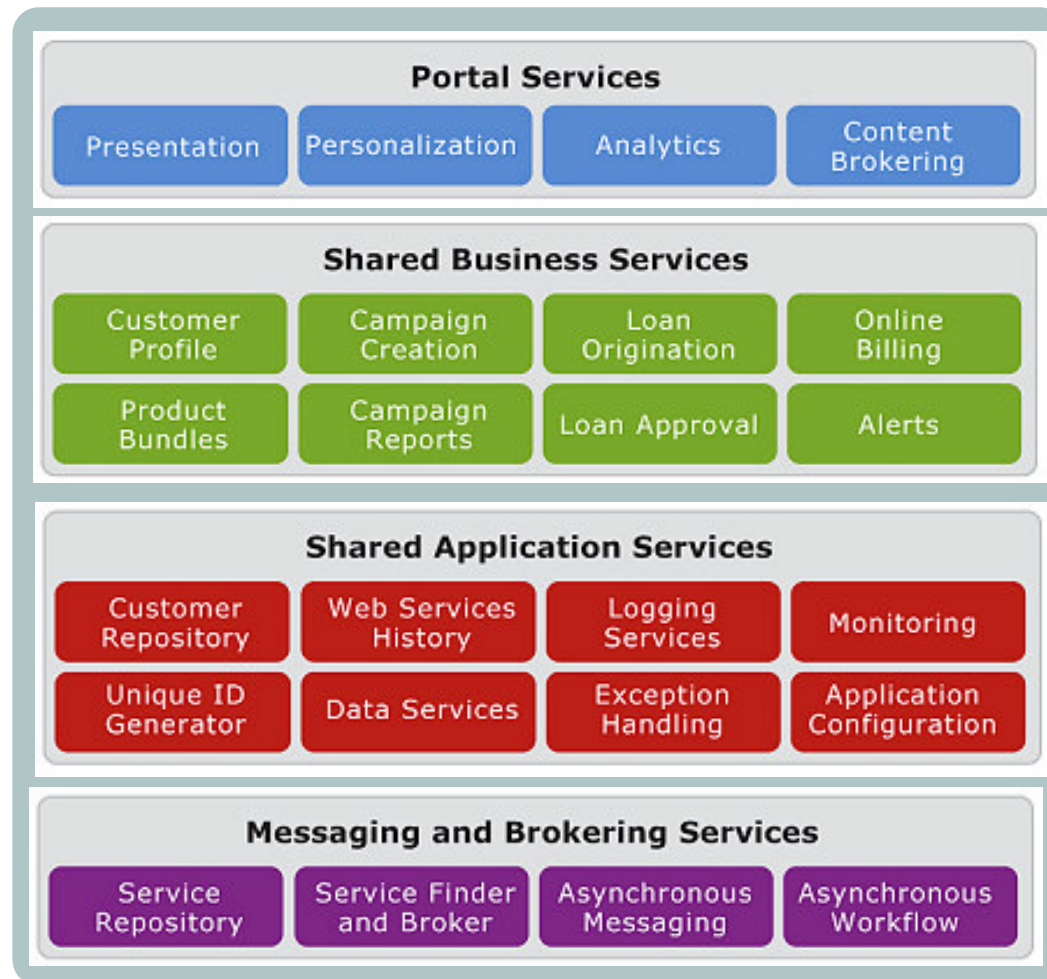
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The key is shared services

- Inventory application assets on various delivery platforms
- Begin building shared services
- Gain re-use of shared services across LOB's
- Leverage technology via a platform approach
- Requires a new approach to governance, security



Service layers present reusable components and infrastructure



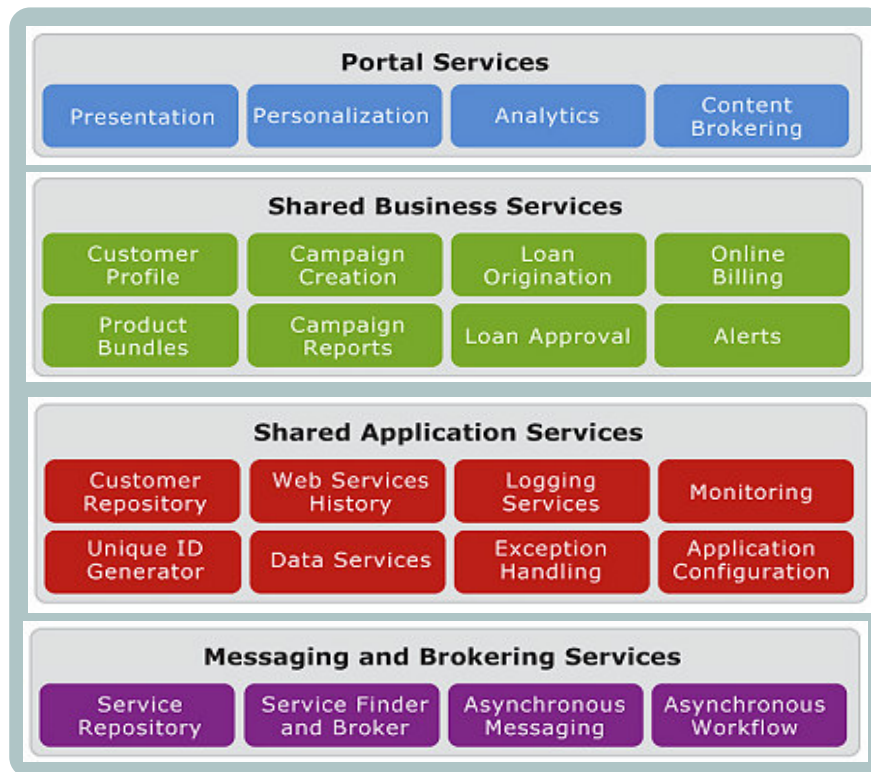
Presentation and user interface services

Shared business services: web services interfaces to the applications: requests for data or processes

Horizontal shared services and **foundational** components

Core **infrastructure** services: messaging, workflow, brokering

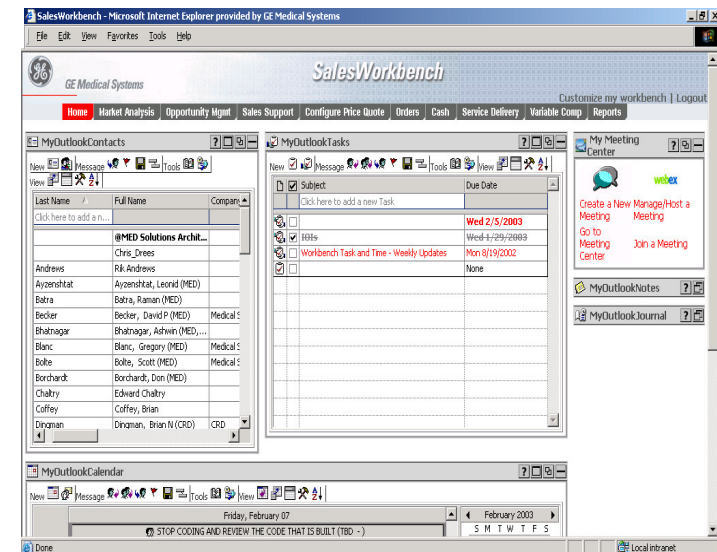
Building powerful new business applications



