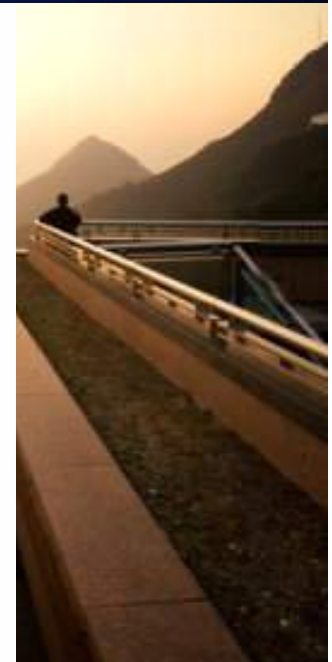# Management and Security for Service Oriented Architecture

Leopoldo Andrés
Tivoli IT Specialist
IBM, Tivoli software

ON DEMAND BUSINESS™

Agenda

- Challenges Specific to SOA
- Key Capabilities Required
  - Service Management
  - Service Security
- Why IBM

Businesses are Under Pressure to Innovate and Grow

Competitive Advantage through Service Excellence

- Need to retain and add new customers through quality and value add services

Operational Efficiency and Effectiveness

- Cost Containment
- Reduce the risk of security exposure
- Greater regulatory and audit requirements

Business Growth

- Financial performance & market share growth expectations from investors

Business Depends on Quality Service Delivery

Delivering High-Quality, Cost-Effective Services is Challenging

- **Growing Complexity:** Disparate technologies and service infrastructures

- **Rapid, Constant Change:** Industry consolidation, technology convergence

- **Rising Costs:** Process inefficiencies, administration, maintenance

- **Tougher Compliance:** Added security, audit and governance requirements

- **Lack of Service Context:** Silos of people, process, technology, information

Obstacles to Innovation
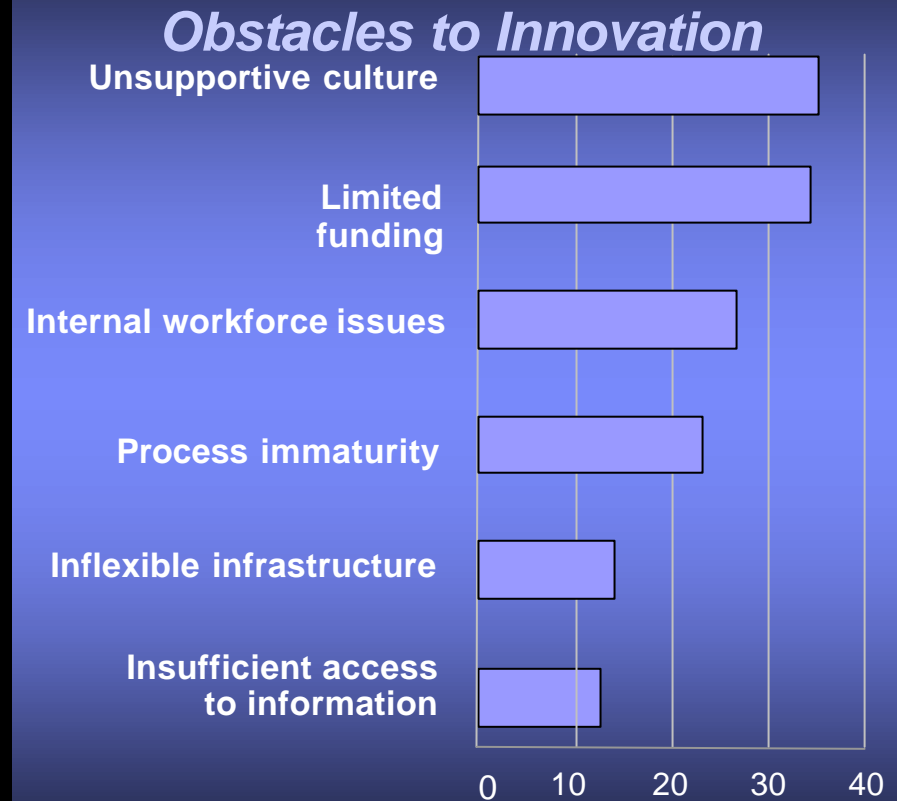
Source: IBM Global CEO Survey, Jan. 2006
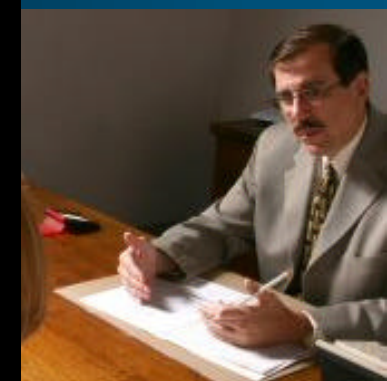
SOA delivers business value

