The Myths and Truths About the Infrastructure and Management You Need for SOA

Nicola Hills
   GTS Application Infrastructure Svcs Lead, IBM
Ken King
   Vice President, Grid Computing, IBM

ON DEMAND BUSINESS™

Infrastructure and Management for SOA

- Challenges Specific to SOA
- Key Capabilities Required
  - Service Management
  - Service Security
  - Service Virtualization
- Linking Across the Management Spectrum
- Getting Started and Moving Forward
  - Why IBM

ON DEMAND BUSINESS

Evolving Infrastructure and Management to Support SOA
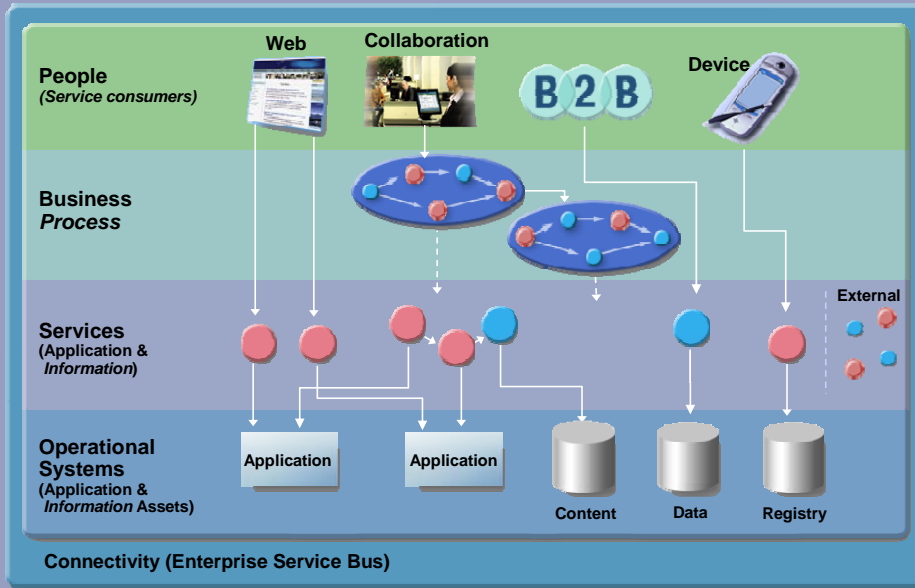
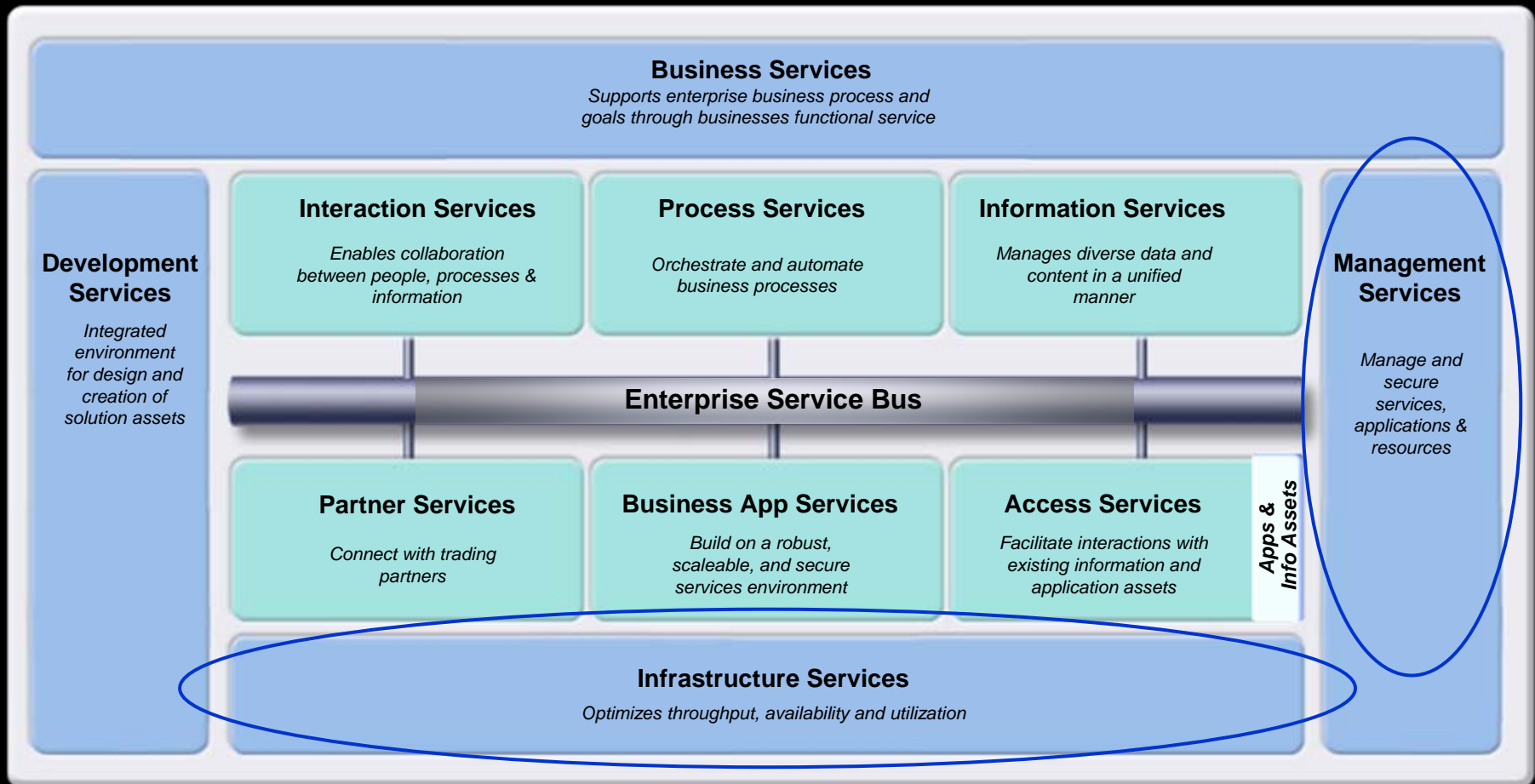*Infrastructure in Support of SOA*