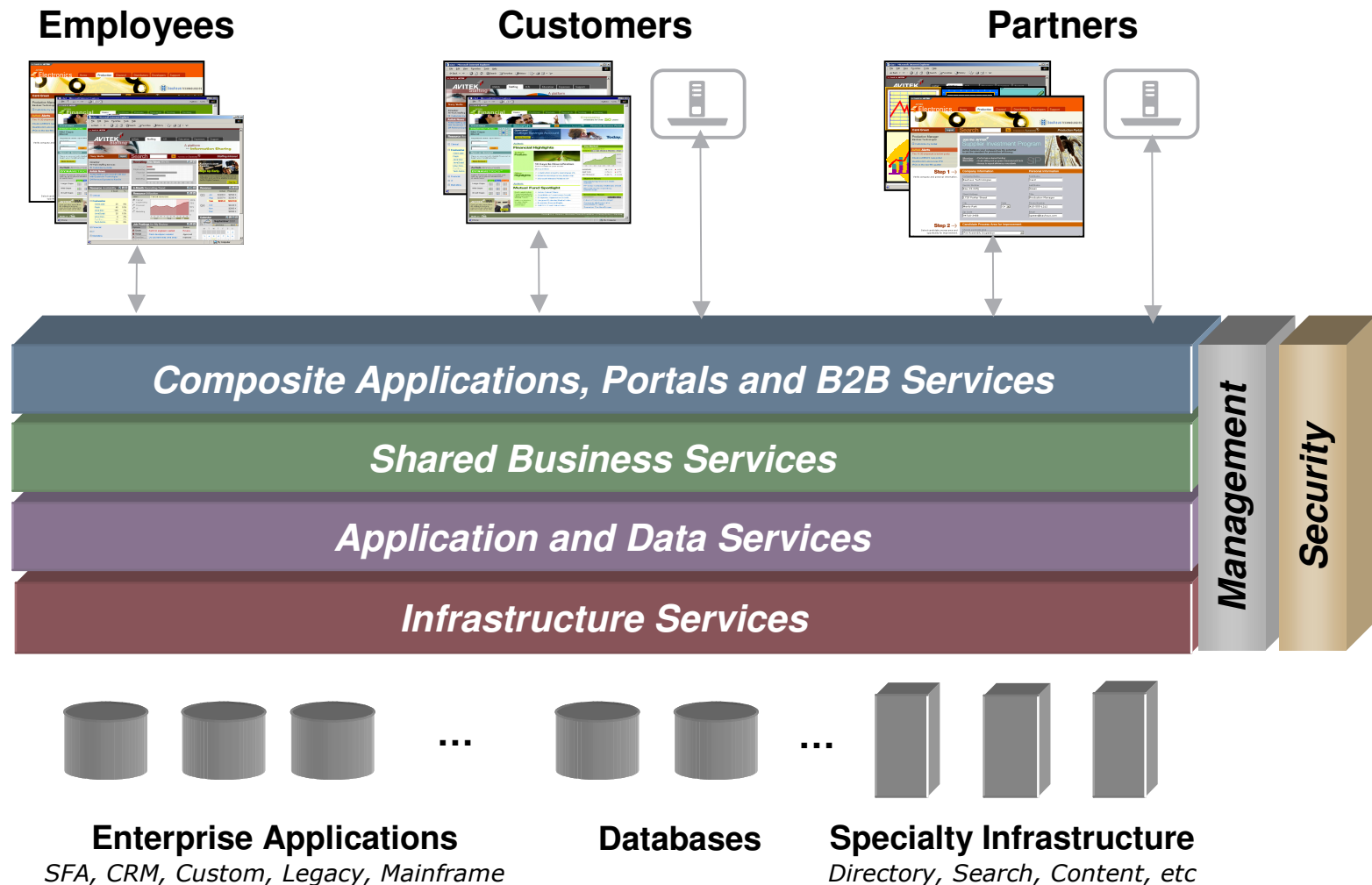
From Shared Services....

... to Composite Applications

- ***Superior Customer Insight***
- ***Better Coordination and Sharing Among Partners/ Enterprise Teams***
- ***Integration of Selling (what we promise) with Delivery (what the customer experiences)***



Shared services reference architecture



Benefits of the shared services approach

IT Impact

- Reduced complexity
- Improve dev't time
- Increased reuse
- Lower TCO and Project over project ROI
- Risk Mitigation
- Application Consolidation

Business Impact

- Increased efficiency
- Improved responsiveness to customers
- Increased adaptability
- Increased adoption
- Enhanced business value

For example...

IT Impact

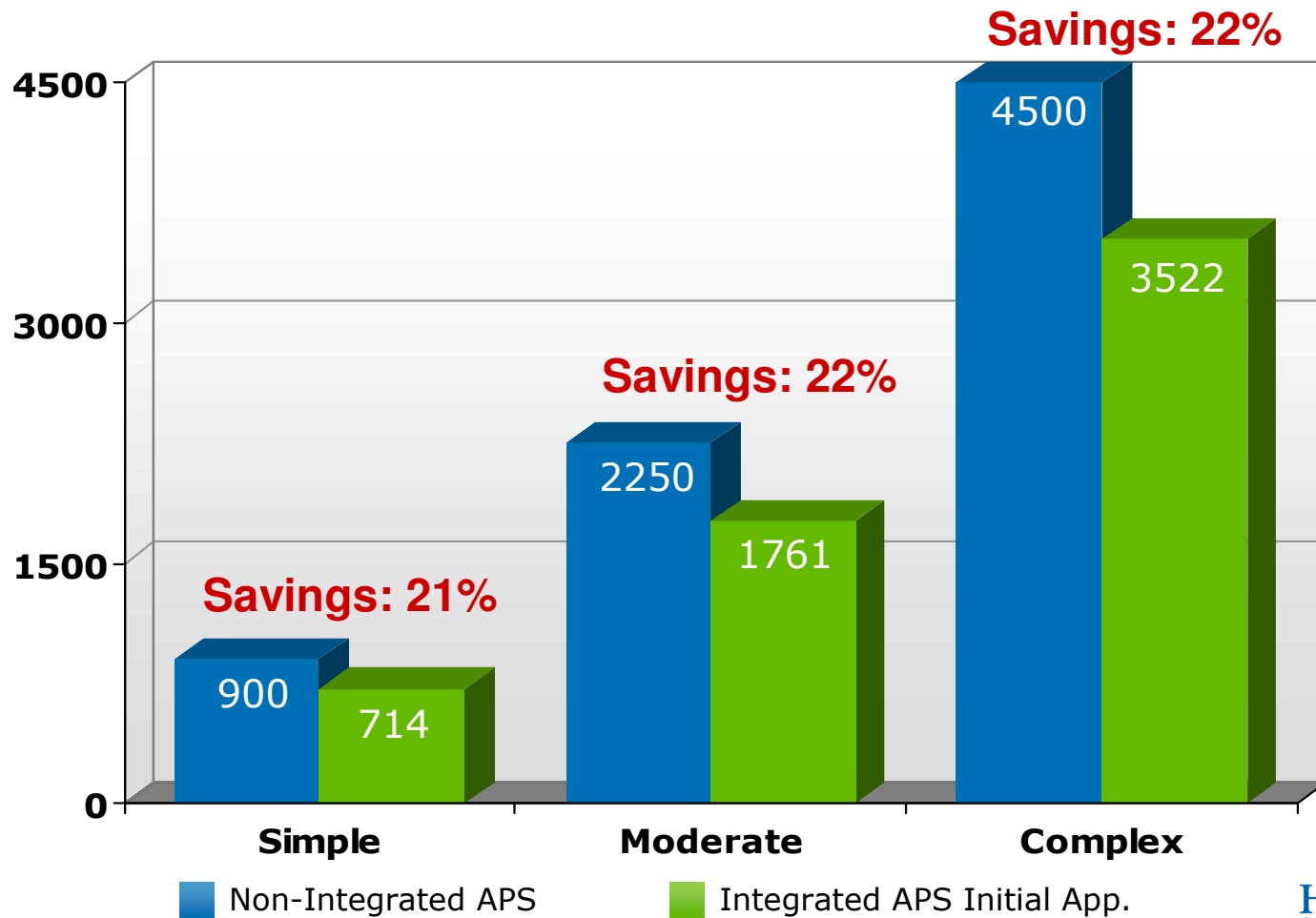
- 2nd Portal: 90% less cost and 60% less time
- Saved \$300k on content management publishing
- Able to roll-out additional applications from 5 on-line processes to 21 on-line processes

Business Impact

- 94% of wholesale orders go through FYI Portal; \$1 million in orders/day
- Eliminated \$10k/month on mailing and marketing costs
- Boosted users from 6,000 to 15,000

