The Application Infrastructure You Need to get Started with SOA

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WebSphere Technical Sales

Why are IT Organizations Embracing SOA?
600+ Company Respondents Across 4 Studies

Aberdeen *Group*

Business Drivers for IT Adoption of SOA

- Management of IT complexity

- Speed of IT implementations

- Technology simplification and consolidation of legacy middleware

- Re-usage of applications via Web Services

Top Technology Challenges

- Scaling to production volumes, reliability & availability

Chart categories (top to bottom): Management of IT complexity, Speed of IT implementations, Technology simplification, Re-use of applications, Scaling to production. X-axis: 0%, 20%, 40%, 60%, 80%.

- "Best in class" respondents
- All respondents
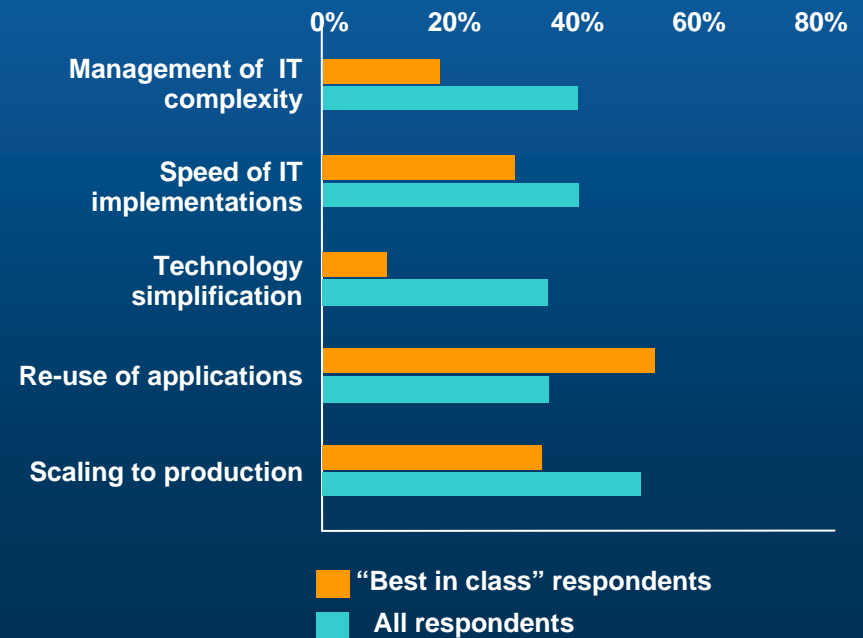
We've Listened and IBM Application Infrastructure is Ready
We're Ready With…

- Virtualization Services to help **management of IT complexity**

- Simple tools and starting points to **speed IT implementations**

- A common programming model and the latest SOA standards for **technology simplification**

- Leading edge support for **re-usage of applications via Web Services**

- Unmatched capabilities for **scaling to production volumes, reliability & availability**

Business Flexibility Depends on IT Flexibility
Application Infrastructure is the Cornerstone of an SOA Deployment

- **Application infrastructure**
  - Middleware software that controls runtime execution of business applications

  - A well designed infrastructure provides the ability to enhance & reuse assets for new business opportunities

IBM delivers the broadest range of capabilities to meet your application needs

How can I…
…meet my business objectives?

…leverage my existing resources and IT systems?