As Is
- Siloed
- Static
- Physical

To Be
- Flexible
- Dynamic
- Virtualized

ON DEMAND BUSINESS

Defining the capabilities for your SOA environment
SOA Reference Architecture

Business Services
Supports enterprise business process and goals through businesses functional service

Development Services

Integrated environment for design and creation of solution assets

Interaction Services
Enables collaboration between people, processes & information

Process Services
Orchestrate and automate business processes

Information Services
Manages diverse data and content in a unified manner

Management Services

Manage and secure services, applications & resources

Enterprise Service Bus

Partner Services
Connect with trading partners

Business App Services
Build on a robust, scaleable, and secure services environment

Access Services
Facilitate interactions with existing information and application assets

Apps & Info Assets

Infrastructure Services
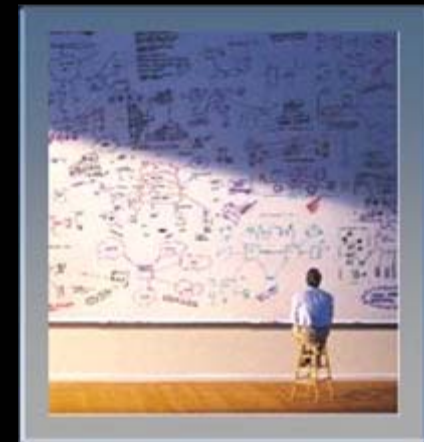*Optimizes throughput, availability and utilization*
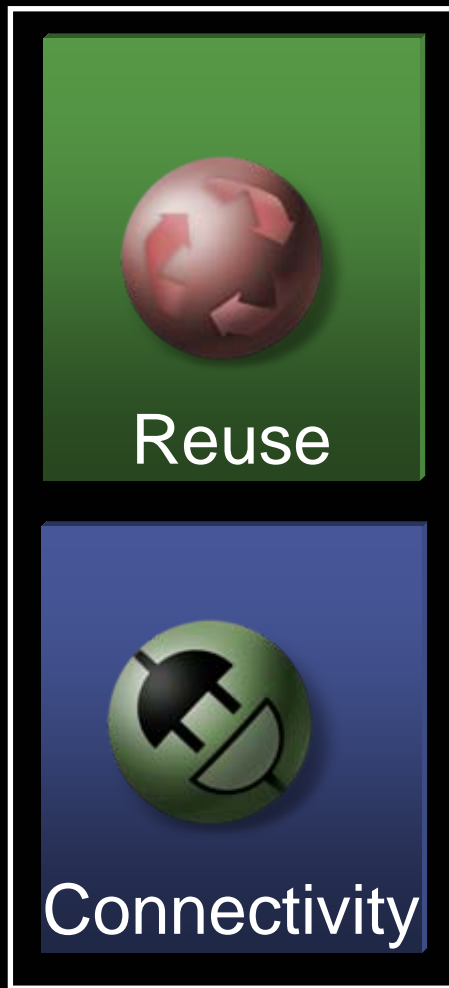
Infrastructure and Management Questions for SOA