Time to market advantage

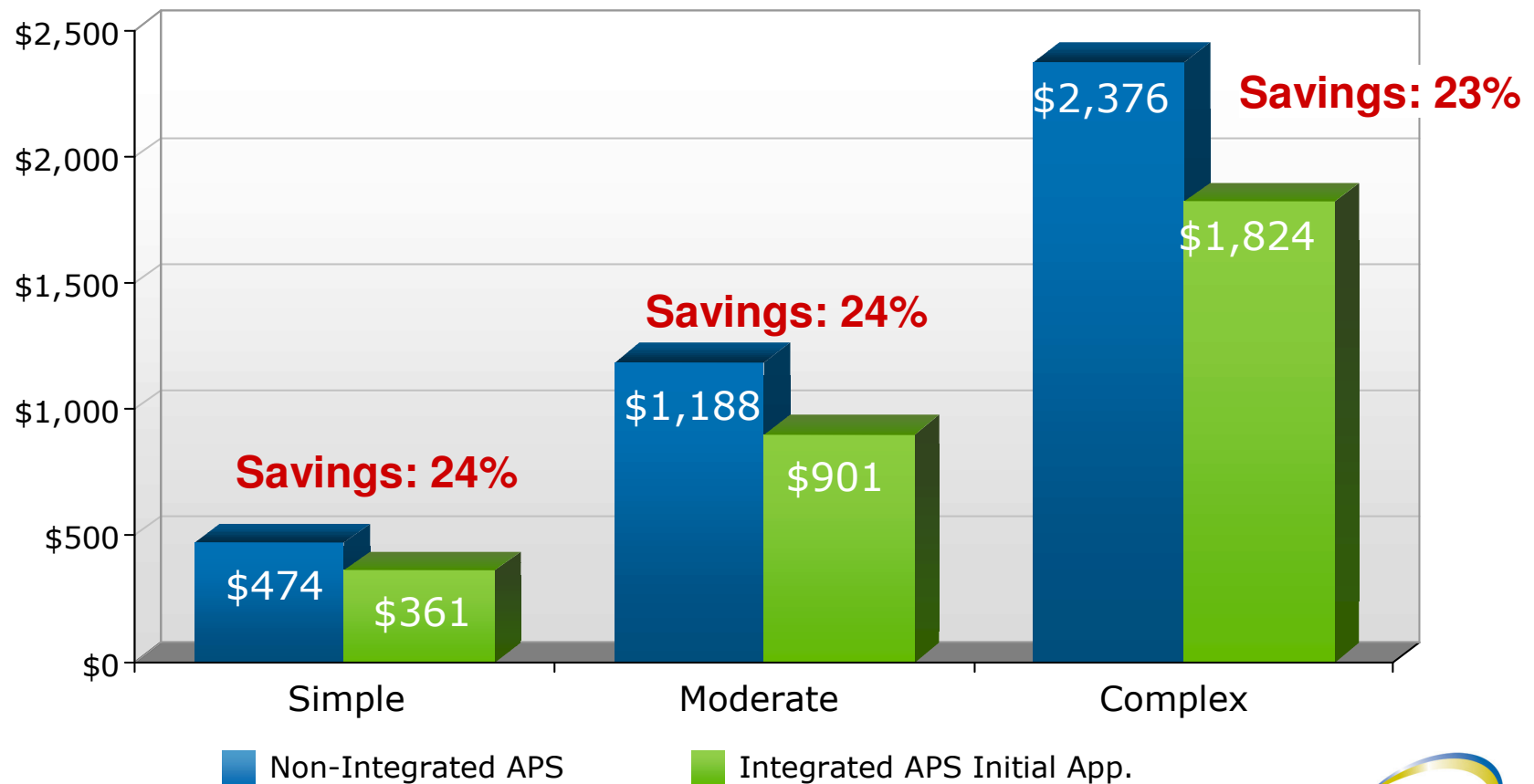
Time-to-Market Comparison, by Days of Effort



Source: Application Platform Suite Architectural Cost Analysis, Gartner, October 2003

Cost savings advantage

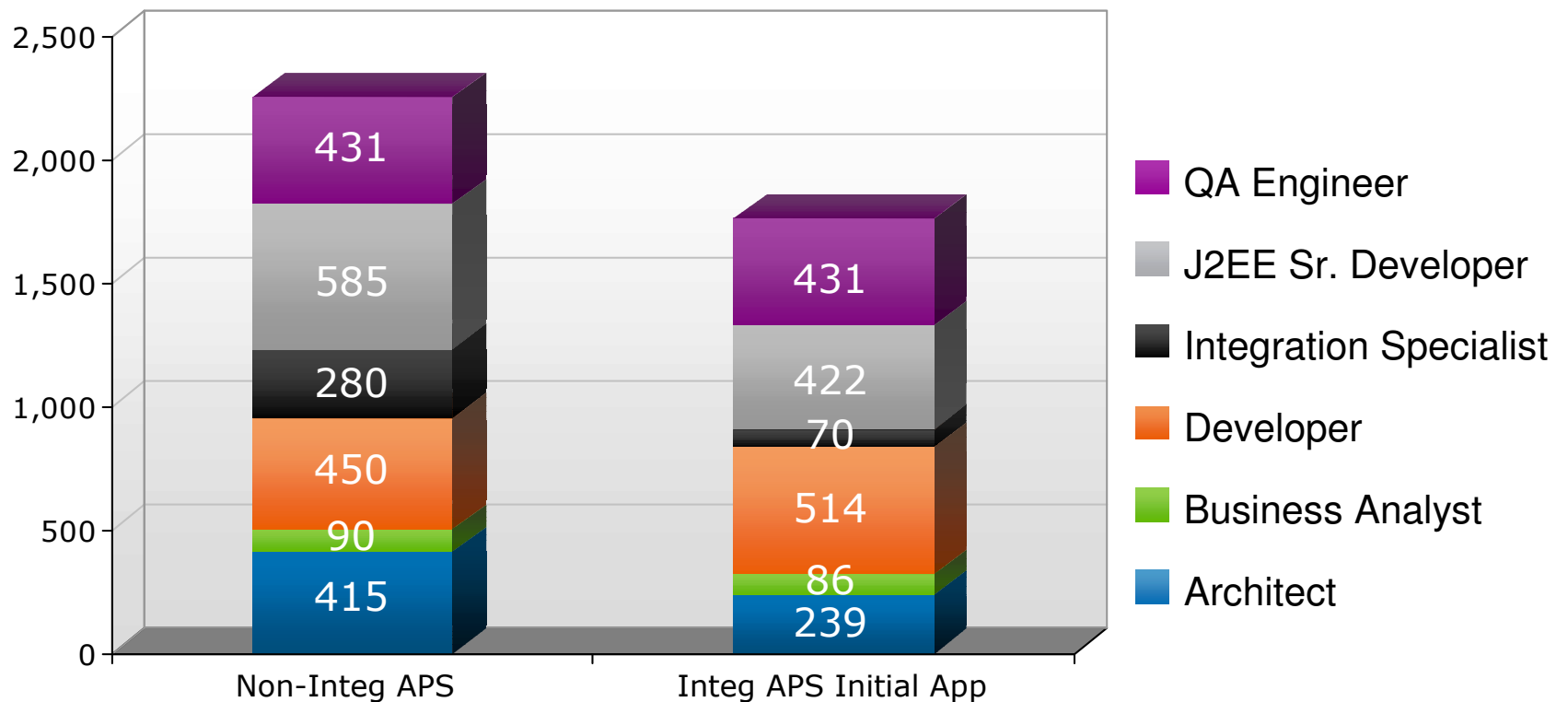
Total Cost of Application Lifecycle, US\$ Basis



Source: Application Platform Suite Architectural Cost Analysis, Gartner, October 2003

Skill set advantages

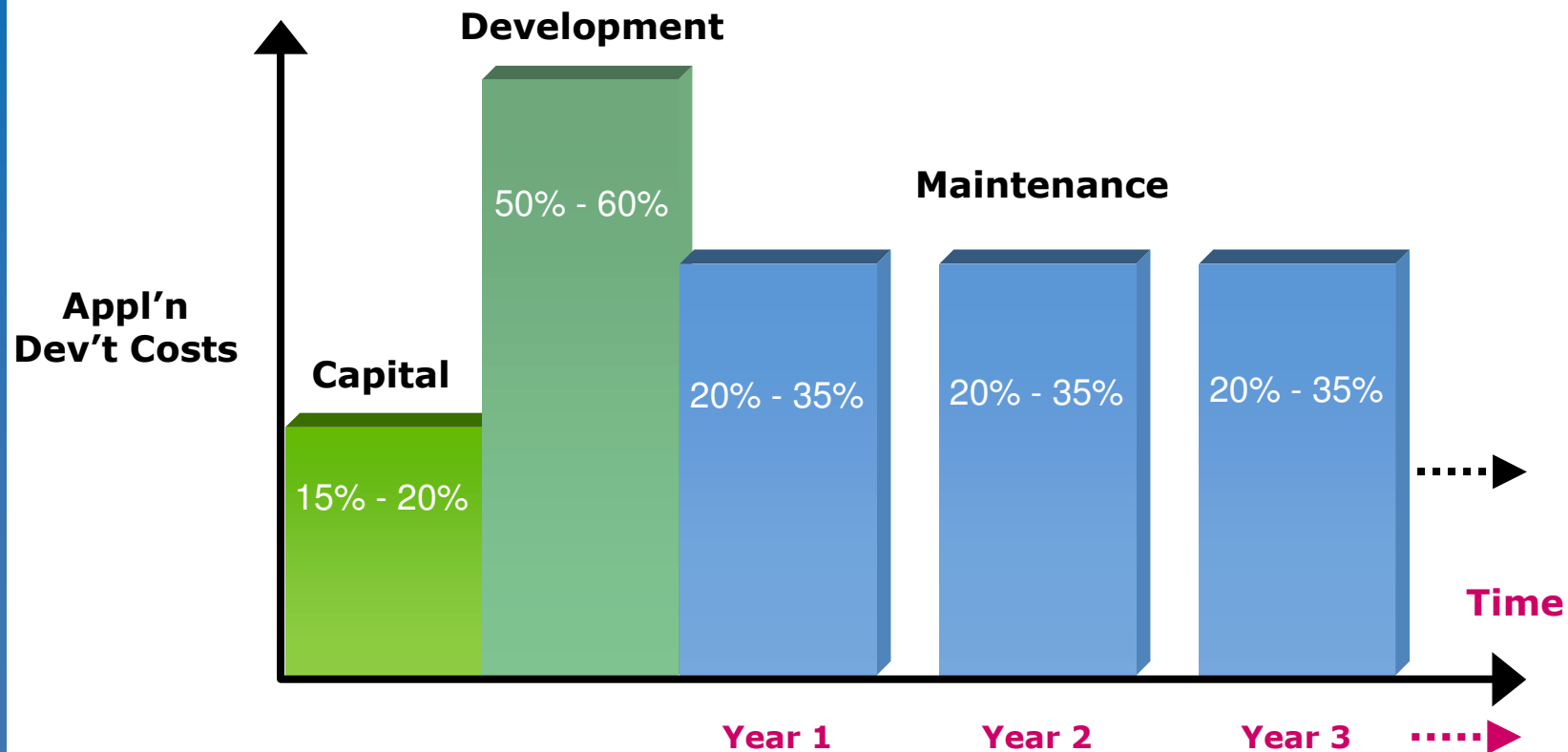
Comparison by Resource Type, in Days of Effort Required



