IBM SOA

Mission Critical SOA with Reuse and Connectivity

6/14/2007

Challenges for the IT Exec

Business Challenge

- How flexible and responsive to opportunities?
- What is your productivity rate on new projects?
- Can you show how IT adds value to business?
- Can you reduce the risk associated with projects?

Technical Challenge

- How is your IT budget being spent?
- What is your plan for using the latest standards?
- Are you reusing enough? How can you modernize existing assets?
- Can key business applications work across your business?

Personal Challenge

- How do you make the most of your current resources? What about future skills?
- How can you improve your Service Level Agreements?
- Can you demonstrate effective governance and control?

Mission Critical SOA from IBM

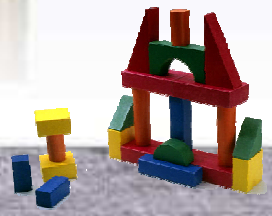
Take your SOA from Playtime… ***…to Showtime!***

Mission Critical SOA from IBM

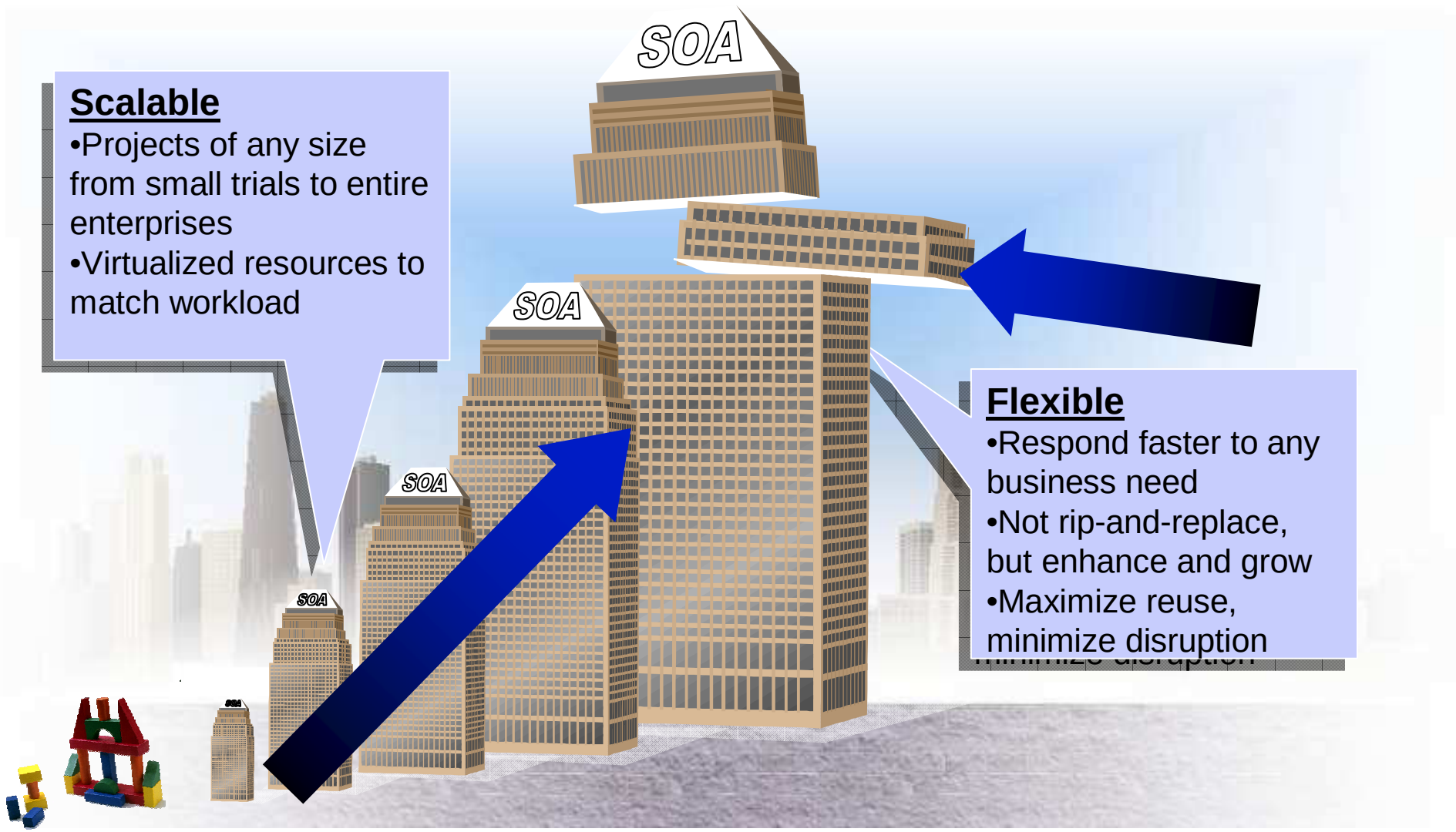
- Scalable
- Flexible
- Robust
- Connected
- Secure
- Governable
- Reusable
- Manageable

Can your SOA be described as Mission Critical if it can't match your business needs?

