



IBM SOA

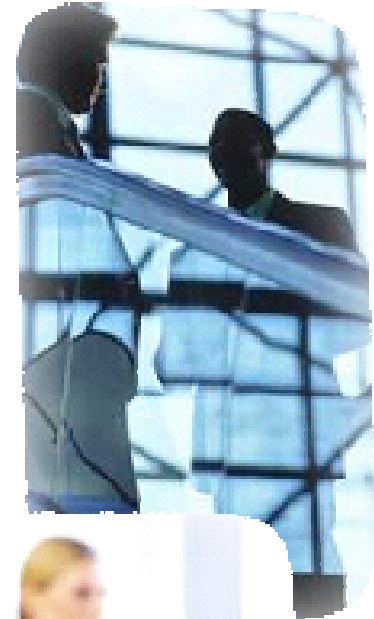
IT Security, Management and Infrastructure Extensions to Maximize SOA Value

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Agenda

- SOA impact on IT infrastructure
- Extending IT security for SOA
- Service management for SOA
- Flexible IT infrastructure for SOA
- Establishing an IT infrastructure roadmap for SOA
- Q&A

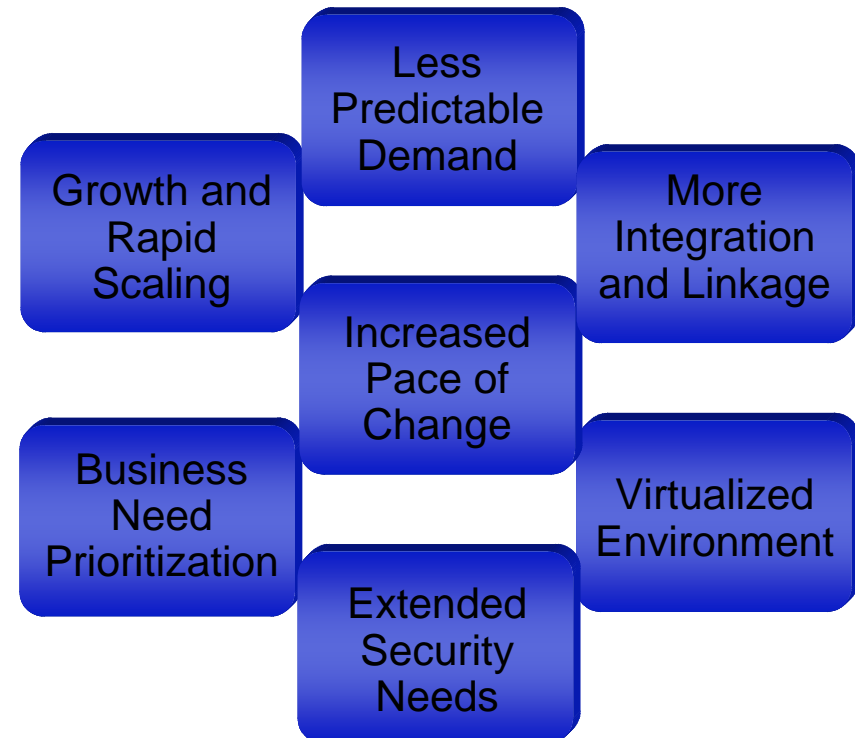


SOA impact on IT infrastructure

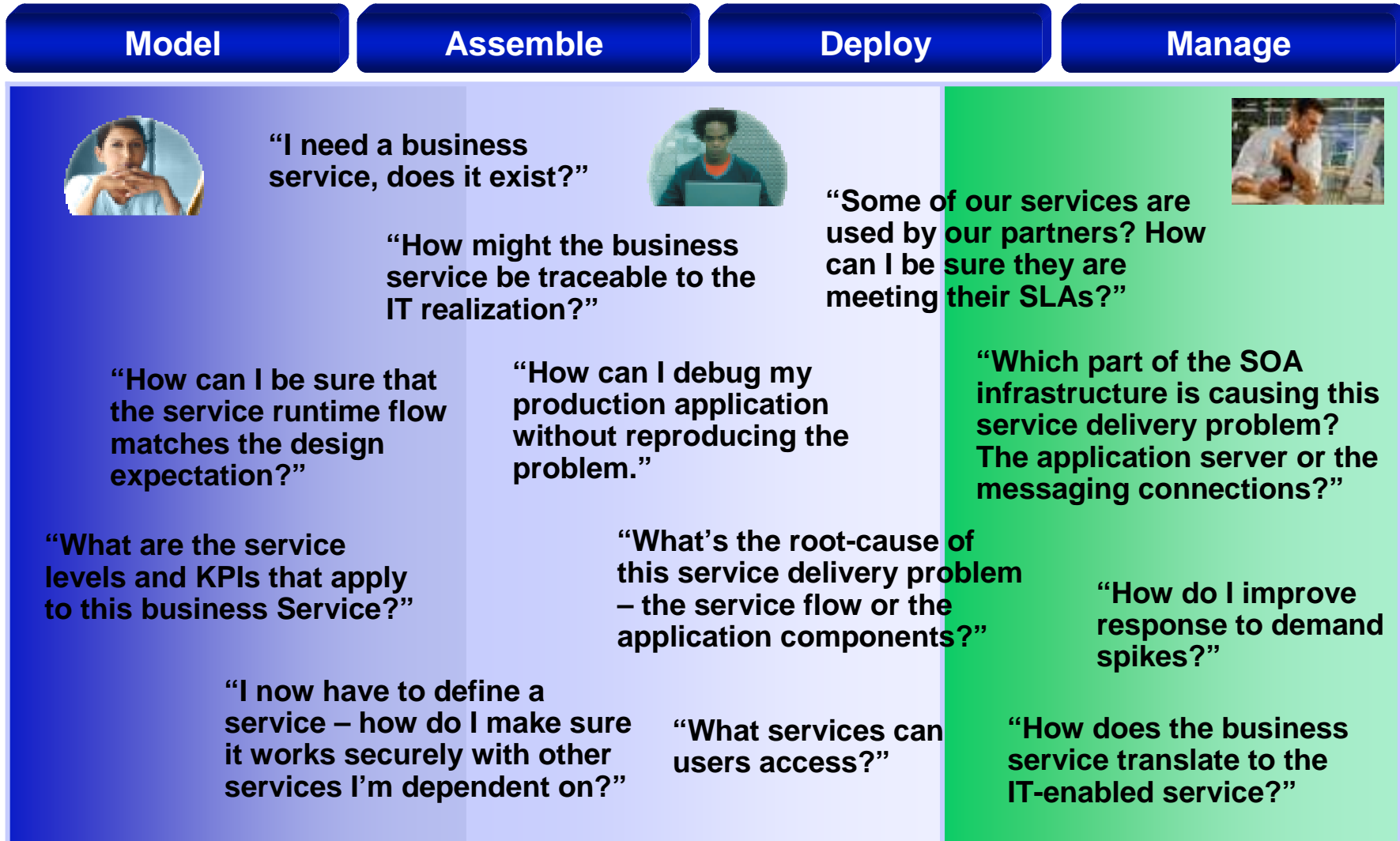
SOA Service Benefits

- Cross traditional silos
- Reuse applications in new dynamic ways
- Build from a combination of multiple sources
- Change and deploy rapidly
- Route to any available resource
- Distribute access