What infrastructure and management do I need for my SOA Entry Point project?
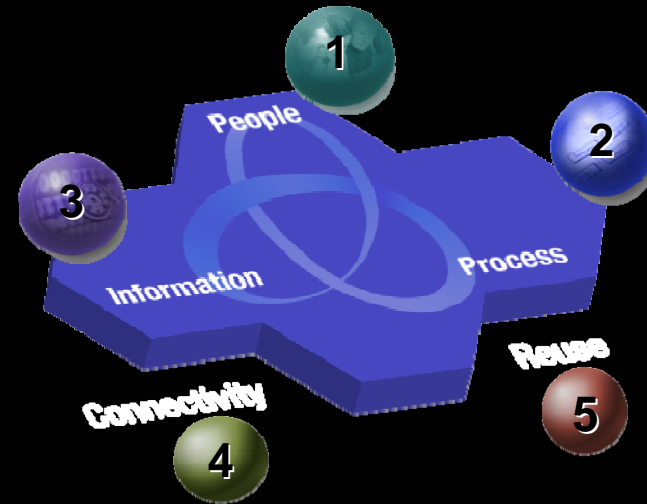
How will SOA impact my existing infrastructure and management capabilities?

ON DEMAND BUSINESS

SOA Entry Point Infrastructure Example
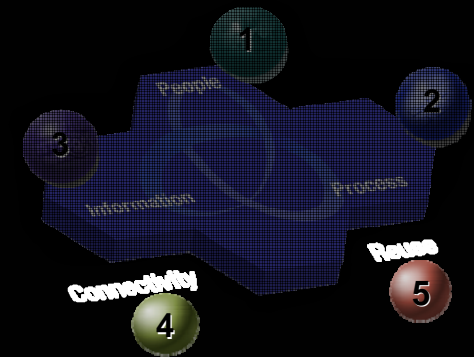
Reuse

Connectivity

Deployment Stages

- Readiness Assessment
- Design
- Implement
- Manage

Typical Infrastructure

- Application Server & Storage
- Enterprise Service Bus (ESB)
- Service Management and Security

How Does SOA Impact Infrastructure and Management?

SOA Characteristics

- Applications reused in new dynamic ways

- Services combined from multiple sources

- Rapid deployment

- Services route to any available resource

- Distributed access

Key Infrastructure and Management Considerations

Predictability
- Demand
- Performance
- Availability

Visibility
- Quality Of Service

Controllability
- Release
- Change

Clarity
- Problem Resolution
- Financial Management

Security
- Federation
- Compliance

Infrastructure and Management for SOA

- Challenges Specific to SOA
- Key Capabilities Required
  - Service Management
  - Service Security
  - Service Virtualization
- Linking Across the Management Spectrum
- Getting Started and Moving Forward
  - Why IBM

Infrastructure and Management Capabilities Required

Service Security

"Access, Integrity and Compliance"

Service Management

"Insight, Visibility and Control"

Service Virtualization

"Right Place, at the Right Time"

Base Considerations For Existing Infrastructure

Readiness For SOA?

- Performance
- Availability
- Scalability
- Integration

Infrastructure and Management Extensions in Support of SOA

Service Security

"Access, Integrity and Compliance"

- Federate identity and access control across services
- Secure services and applications
- Consistently enforce security policy for services

Service Management

"Insight, Visibility and Control"

- Automate and simplify IT processes
- Manage service and application service levels
- Predict and manage change across linked services

Service Virtualization

"Right Place, at the Right Time"

- Automatic scaling to support services demand
- Intelligently respond to business priorities
- Accelerate application and services performance

ON DEMAND BUSINESS

Access, Integrity and Compliance

Service Security

Federated identity and access control across services	▪ Provision identities automatically to reduce costs ▪ Control access levels to services to improve security ▪ Improve user experience with Single sign-on
Secure Services and Applications	▪ Secure data, applications and transactions across heterogeneous environments ▪ Unified trust management to create secure communities ▪ Secure XML messages for packet level security
Consistently enforce security policy for services	▪ Federate policy management to improve consistency ▪ Improve security with enterprise-wide events management ▪ Automate user account validation to enforce access policies

ON DEMAND BUSINESS

ING Group N.V.