…deliver at a pace and cost which outwits my competition?
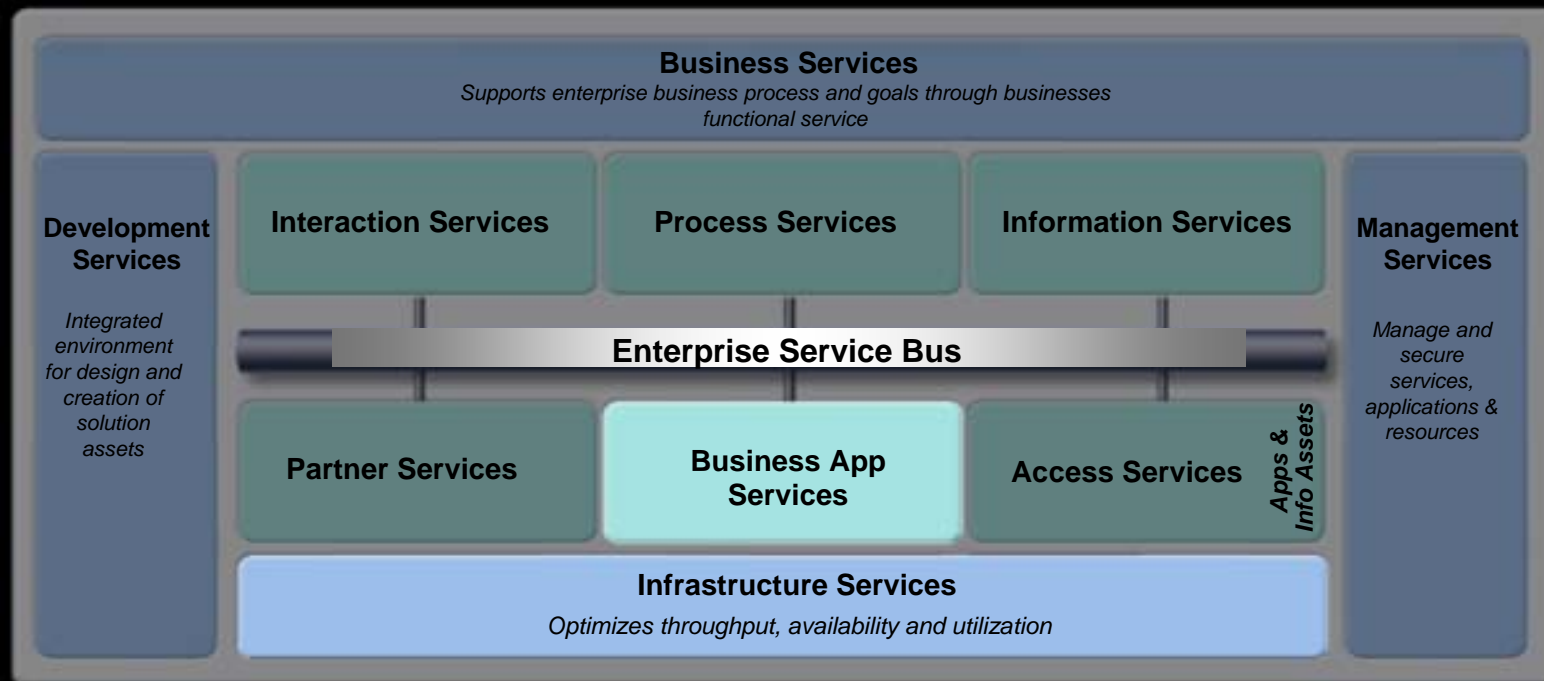
Achieve the Flexibility You've Been Looking For
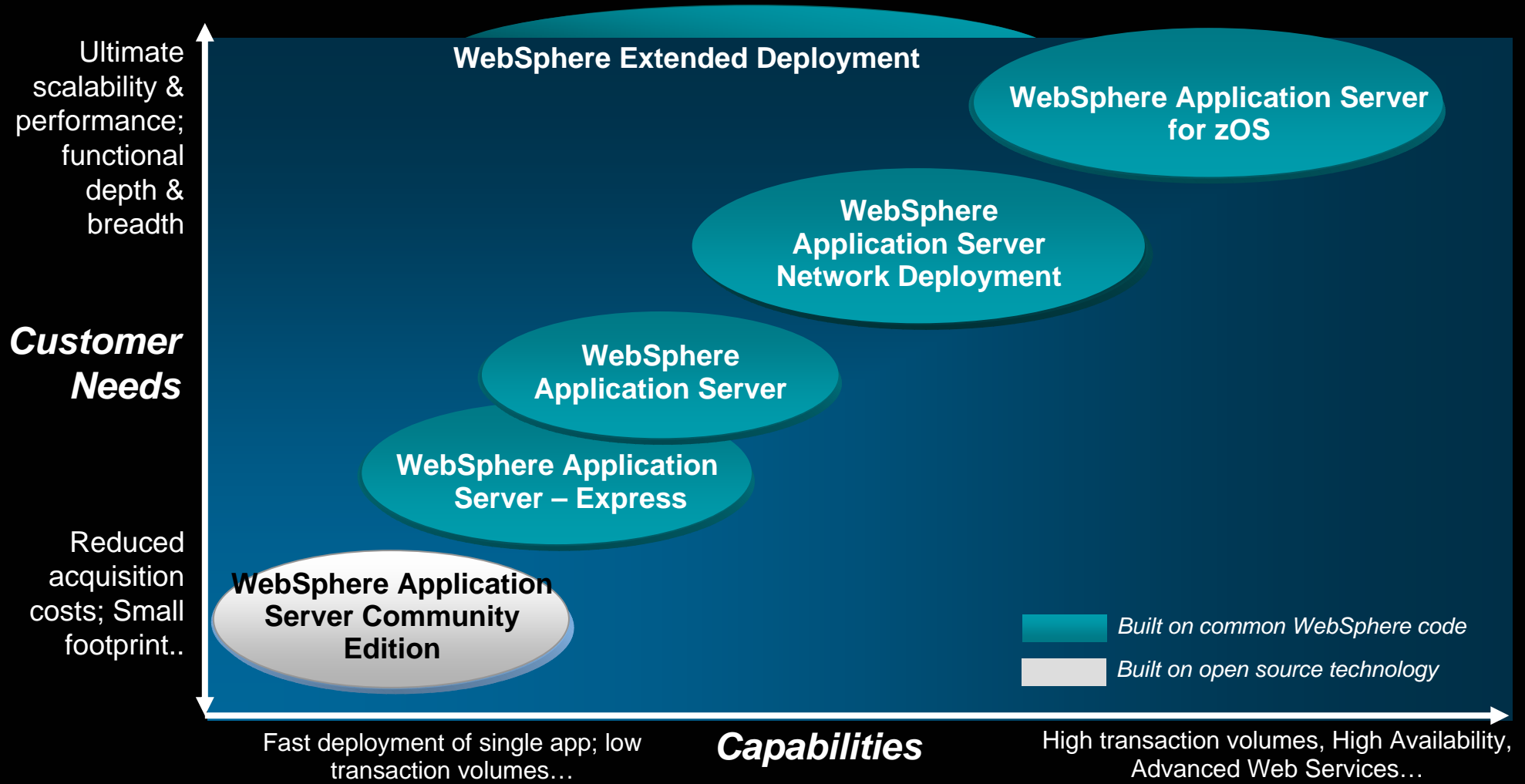## *IBM Application Infrastructure*

