



IBM SOA

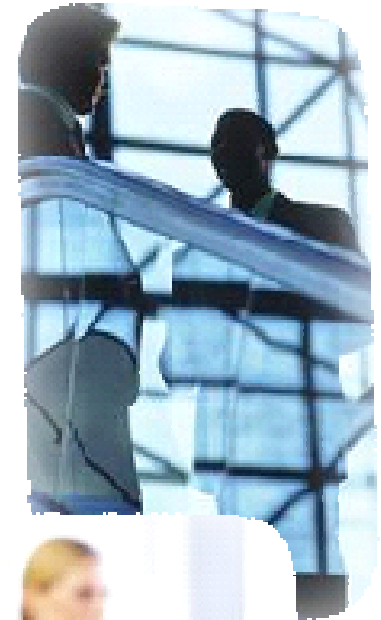
IT Security, Management and Infrastructure Extensions to Maximize SOA Value

Patrick Reynolds
Director, Theme & Product Management
IT Strategy & Architecture



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
- Why IBM?



SOA impact on IT infrastructure

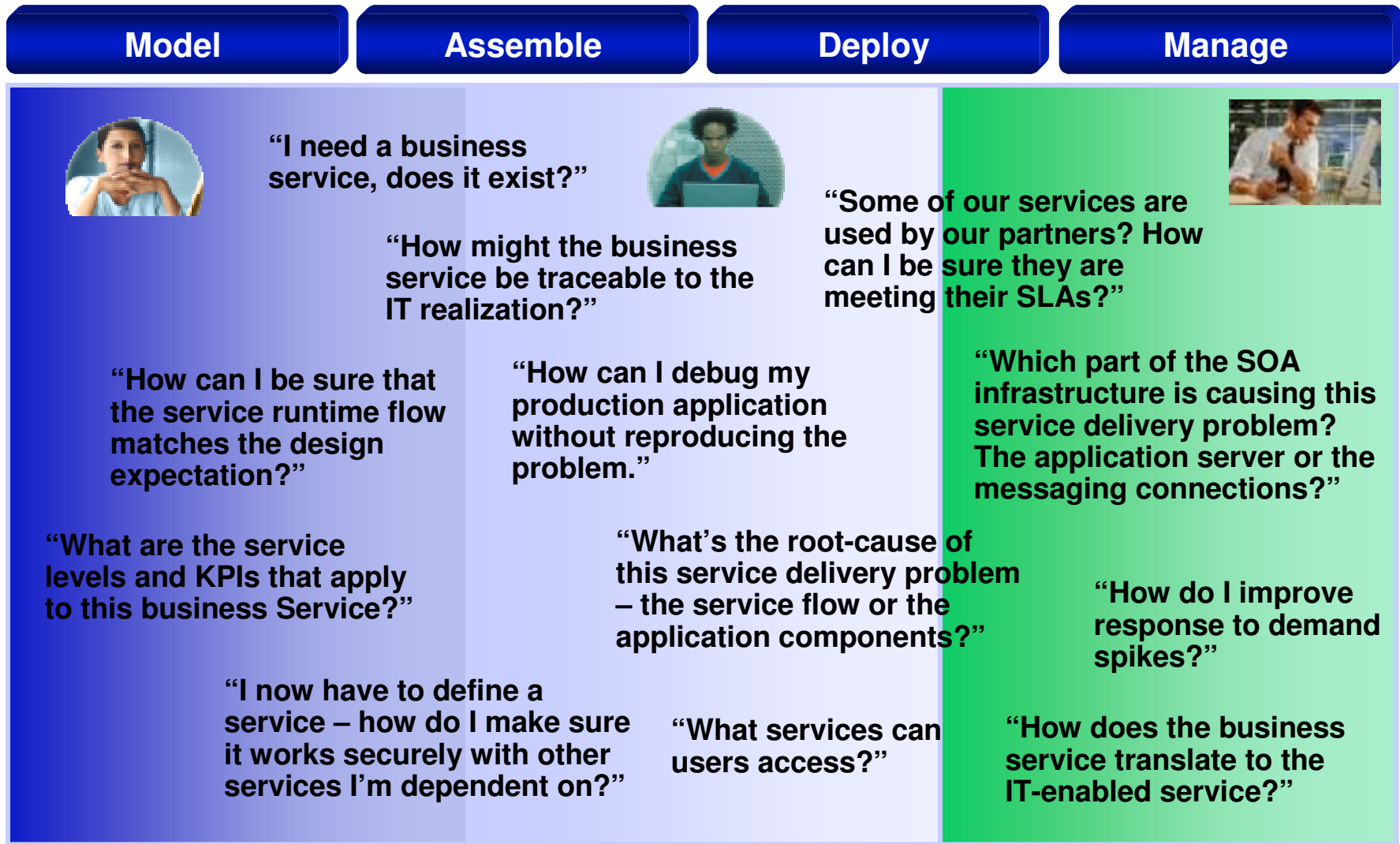