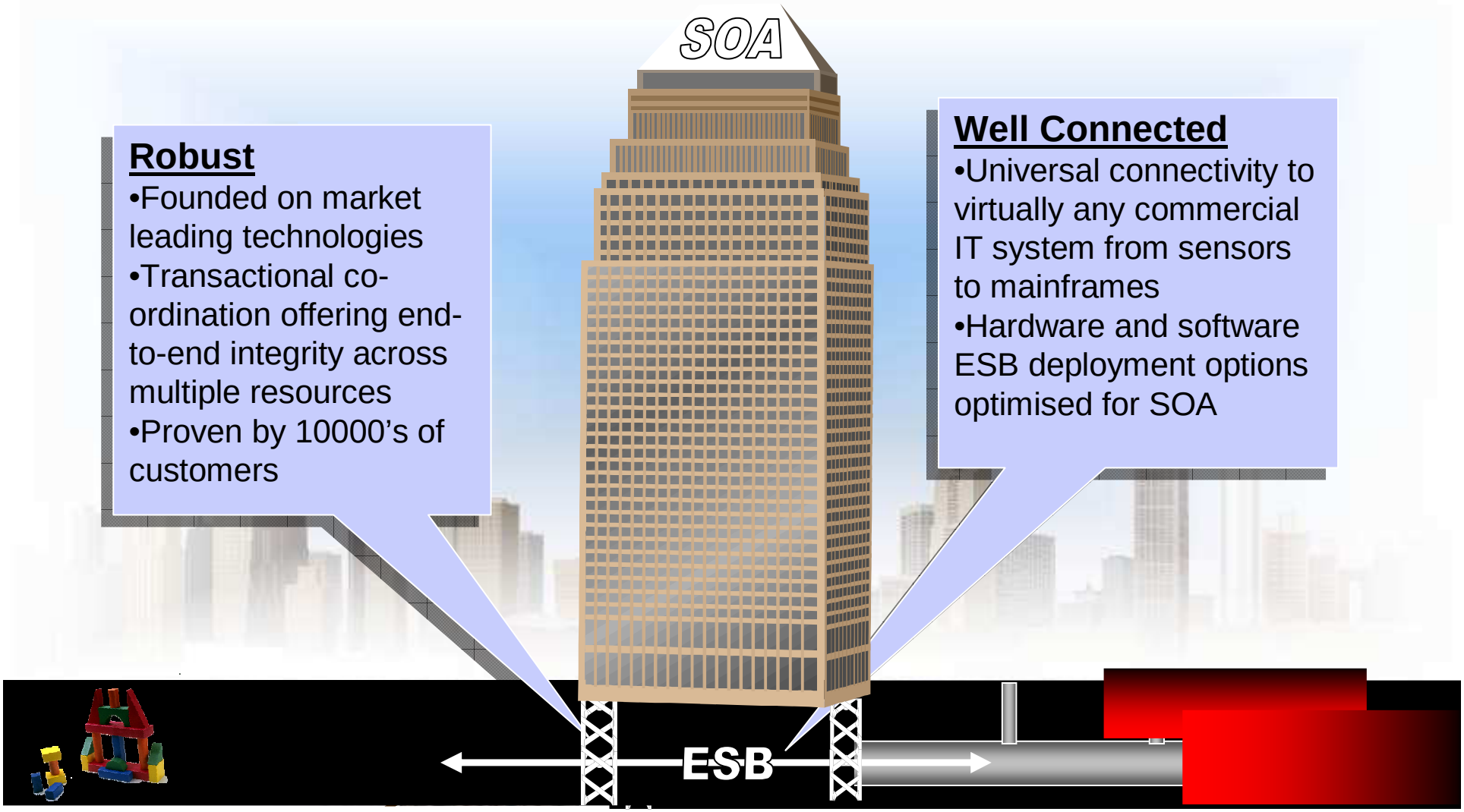
Will it stay as a toy in the sandbox?



