



Tendances Logicielles

L'architecture pour répondre aux besoins métier

Panorama des serveurs d'applications WebSphere

Catherine Ezvan

*WebSphere Fondation Technical Sales
Certified IT/Specialist
cath.ezvan@fr.ibm.com*



Service Oriented Architecture

Different Things to Different People

Roles

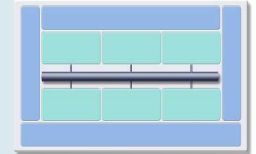
Capabilities that a business wants to expose as a **set of services** to clients and partner organizations

Business



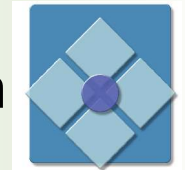
An **architectural style** which requires a service provider, requestor and a service description. It addresses characteristics such as loose coupling, reuse and simple and composite implementations

Architecture



A **programming model** complete with standards, tools, methods and technologies such as Web services

Implementation



A **set of agreements** among service requestors and service providers that specify the quality of service and identify key business and IT metrics

Operations



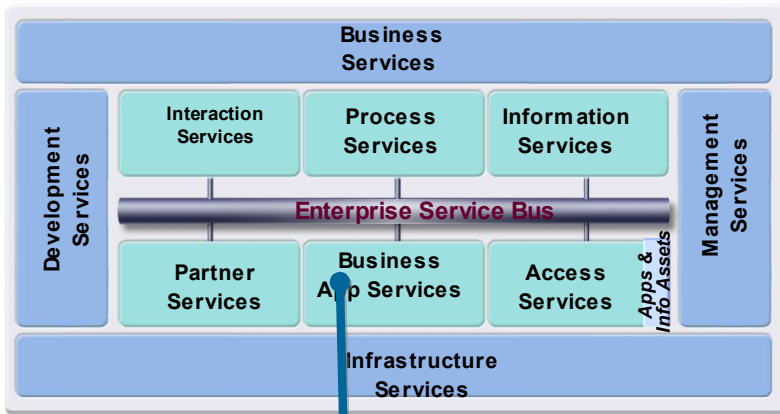
Goal: Exploit Infrastructure for High Performance SOA

You want to...

- Achieve maximum flexibility and high productivity for SOA initiatives
- Protect your critical applications with strong security management
- Increase effectiveness of application infrastructure management

IBM Solution

- ▶ JEE 5 certified environment for application serving
- ▶ Critical set of Web services standards
- ▶ Extensive Web 2.0 support
- ▶ Security domains and security auditing support
- ▶ Runtime provisioning and flexible management