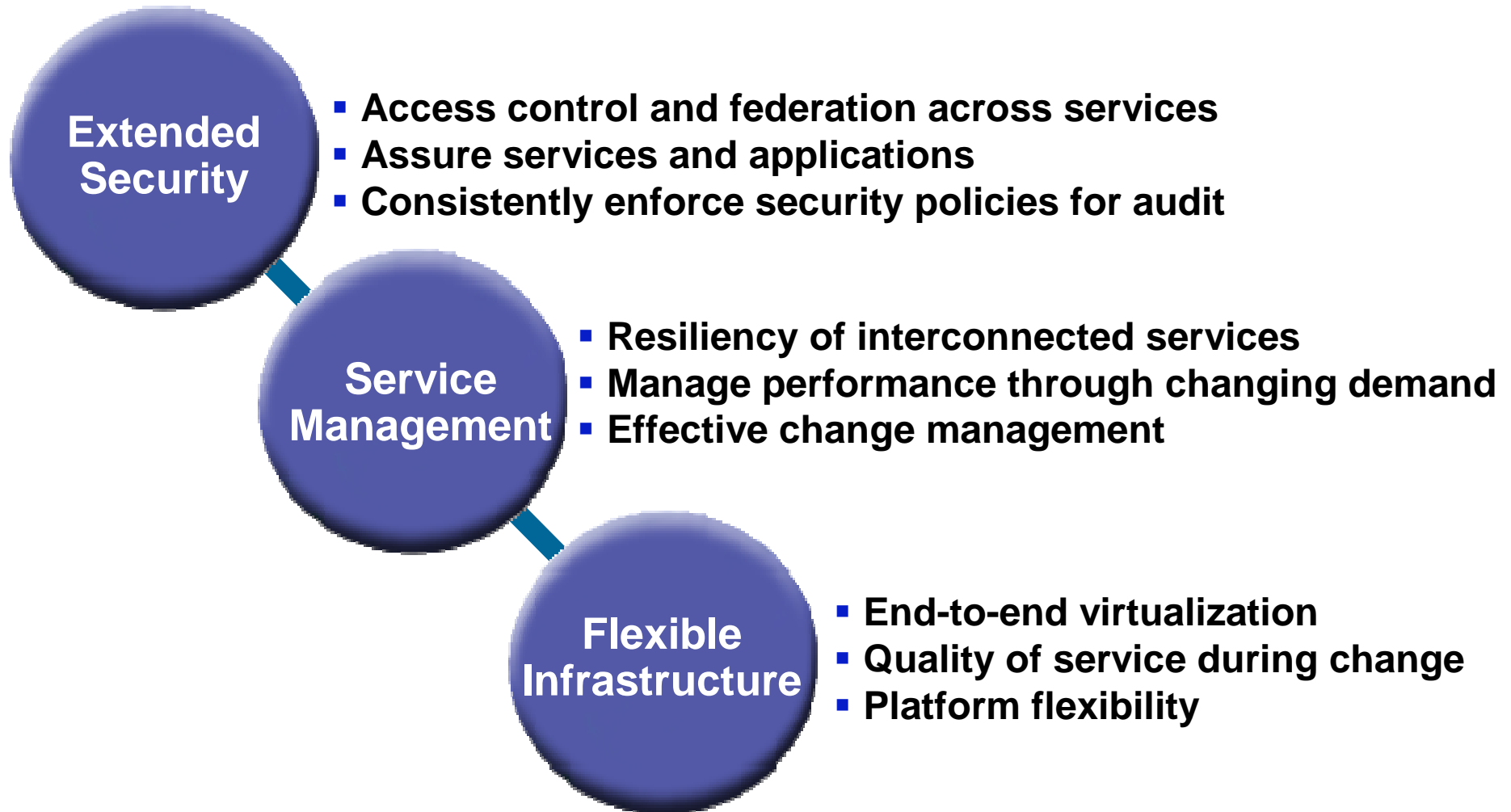
IT Infrastructure Impacts



How SOA Affects the IT Lifecycle



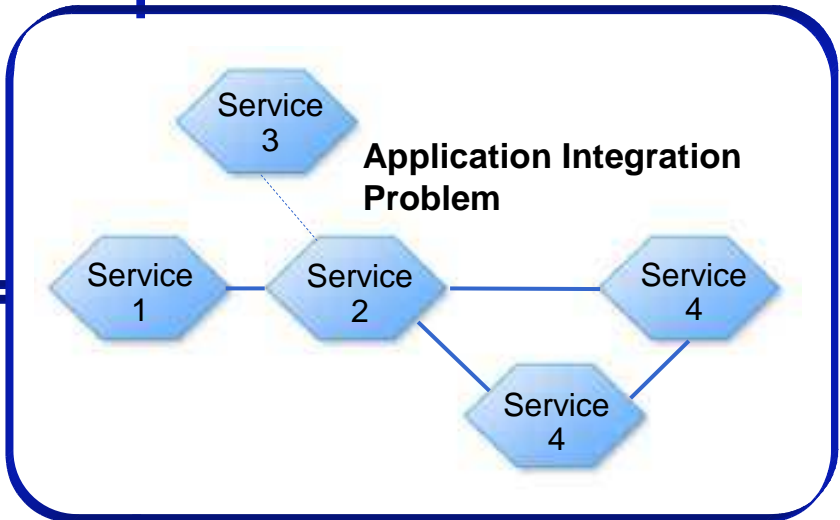
Meeting the Infrastructure for SOA challenge



Identity Integration Challenges in SOA

- Each application brings its own ID
- Each ID does not work with other IDs
- Each ID adds cost and complexity
- Each ID adds business risk to compliance

- Each application brings its own credential
- Each credential does not work with other IDs
- Each credential needs risk assessment and management before sharing
- Each CRED adds business risk to compliance



Extending Security for SOA

Identity, Assurance and Compliance

Identity and Access Control

Identity & access control across services

- End-to-end identity propagation from silos to services
- Control access levels to services with trusted identities
- Provision identities automatically to reduce costs

Assurance

Assure service security with message and user-based protection

- Unified trust management to create secure communities
- Secure XML messaging and threat protection
- Identity-driven security across heterogeneous domains & environments (applications, services, data & transactions)

Compliance

Monitor and enforce policies for audit & compliance

- Enterprise security monitoring, management and reporting
- Consistently enforce security policies for services
- Automate user account validation to enforce access policies

SOA Security Management Offerings from IBM



IBM Professional Services

- SOA Application Security Assessment
- SOA Security Requirements
- SOA Security Architecture
- SOA Security Implementation
- Data Integrity and Privacy Services
- Infrastructure Security Services
- **ISS Managed Services**

IBM Hardware Solutions

- **WebSphere DataPower XML Security Gateway XS40**
- Storage
 - Encrypted tape drive and Psec Encryption for distance extension and protocol conversion