Source: Application Platform Suite Architectural Cost Analysis, Gartner, October 2003

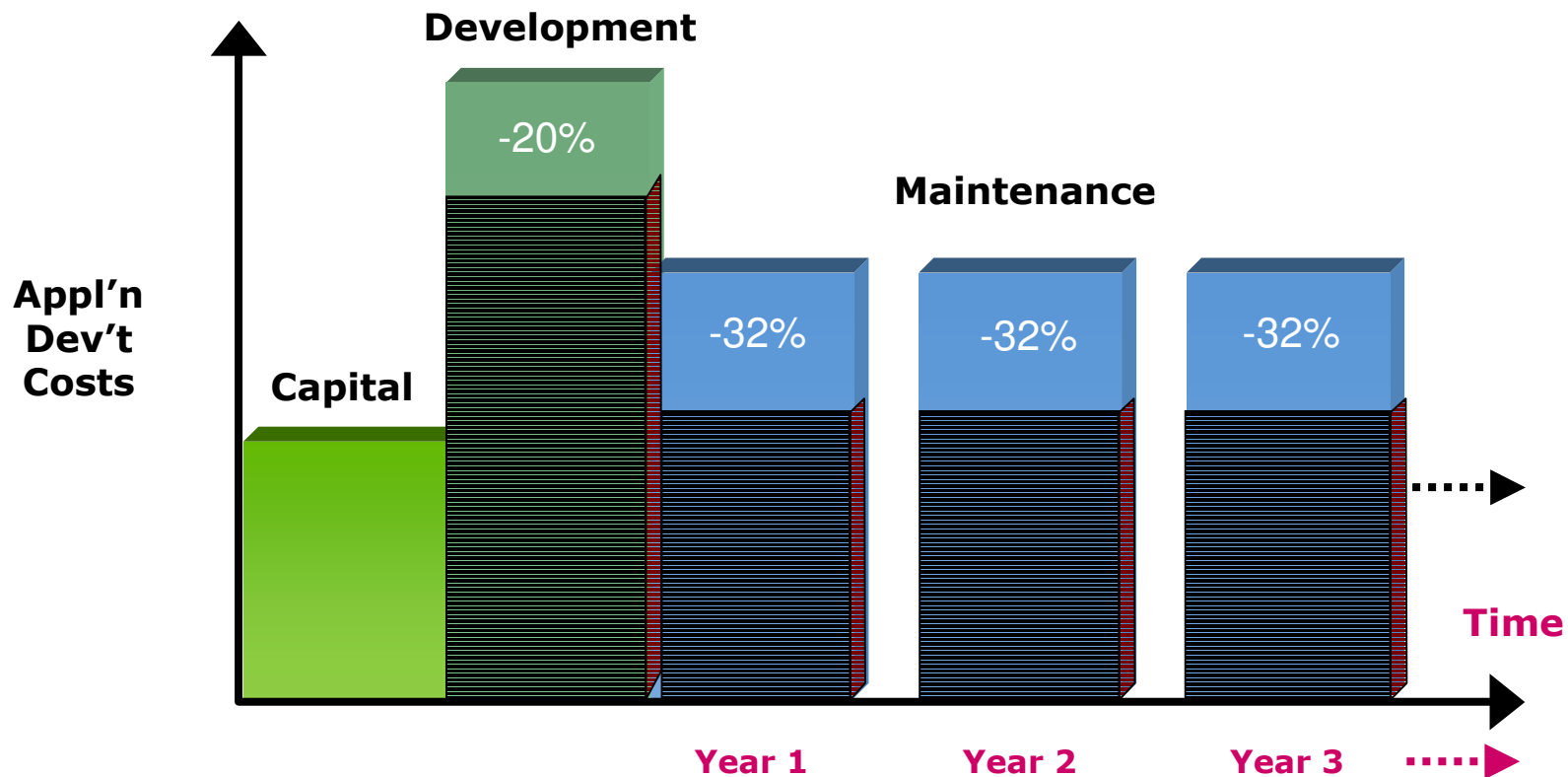
IT payback value vs cost

Gartner Guidance: Capital expenditures represent less than 20 percent of the overall costs. Maintenance and Development costs are key.



TCO advantage

The shared services and platform approach saves a significant and cumulative proportion of the overall lifetime project cost



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BEA'S IT environment in 2001...

Architecture

- Many different ERP/CRM/package app solutions
- All of these were heavily customized to “fit” business need

Functional Silos

- No enterprise wide governance model
- Each business unit had it's own IT team
- No standard architecture, methodologies, tools or processes used for development and deployment

Project Delivery & Costs

- 252+ “active projects” none set up for success - lack of sponsorship, inadequate resources/funding, no formal reviews, etc.

Skills

- Proprietary skill sets/knowledge base of packaged apps (PeopleSoft, Siebel Clarify, etc.) and tool sets
- Large project teams with little accountability
- Limited project management skills

Step 1: start with vanilla implementations

① Core Application Foundation: Simplicity and Efficiency

Industry standard core applications -
robust core business logic and **data**
structure

Vanilla implementations

- **Easier and cheaper** to maintain
- **Easier and cheaper** to upgrade or replace

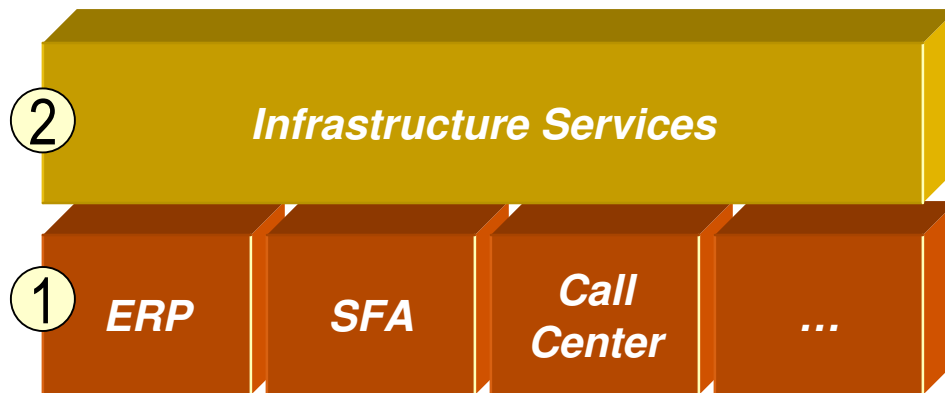
Footprint limited to best-of-breed

One standard implementation w/w



Step 2: Integrate and extend applications with services

② Enterprise Infrastructure Services Foundation



Enterprise Infrastructure Services Integrate and Extend architecture:

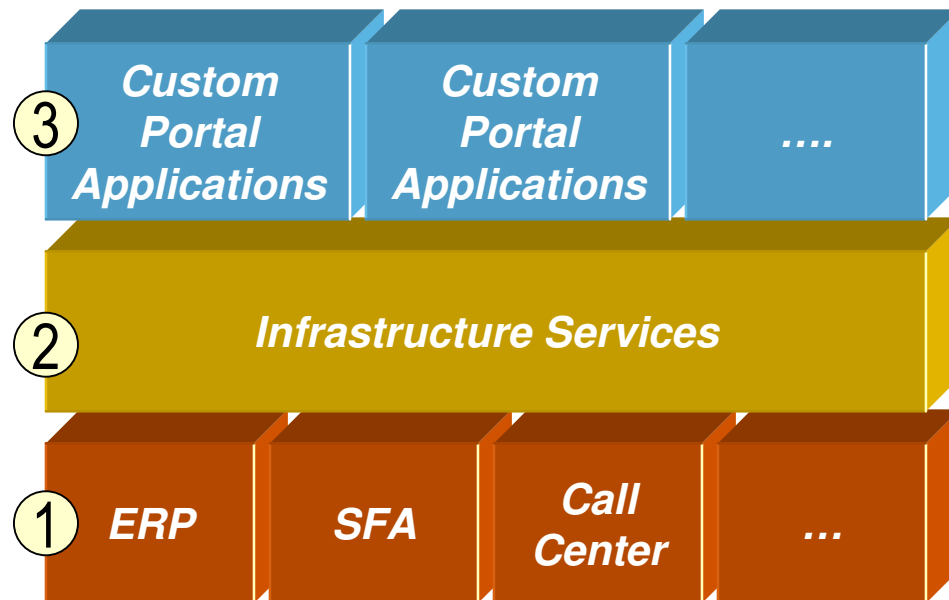
- **Integration services across Enterprise:** data, process and workflow, application connectivity
- **Common security services and access management** (e.g., common log-in)

Efficient: re-use of common services, few point-to-point integrations

Powerful: business logic and data exposed and shared across enterprise

Step 3: Build composite applications tailored to business needs

③ Custom Portal Applications for Unique Capabilities

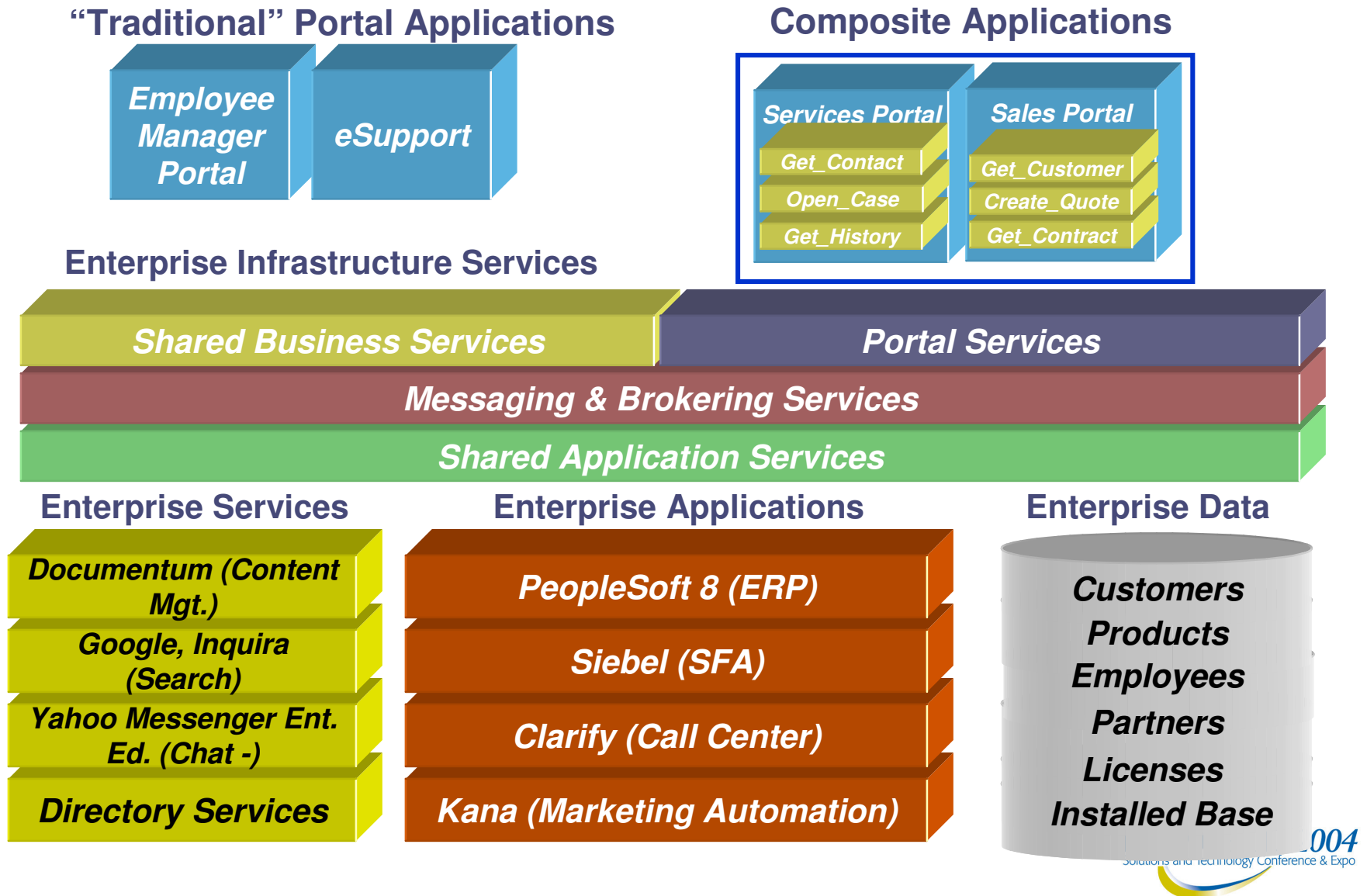


Flexible: portal-based custom applications tailored to our business needs

Efficient: built on top of the Infrastructure Services (50%+ time and cost savings from re-use of common services)

Powerful: portlets integrate data and business logic from across enterprise

BEA's enterprise architecture



SOA radically reduces time to business value

*Time to Business Value
Delivered*

12 - 16 months +



**Typical ERP –
Major Packaged
Application
Integration**

3 - 4 months



**First Generation
SOA with 12x4
Delivery Model**

2004 Delivery Model

- Ultra-rapid delivery with highly parallel development (each service component has contained scope) – 3X6 development teams
- Highly flexible with lower risk