SOA Service Benefits

- 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



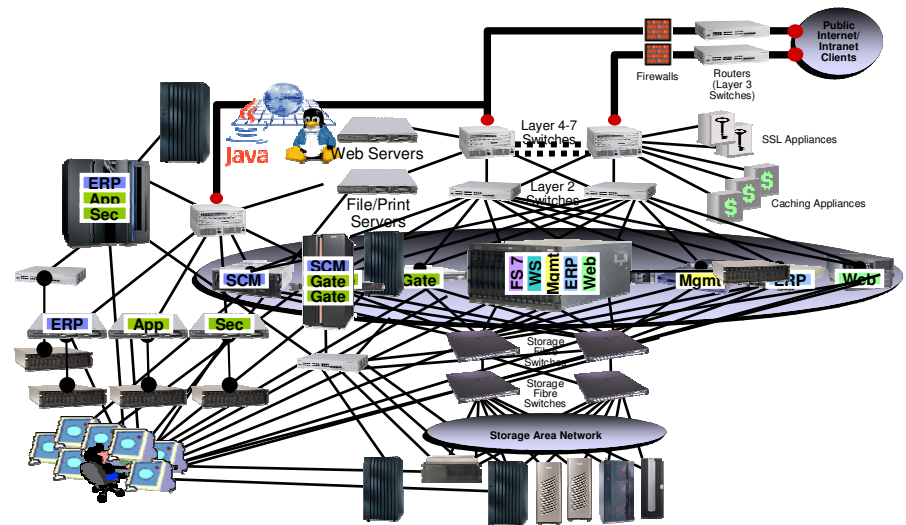
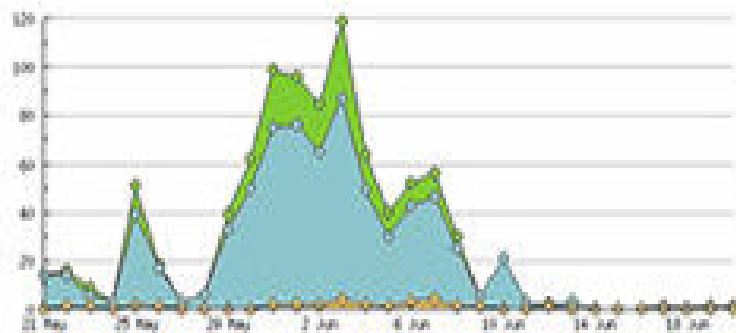
How SOA Affects the IT Lifecycle



IT infrastructure supporting SOA: The Challenge

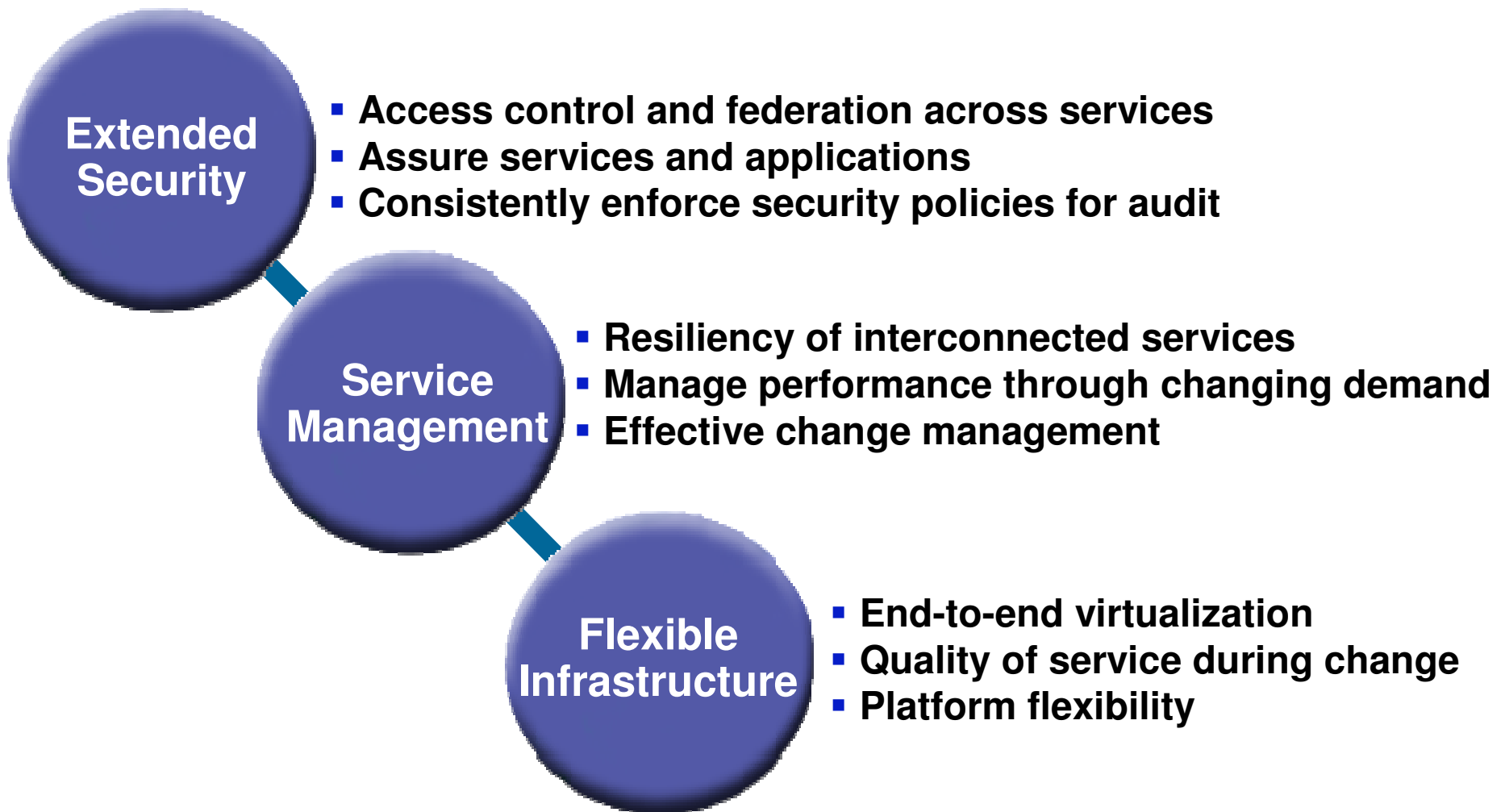
Existing IT infrastructure can inhibit maximizing the value from SOA