WebSphere
Application
Server

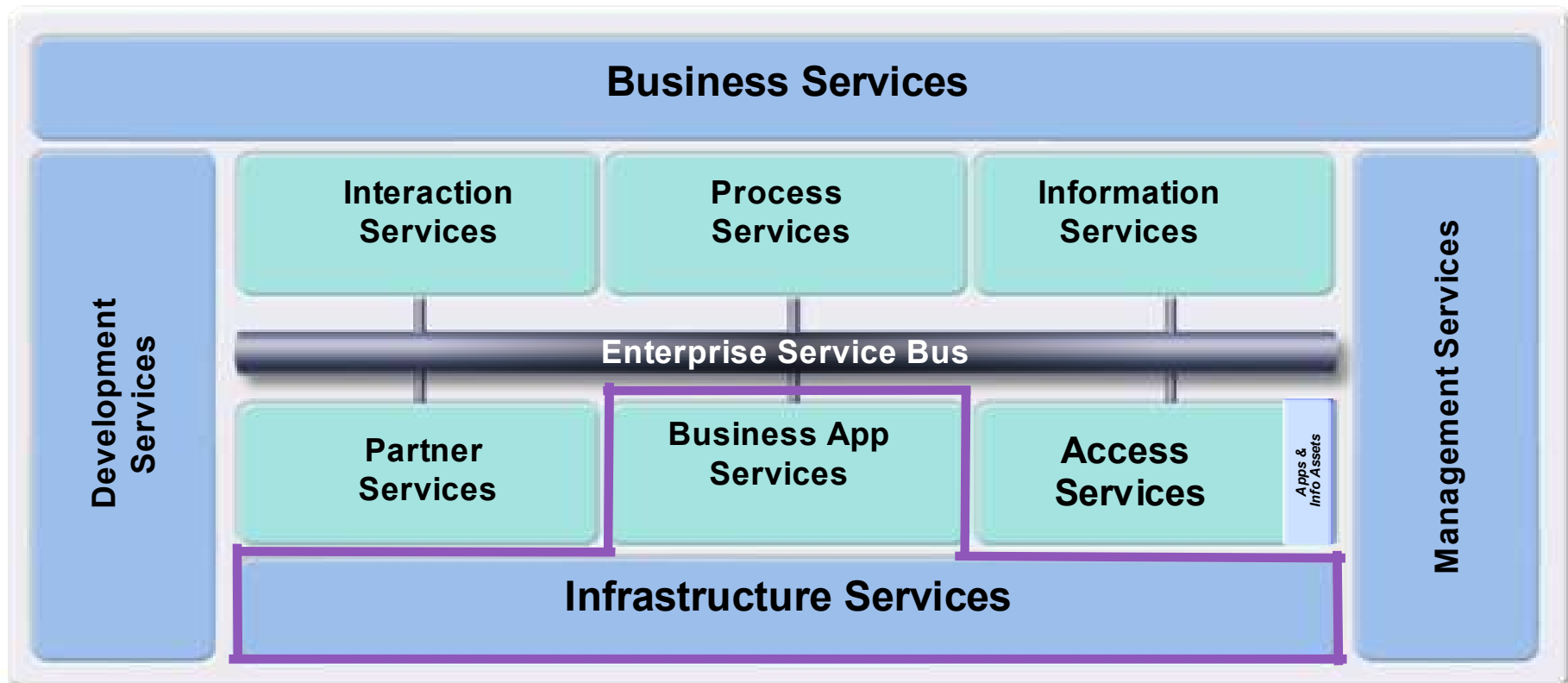
Deliver maximum flexibility and high productivity application serving



Nobody does it better...

WebSphere Application Server brings ...

- ▶ Simplification for Developers
- ▶ High Performance SOA Environment
- ▶ Innovation that Matters



WebSphere Application Infrastructure

- **3,600 partner apps built on WAS**
- **700 patents since 1998**
- **#1 in Market Share¹**
- **The undisputed market leader for 10 years**