- 97% of customers justified their SOA project on cost

- 100% saw increased business flexibility

- 51% revenue growth

Source: 2006 IBV Business Value Study

78% of CEOs believe integrating business and technology is fundamental for innovation

Source: 2006 IBM SOA Technology Study of 137 Companies

Growth

Flexibility

Reuse

Decrease Cost

IBM

Quality Service Delivery Requires Service Management

What do we mean by a *service*?

- An offering, function or activity delivered to an internal or external customer which may contribute revenue and profit or fulfill a critical mission of an organization and is the output created through the use of an organization's human, intellectual, financial and physical assets.
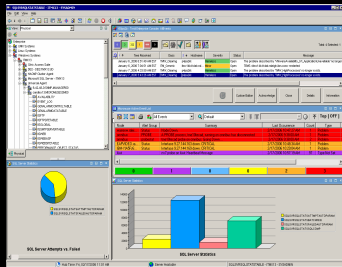
What do we mean by *service management*?

- Service Management encompasses the management processes, tactics and best practices needed to deliver business services

- Applies to IT, operations, and line-of-business services – *all* require service management

"As enterprises become more aware of the increasing interdependence of business and IT issues — they need to adopt a more holistic view of both internal and external service delivery. This is vital for business leaders in targeting and executing business change."
--- Thomas Mendel, Ph.D, Vice President Research Director Forrester Research

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How Does SOA Impact Management and Security?

SOA Characteristics

- Applications reused in new dynamic ways

- Services combined from multiple sources

- Rapid deployment

- Services route to any available resource

- Distributed access

Key Management & Security Considerations

Predictability
- Demand
- Performance
- Availability

Visibility
- Quality Of Service

Controllability
- Release
- Change

Clarity
- Problem Resolution
- Financial Management

Security
- Federation
- Compliance

Agenda

✎ Challenges Specific to SOA

✎ Key Capabilities Required

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- Service Security

✎ Why IBM

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Key Capabilities for Management of SOA environments

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 Security

"Access, Integrity and Compliance"

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

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

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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

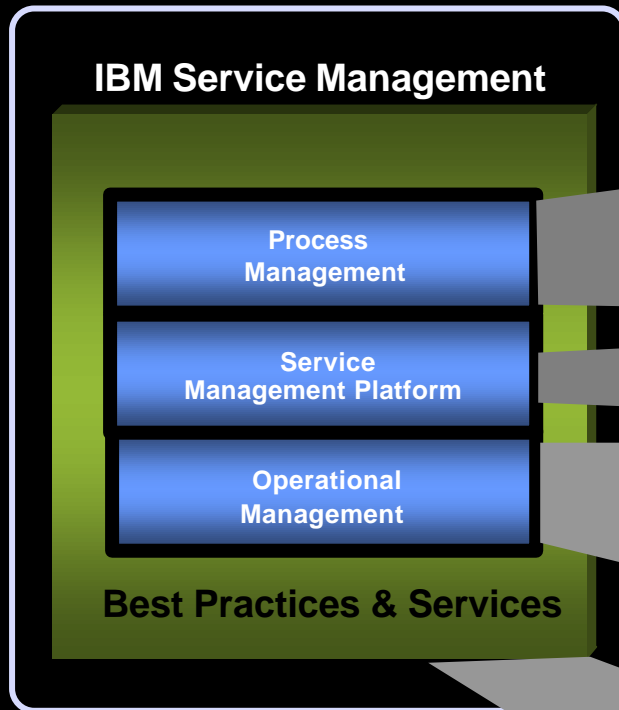*"The IBM software that we now use has encouraged better business practices throughout our organization, making our company as well as our customers more profitable."*
    —*ACI Global*

?Rational Software Architect

?Tivoli Monitoring

?Tivoli CAM for SOA

?Tivoli CAM for WebSphere

?WebSphere Message Broker

?WebSphere Process Server

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Service Management Offerings from IBM

New and Enhanced!