Reuse

- Establish a Secure, Scalable environment for building and deploying applications
- Deliver new, powerful web applications to improve your customers' experience
- Optimize the use of existing IT investments, skills and core systems

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

Process Services

Information Services

Management Services

Manage and secure services, applications & resources

Enterprise Service Bus

Partner Services

Business App Services

Access Services

Apps & Info Assets

Infrastructure Services
Optimizes throughput, availability and utilization

We're Ready with a Unique Portfolio
Meeting the Broadest Range of Quality of Service Needs

Ultimate scalability & performance; functional depth & breadth

Customer Needs

Reduced acquisition costs; Small footprint..

WebSphere Extended Deployment

WebSphere Application Server for zOS

WebSphere Application Server Network Deployment

WebSphere Application Server

WebSphere Application Server – Express

WebSphere Application Server Community Edition

Built on common WebSphere code

Built on open source technology

Fast deployment of single app; low transaction volumes…

Capabilities

High transaction volumes, High Availability, Advanced Web Services…

Aon Warranty Group
Extends its Investment with WebSphere

" *With WebSphere Application Server, we can keep using our RPG applications while reducing transaction costs and improving customer service through automated, Web-based systems. REAL Solutions have given us the skills to extend and expand the solution to meet new challenges in the future.*"

Paul Jarrett, IT Director, AWG

Aon Warranty Group
Extends its Investment with WebSphere

Challenges

- Increase speed of order processing *without* replacing existing back-end systems
- Rapidly develop skills to deliver within a short project schedule

Solution & Benefits

- Implemented WebSphere Application Server and Rational Application Developer. Trained IT team in just 90 days

- WebSphere removed the need to replace business-critical RPG systems

- Investment and skills available for future challenges

Automated order processing has cut paperwork, eliminated manual re-keying, reduced errors and saved customers time

Manage IT Complexity

We're Ready with Virtualization Services
To Help You Manage Complex Application Workloads