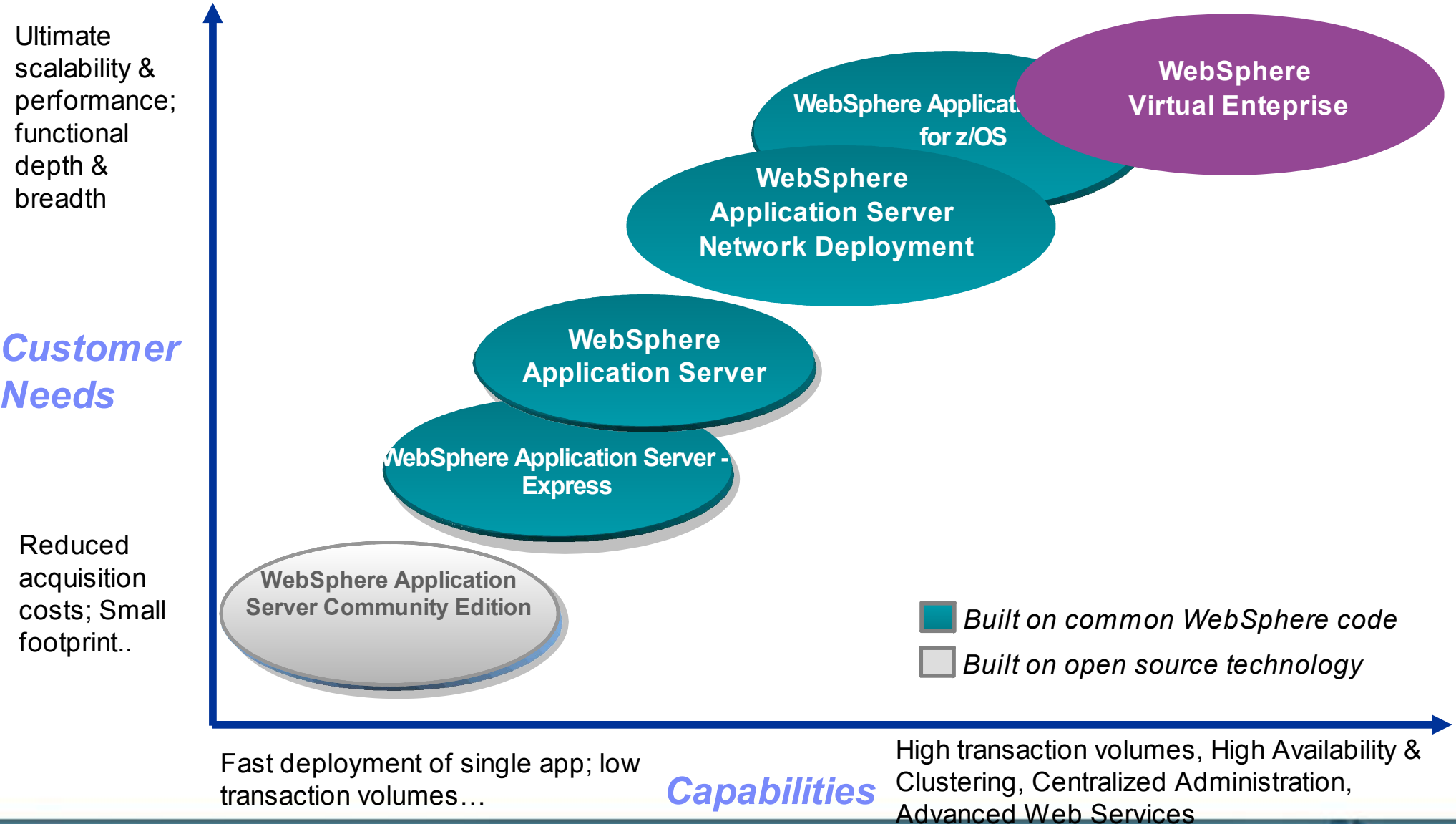


1. Source: Gartner, Inc.: Market Share: Application Infrastructure and Middleware Software, Worldwide, 2007, by Fabrizio Biscotti, Teresa Jones, Asheesh Raina and Joanne Correia, June, 2008