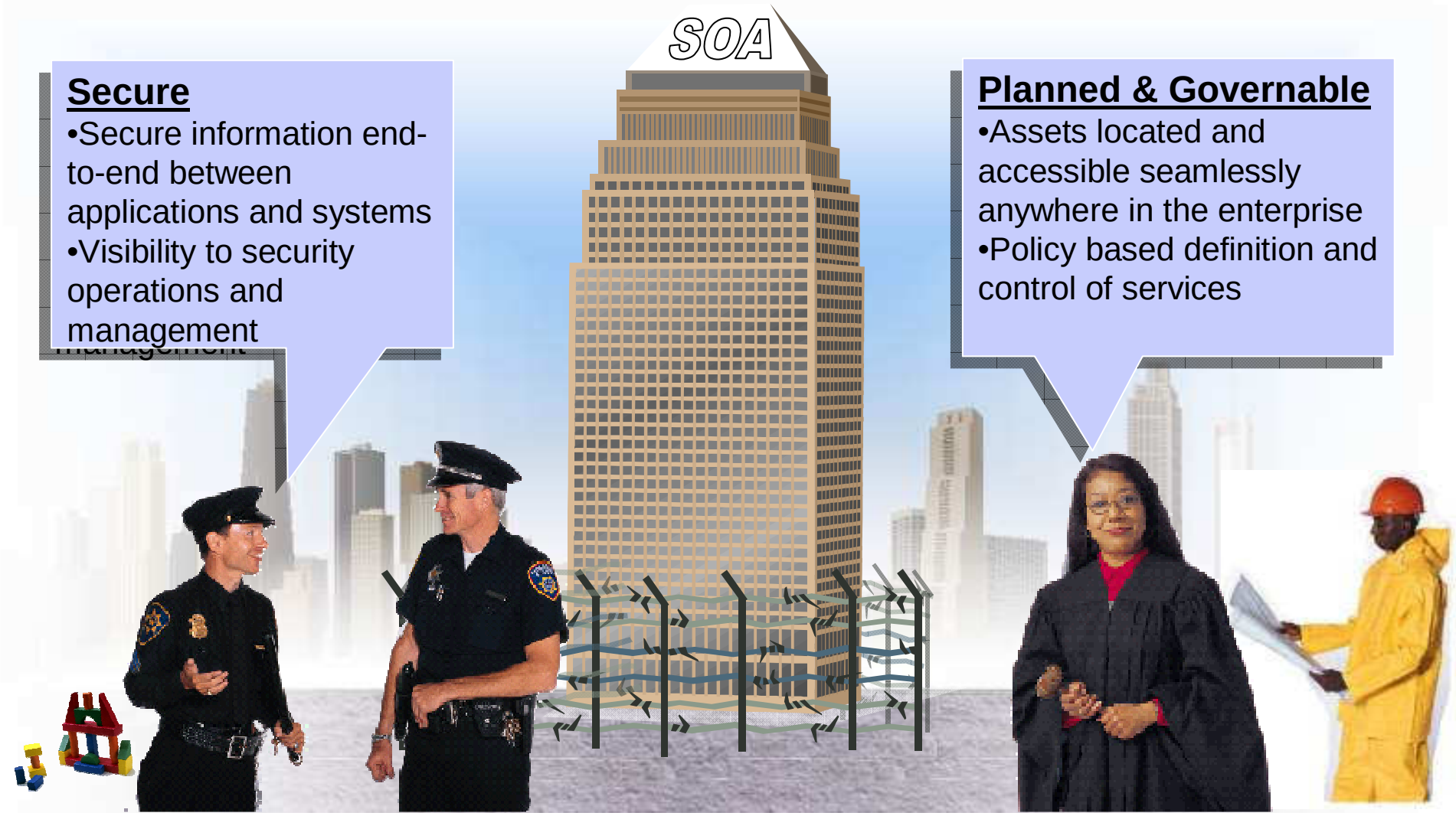
Mission Critical SOA from IBM



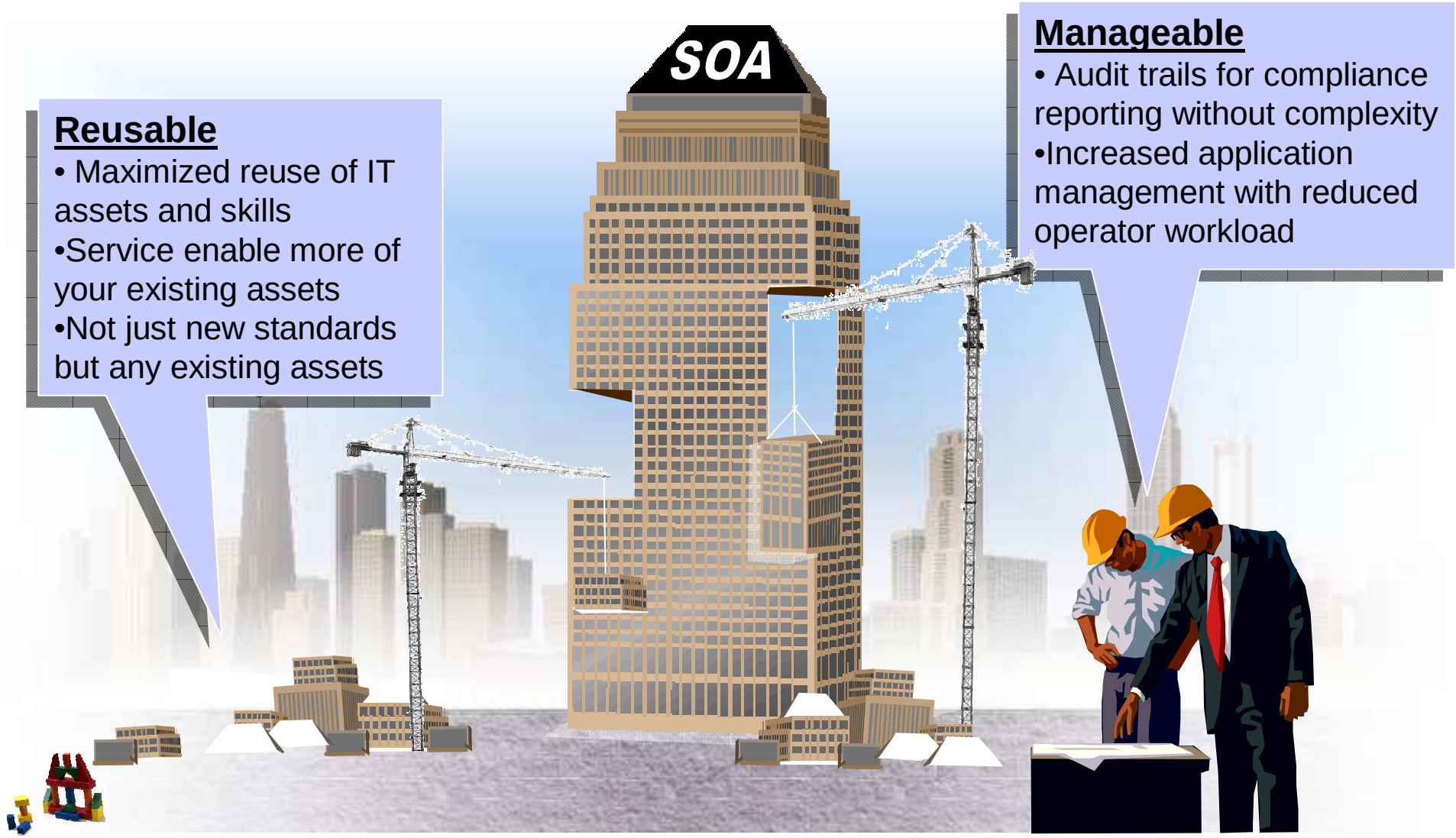
Mission Critical SOA from IBM



Mission Critical SOA from IBM



Mission Critical SOA from IBM



Qualities of Service for Mission Critical SOA

Key attributes for Mission Critical SOA using Reuse and Connectivity

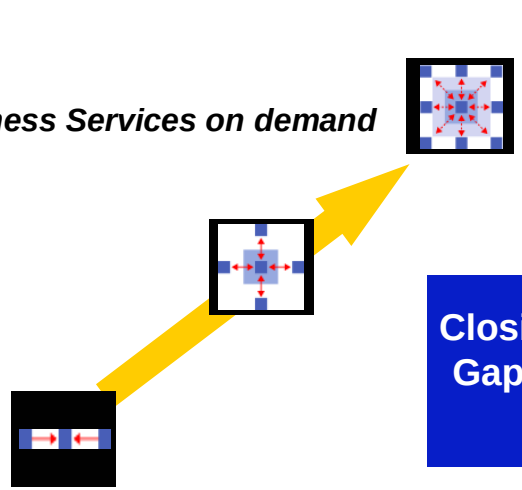
- Ensure end-to-end integrity
- Simplify your applications by connecting using an ESB
- Grow your business by modernizing existing applications leveraging latest standards
- Match Workload to Resources with Virtualized SOA Infrastructure
- Qualities of Service matching the business need
- Flexible robust and secure infrastructure using best practices

Build your SOA on poor foundations and your efforts could be wasted

How to find and reuse the hidden value of your IT assets?

- The key to SOA Business Flexibility is effective reuse of your core assets
- The challenge
  - Finding and analyzing your existing assets - ‘treasure’ is hidden
  - Extracting the value to enable reuse
- How best to proceed?
  - Plan then use/reuse of Knowledge and skills
  - Tools and methodologies for automated discovery and modernization
  - Software products to deliver reuse and connectivity
  - Skilled practitioners for implementing and deploying

Business Flexibility enhanced through evolving infrastructure and methods



Business Services on demand

Plug and Play Assembly of Applications Participating In An Ecosystem

- *Industry semantic standards*
- *Industry SOA*
- *Business Process Composition*

Closing of Business/IT Gap with Automation using Tools

- *Model driven development*
- *Service Oriented Architecture (SOA)*
- *Process-driven application assembly*
- *Component Business Models*
- *Leveraging Business Services*

Reducing Size of Human Generated Code

- *Automate the design and development process with tools*
- *Raise the level of abstraction, components and services*
- *Use blueprints for software design, architecture driven approach*
- *Leverage full-function application servers like WebSphere*