Value of infrastructure virtualization

**Logical/abstraction view
of physical resources**

- Improve TCO through higher utilization of resources

- Increase flexibility by dynamically responding to workload changes

- Enhance business performance by achieving service level goals
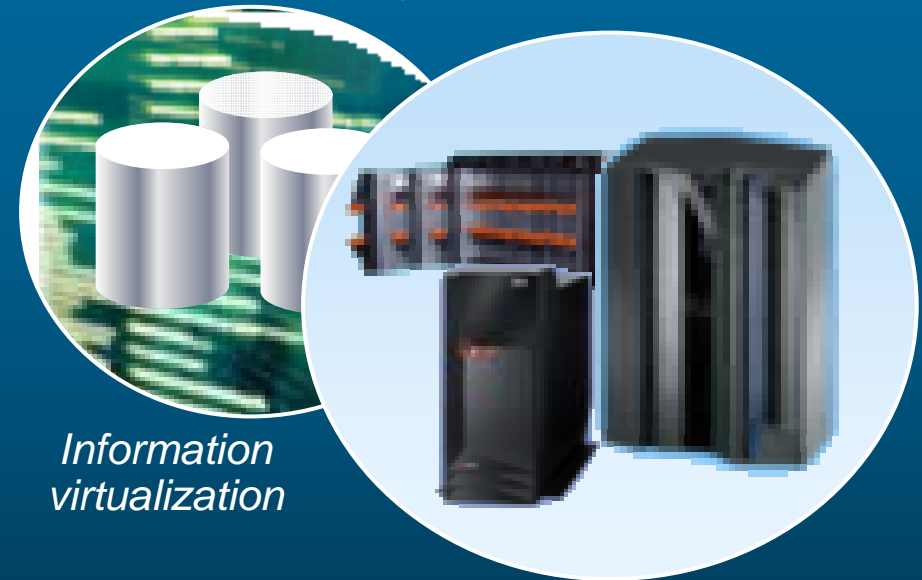
*Information
virtualization*

*Workload
virtualization*

***Infrastructure Virtualization capabilities that help you
Match Available Resources to Workload Demands***

Manage IT Complexity
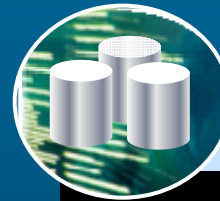
WebSphere Extended Deployment V6.0.2 Virtualization

► **Dynamically manage** Application Server workloads across a pool of shared resources according to service level goals maximizing cost effectiveness, scalability, and performance

Workload Virtualization

Enhanced service workload Management

- Classify & prioritize work requests
- Intelligent routing based on service goals
- Monitor service levels & health of application workload across a grid

Information Virtualization

Improve performance and scalability

- Caching avoids physical I/O
- Replication provides continuous availability
- Partitioning data for performance & failover

Manage IT Complexity

WebSphere Extended Deployment V6.0.2 Benefits

NEW!

- Dynamic clusters for sharing
- Enhanced service workload management
- Application Edition Manager for new version testing

- ObjectGrid for caching framework
- Partitioning facility for defining application partitions

Workload Virtualization Benefits

- Use server resources more effectively
- Quickly adapt to changing workload
- Drive up utilization, achieve SLA
- Automate selected admin functions to reduce complexity
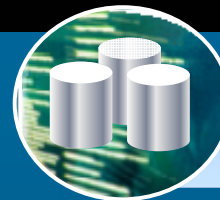
Information Virtualization Benefits

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

Manage IT Complexity

WebSphere Extended Deployment Powers IBM Intranet

Challenge

- Demand from 315,000+ employees
- Traffic peaks during special events
- Respond dynamically to spikes in demand (30M requests per day)

Benefits

- Improved **application resiliency** and **increased efficiency** through virtualization
- **Reduced** hosting costs by **25%**
- **30% increased** reach w/o increased cost

WAS ND: Static

Cluster 1   Cluster 2

+

Add XD

Blue pages others
40% Utilized Servers

IIP, Jukebox, Search Charting Service App Servers
25% Utilization

Extra capacity special events

WebSphere XD: Dynamic

Nodegroup

Blue pages, IIP, Jukebox Search, Charting , ODW Dynamic Cluster
35% Utilization

Speed IT Implementations

We're Ready with Simple Tools and Starting Points
To Help Speed IT Implementations

WebSphere Application Server – Express V6.1*

Includes a visual, easy-to-use tool from IBM Rational, quick-start application templates and samples so you can jump-start your implementation

SPEED LIMIT
299,792,458
m/s

WebSphere Application Server Community Edition V1.1

Lightweight and free to download and deploy! Get started immediately on your implementation with no need for budget approvals!