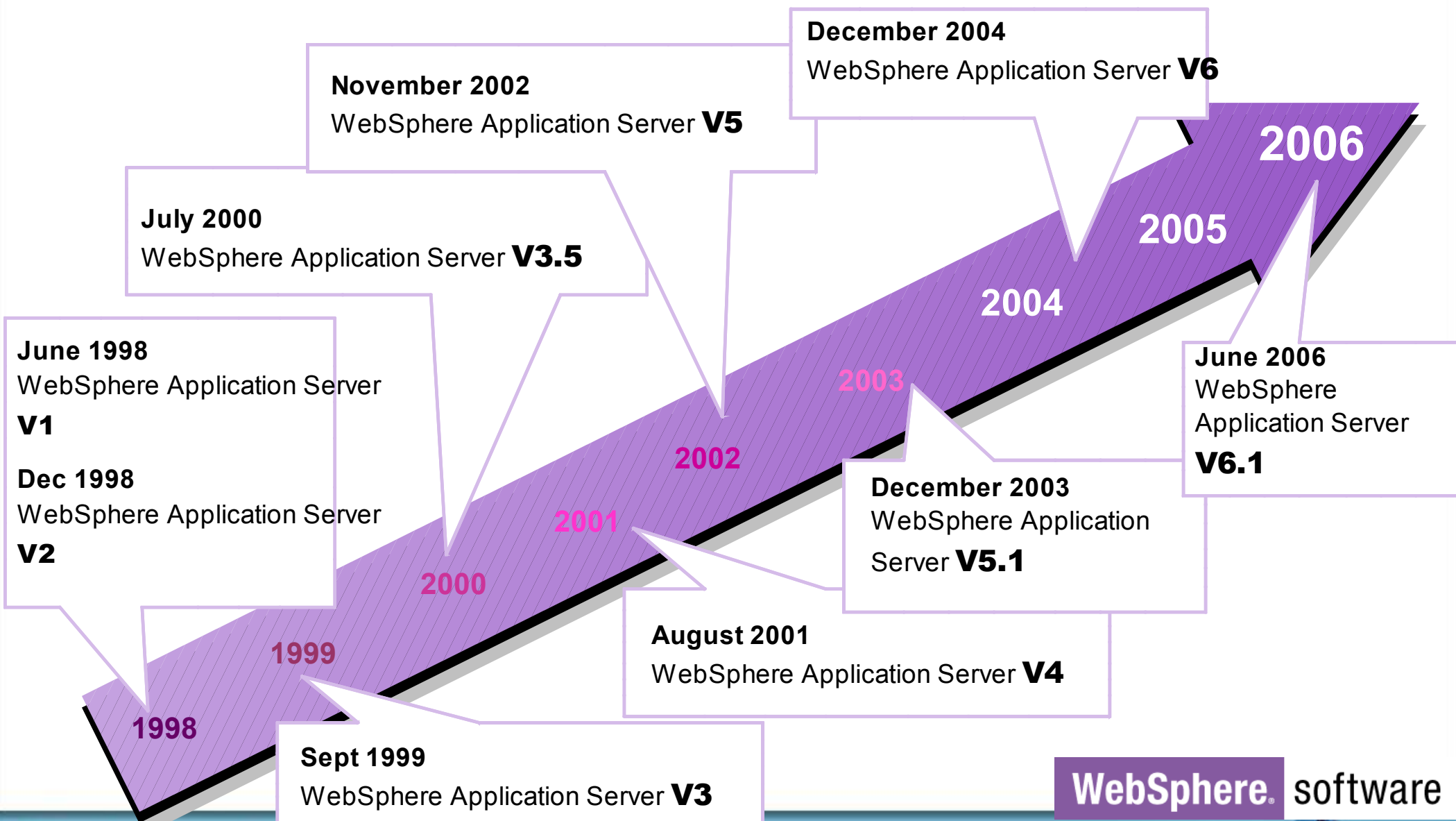


WebSphere Application Server Family

Multiple Business Models, Multiple Deployment Options



WebSphere Application Server - A Mature, Proven Platform



WebSphere software



WebSphere Support Update:

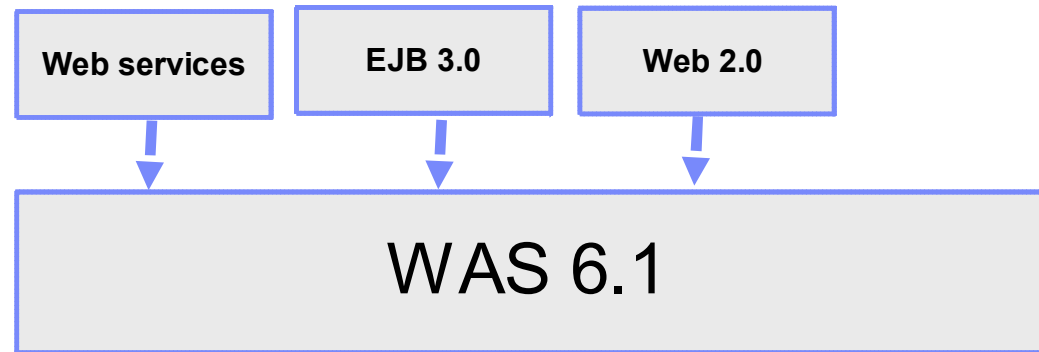
- **WAS v5.1 and past: support is 3+2 years (3 year currency/entitlement, 2 year service extensions)**
- **WAS v6.0 and forward: Support is 5+3 years (5 year currency/entitlement, 3 year service extensions)**