Human Generated Code

- *Use component architectures like J2EE and Web Services technologies*
- *Apply software engineering best practices and development accelerators*
- *Develop custom code using object technology*
- *Use open standards like XML, WSDL, BPEL, etc.*

Business Value

IT Sophistication

Integrating Airport Operations

Malaysia Airports Technologies

Business Challenge:
Existing disparate solutions no longer sustainable with growth in passenger numbers, flight frequencies and carrier numbers
Need to flexibly roll out new applications to run alongside existing infrastructure

- **Solution:** Interconnected applications required to support their world-wide airport operations – without compromising security, reliability, or scalability.
- **Results:** Real-time information distribution from disparate sources; Unified employees across the entire organization
- **Implementation Details:** IBM Global Business Services – Application Innovation Services; IBM WebSphere and the SOA Foundation

"MAT can now distribute real-time information from disparate sources, communicating accurate and timely resource, planning, and operations information to essential departments." — YBhg Dato' Azmi Murad,Senior General Manager

Mission Critical Begins with Reuse and Connectivity

IT focused entry points to enable Flexible IT

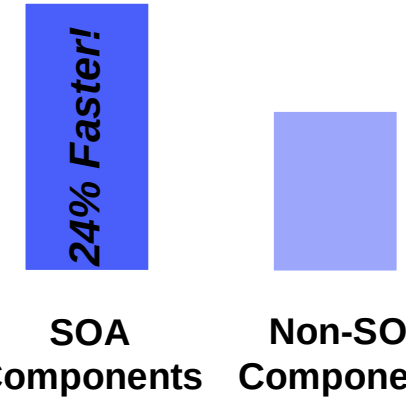
- Reuse creates new services from legacy assets to:
  - Extend the value of legacy systems by modernizing application infrastructure
  - Reduce development costs by reusing the decoupled services and connections
  - Leverage existing systems and infrastructure to provide new functionality

- Connectivity establishes links between applications and services using an Enterprise Service Bus to:
  - Deliver a robust and resilient connectivity infrastructure
  - Provide integration between different Lines of Business without adding complexity
  - Bring together new and existing IT assets with high performance, available everywhere

What is the Value of Reuse ?

- As SOA moves out of the sandbox, results become critical to business
- SOA results have been successful in early studies
  - 100% of customers show increased flexibility
  - 97% show reduced costs
- Reuse is key to benefits of SOA
  - Cost-savings multiply with ongoing reuse
  - Each reuse saves additional amounts

24% Faster ROI using SOA!



Source: The ROI of SOA. Poulin & Himler – LogicLibrary Inc White Paper 2006 - http://www.logiclibrary.com/pdf/wp/ROI_of_SOA.pdf

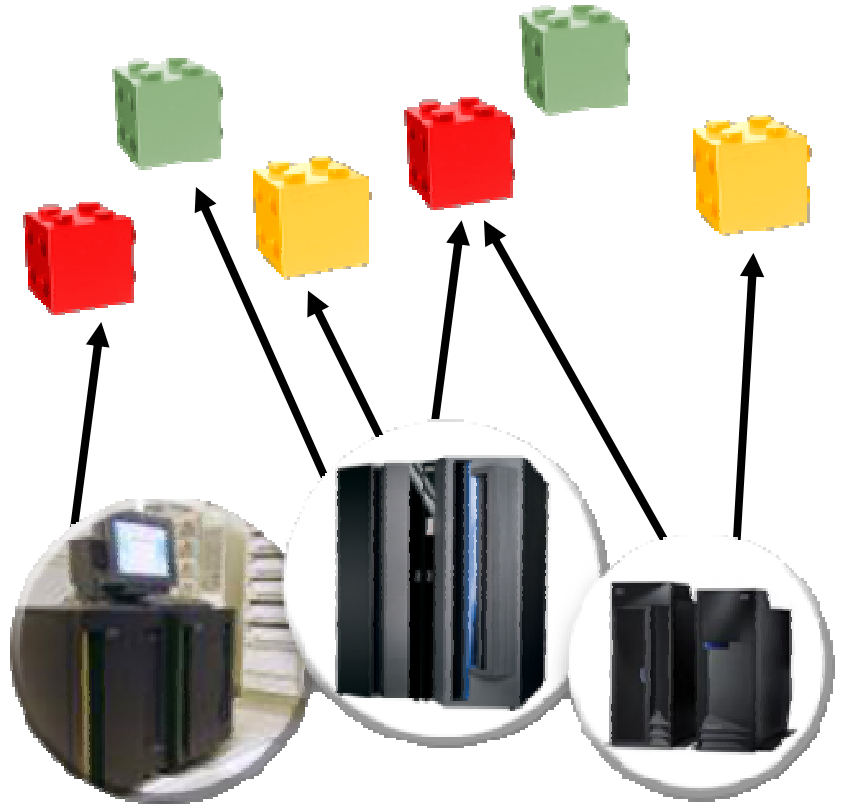
"I can guarantee there's a cheaper way to build your next product, but there's no cheaper way to build your next 20 products."
Christopher Crowhurst, vice president and principal architect at Thomson Learning.

Identify and Modernize existing IT assets using SOA

Making increased and effective use of past investments

Key Benefits of Modernization

- Eliminate expense, confusion, and risk associated with redundancy
- Make systems that previously required specialized skills accessible to a broader pool of users
- Combine functions that come from several sources and treat them as a single logical reusable service
- Automatically identify candidate assets for service-enablement