IBM Service Management

Process Management

Service Management Platform

Operational Management

Best Practices & Services

Products

✎ IBM Tivoli Service Management family:

- IBM Tivoli Release Management Process Manager v1.1.1
- IBM Tivoli Availability Management 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

Professional Services

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

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ITCAM for SOA V6.1

Service problem identification and resolution

- Content-rich views and cross-workspace linkages enable drill-down from services to application components and IT resources to identify the source of bottleneck or failure

Service Management Automation

- Built-in and extensible alerts, situations, workflows and managed mediation primitives for WebSphere ESB enable powerful automation scenarios

Heterogeneous SOA Platform Support

- SOA Platform support covers IBM WebSphere Application Server, WebSphere ESB, WebSphere Process Server, WebSphere Community Edition, WebSphere DataPower SOA Appliances, Microsoft .NET, JBOSS, CICS and BEA WebLogic, SAP NetWeaver

Integrated Console

- Service views, graphical topology, alerts and automation included within Tivoli Enterprise Portal, the integration point for the Tivoli Automation portfolio including ITCAM, OMEGAMON, ITM and TBSM

Life-cycle Management

- Web Services Navigator provides deep understanding of service flows and relationships
- WebSphere Service Registry and Repository integration supports SOA Governance
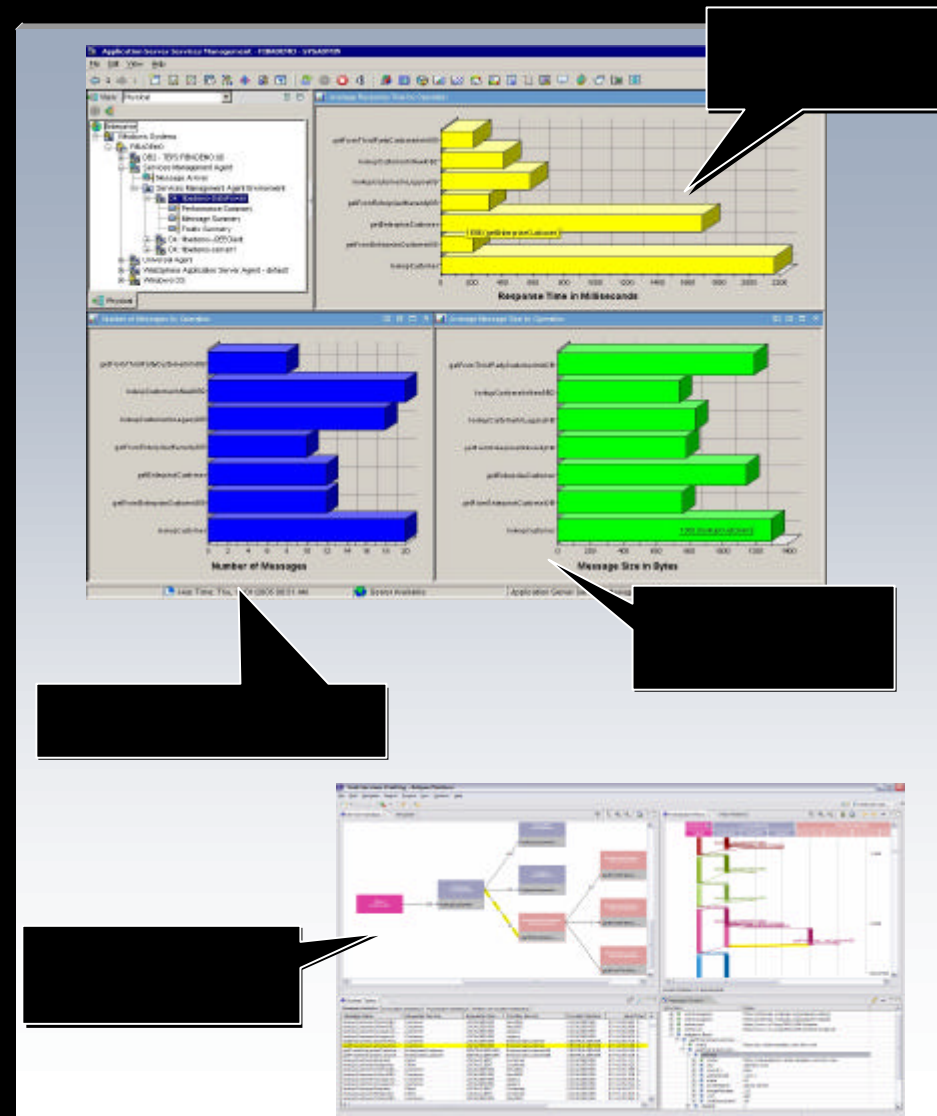
Access, Integrity and Compliance