Challenge

ING needed to reduce the time and cost of managing employee access to information while ensuring staff could quickly respond to business change.

Solution

Launched automated identity integration services and an entitlement program to substantially improve staff productivity and reduce the cost of identity management.

Benefits

- Projected savings of €15 million (US$20 million) a year
- 50 percent reduction in administrators in just 18 months
- Reduce help-desk costs by 25 percent through the self-service of password resets
- Reduce the turn-on time for new users from one week to less than 24 hours
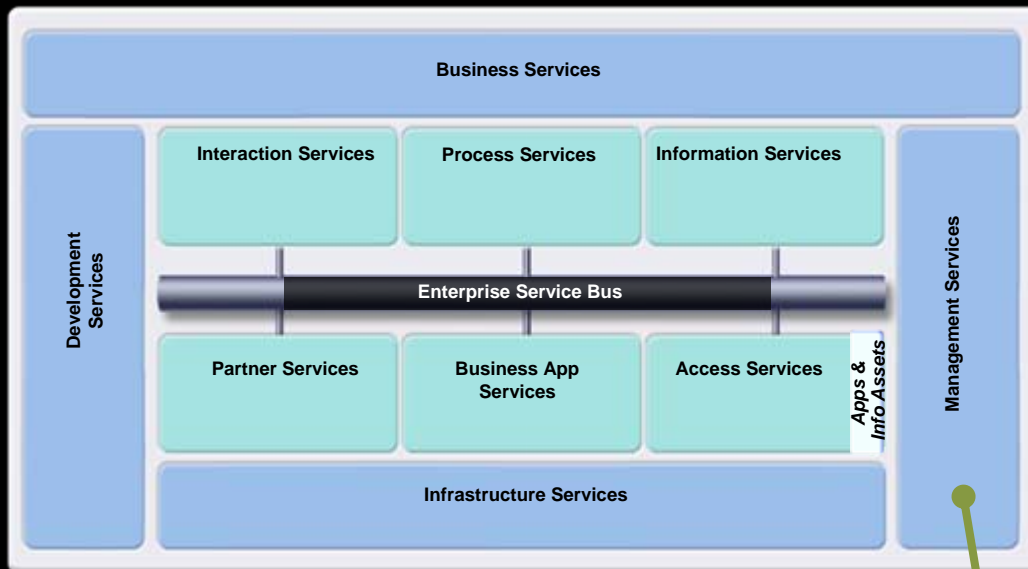- Reduce the time and cost associated with regulatory compliance

"Using IBM Tivoli Access Manager and IBM Tivoli Identity Manager together enables us to reduce costs and simplify processes even further. Now we can manage multiple user and authorization administrations from a single point of control."

*–Henk Veerman,
Information Security Architect,
ING Entitlement Program*

- IBM Tivoli Identity Manager
- IBM Tivoli Access Manager

Service Security Offerings from IBM

New and Enhanced!

Business Services

Interaction Services | Process Services | Information Services

Development Services

Enterprise Service Bus

Partner Services | Business App Services | Access Services

Apps & Info Assets

Management Services

Infrastructure Services

Products

- IBM Tivoli Federated Identity Manager v6.0
- IBM Tivoli Federated Identity Manager Business Gateway v6.1.1
- IBM Tivoli Security Compliance Manager v5.1
- WebSphere DataPower XS40
- IBM Tivoli Security Operations Manager v3.1

Professional Services

New and Enhanced!

- SOA Application Security Assessment
- SOA Security Requirements
- SOA Security Architecture
- SOA Security Implementation

Service Security

ON DEMAND BUSINESS

Insight, Visibility and Control

Service Management

Automate and simplify IT processes	▪ Release management for rapid service deployment ▪ Performance management across all services ▪ Availability management for supporting applications
Manage service and application service levels	▪ Improve flexibility with Services dashboard for Service level reporting ▪ Monitor services end to end to isolate and fix problems ▪ Automate provisioning and control of services to meet SLAs
Predict and manage change across linked services	▪ Discover relationships to improve application availability ▪ Track and predict change to reduce costs and downtime ▪ Map and manage configurations to streamline operations

ACI Global

Challenge

ACI Global needed to create more flexible and responsive operations to maintain competitive advantage. They sought a better way to manage, control and track all call center activities.