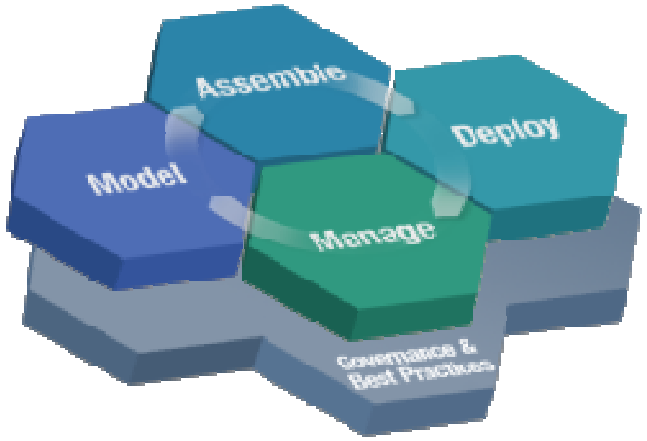


Creating New Services for Reuse

Fill gaps in your portfolio

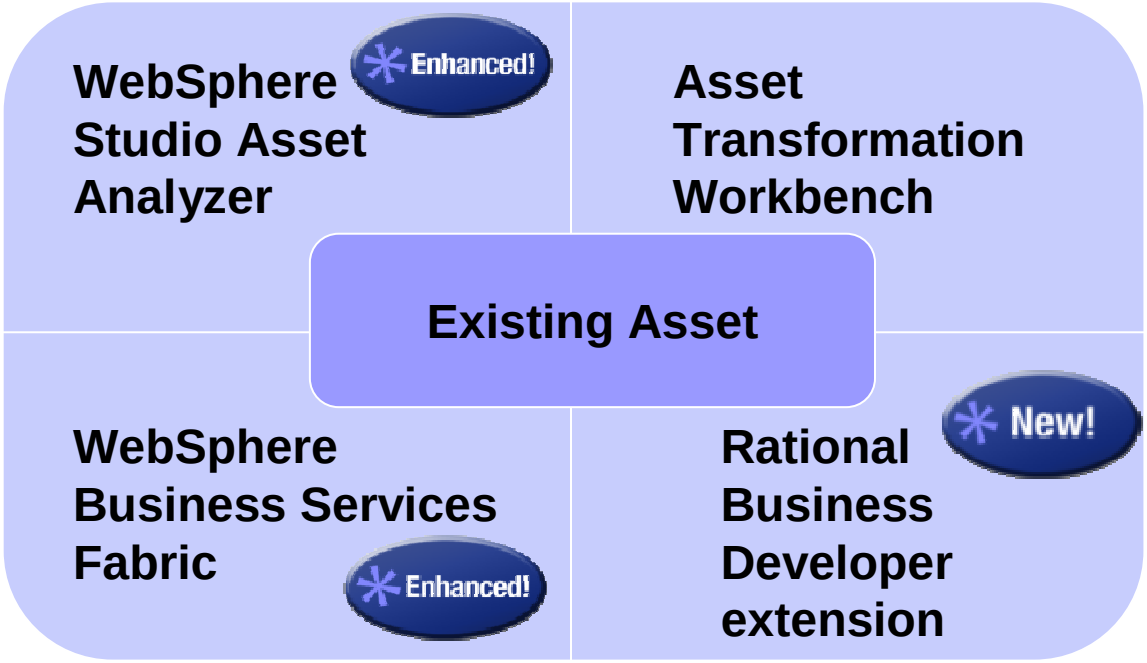
- Use visual tools to simplify the design and construction of new reusable services
- Reduce complexity of managing deployed assets through virtualization

- Manage the entire service development process throughout the lifecycle
- Build it once & reuse widely in a robust runtime



IBM Software Products to Assist Identifying IT Assets for Reuse and Modernization

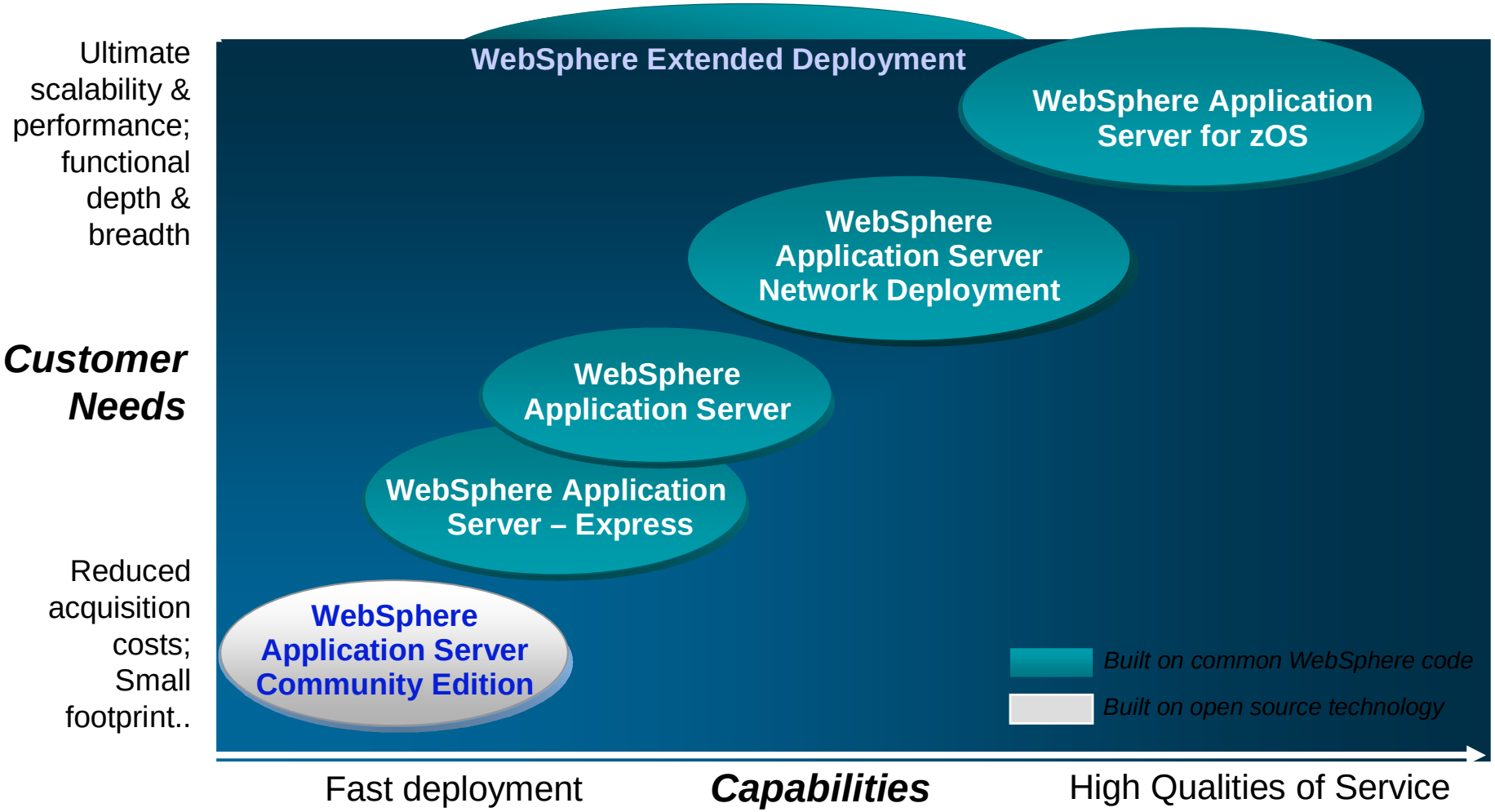
- Selecting your key assets for reuse is a critical task
- Help reduce the time and cost of the analysis phase of a project
- Show dependencies within and among applications
- Enhance productivity for analysts and developers