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 to protect from virus attacks
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

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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
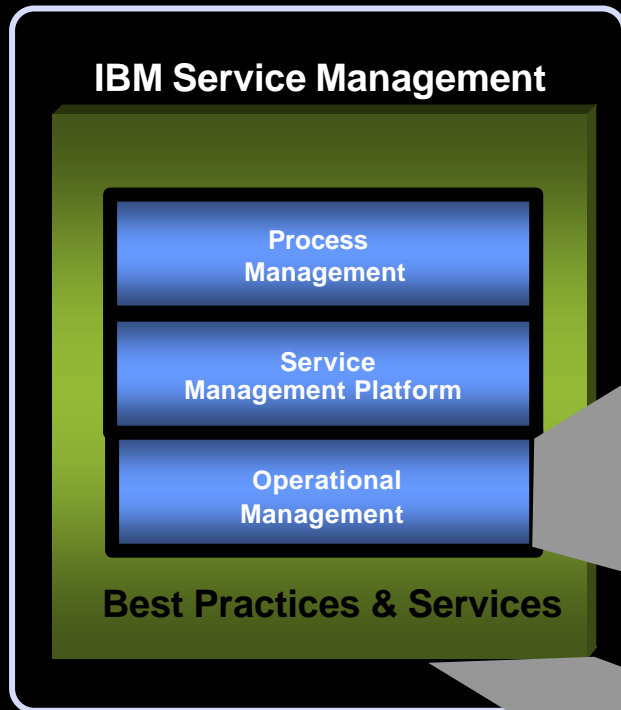- Reduce the time and cost associated with regulatory compliance

"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*

Tivoli Identity Manager

Tivoli Access Manager

Service Security Offerings from IBM

New and Enhanced!

IBM Service Management

Process Management

Service Management Platform

Operational Management

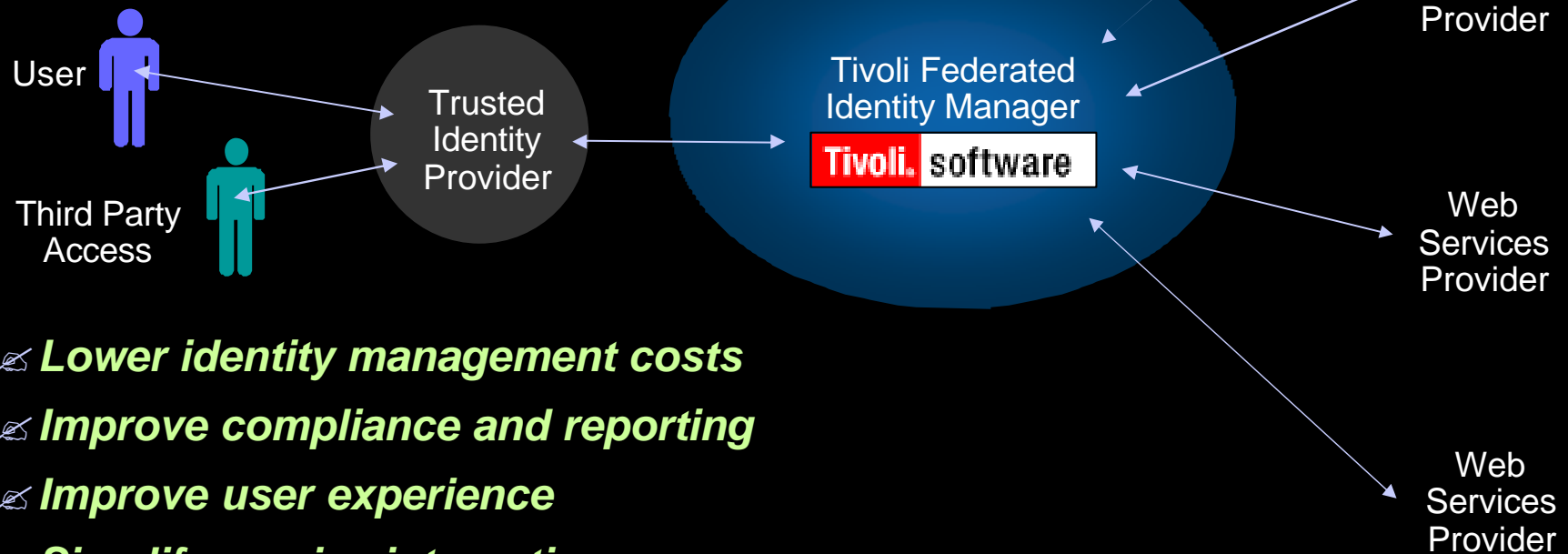**Best Practices & Services**

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
- IBM Tivoli Security Operations Manager v3.1