- System z
 - Encryption facility for z/OS
 - CryptoExpress2 secure key

IBM SOA Security Software Solutions

- Tivoli Access Manager
- Tivoli Federated Identity Manager
 - Identity propagation
 - Federated single sign-on
- **Tivoli Federated Identity Manager on zSeries**
- **Tivoli Federated Identity Manager Business Gateway**
- **Tivoli Consul Insight Suite**
 - **Compliance Dashboard**
 - **User Activity Monitoring**
- Tivoli Security Operations Manager
- **Tivoli Composite Application Manager SE for DataPower**

Service Management Challenges in SOA

SOA helps enable innovation and rapid change, but ...



How do you:

- Maintain performance and availability through unpredictable demand
- Have visibility and control of services and their underlying components
- Control change and release of interconnected services
- Resolve problems within the multiple services layers

Business depends on quality service delivery

Service Management for SOA

Insight, Visibility, and Control

Service Resiliency

Ensure resiliency of interconnected services and resources

- Monitor services end to end to isolate and fix problems
- Performance management across all services
- Availability management for supporting applications

Manage Performance

Manage performance based on QoS through changing demand

- Use services dashboard to view application demand levels and related service level reporting
- Manage performance of services components - Messages
- Automate provisioning and control of services to meet SLAs

Effective Change Management

Effective change management across linked services

- Discover relationships to improve application availability
- Track and predict change to reduce costs and downtime
- Dynamic reroute of services for upgrades or changes in real time

SOA Service Management Offerings from IBM

 New and Enhanced!