- Provide a means to move from today's monolithic applications to architectures that make composite applications possible

Reusable Applications and Services

Meeting the Broadest Range of Quality of Service Needs



Enhancing Customer Service Operations

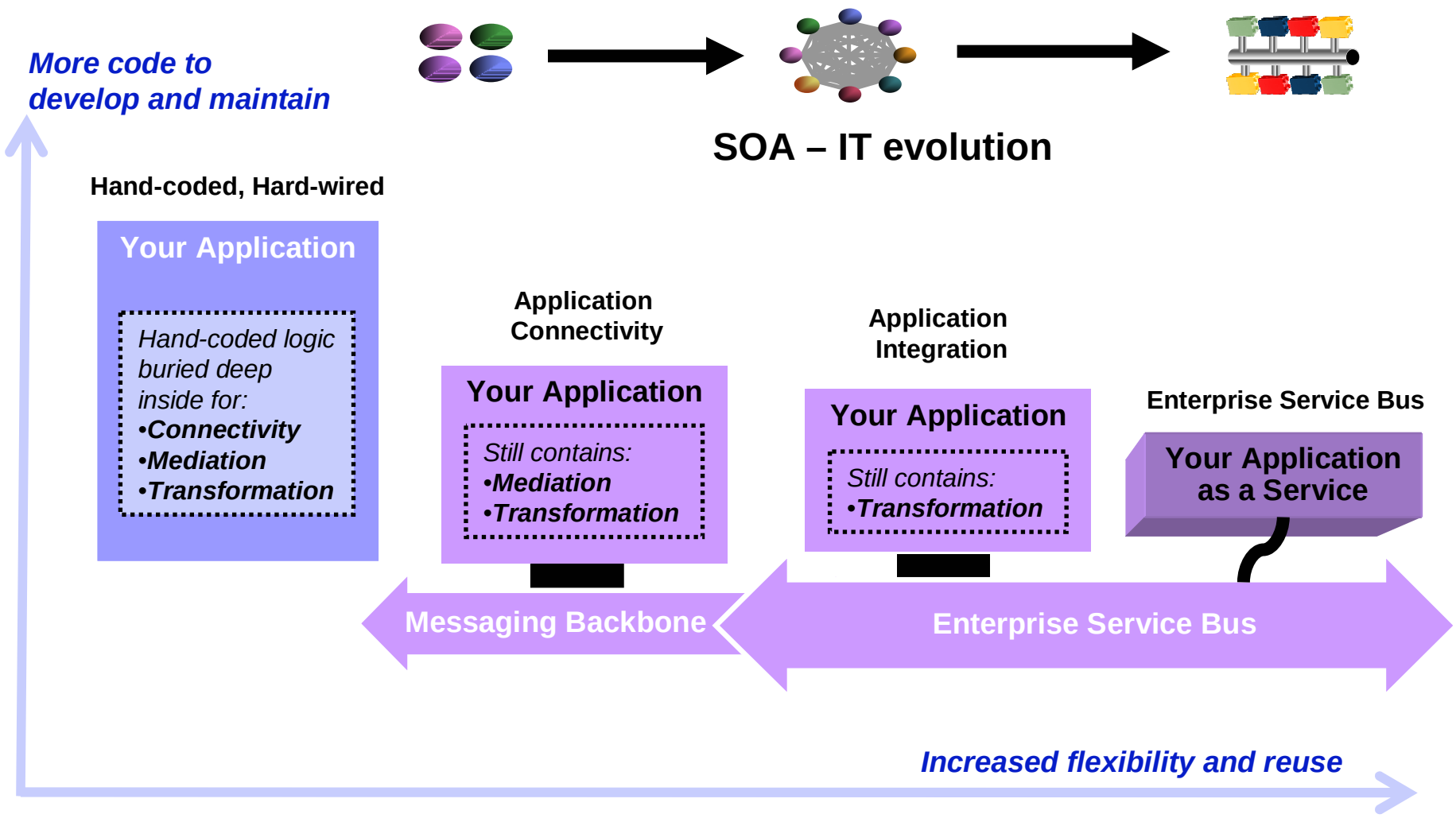
Shanxi Mobile Communications Company

Business Challenge:
Accelerate resolution of customer problems by integrating independent CRM, business analysis and billing systems
Improve business flexibility and employee productivity