All WebSphere Application Server Family members give you a head-start through Reuse!

By reusing your existing applications and services, IBM Application Infrastructure can get you up and running more quickly than ever before. And once in the WebSphere Family, your skills are reusable as well!

* Currently planned for electronic general availability before the end of 2006.

All statements regarding IBM's plans are subject to change or withdrawal without notice.

Speed IT Implementations

AAA Carolinas
Moving Ahead with SOA

" *IBM WebSphere Application Server – Express offers us the ease of use and affordability that we need to automate our internal business processes. It also supports J2EE, which gives us a way to build dynamic Web user interfaces with a drag-and-drop development methodology.* "

Harry Johns
Manager of Insurance Information Technology, AAA Carolinas

Speed IT Implementations

AAA Carolinas
Moving Ahead with SOA

Challenges

- Reduce operating expenses and boost efficiency to maintain profitability
- Accommodate rapid growth in highly competitive market

Solution & Benefits

- Implemented WebSphere Application Server – Express, to enable customer service reps to access real-time information on-line

- "IBM WebSphere software forms the basis of a service oriented architecture that will allow us to continue to reuse existing services and integrate new ones for the foreseeable future."

  Harry Johns, AAA Carolinas

23% reduction
in time to resolution for customer call;
Insurance applications processed in
days, not weeks; $20,000 saved
per year in storage costs; ROI in less than
two months

Speed IT Implementations

Get Started Today and Meet Initial Goals Quickly

WebSphere Application Server Community Edition V1.1

NEW!

- Download, start developing, get less complex projects going straightaway
- New Eclipse development tools make developing apps easier
- Provides a clear path to more advanced capabilities offered in the   WAS Family
- Free 30-day, email-based technical support can help you overcome any initial hurdles

*WebSphere Application Server – Express V6.1**

NEW!

- Get going quickly with IBM Installation Factory for WAS V6.1, the improved Launch Pad, samples and ready-to-use application templates
- Enhanced tools help accelerate Web, Java and Web services development
- New default security configurations, simplified administration and more pre-built functions save precious time and money
- Common programming model offers a seamless migration path

* Currently planned for electronic general availability before the end of 2006.

All statements regarding IBM's plans are subject to change or withdrawal without notice.

Technology Simplification

We're Ready with a Common Programming Model

- Full J2EE 1.4 programming model
- Support for J2SE 5.0 (IBM JDK 5.0)
- Programming Model Extensions
- Extensive Web Services support
- Broad platform, DB & language support
- Foundation of the WebSphere Platform

WAS – Express V6.1

NEW!

WAS V6.1

WAS ND V6.1

WAS for zOS V6.1

Technology Simplification

We're Ready with a Common Programming Model

- Unpredictable volumes

- Beginning to grow

- Application needs to run on bigger, more powerful machines, and platforms

the proximity

sophisticated environments

WAS for zOS V6.1

Application is portable with no changes, providing the flexibility to grow applications without the cost of re-architecting, reprogramming, and migrating to different technology bases.

Technology Simplification

We're Ready with a Common Programming Model

Migration resources make porting applications easy

WAS for zOS V6.1

WAS ND V6.1

WAS V6.1

WAS – Express V6.1

WAS Community Edition V1.1

```
public Customer findMyID(Integer customerNo) {

    Customer customer = null;

try {
    Context ctx = (Context) new InitialContext().lookup("java:comp/env");
    EntityManager em = (EntityManager) ctx.lookup("persistence/LogicalName");
    utx.begin();
    customer = em.find(Customer.class, customerNo);
    utx.commit();
} catch(Exception e) {
    Logger.getLogger(getClass().getName()).log(Level.SEVERE,"exception caught", e);
    throw new RuntimeException(e);
}

return customer;
}
```

Apache Geronimo

Technology Simplification

We're Ready with Session Initiation Protocol Servlets

Integrated *support for real-time multimedia elements like* ***voice, video, instant messaging…***

BAYPACKETS

"WebSphere Application Server V6.1 will reduce both development costs and time to market for the operator while the end-user will more quickly enjoy applications that enhance their daily lives."