IBM Professional Services

- *Business of IT Executive Workshop*
- ***Business of IT Dashboard***
- Management of Services for SOA
- SOA Management Planning
- ***Test Center of Excellence for SOA***
- Service Management Strategy/Planning
- Service Management Implementation

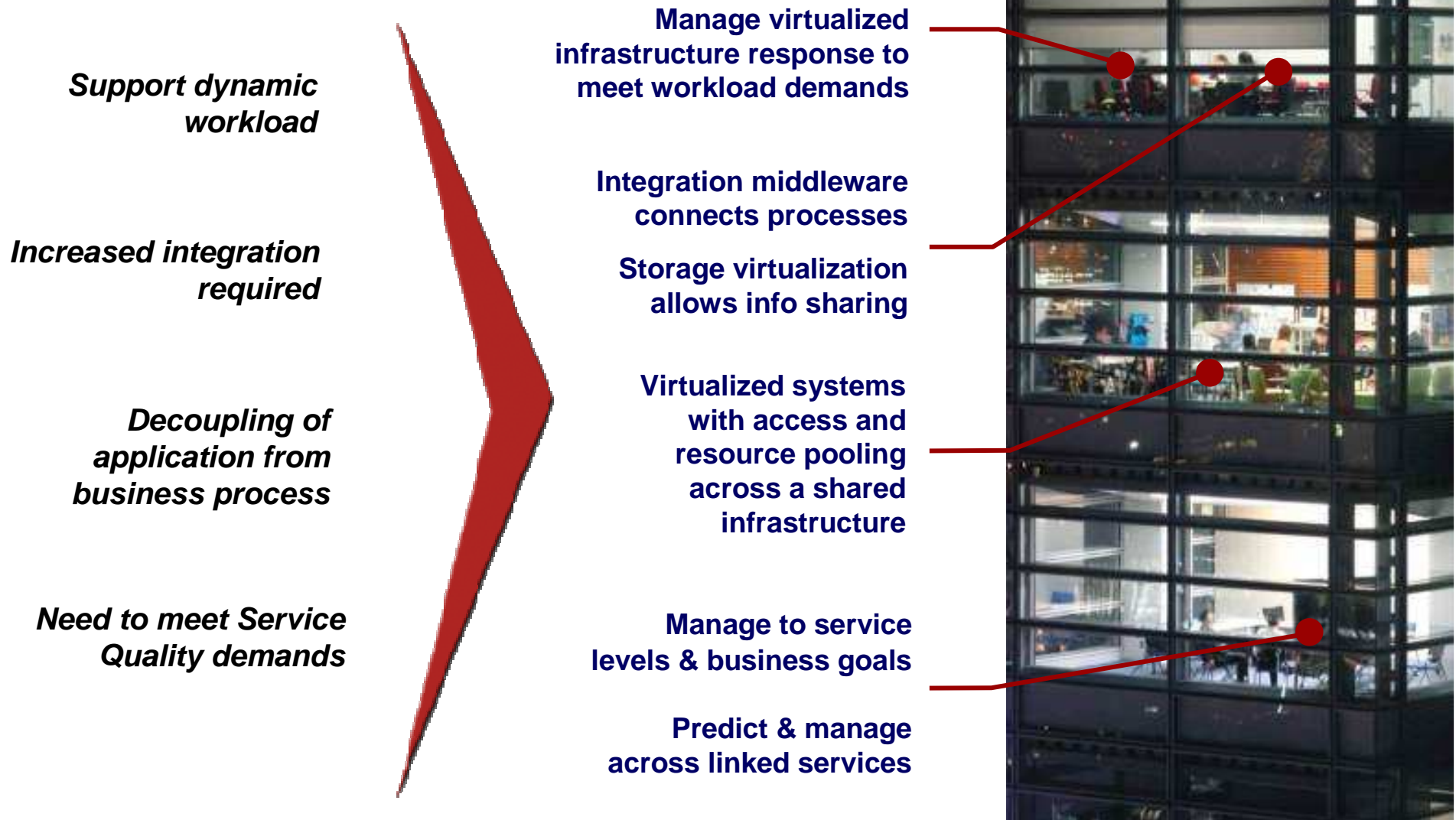
Development Efficiency with IBM Rational Software

- Process and Portfolio Management
- Quality and Testing
 - ***IBM Rational Tester for SOA Quality***

Operational Management with IBM Tivoli Software

- **IBM Tivoli Composite Application Management (ITCAM) Family**
 - ***ITCAM for Response Time***
 - ***ITCAM for Web Resources***
 - ***ITCAM for SOA enhancements***
 - ***Views by service requestor for charge back and SLA reporting***
 - ***Support for monitoring service flows through WebSphere Message Broker***
- Monitoring
 - ***zSeries (OMEGAMON) to PDA Monitoring***
 - Tivoli Business Services Manager
- Change and Release Management
 - CCMDB
 - IBM Tivoli Release Manager
 - IBM Tivoli Process Manager

Value of a dynamic infrastructure for SOA implementations



Key Flexible Infrastructure Characteristics for SOA

Virtualization

“Optimize workloads across shared resources”

- Service workload virtualization
- Pooled resources moving beyond physical constraints
- Proactive management and control of virtual infrastructure for SOA

Quality of Service

“Fast and predictable execution of work”

- Responsiveness to service performance demands
- High service availability
- Dynamically adjust infrastructure

Platform Flexibility

“The right infrastructure for the job”

- Easily configure infrastructure for specific service workload needs
- Platform choice with common management
- Overcome datacenter limitations to SOA growth

End-to-end Virtualization



Resource Virtualization

- Consolidate resources into a single virtual pool
- Improved asset utilization
- Dynamically allocate processing capabilities



Workload Virtualization

- Use server resources more effectively
- Quickly adapt to changing workload and business requirements
- Drive up utilization, achieve SLA
- Automate selected admin functions to reduce complexity