Solution

Implemented a flexible SOA based call center system called "Centrale Operativa." The environment facilitates the creation of smoother, more efficient processes for providing customer assistance through the call center.

Benefits

- 20 percent improvement in response times to customer calls
- 30 percent increase in call center productivity
- 25 percent reduction in the time it takes to deliver new commercial products
- Complete view of system health, enables keeping the solution running efficiently

"The IBM software that we now use has encouraged better business practices throughout our organization, making our company as well as our customers more profitable."
    —ACI Global

- IBM Rational Software Architect
- IBM Tivoli Monitoring
- IBM Tivoli CAM for SOA
- IBM Tivoli CAM for WebSphere
- IBM WebSphere Message Broker
- IBM WebSphere Process Server

ON DEMAND BUSINESS

Service Management Offerings from IBM

New and Enhanced!
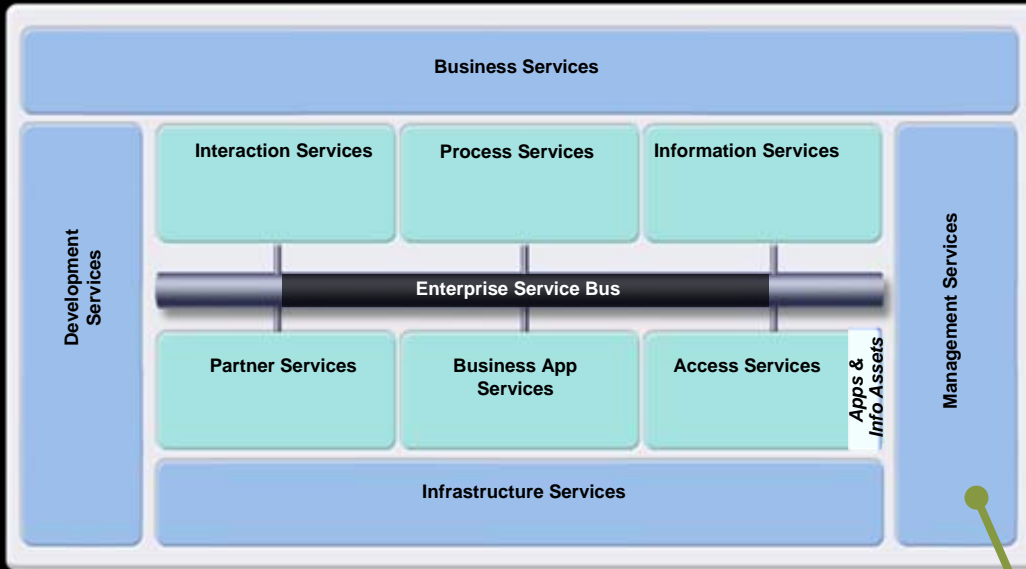
Products

- **IBM Tivoli Service Management family:**
  - IBM Tivoli Release Process Manager v1.1.1
  - IBM Tivoli Availability Process Manager v1.1.1
  - IBM Tivoli Change and Configuration Management Database v1.1.1
  - IBM Tivoli Composite Application Manager (ITCAM) for SOA v6.1
  - IBM Tivoli Business Systems Manager v4.1
  - Tivoli Monitoring Family

New and Enhanced!

Professional Services

- Management of Services for SOA
- Business of IT Dashboard
- SOA Management Planning
- Testing Center of Excellence for SOA

Service Management

Right Place at the Right Time

Service Virtualization

Automatic scaling to support services demand

- Service Placement
- Dynamic Resource Virtualization

Intelligently respond to business priorities

- Service Prioritization
- Service Lifecycle Management
- Service Mobility
- Workload Management

Accelerate application and service performance

- Consolidation / Simplification
- Resource Orchestration

ON DEMAND BUSINESS

Torn sp. z o.o.

Challenge

- Support the company's rapidly growing internet services business in a cost effective manner
- Align clients infrastructure costs with revenue
- Business and infrastructure continuity within minutes
- Reduce complexity in the IT environment to streamline operations