- Limited security
- Cumbersome management
- Lack of flexibility
- Poor response to demand spikes



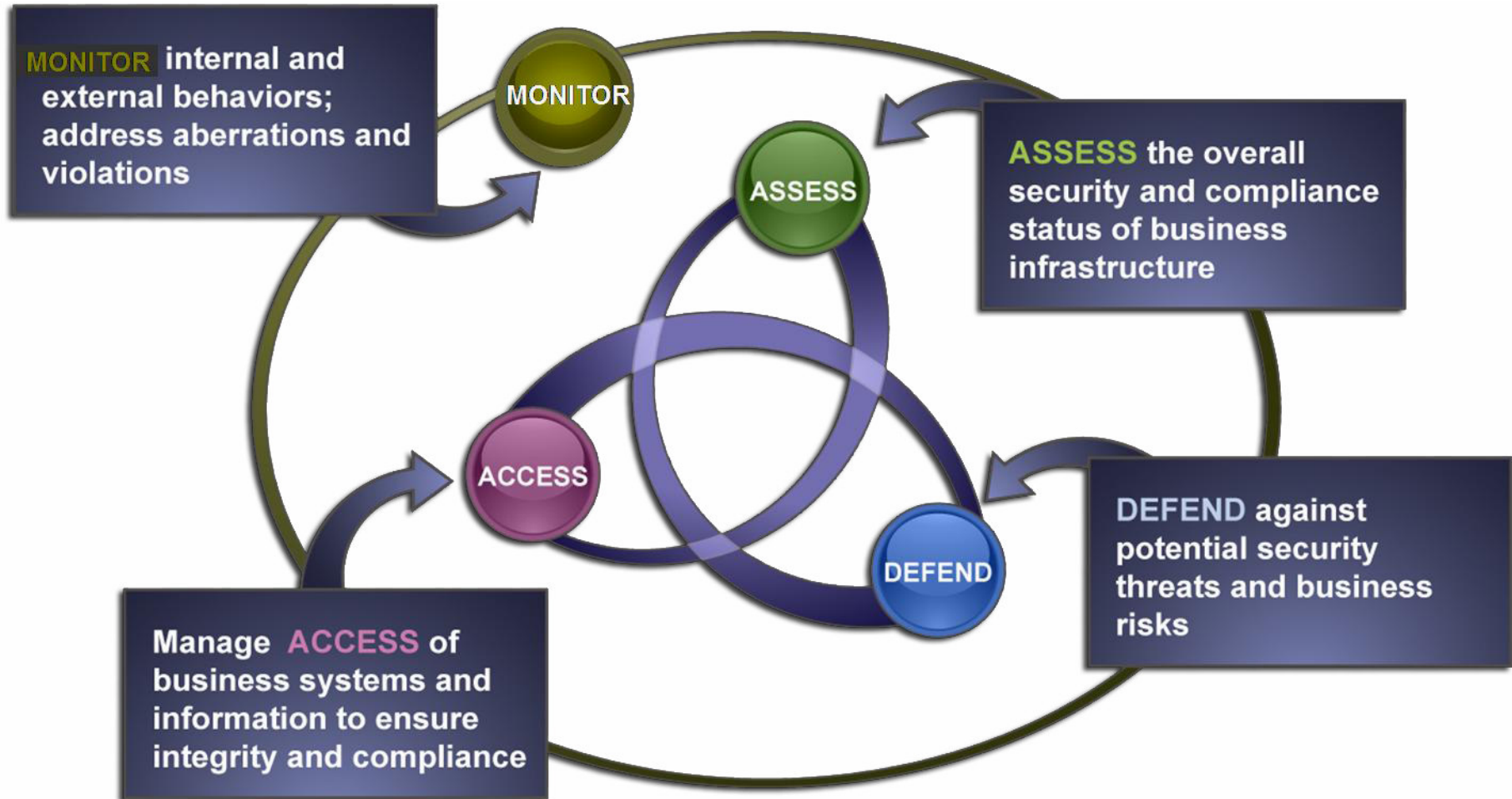
IT infrastructure needs to evolve with SOA deployment