Weeks*



**Second
Generation SOA**

Accelerating composite application delivery and results



The Year's Ten Best Web Support Sites

eSupport
 ■12/01
 ■11/02
 ■6/03

Dev2Dev & DLC
 ■03/02
 ■06/03

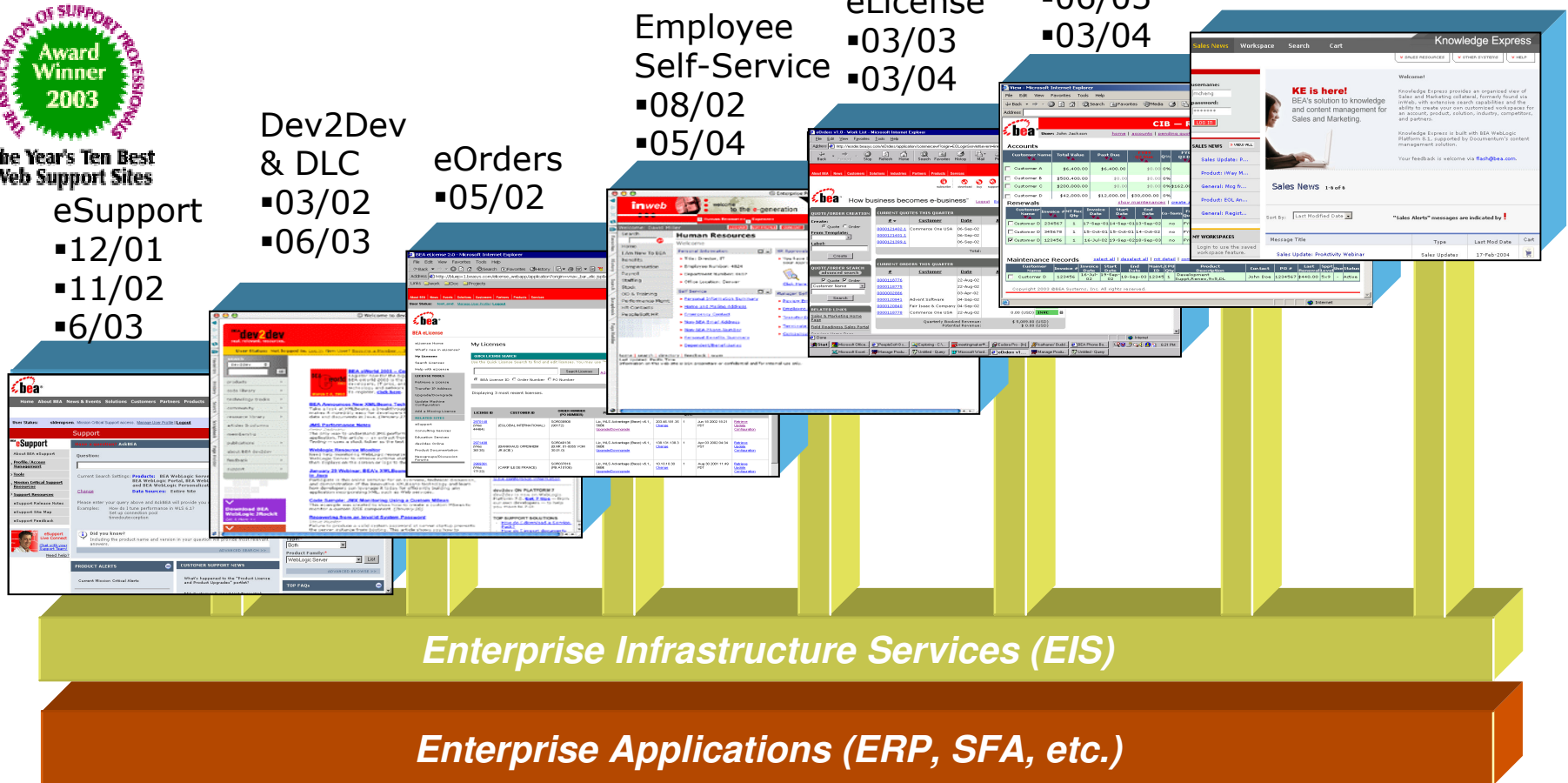
eOrders
 ■05/02

Employee Self-Service
 ■08/02
 ■05/04

eLicense
 ■03/03
 ■03/04

Renewals
 ■06/03
 ■03/04

Knowledge Express
 ■03/04



SOA increases IT proficiency and optimizes business value

Benefit Examples: Impact on BEA's eBusiness Program

Efficiency

\$5 M annual (25%) savings in application development
\$2.2 M annual savings in supporting functions
(production environment support, application support, etc.)

Speed

50% reduction in development time for new applications
Most **releases in 4 months**: 12x4 Development Model

Predictability

80,000+ development man-hours delivered with
less than 3% schedule variance
Annual implementation costs (\$20M) **within 1% of budget**

Quality & Performance

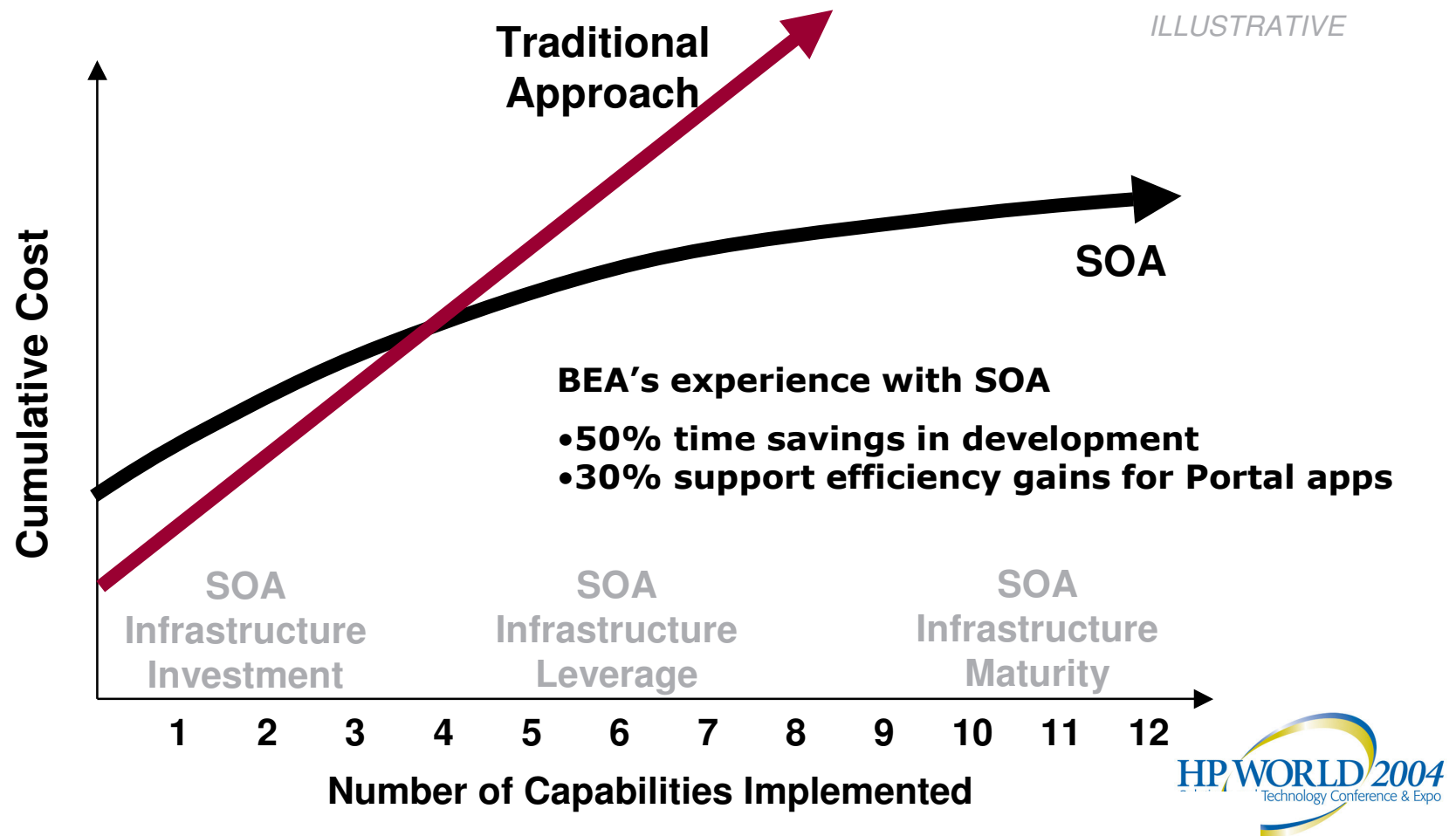
Very High business satisfaction and ability to rapidly introduce enhancements; **Always on infrastructure**

IP and Skills

Depth of **skills/institutional knowledge in standards** based architecture and technologies.

A comprehensive SOA approach will require upfront investment

SOA Approach vs. Traditional Development and Integration Approaches



There are significant challenges to capturing the benefits of SOA

Skills

“Lack of in-house expertise in moving to a services-oriented architecture development and integration environment” is a key inhibitor in the growth of the Web Services software market Gartner, 01/04

Governance

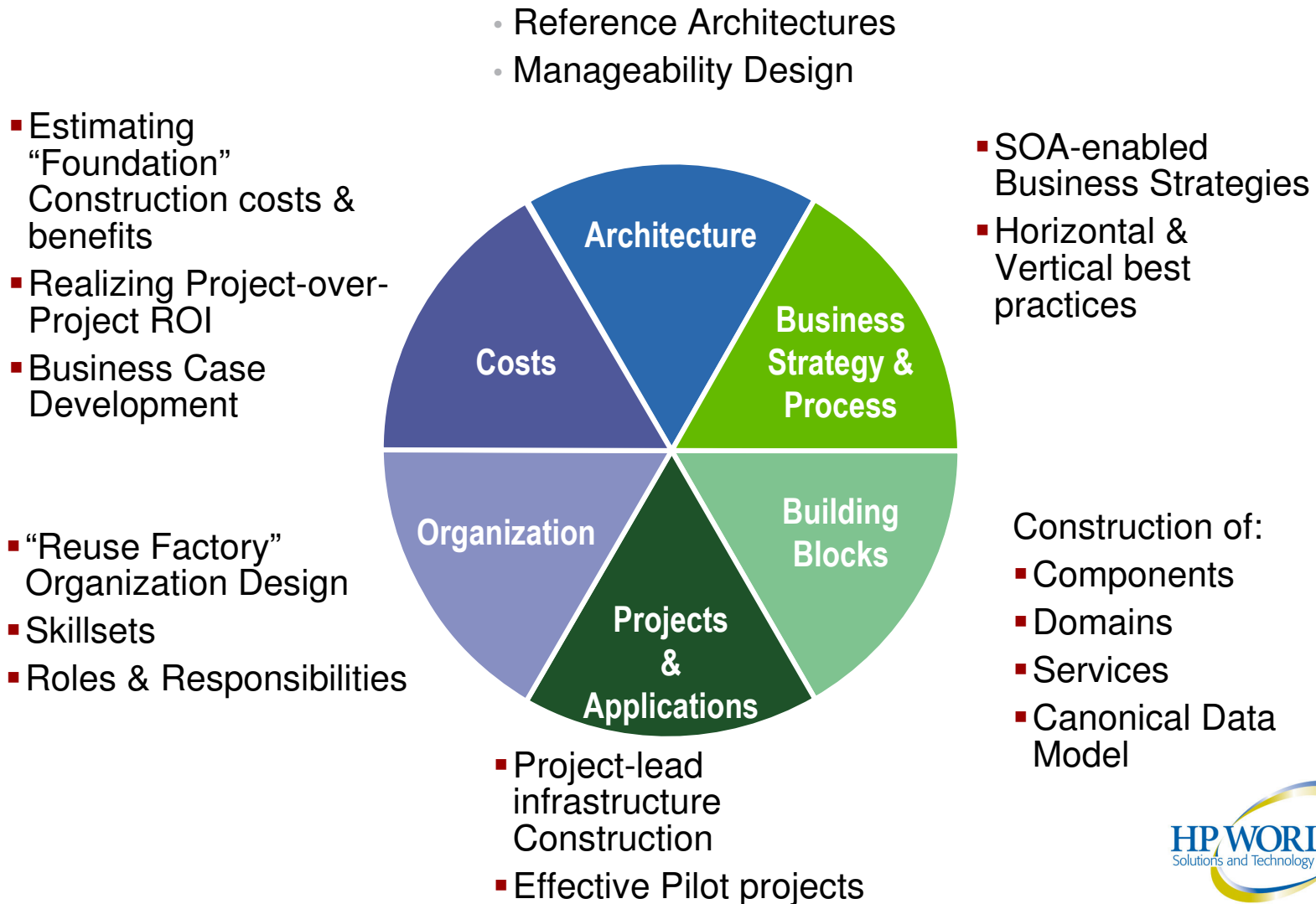
SOA is an enterprise-wide architecture – building a unified vision, sharing services, will be a key challenge for companies with fragmented or divisional/siloed governance of IT