Solution

A virtualization solution from IBM that allowed rapid scaling to meet demand while enabling the ability to have fine grained accountability of usage.
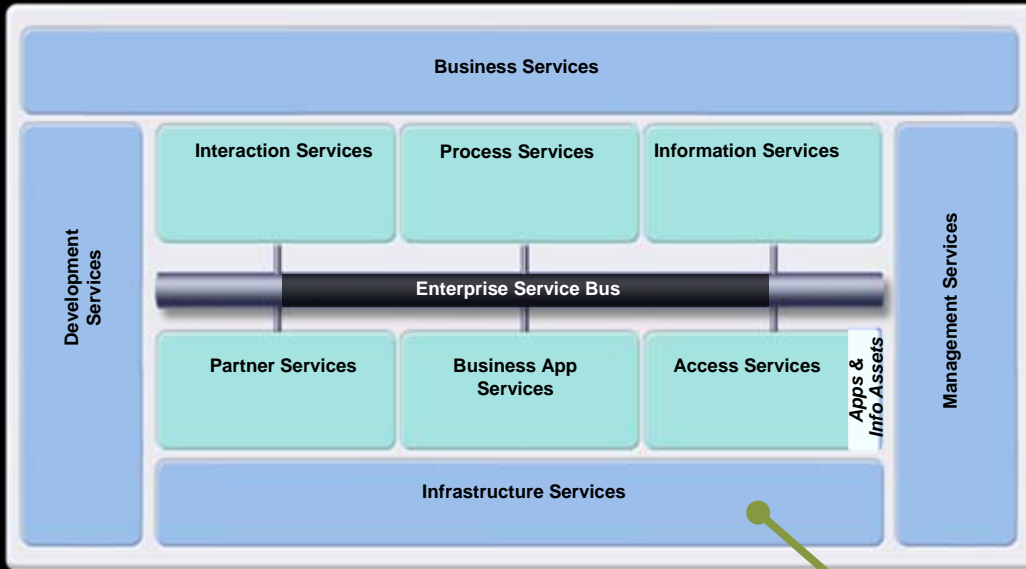
Benefits

- "We can increase the computing power available to our clients internet services on demand, enabling them to respond precisely to transactional peaks."
- "We can now respond very quickly to new requirements, potentially setting up entirely new systems within days or hours, without sacrificing availability or security."

- IBM Dynamic Resource Virtualization
- IBM WebSphere Application Server

Service Virtualization Offerings from IBM

Business Services

Interaction Services | Process Services | Information Services

Development Services

Enterprise Service Bus

Partner Services | Business App Services | Access Services

Apps & Info Assets

Management Services

Infrastructure Services

New and Enhanced!

Products

- IBM WebSphere XD v6.0.1
- IBM Tivoli Dynamic Workload Broker v1.1
- IBM Tivoli Usage and Accounting Manager v6.1
- IBM SAN Volume Controller v4.1
- IBM Enterprise Workload Manager v2.1

New and Enhanced!

Professional Services

- Web Infrastructure Optimization and Virtualization Services
- Server Virtualization Services

Service Virtualization

ON DEMAND BUSINESS

DEMO VIDEO

Infrastructure and Management for SOA

- Challenges Specific to SOA
- Key Capabilities Required
  - Service Management
  - Service Security
  - Service Virtualization
- Linking Across the Management Spectrum
- Getting Started and Moving Forward
  - Why IBM

ON DEMAND BUSINESS

The Management Spectrum

Management Disciplines

- Asset Management
- Availability Management
- Change Management
- Configuration Management
- Operations Management
- **Performance Management**
- Capacity Planning
- Problem Management
- Security Management
- Business Continuity