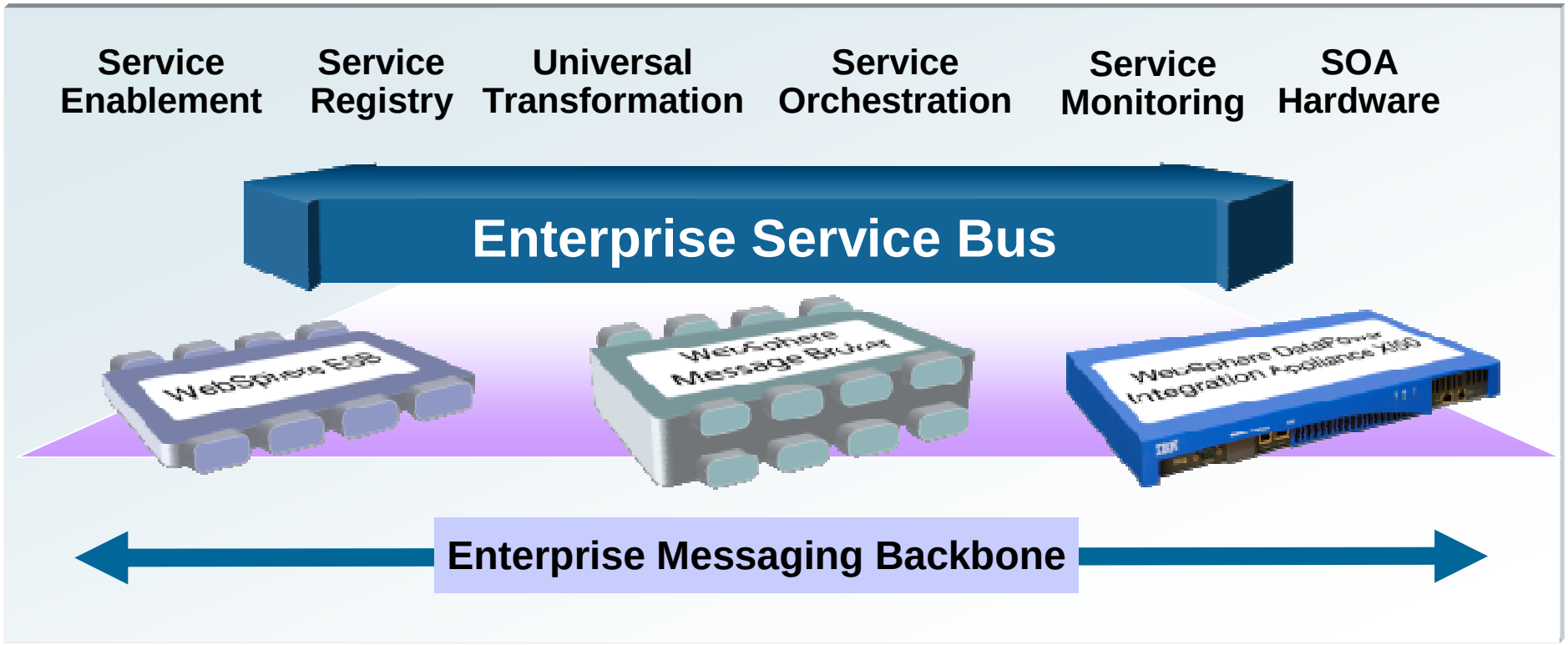
- **Solution:** Deliver service-oriented architecture (SOA) that would serve as the basis for all business systems based on industry (telecom) standards
- **Results:** Cut average problem resolution time from two days to under one hour, boosting customer satisfaction. Simplified customer service operations, boosting productivity. Flexibility for future enhancements
- **Implementation Details:** WebSphere Process Server, WebSphere Adapters, WebSphere Message Broker; WebSphere MQ; Tivoli Access Manager for e-business, Tivoli Identity Manager;

"Establishing an SOA based on IBM WebSphere software has allowed us to serve our customers more efficiently and effectively by enabling total integration between our multiple business systems."
— Chen Gang, director, Shanxi Mobile Communications Company

SOA and ESB – Connecting your Business



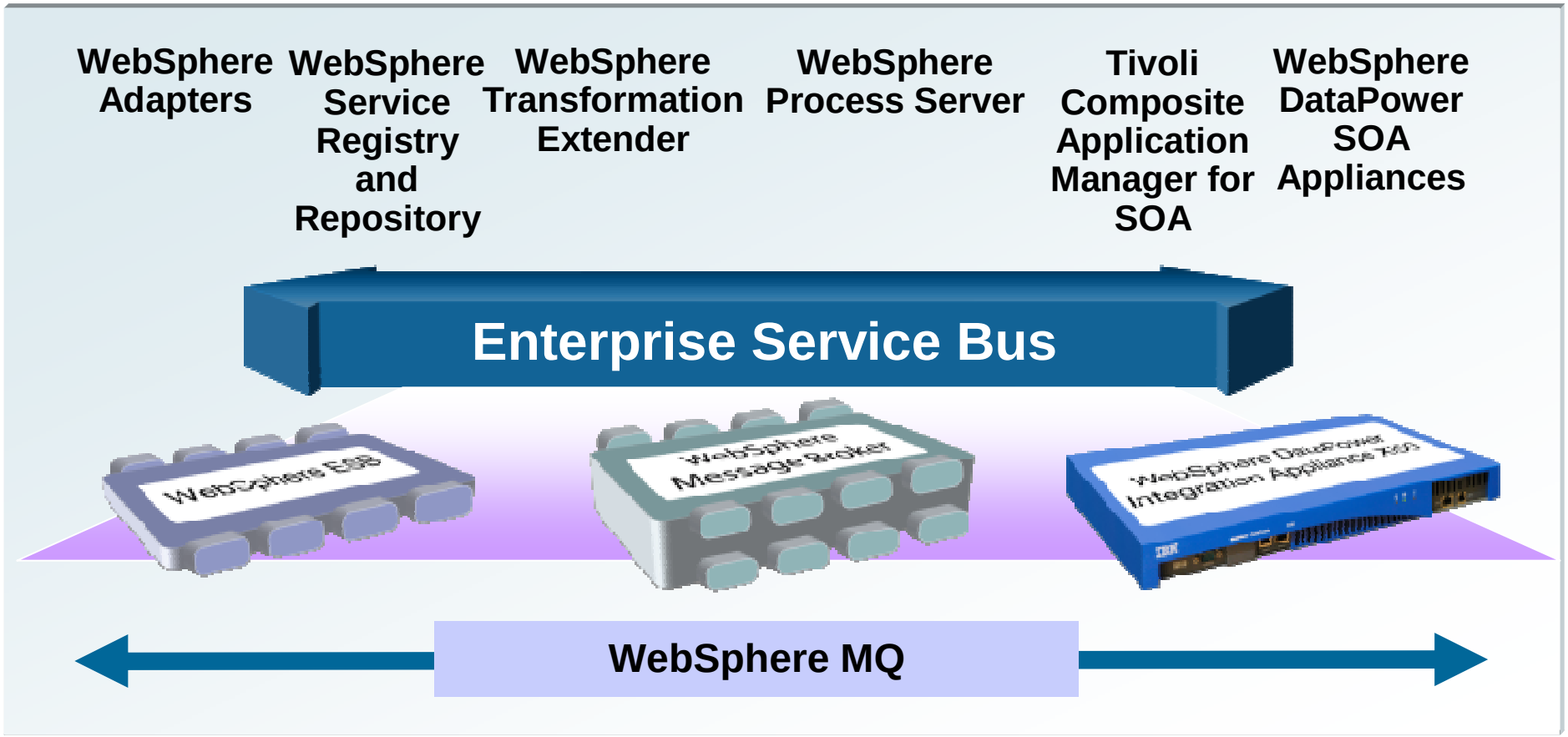
Extending Connectivity for Mission Critical SOA



An ***ESB without limits*** breaks down the barriers by providing a solution with greater…

- Breadth: Three ESB product offerings optimized for various connectivity scenarios
- Depth: Complete set of connectivity capabilities beyond those delivered by an ESB

Product offerings from IBM for SOA Connectivity



Connecting Systems, offering new services

HypoVereinsbank AG (HVB)

Business Challenge:
Improve ability to offer new services to customers
Lack of a standard approach impacted response time to new market opportunities and customer demand

- **Solution:** Deliver a cost-effective ESB-based environment to simplify the trading process and gain a competitive advantage through time to market
- **Results:** Achieved 35% reduction in time to implement integration scenarios linking new and existing applications. Implementation and operational costs reduced driving ROI up.
- **Implementation Details:** WebSphere Application Server on z/OS, WebSphere Message Broker, WebSphere MQ, WebSphere MQ for z/OS; Tivoli Monitoring for Business Integration

"The ESB provides a flexible infrastructure for HVB's agile investment banking. Our business is changing very fast, and the ESB enables us to support upcoming business opportunities immediately by connecting new market places and new dealing systems to our existing system landscape. The ESB accelerates the adaption of new business processes and the launch of new products and services." Michael Dietze, Head of Business Development

What's new and Enhanced for SOA Reuse and Connectivity?