Information Virtualization

- Relieve load on backend data store
- Improve transaction throughput & response time
- Achieve near-linear scalability
- Reduce or eliminate need for constant tuning

Flexible deployment options

System z™



Capacity on Demand
Extreme Virtualization

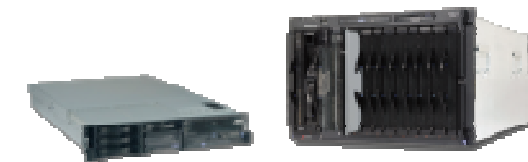


System i™



System p™
AIX L

Advanced POWER Virtualization
NEW - Live Partition Mobility



System x™ and BladeCenter®



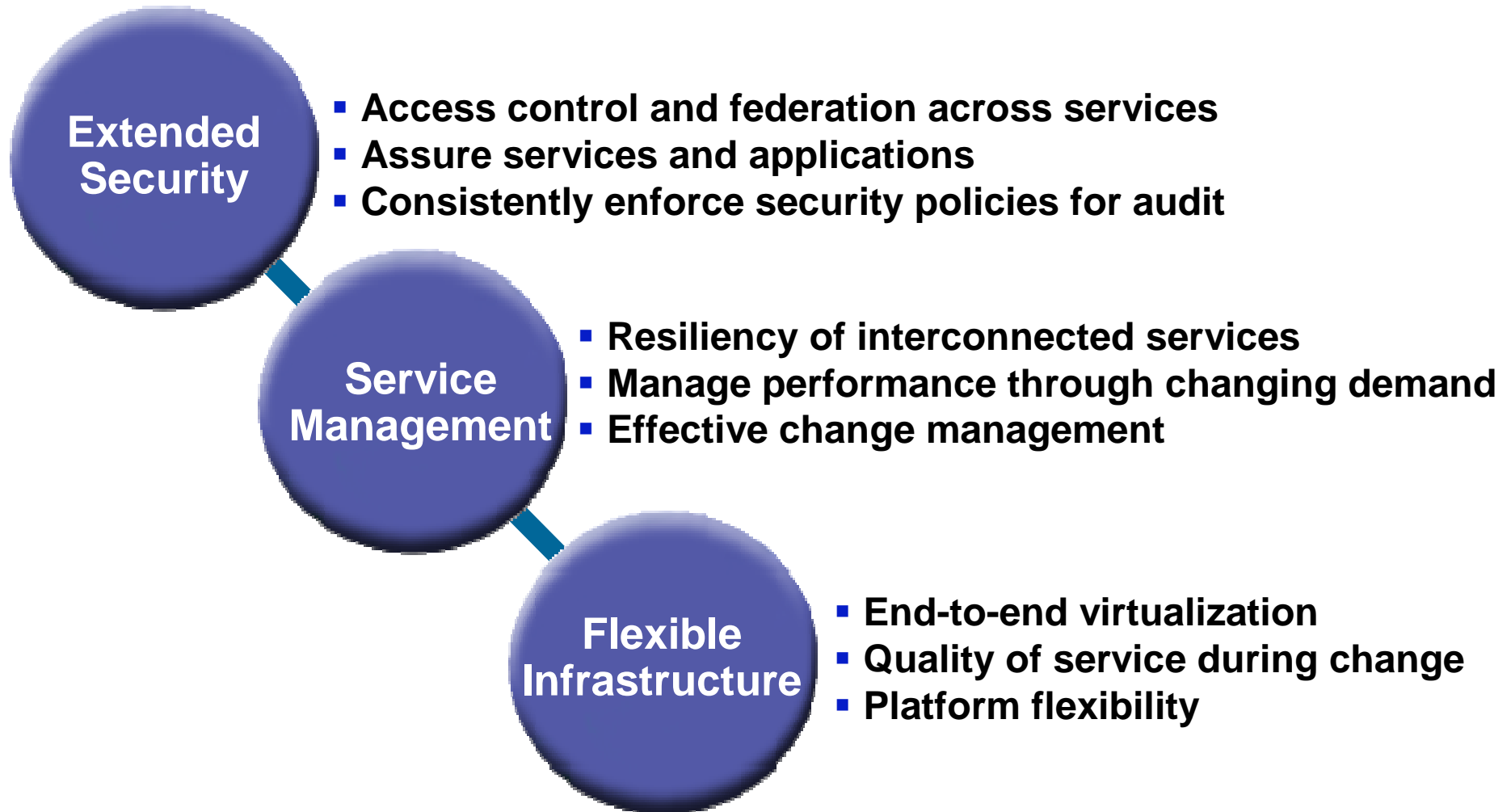
Specialized Appliances & Engines

- WebSphere DataPower SOA Appliances
- zIIP, zAAP and IFL engines for System z



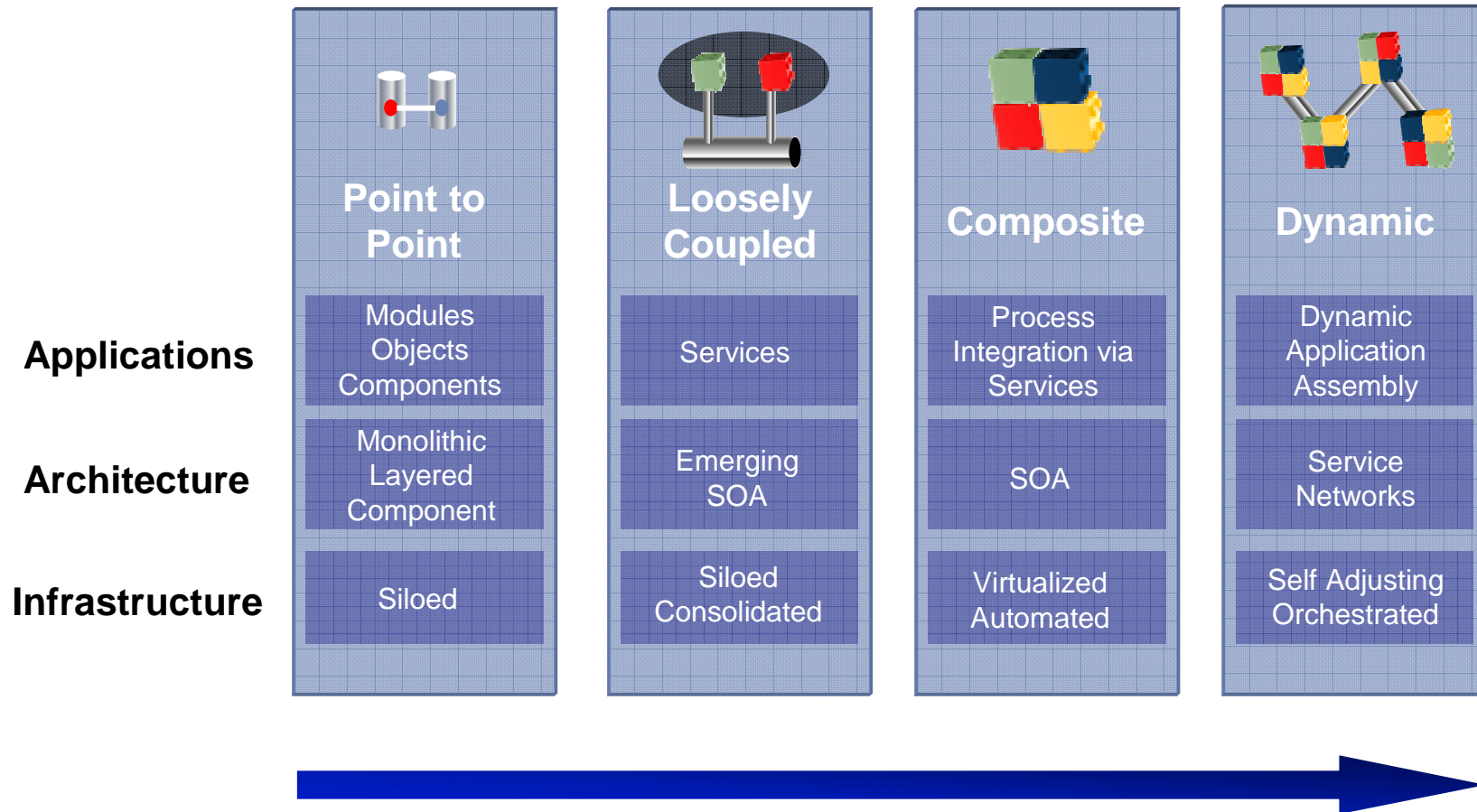
WebSphere software

Meeting the Infrastructure for SOA challenge



As SOA Evolves, so must the Infrastructure.....

Service Integration Maturity Model



Evolving Client's Infrastructure requires End-to-end Approach along with Implementation of Key Technologies