Meeting the Infrastructure for SOA challenge



IBM's Security Management Vision and Strategy

Preemptive, comprehensive security and compliance offerings



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

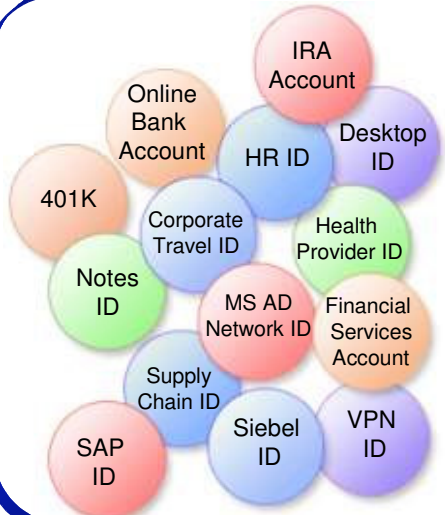
- Unified trust management to create secure communities
- Secure XML messaging and threat protection
- Identity-driven security across heterogeneous domains & environments (applications, services, data & transactions)

Compliance

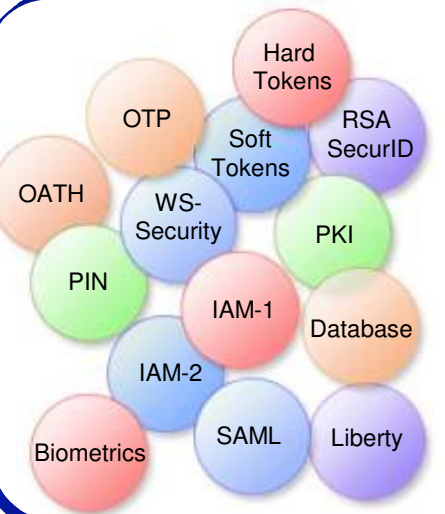
Monitor and enforce policies for audit & compliance

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

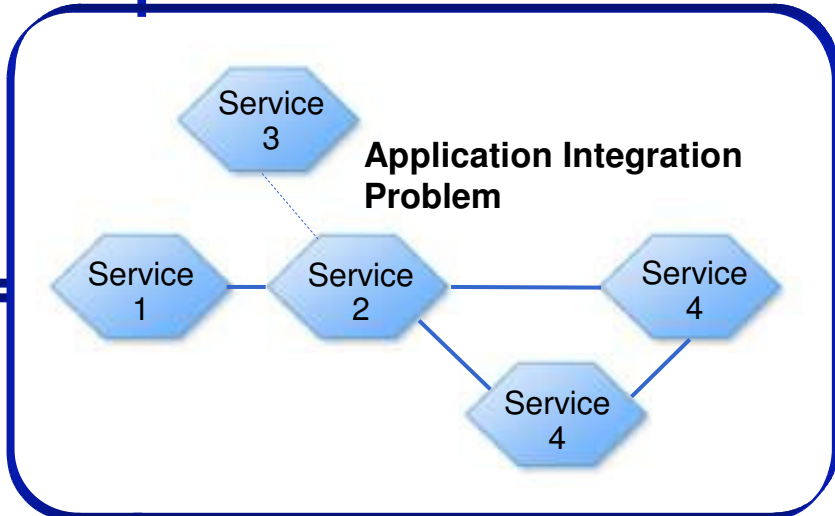
Identity Integration Challenges in SOA



- 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



SOA Security Management Offerings from IBM

 New and Enhanced!

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 ...



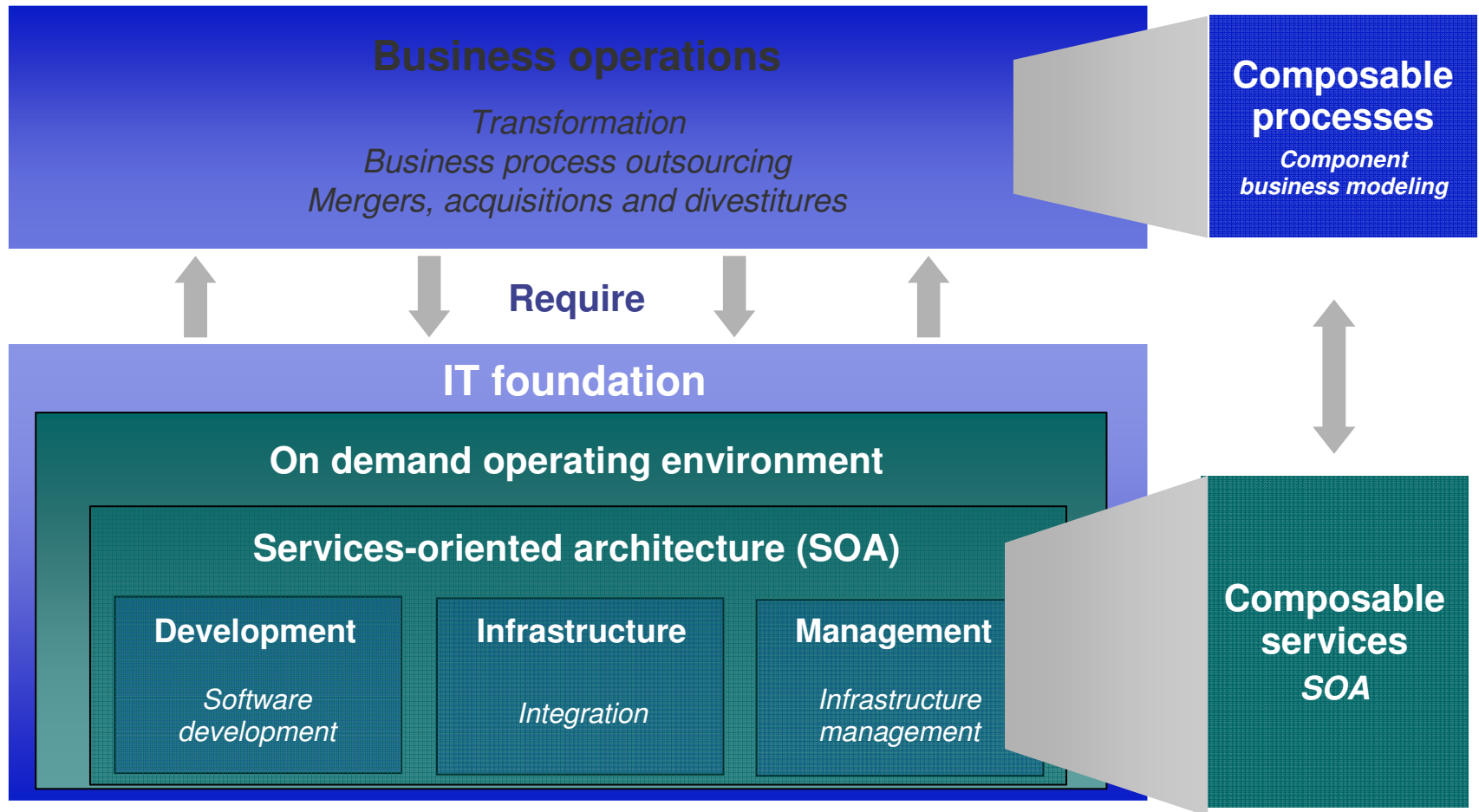
How do you:

- 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

Effective Business Operations

Requires close integration with IT foundation



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

IBM employs Proven Approaches to Accelerate Your IT Strategy and Planning for Service Management

Flexible approach: 10–12-week full engagement, 6-week readiness planning or rapid planning techniques

Identify goals

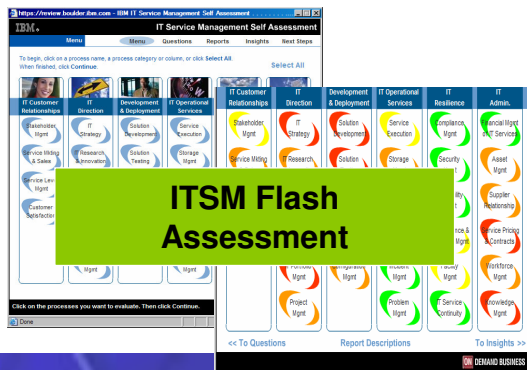
Assess environment

Design a blueprint for achieving desired end-state

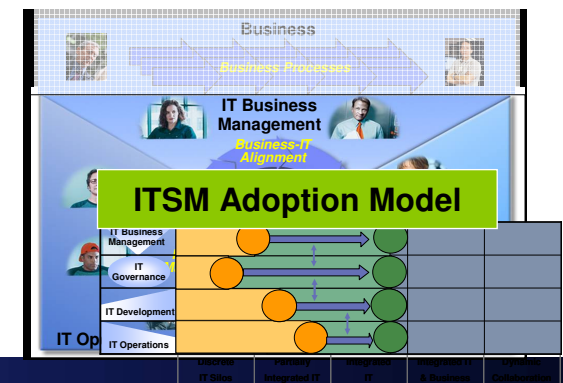
Deliver a prioritized project plan

Facilitated workshops and analytics that guide decision-making and investment prioritization:

- IBM Component Business Model™ and business of IT executive workshop
- Best practices for IT tools, governance capabilities and processes
- IT service management (ITSM) strategy, planning and design using:
 - IT Infrastructure Library® (ITIL®), COBIT, ISO IEC 20000
 - Process Reference Model for IT (PRM-IT)
 - ITIL and PRM-IT maturity models and ITSM adoption model
 - ITSM flash assessment technique



	Unfocussed (1)	Aware (2)	Capable (3)	Mature (4)	World-Class (5)	Now	Goal	
Change Management – Carrying Out the Process	Much confusion over the change entry process, or there are multiple (possibly changing) entry points. IT staff involved late in the cycle – no notion of authorization to request changes.	Clear entry points, but authorization process unclear, and known to be frequently bypassed. Required information is not known by all.	Good enforcement of required information; structured 'requester' authorization process, possibly with some 'rubber stamping'. Some RFCs are rejected early on if data is missing or inconsistent.	Clear entry points; authorization works (evidence of some 'requester' or requests that need to be requisitioned due to insufficient information). Change Manager confirms all priorities and dependencies.	Change entry is automated and process rules enforced as a result. Lead times, process path, authorization requirements, etc. are always correct. Emergency RFCs are electronically and			
ITIL & PRMIT Maturity Model	depending on the assessors. There is no CAB.	defined for major changes. Regular CAB meetings with a large group of people	EC sometimes limited to those affected by the change. RFCs sent out electronically to CAB preview	done. Lead times required for all changes are enforced. Change tickets defined for all changes. Membership of CAB / EC always varies, depending on the RFCs being reviewed. Business areas may be represented on CAB	in place. All change types selected and controlled. CAB / EC frequently consider RFCs electronically without the need for physical meetings. Relevant business areas always involved in CAB / EC decisions			