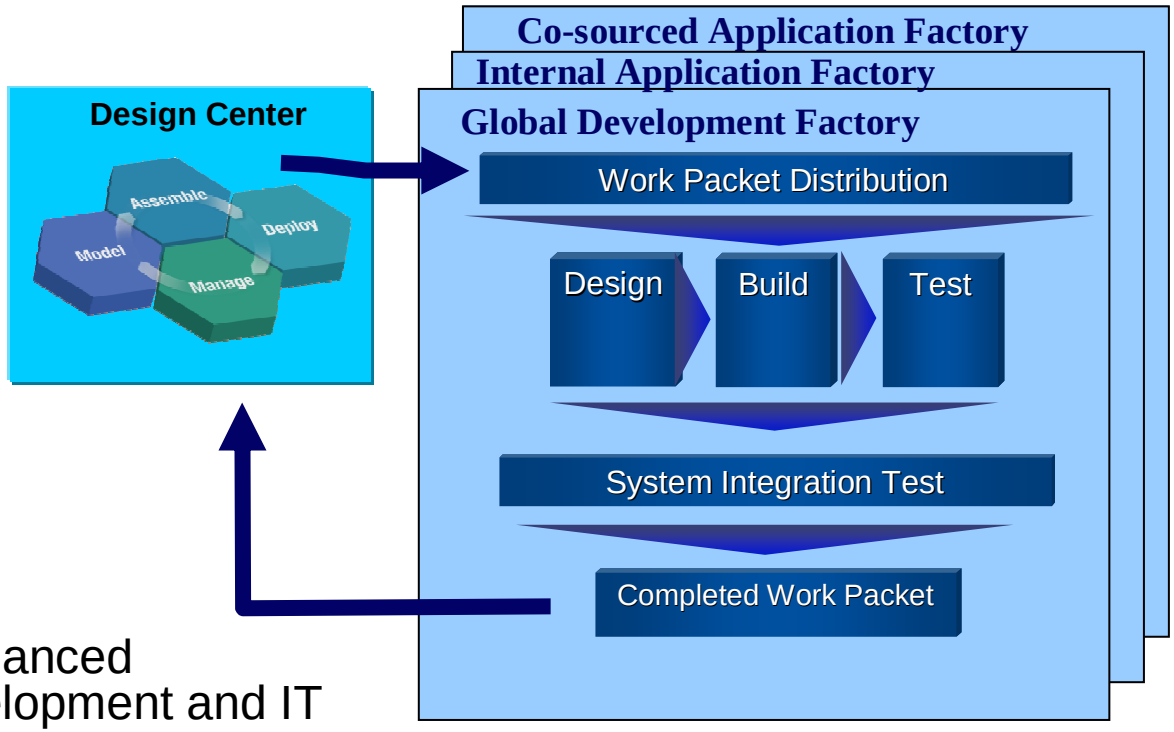
- Rational Business Developer extension
  - New Product for serviced enabling assets
- WebSphere Business Services Fabric
  - Enhanced to include integration with Process Server
- WebSphere Studio Asset Analyzer
  - Enhanced with support for CICS Web Services
- WebSphere Extended Deployment
  - Enhanced to support range of Application Servers
- WebSphere Application Server Feature Pack for Web Services
  - New capabilities delivered on top of existing release including asynchronous reliable messaging
- WebSphere MQ
  - New feature to provide WMQ-HTTP Bridge
- WebSphere DataPower Integration Appliance XI50
  - Enhanced through WTX tooling and native suppprt for DB2 V9
- WebSphere Message Broker
  - New native Connectivity to TIBCO Rendezvous and faster use of SOA Appliances for accelerated throughput
- WebSphere Transformation Extender
  - New Industry Packs for SEPA and enhanced Industry Packs for SWIFTNet FIN and SWIFTNet Funds

What's new for IBM SOA Infrastructure Services?

Product	New feature highlights	Key Benefits
GTS Application Infrastructure Services – web application server	▪ Project management, design and implementation services to help clients engineer an integrated, flexible and reusable application infrastructure for SOA ▪ Implement as new installation, an upgrade to new release or platform migration	▪ Speed to value and reduced risk with asset-based services ▪ Scalable, high performing web infrastructure for SOA ▪ Ability to leverage existing assets and systems
GTS SOA Integration Services – connectivity and reuse	▪ Assist clients in preparing and deploying technologies and best practices that enable a SOA with enterprise service bus, message broker, process server and Data Power	▪ Accelerate time to market and reduce risk with asset-based services ▪ Integrate existing systems and different technologies for robust, connected platform ▪ Highly skilled architects and certified professionals

IBM Application and Services Factory – delivering innovation & value

- High degree of reuse through standardization, processes, tooling and automation
- Standardized models, artefacts and metrics
- Formal collaboration between distributed teams
- Leverage assets from across the ecosystem
- Productivity and quality enhanced using proven software development and IT lifecycle management processes
- Repeatable, measurable results delivering real business benefits through SOA



Leadership in SOA Reuse and Connectivity

*Uniquely providing **Mission Critical SOA** through depth and breadth of SOA software products, complemented by Business and Technical Services adding value by delivering SOA enabled solutions throughout the lifecycle*

Broad Management Expertise Across Industries

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

Contributors to over 50 SOA-based standards committees

More than 3,600 SOA Business Partners

#1 SOA Marketshare (Wintergreen 2006)

Nobody invests more

$1B increase in investment over next 3 years

300+ SOA related patents

Over 4500 SOA Engagements

Primary SOA Research

IBM Institute of Business Value

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.