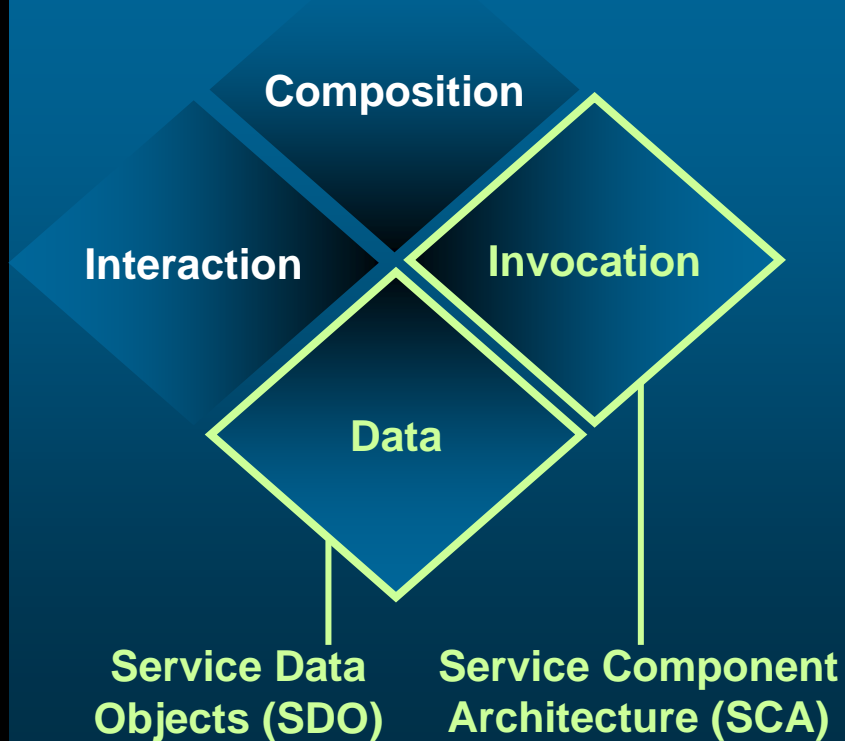**Sanjeev Chawla**
CTO, BayPackets, Inc.
WebSphere Application Server, V6.1 Beta participant

Technology Simplification

We're Ready with the Latest SOA Standards

NEW!

NEW Open Beta: **WebSphere Application Server V6.1 Feature Pack for SOA!***

Composition

Interaction

Invocation

Data

Service Data Objects (SDO)

Service Component Architecture (SCA)

- Leverages open source **Apache Tuscany** technology to provide an implementation of the published SCA and SDO specifications

  - SCA/SDO **simplify** the development experience for all developers, including J2EE developers:

Increase productivity: Reuse the components you create in other composite applications

Flexibility: Adjust underlying technologies without the need to rebuild business applications

Loose Coupling: Integrate other components without knowing how they are implemented

* Currently planned for late 4Q/early 1Q, depending on open source delivery

*Reuse of Applications via Web Services*

We're Ready with the Latest Standards
For Reuse of Applications via Web Services

NEW!

NEW Open Beta:
WebSphere Application Server V6.1 Feature Pack for Web Services!

- **Interoperable, Reliable Web services:** Send messages asynchronously, reliably, securely and in an interoperable way with other vendors

- **Easy-to-implement**
  Simplify development of Web Service providers and clients

- Add XML data and processing functions to Java applications easily

WS-I Reliable Secure Profile (RAMP Profile)	WS-Addressing WS-SecureConversation WS-ReliableMessaging
WS-I Basic Security Profile	**Token Profiles** **WS-Security**