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

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”

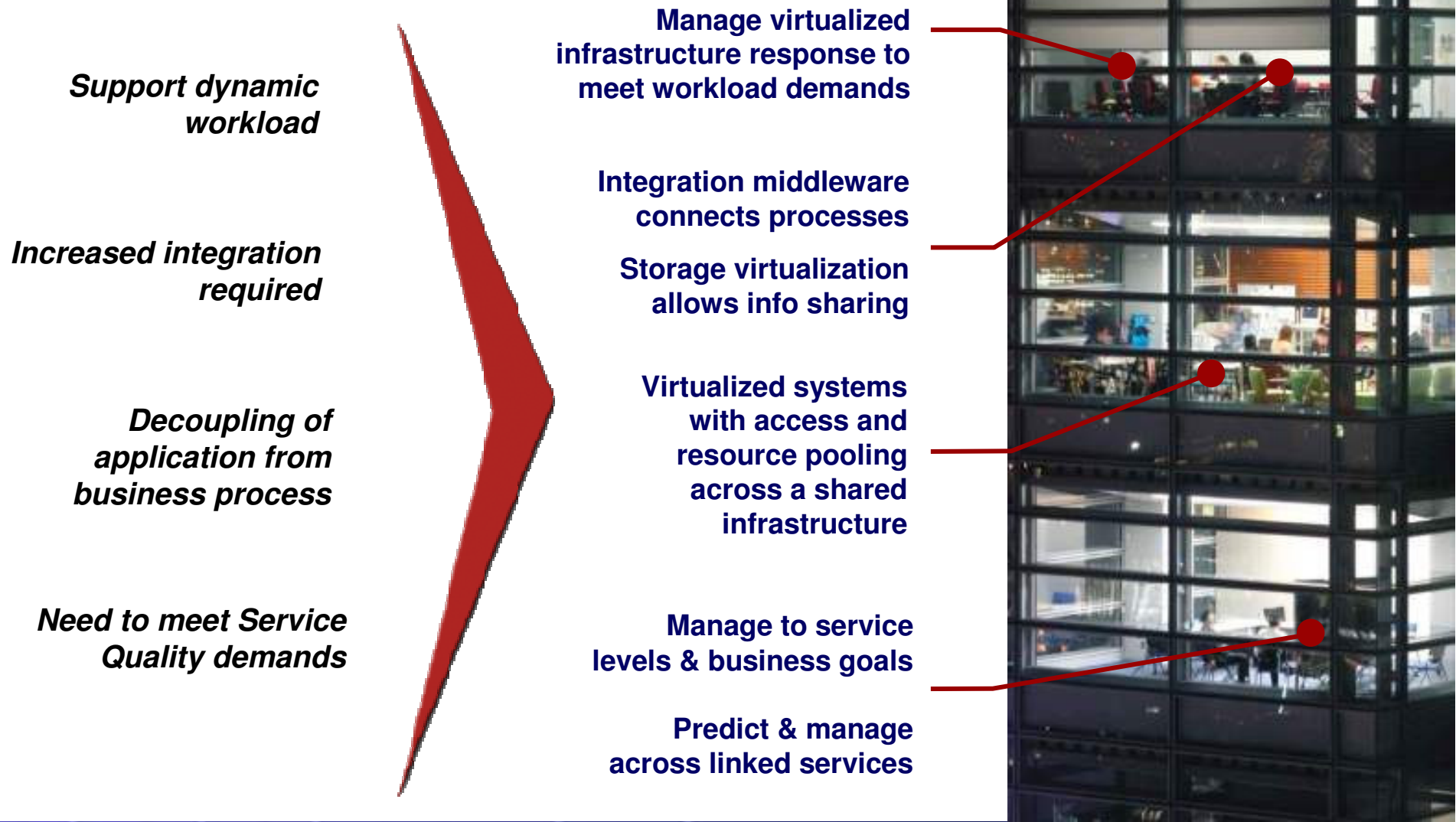
- Responsiveness to service performance demands
- High service availability
- Dynamically adjust infrastructure

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

Value of a dynamic infrastructure for SOA implementations



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™



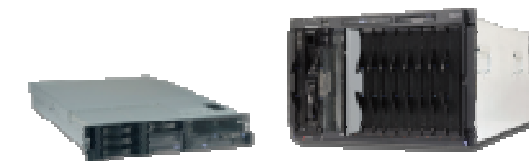
Capacity on Demand
Extreme Virtualization