Culture

SOA reflects key cultural attributes that are not shared by all companies, e.g.,

- Belief in pro-active, anticipatory investments
- Belief in IT as an enabler of competitive advantage

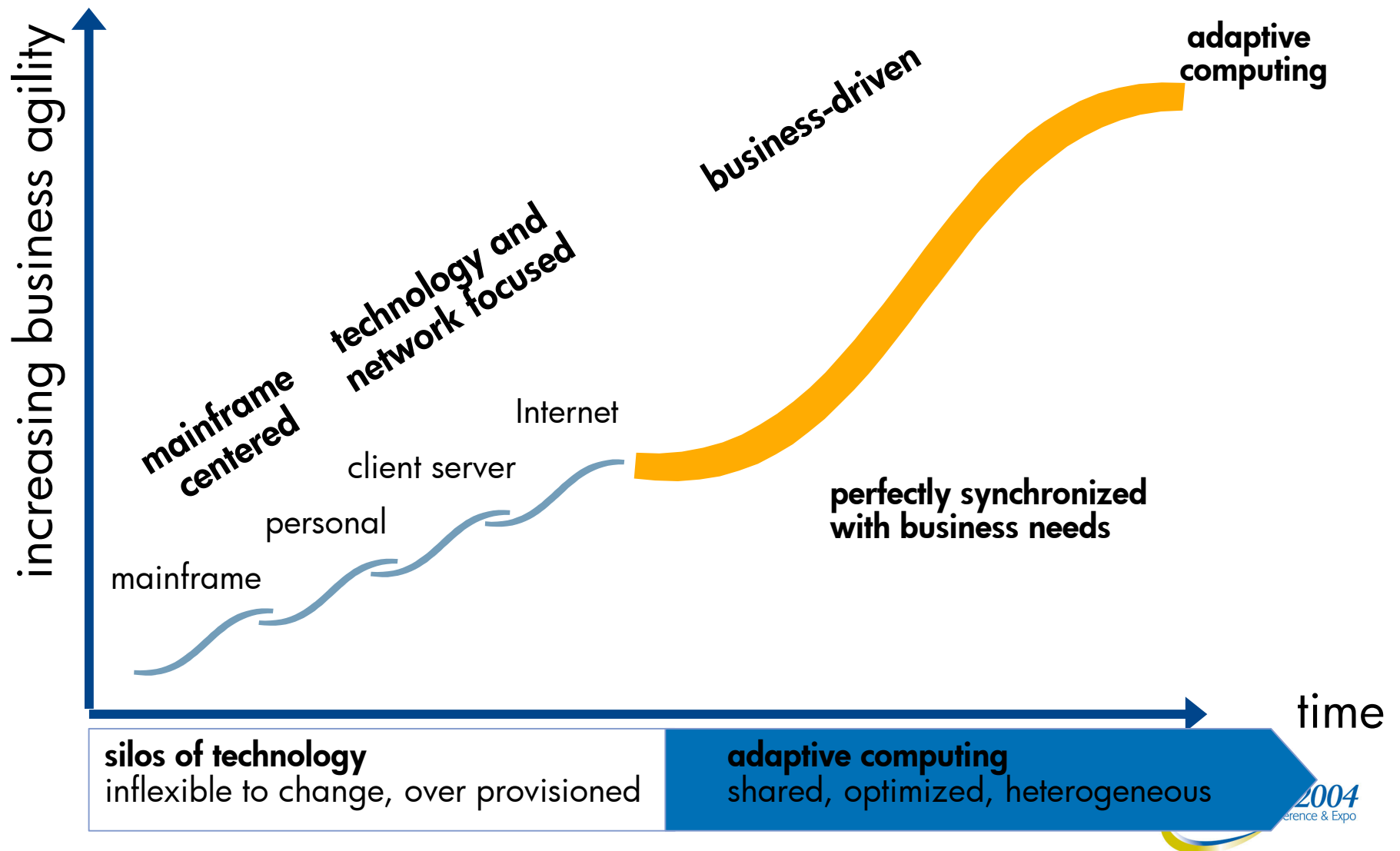
Six domains for success



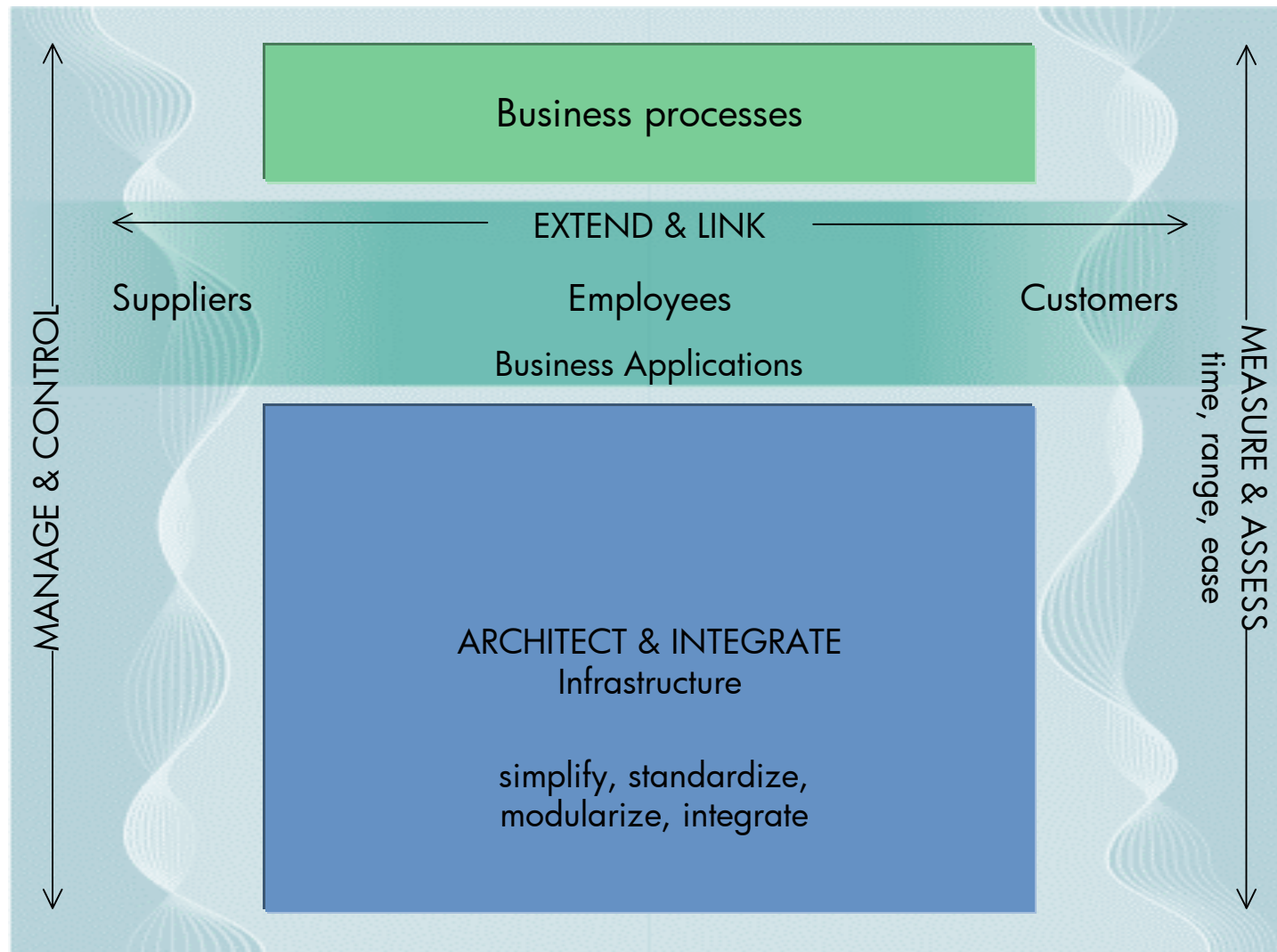
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- The role and significance of SOA
- The service driven approach to IT and business
- Strategic transformations to SOA
- Implementation considerations
- **Relevance to the Adaptive Enterprise**
- Q&A