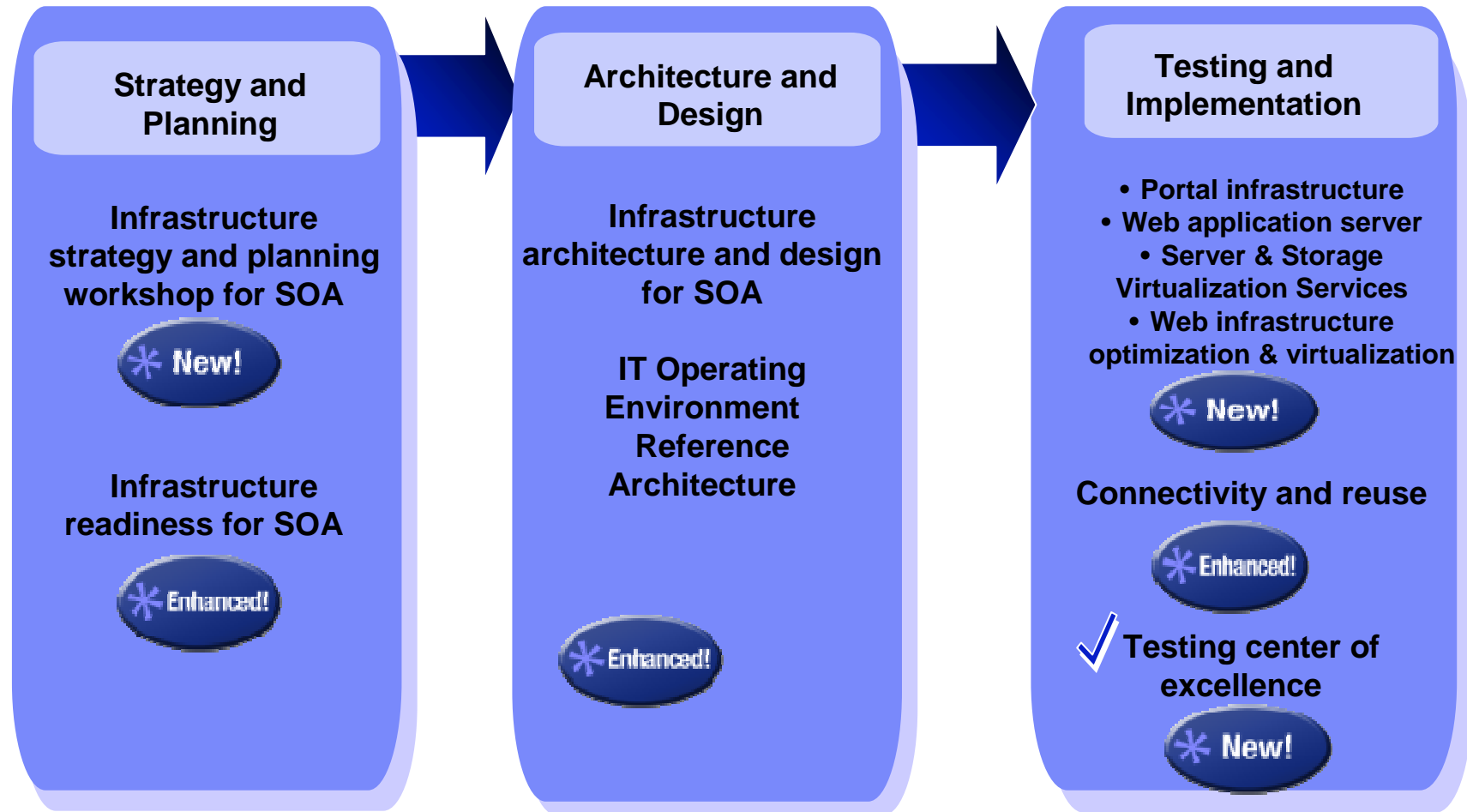
- *Identify opportunities to apply SOA innovations to meet business and IT objectives?*
- *Understand how SOA infrastructure management and service management will support the SOA environment?*
- *Determine IT readiness to incorporate SOA technologies into the environment?*

How do you :

- *Create an architectural framework and the infrastructure designs to support SOA?*
- *Accelerate and refine the SOA architecture and design process and transition plan?*
- *Develop SOA infrastructure solution plan including business case, detailed designs, operational model ?*

- *Integrate siloed applications and value net through an extensible infrastructure foundation*
- *Optimize, scale and automate your SOA foundation?*
- *Integrate with your existing middleware infrastructure?*
- *Ensure your new SOA services respond under normal and peak conditions?*

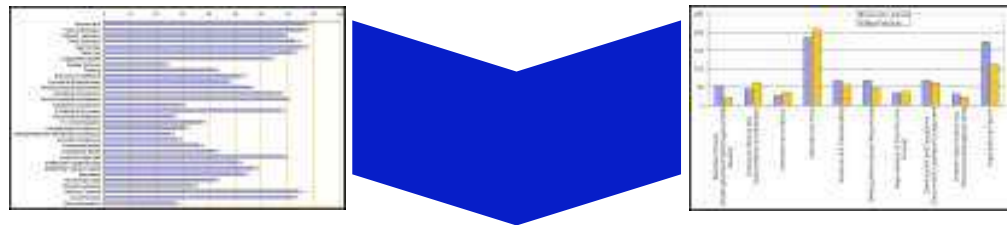
GTS provides new and enhanced services to help clients transition their IT Infrastructure in support of SOA



SOA Deployment Best Practices & Lessons Learned

Methodical, cross-IBM, global approach to capture, analyze, feedback SOA deployment experiences

- SOA Deployment Lessons Learned / Best Practices Conference executed through IBM Academy of Technology
- Applied standardized Case Study Template
 - incl. client situation, project, architectural work products, intellectual capital, lessons learned, best practices)
- Structured into 10 domain categories
 - BPM, ESB, Information, Methods, Solutions, NFRs, PoCs, Development, Testing, Organization
- 200+ submissions resulted in ~100 completed case studies, with 750 lessons learned/650 best practices
 - analyzed and fed back to product and services organizations



Architecting the right SOA Infrastructure is a core activity of SOA deployments

- Early consideration of infrastructure requirements is essential, to avoid an out-of-synch situation between functional and non-functional requirements
- SOA infrastructure may be project specific in early stages, often real benefits to be gained from standardization at a broader enterprise level, with its own adoption path/maturity model
- Paradigm shift visible in IT organizations from being resource providers to becoming service providers, with an infrastructure becoming service-based itself
- Virtualization and provisioning capabilities enable a service-oriented infrastructure
- The right balance between flexibility and complexity is an important architectural consideration



IBM SOA

Why IBM?