Professional Services

- SOA Application Security Assessment
- SOA Security Requirements
- SOA Security Architecture
- SOA Security Implementation
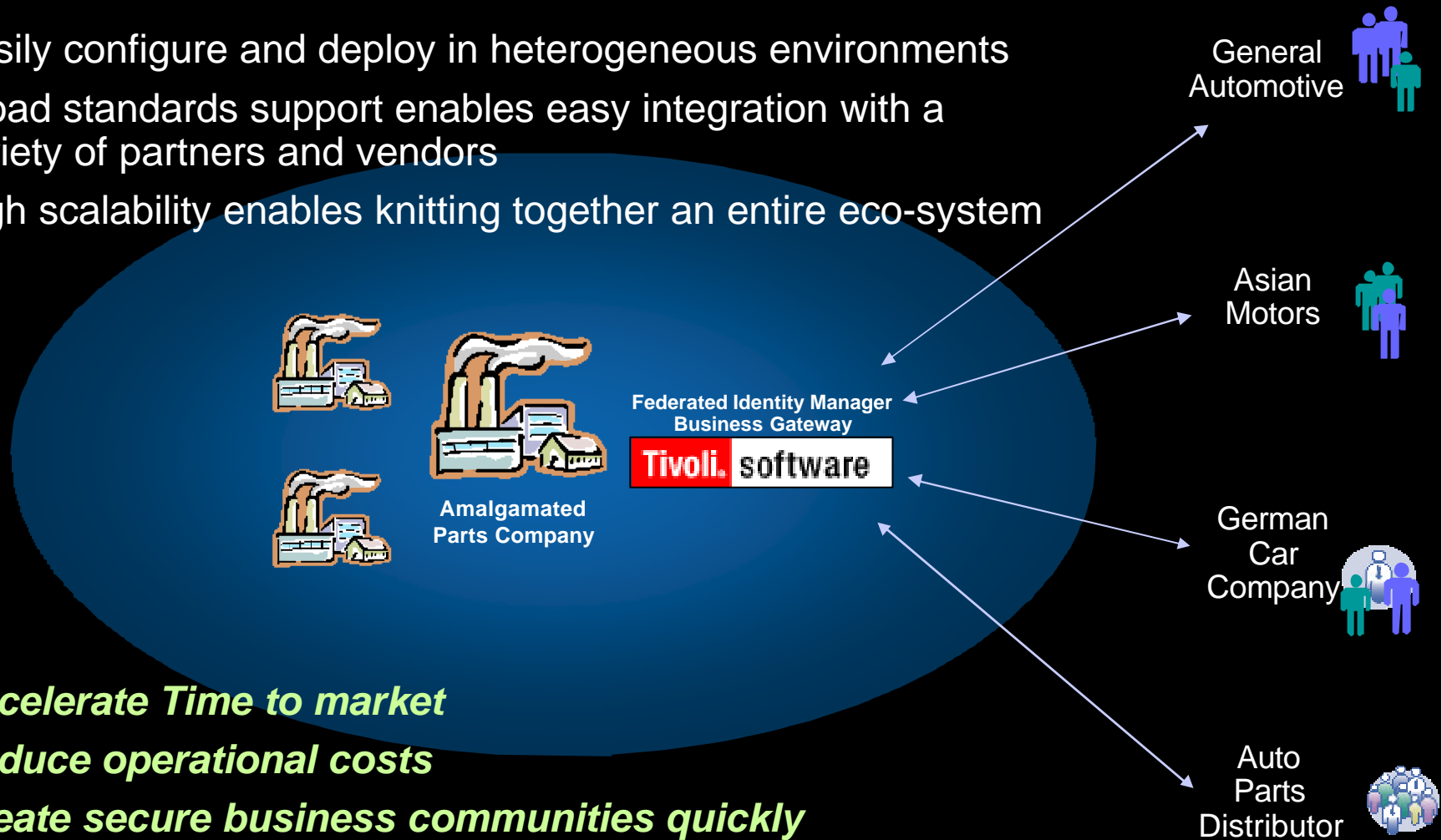
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Tivoli Federated Identity Manager v6.0