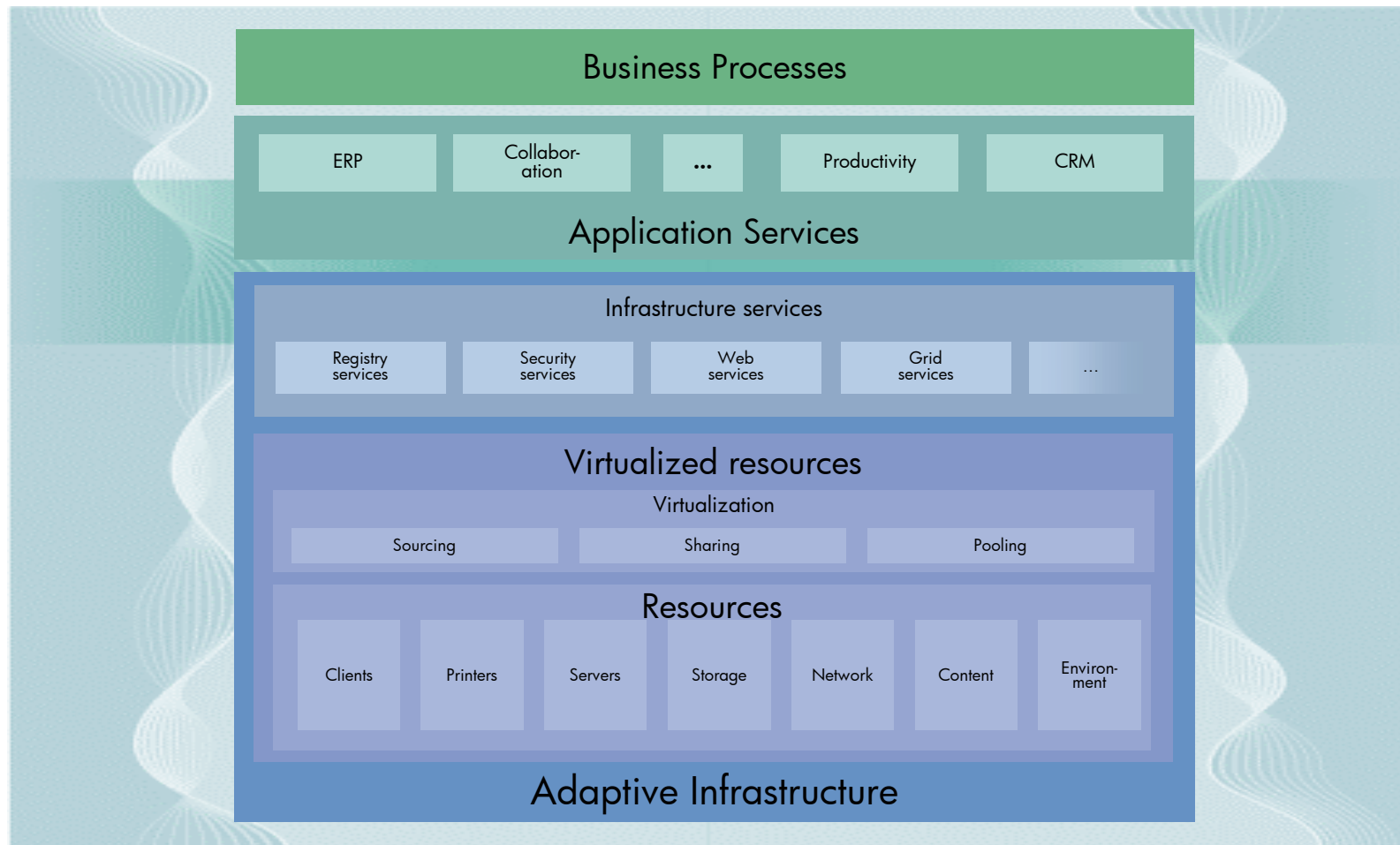
business needs demand a new model of computing



HP's architectural vision for the adaptive enterprise



HP's offerings for an adaptive enterprise



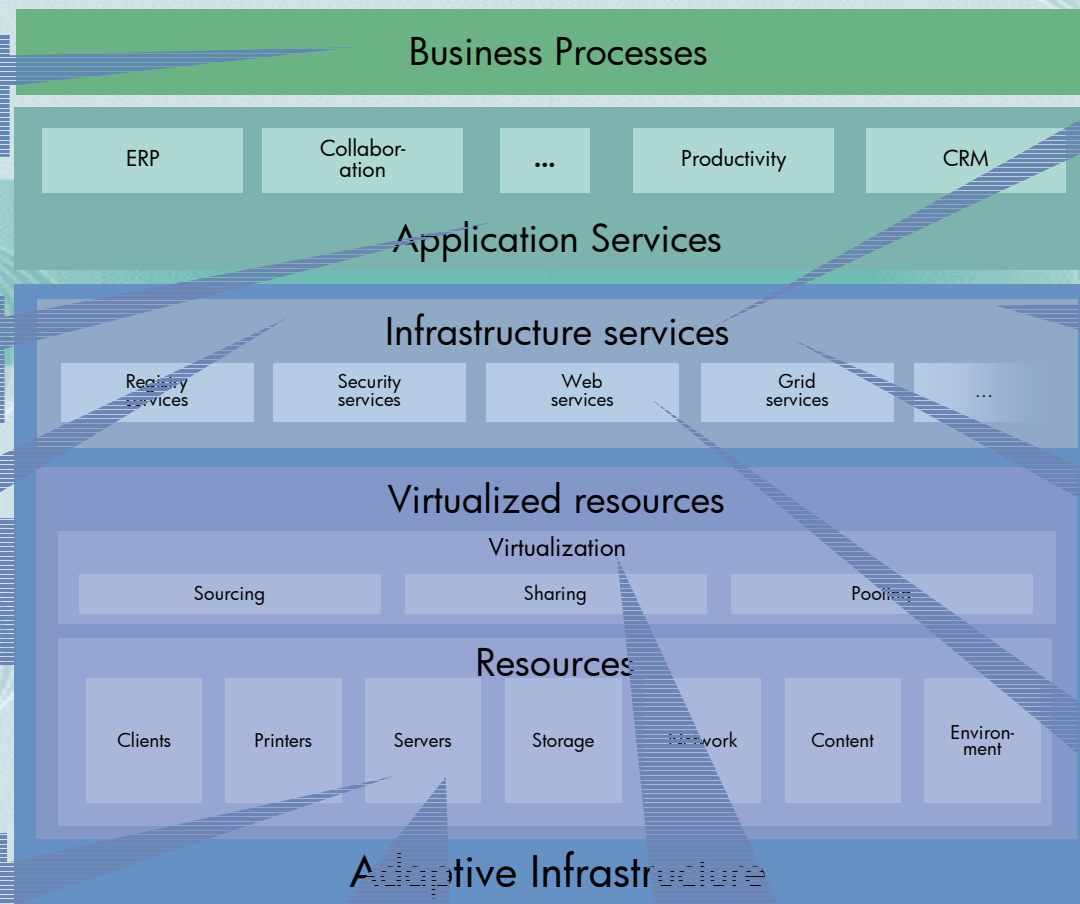
BEA's offerings for an adaptive enterprise

- BEA application platform suite 8.1

- Employee Self Service Portal (ESS)

- BEA – HP C&I practice

- IPF as BEA tier-1 platform



- HP-BEA operating environments

- Partners in Adaptive Management

- High Availability solutions
- ICOD (pay per use)

- establishing standards together in web services management

- BEA currently runs on all HP platforms and operating systems

- app-server virtualization for simplicity, management and better ROI

Summary

- SOA enables businesses to be more efficient, responsive and adaptive
- Strategic transformations to SOA are happening today at leading companies
- BEA is a leading innovator in providing SOA based infrastructure
- BEA's SOA infrastructure is highly complementary to HP's adaptive enterprise architecture and vision

Thank You



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