WS-I Basic Profile	WS-I Attachments Profile	WS-I Simple SOAP Profile

- **Consumable and Extensible**
  Simplified management makes it easy to configure and reuse configurations
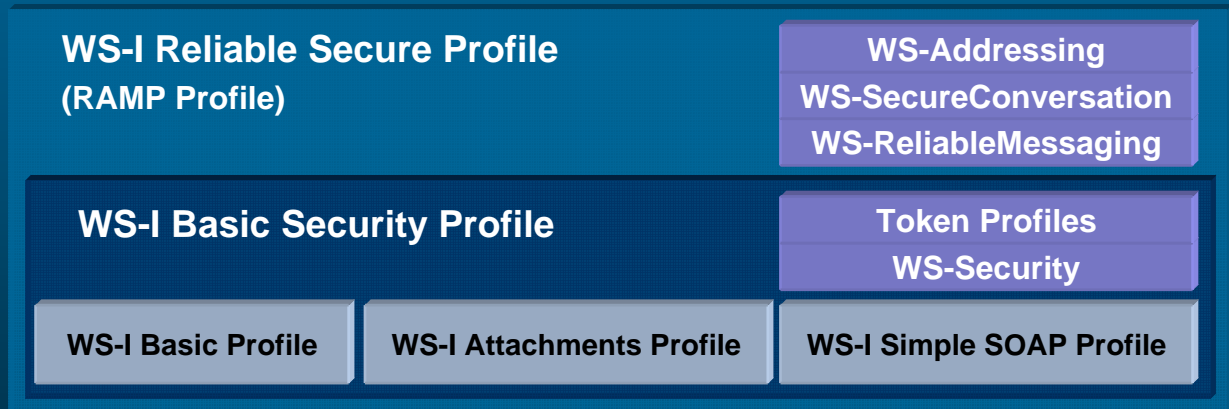
Scaling, Reliability & Availability

We're Ready with Unmatched Capabilities
For Scaling to Production Volumes, Reliability & Availability

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

Wimbledon

Tony Awards

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

Australian Open

IBM On Demand Workplace

eBay

Schwab.com handles 16.5 million transactions per day

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

Scaling, Reliability & Availability

Pear's Gourmet
Enabled for Growth with WebSphere

"Literally tens of thousands of orders streamed in overnight… *the Express servers handled all the transactions and the fulfillment process without a hitch.*"

"*Thanks to IBM integration, scalability and reliability, we have a platform to expand our customer base without limits. We're ready to grow.*"

Jim Simon
Owner, Chief Marketing Officer
Pear's Gourmet

Scaling, Reliability & Availability

Pear's Gourmet
Enabled for Growth with WebSphere

Challenges

- Expand customer reach with an online presence and automate operations to handle expected growth

- Scale the business in a cost-effective manner

Solution & Benefits

- WebSphere Application Server - Express and IBM xSeries 360 Express servers

- Hit-TV show, Dr. Phil, featured Pear's Gourmet products on their holiday show, triggering a 48-hour surge in sales, and a real test for the new site

In the first three months, Pear's Gourmet went from zero online revenues to more than $550,000. With the productivity gains, they expect a return on investment within 12 months

Scaling, Reliability & Availability

Combining WebSphere and System z
Offers Unique Benefits

- *Availability*

- *Disaster recovery*

- *Performance*

- *Management*

- *Security*

- *Low cost*

- *Utilization*

z/OS

WebSphere Application Server
- **High availability**
- **Clustering**
- **J2EE 1.4**
- **Web Services**
- **Security**
- **Messaging**
- **Platform optimized to leverage:**

Platform
- **Intelligent Resource Director**
- **z/OS WLM**
- **Mixed workload support**
- **Sysplex (GDPS)**
- **ARM**
- **RRS**
- **LPAR**
- **Mainframe security**

Insurance Services Office
WebSphere and System z: Bottom-line Benefits

Challenges

- Alleviate spiraling costs and migration difficulties of distributed infrastructure

- Provide a development and runtime solution that would fit within budget guidelines

Solution & Benefits

- ISO standardized on a secure, rock-solid platform that meets their Service Delivery objectives.

- WebSphere for z/OS provides the reliability and scalability the business needs with annual savings of $3M

With WebSphere's common cross-platform codebase, the substantial performance benefits that have been achieved with version 6, and the whole range of manageability, security and performance benefits of System z, ISO has no doubt that WAS for z/OS is the best way forward.

We're Ready for a Long Term Relationship
We Offer a Clear Product Road Map

- **WAS – Express V6.1 (4Q06)**
  - Real-time multimedia capabilities (SIP), new Web services & better performance for SMB customers
  - New tool from IBM Rational

- **Enhanced future function for WebSphere Extended Deployment**
  - Expanded support for non-WebSphere servers - 1H07   (e.g. PHP Server, Apache TomCat, JBoss Application Server, and BEA WebLogic Server)
  - A future release of WebSphere XD for z/OS to support WAS for z/OS V6.1

- **Continued Evolution for Standards and Industry Initiatives**
  - Full SCA/SDO support via WAS V6.1 Feature Pack for SOA - 1H07
  - WS-I Reliable Secure Profile via WAS V6.1 Feature Pack for Web Services - 1H07
  - EJB 3.0 support (including JPA) – at a minimum, alphas and betas in 2007
  - JEE 5 - beta program in 2007
  - Configuration support for Spring/Hibernate usage scenarios - white papers available 4Q06

Why IBM Application Infrastructure?