BUSINESS

Business Processes

Services

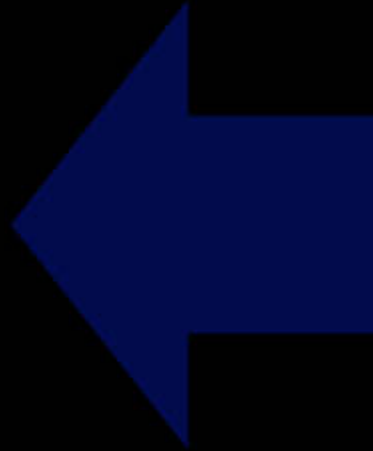*Applications*

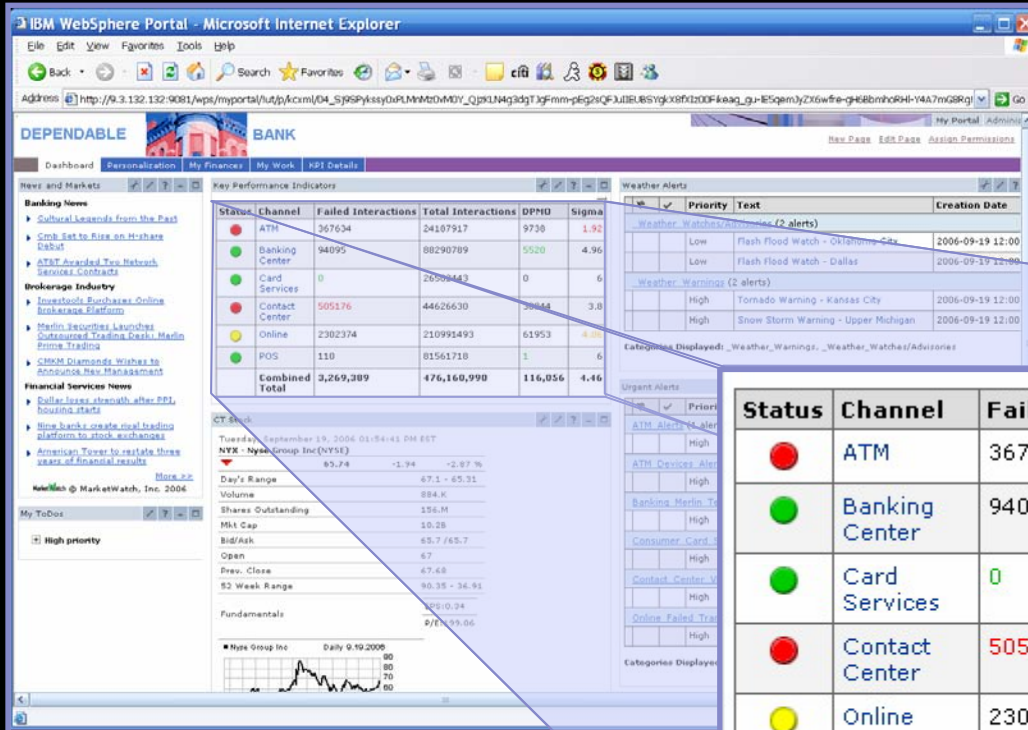*Infrastructure*

IT

End to End Performance Management

- Value Statement
  - Increased banking customer satisfaction
  - Ability to deploy bank resources where they will have the most positive impact
  - Ability to link business performance to IT performance across management spectrum

Business Level Performance Monitoring

Operations Executive Desktop Showing Key Performance Indicators

Status	Channel	Failed Interactions	Total Interactions	DPMO	Sigma
🔴	ATM	367634	24187917	9738	1.92
🟢	Banking Center	94095	88290789	5520	4.96
🟢	Card Services	0	26502443	0	6
🔴	Contact Center	505176	44626630	38844	3.8
🟡	Online	2302374	210991493	61953	4.06
🟢	POS	110	81561718	1	6
	Combined Total	3,269,389	476,160,990	116,056	4.46

Providing Actionable Information

IBM WebSphere Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://9.3.132.132:9081/wps/myportal/!ut/p/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_QjzKLN4g3dgTJgFmm-pEg2s0f0uIIEUBSYokh4gIV8dTJ9cjPTQWKR5pDxKNyUfMTkyv1g_W99QP0C

DEPENDABLE BANK

My Portal   Administration   Edit my profile   Log out

New Page Edit Page Assign Permissions   Search:

Dashboard | Personalization | My Finances | My Work | KPI Details

My Favorites

Query Filter

ATM Query Filter

Sub-channel

All Sub-channels

Date Range   Start Date   End Date

This year

Apply

Select or enter desired date range and click Apply

Channel Alerts

▼	✓	Priority	Text	Creation Date
ATM Devices Alerts (2 alerts)				
		Normal	Diebold Opteva 740 Display Problem	2006-09-19 12:00 AM
		High	NCR 5588 Power Supply Recall	2006-09-19 12:00 AM
ATM Alerts (2 alerts)				
		High	VisaNet Authorization Problem	2006-09-19 12:00 AM
		High	ATM Network Outage	2006-09-19 12:00 AM

Categories Displayed: All Categories

Channel Summary

Summary Dial Trends Chart Details Table

Failed Interactions

Low Medium High

6,978,877

KPI Details

Channel: ATM   Start Date: 01/01/2006   End Date: 09/19/2006

Sub Channel	Scheduled Outages	Unscheduled Outages	Degraded Systems	Failed Interactions	Total Interactions	DPMO	Sigma
Denied Transactions	130107	426004	3448365	4004476	666357044	162259	4.28
Failed Services ATM Devices	0	0	2977197	2974401	0	0	0
Combined Sub Channel Total	130,107	426,004	6,425,562	6,978,877	666,357,044	162,259	2.14