System i™



Advanced POWER Virtualization
NEW - Live Partition Mobility



System x™ and BladeCenter®



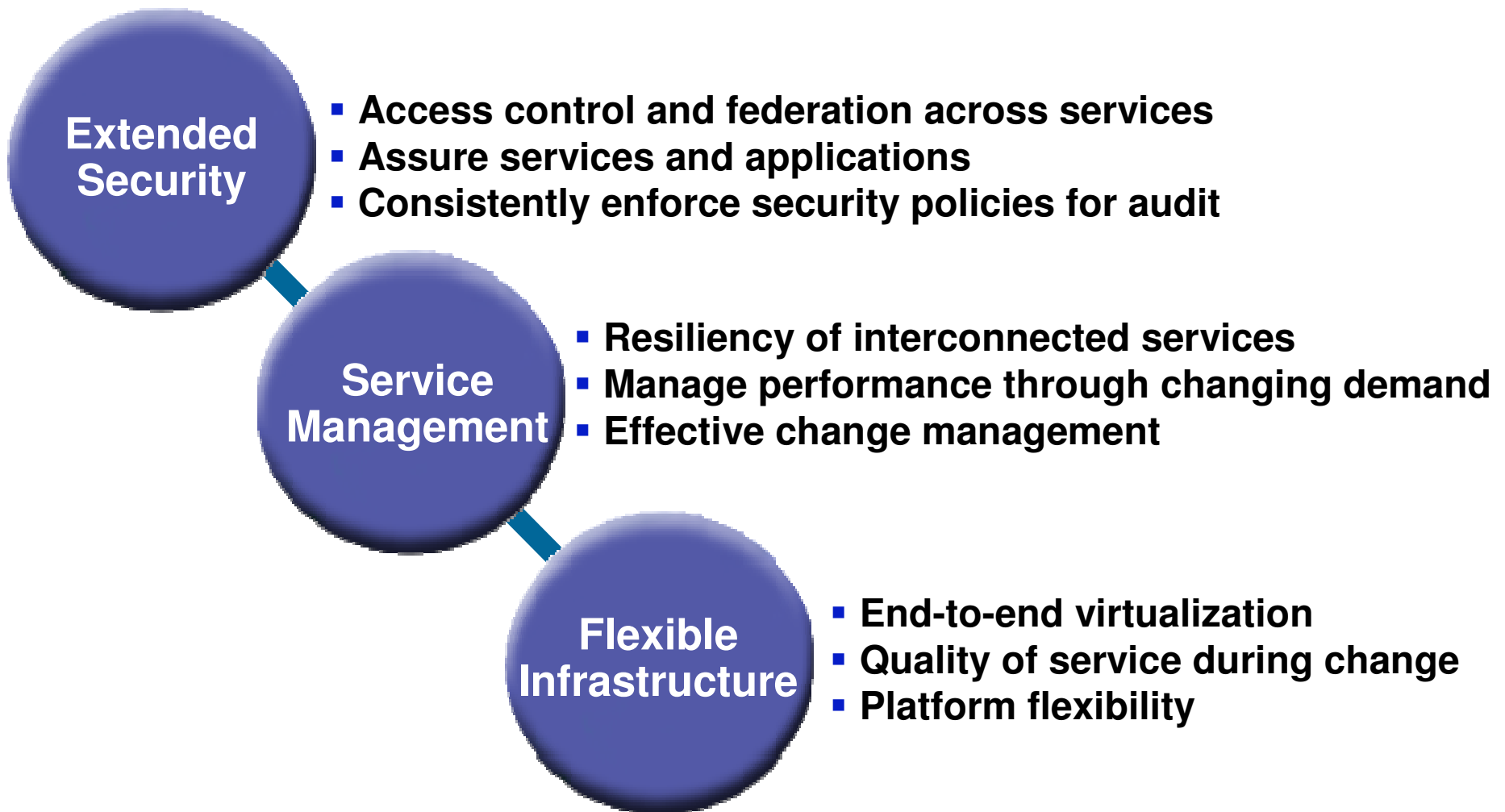
Specialized Appliances & Engines

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



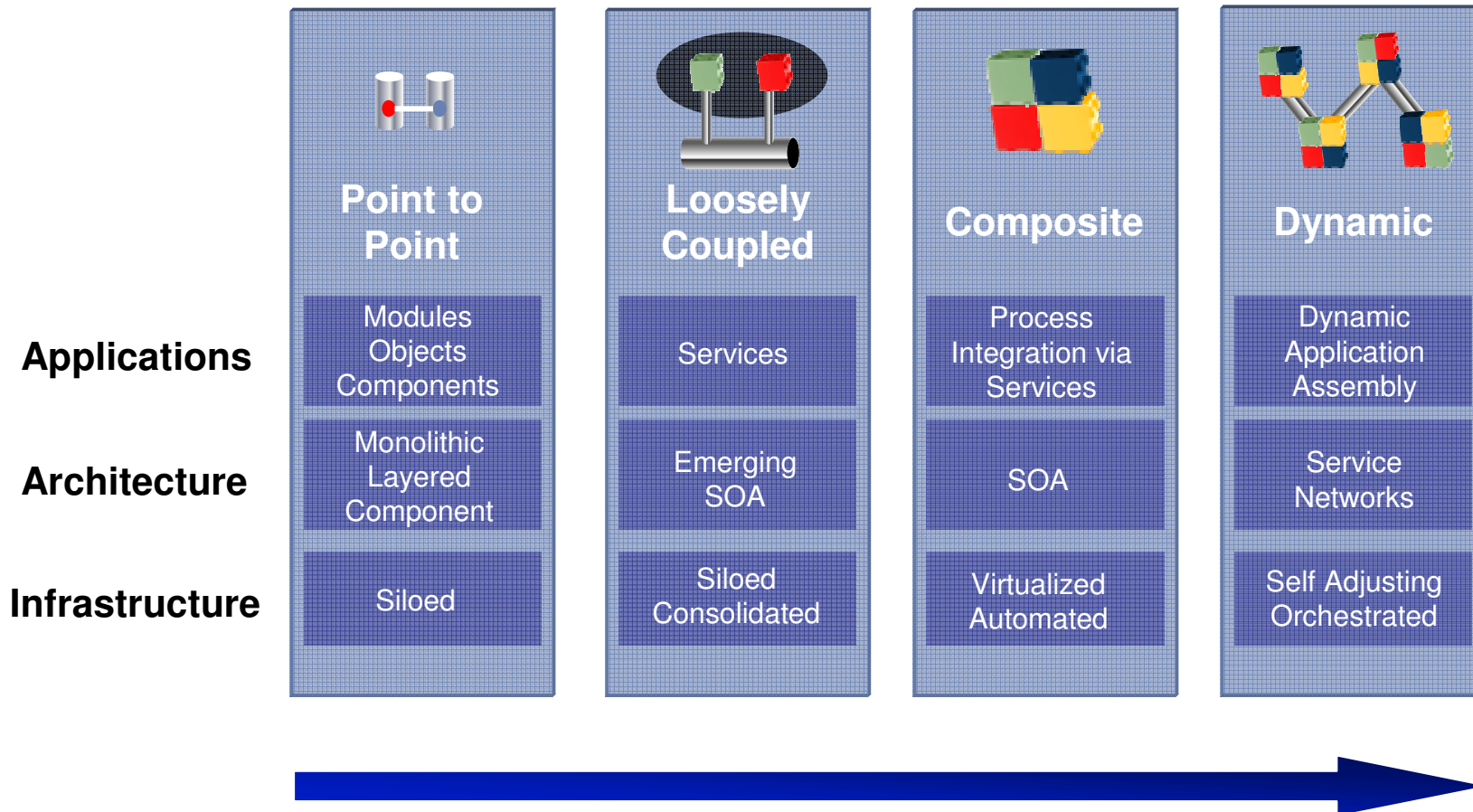
WebSphere software

Meeting the Infrastructure for SOA challenge



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

Service Integration Maturity Model



Transforming Healthcare with SOA and Dynamic Infrastructure

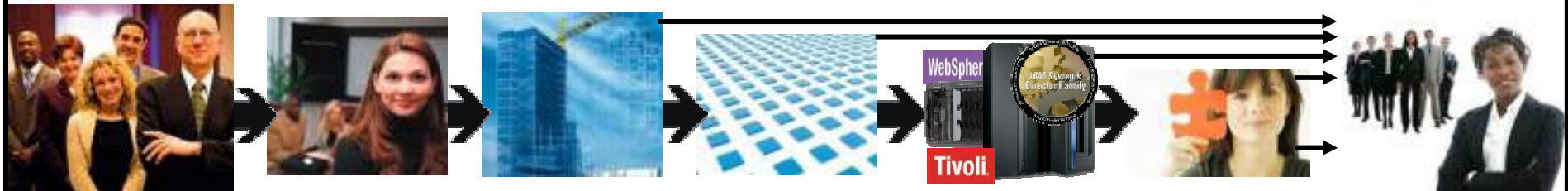


▶ **Business Challenge:**
Experiencing 59% annual data growth
High systems complexity
Desire to shape future healthcare

- ▶ **Solution:** Simplified and integrated the patient data infrastructure using SOA and virtualization on IBM Systems.
- ▶ **Results:** Improved agility to develop and profit from clinical innovations. Improved caregiver efficiency and quality of care. Projected 20% IT cost savings.
- ▶ **Implementation Details:** Leveraged IBM Professional Services to implement a solution using IBM System x, p, z, BladeCenter, and Storage along with IBM virtualization technology, WebSphere Application Server, WebSphere Business Integration, and Tivoli software.

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.

We're Ready with Unmatched Capabilities

For Scaling to Production Volumes, Reliability & Availability

The IBM ODW handles high volumes of traffic, averaging 30 million requests a day, while maintaining sub-second transaction response times for many applications

Wimbledon had peak 1 million hits/min, 30K simultaneous access to scoreboard

Schwab.com handles 16.5 million transactions per day



Wimbledon

Tony Awards

Australian Open

IBM On Demand Workplace

eBay

Office Depot

Schwab

Nissan

Bank of Montreal

Tennis Australia had 4.2 million unique fans view over 145 million pages on its site during the 14-day tournament

AAA Carolinas

Shell

Pear's Gourmet

eBay.com is running on WebSphere and handles 1+ billion page views/day



Thank
YOU



Questions?

© IBM Corporation 2007. All Rights Reserved.

The workshops, sessions and materials have been prepared by IBM or the session speakers and reflect their own views. They are provided for informational purposes only, and are neither intended to, nor shall have the effect of being, legal or other guidance or advice to any participant. While efforts were made to verify the completeness and accuracy of the information contained in this presentation, it is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this presentation or any other materials. Nothing contained in this presentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

References in this presentation to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in this presentation may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth or other results.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of

multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.

The following are trademarks of the International Business Machines Corporation in the United States and/or other countries. For a complete list of IBM trademarks, see

AIX, CICS, CICSplex, DB2, DB2 Universal Database, i5/OS, IBM, the IBM logo, IMS, iSeries, Lotus, OMEGAMON, OS/390, Parallel Sysplex, pureXML, Rational, RCAF, Redbooks, Sametime, System i, System i5, System z , Tivoli, WebSphere, and z/OS.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.