" WebSphere Application Server is one of the most popular J2EE platforms: It has been on the market for many years, enjoys vast industry support and has an impressive installed base…"

*Gartner Magic Quadrant for Enterprise Application Servers, 2Q06. By Yefim V. Natis, Massimo Pezzini, Kimihiko Iijima, Michael Barnes, August 2006

Why IBM Application Infrastructure for SOA?

Year after year customers select WebSphere Application Server for new and continued implementations

#1

- **Listed 1st in market share for Application Server software[1]**

- **90%** of the World's 100 largest corporations[2] run their businesses on WebSphere Application Server

- **Gartner MQ** positions IBM WebSphere Application Server as leader in technology execution and strategic vision

- Almost **2,000** partner applications have been built on WebSphere Application Server and listed in the IBM Global Solutions Directory

- **2,600** partners "certified" with WebSphere Application Server family skills

- Thousands of experienced customers, references and awards

1. IDC "Worldwide Application Deployment Software 2005 Vendor Shares: Mergers and Acquisitions Move the Chairs Around the Floor, But BEA, IBM, and Oracle Still Get the First Seats When the Music Stops". By Dennis Byron, Stephen D. Hendrick. April 2006
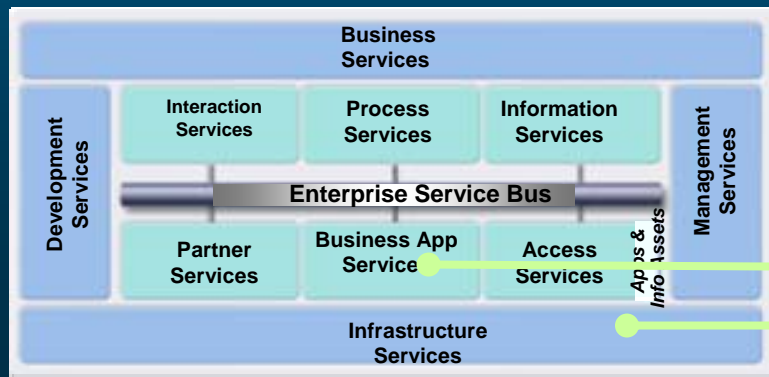
2. As listed in Fortune's Global 500 Index

Summary of What's New

WebSphere XD V6.0.2   *Enhanced!*

- Virtualization of SOA Infrastructure Services
- Support for WAS V6.1, WebSphere ESB

WAS CE V1.1   *Enhanced!*

- JDK 5.0 support and improved deployment capabilities
- Support for the Eclipse Web Tools Platform, Version 1.5
- Free email-based technical support for 30 days

New!

Open Betas for key SOA Technologies:

- **WAS V6.1 Feature Pack for SOA beta***

  - Latest SCA/SDO specifications
  - New features make constructing services easier
  - Integrates qualities of service like security
  - Increases integration with WAS infrastructure

- **WAS V6.1 Feature Pack for Web Services**

  - Beta adds new Web services security standards support and administration improvements
  - New features offer improved ease of use and performance
  - New samples based on current WS-I RSP interoperation scenarios

Business Services

Development Services	Interaction Services	Process Services	Information Services	Management Services

Enterprise Service Bus

	Partner Services	Business App Service	Access Services	Apps & Info Assets	

Infrastructure Services

WAS Family
WebSphere XD

* Currently planned for late 4Q/early 1Q, depending on open source delivery

Looks Great – How Do I Get Started?

1. Visit www.ibm.com/websphere/launch/reuse for useful information and to download the code!

   - *Complimentary 60-day trial WebSphere Application Server V6.1 download*

   - *WebSphere Application Server Community Edition product code – FREE to use!*

   - *Access to the new Open Betas*

   - *Updated product information including new demos, datasheets and whitepapers*

   - *Registration information for upcoming webcasts and events in your area*

2. Meet with your IBM Sales Representative or Partner Contact to find out more on how IBM Application Infrastructure can meet your SOA needs

3. Conduct an SOA workshop to develop your plan with ROI tied to it

   - Line-of-business or IT-led SOA Workshops. Contact your IBM rep or soa@us.ibm.com

We're Ready When You Are