Internet

KPI Details

Channel: ATM   **Start Date: 01/01/2006**   **End Date: 09/19/2006**

Sub Channel	Scheduled Outages	Unscheduled Outages	Degraded Systems	Failed Interactions	Total Interactions	DPMO	Sigma
Denied Transactions	130107	426004	3448365	4004476	666357044	162259	4.28
Failed Services ATM Devices	0	0	2977197	2974401	0	0	0
Combined Sub Channel Total	130,107	426,004	6,425,562	6,978,877	666,357,044	162,259	2.14

Abnormally High Number of Failed Interactions Shows a Problem With the ATM Network

ON DEMAND BUSINESS

Infrastructure Level Performance Management
The Dashboard Supports Drill Down Capability to Show ATM Failures in Ann Arbor, MI

NETCOOL® Suite™

logged in as: Netcool Administrator | Dependable Bank ▾   Logout

| Dependable Bank Dashboard | ATM Service Scorecard | ATM Service Dashboard | ATM Market Performance | ATM Network Dashboard | 3rd Party Partners |

Service Tree

	State	Total TX	Total Revenue	Lost Revenue	Total Cost
NorthEast	⚠	3345.0	4644.0	751.0	1080.9499999999998
Michigan	⚠	3345.0	4644.0	751.0	1080.9499999999998
Ann Arbor	⛔	1131.0	1281.0	202.0	359.34999999999997
atm-01-ana	⛔	1131.0	1281.0	202.0	359.34999999999997
Transactions	🟢	1131.0	1281.0	202.0	359.34999999999997
AMEX BAL	🟢	23.0	46.0	10.0	8.049999999999999
AMEX WD	🟢	82.0	205.0	25.0	28.7
Depend. BAL	🟢	156.0	0.0	0.0	54.599999999999994
Depend. Dep	🟢	25.0	0.0	0.0	8.75
Depend. WD	🟢	421.0	0.0	0.0	147.35
Interlink BAL	🟢	45.0	90.0	28.0	11.25
Interlink WD	🟢	320.0	800.0	120.0	80.0
Visa BAL	🟢	15.0	30.0	4.0	5.25
Visa WD	🟢	44.0	110.0	15.0	15.399999999999999
Money					
Consumables					
Network					
Security					
Server					
Detroit	🟢	2214.0	3363.0	549.0	721.5999999999999
atm-01-det-mi	⚠	2214.0	3363.0	549.0	721.5999999999999
New York	🟢	0.0	0.0	0.0	0.0
Manhatten	🟢	0.0	0.0	0.0	0.0
SouthEast	🟢	1038.0	723.0	50.0	138.9
Georgia	🟢	1038.0	723.0	50.0	138.9
Atlanta	🟢	1038.0	723.0	50.0	138.9
atm-01-atl-ga	⚠	1038.0	723.0	50.0	138.9

ON DEMAND BUSINESS™

Infrastructure Level Performance Management

Isolation of ATM Failures in Ann Arbor, MI

Dependable ATM Service Machine Dashboard

ON DEMAND BUSINESS

Infrastructure and Management for SOA

- **Challenges Specific to SOA**
- **Key Capabilities Required**
  - Service Management
  - Service Security
  - Service Virtualization
- **Linking Across the Management Spectrum**
- **Getting Started and Moving Forward**
  - Why IBM

Getting Started and Moving Forward

Service Security

DMZ & Perimeter Security

Application & Services Security

Security Processes & Automation

Service Management

Application Performance Management

Change & Configuration Management

Automated Process Managers

Service Virtualization

Service Placement

Infrastructure Scaling

Service Lifecycle Management

Service Mobility

Demonstrated Leadership

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

Broad Management Expertise Across Industries

- 96 of Top 100 Financial Institutions
- 96% of Government Agencies
- 9 of 10 Healthcare Companies
- 8 of 10 Top Retailers

Contributors to over 50 SOA-based standards committees

More than 2,500 SOA Business Partners

#1 SOA Markeshare More than the next 5 competitors combined
(Wintergreen 2006)

40 years of virtualization experience (IBM invented it)

Over 3000 SOA Engagements and Assessments

Primary SOA Research IBM Institute of Business Value

ON DEMAND BUSINESS

The Myths and Truths About the Infrastructure and Management You Need for SOA

Nicola Hills
   GTS Application Infrastructure Svcs Lead, IBM
IBM Ken King
   Vice President, Grid Computing, IBM

ON DEMAND BUSINESS™