Demonstrated Leadership

Unique Blend of SOA Expertise and Infrastructure and Management Software, Hardware and Professional Services Offerings in Support of SOA

Contributors to over **50 SOA-based** standards committees

600 employees are subject matter thought leaders in IT strategy and architecture

Practical application of expertise: **IBM's own IT** transformation and cost optimization project

55,000 employees trained as IT infrastructure experts in 164 countries



Over 4500 SOA engagements and assessments

40 years of virtualization experience (IBM invented it)

2,500 storage virtualization clients

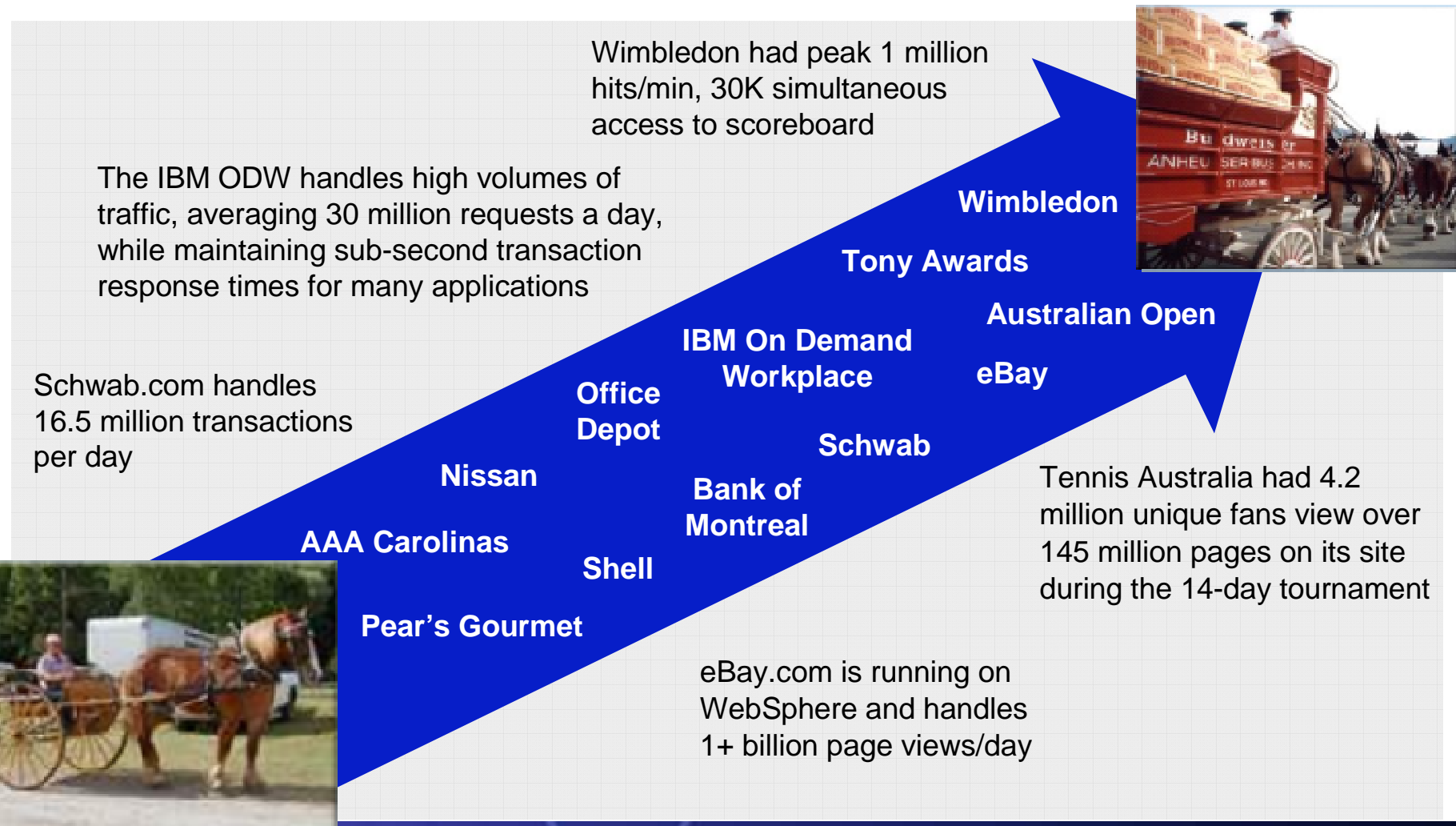
Over 33,000 Mainframe, UNIX®, and System i companies exploit systems-level virtualization

IBM System x clients deploy over **1,000 virtual servers** a day

IBM can virtualize over **80%** of a client's infrastructure

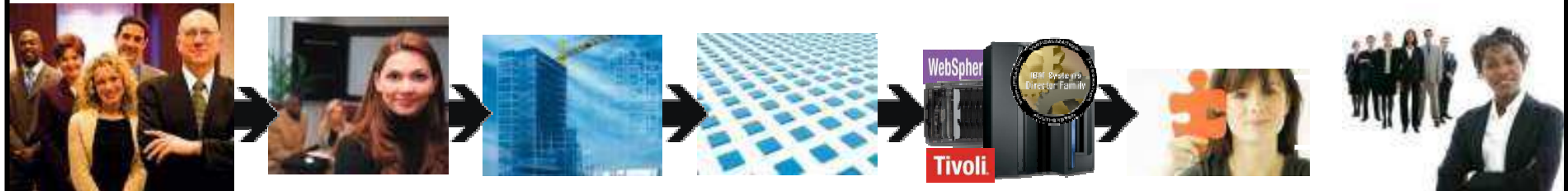
We're Ready with Unmatched Capabilities

For Scaling to Production Volumes, Reliability & Availability



Implementing the Infrastructure

Vast internal and external engagement experience



**IBM
Intellectual
Capital**

**Best
Practices
IT Principles**

**Architecture
&
Standards**

Patterns

**Innovative
Products**

**Integrated
Solutions**

Clients

Point of View – “The full picture”

How to best apply technology and methods to improve your IT cost, flexibility, and service level.



IBM SOA

Questions and Answers



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