- Provide common way to network identities between applications or even companies
- Verify credential and access privileges of "users" or "identities" to secure access
- Maintain single login identity for users between Web sites

User

Third Party Access

Trusted Identity Provider

Tivoli Federated Identity Manager

Tivoli. software

Web Application

Web Services Provider

Web Services Provider

Web Services Provider

- *Lower identity management costs*
- *Improve compliance and reporting*
- *Improve user experience*
- *Simplify service integration*

Tivoli Federated Identity Manager Business Gateway v6.1.1

- Easily configure and deploy in heterogeneous environments
- Broad standards support enables easy integration with a variety of partners and vendors
- High scalability enables knitting together an entire eco-system

General Automotive

Asian Motors

Federated Identity Manager Business Gateway

Tivoli software

Amalgamated Parts Company

German Car Company

Auto Parts Distributor

- *Accelerate Time to market*
- *Reduce operational costs*
- *Create secure business communities quickly*
- *Efficiently, securely integrate applications and data*
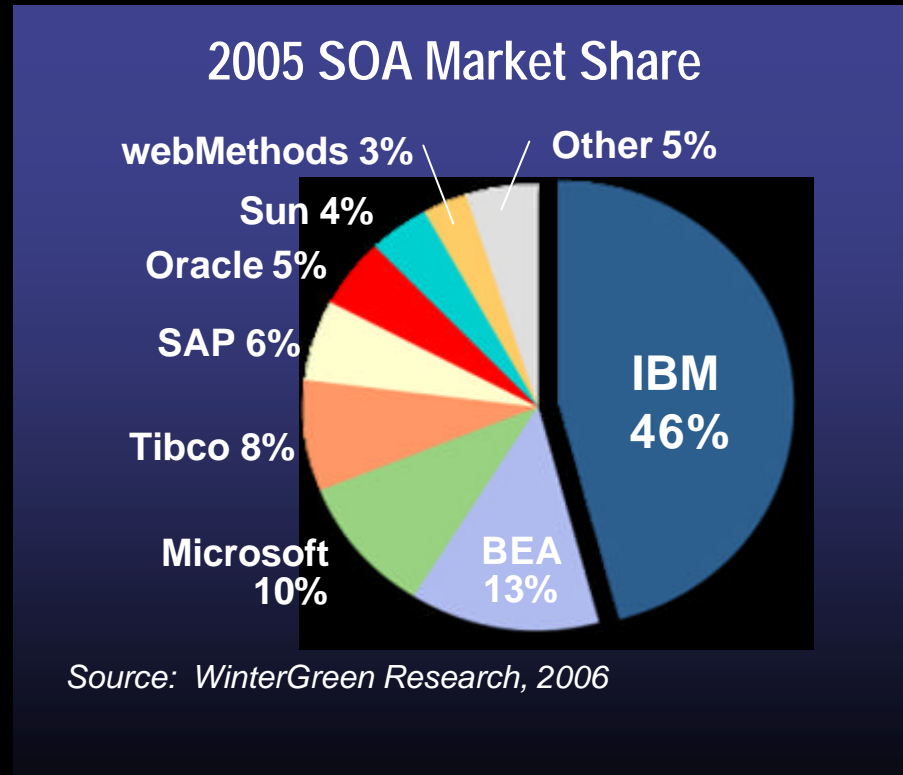
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 Why IBM

IBM is the acknowledged SOA leader

2005 SOA Market Share

webMethods 3%
Other 5%
Sun 4%
Oracle 5%
SAP 6%
IBM 46%
Tibco 8%
Microsoft 10%
BEA 13%

Source: WinterGreen Research, 2006

Gained 12% of market share in 18 months!

Gartner

IBM Placed in the Leaders Quadrant

AMR

 # 1 in SOA

FORRESTER

Lead in Wave

YANKEE GROUP

 # 1 in Capabilities

Demonstrated Leadership

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

Broad Management
Expertise Across Industries

96% of
Government Agencies

96 of Top 100
Financial Institutions

9 of 10
Healthcare Companies

8 of 10
Top Retailers

Contributors to over
50 SOA-based
standards committees

Top
Global Telcos

Hundreds of SOA-
Related Patents

IBM

For more information:

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✍ **Contact your IBM Representative**