WAS 6.1 Feature Packs

Simplified Consumability & Ease of Integration

- Revolutionizing the way customers consume application server technology
- Delivering ease-of-use improvements in each Feature Pack



1. Choose the application server technology you need.

2. Install additional functionality on core WAS 6.1

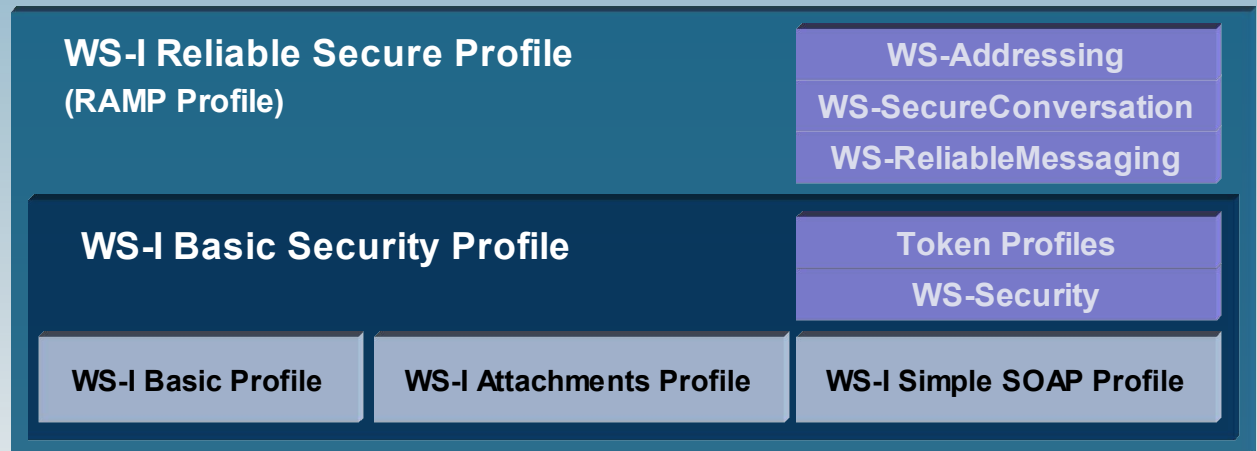
3. Build the Application Server you want without waiting for new releases.

WAS 6.1 Feature Pack for Web Services

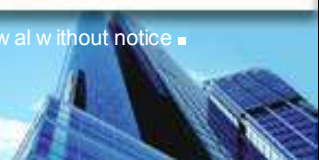
Making web services simple

- **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



- **Consumable and Extensible**
Simplified management of these Web services profiles makes it easy to configure and reuse configurations, so you can introduce future profiles more seamlessly



WAS 6.1 Feature Pack for EJB 3.0

Simplified programming model with persistence

- Familiar programming models
 - Easier to develop with familiar programming approach such as POJO
- EJB 3.0
 - POJO-based business logic programming greatly simplifies development
 - Draws upon the best ideas from popular “lightweight” frameworks such as Spring and PicoContainer
- Java Persistence API (JPA)
 - New API simplifies the development of Java EE and Java SE applications using data persistence.
 - Draws upon the best ideas from persistence technologies such as Hibernate, TopLink, and JDO.



WAS 6.1 Feature Pack for Web 2.0

Extending SOA to Rich Web 2.0 applications

■ Web 2.0 to SOA Connectivity

- ▶ Expose SOA and JEE assets to Web 2.0 clients
- ▶ Provide secure, cross-site connectivity for Web 2.0 clients
- ▶ Enable RSS and ATOM feeds

■ Ajax Messaging

- ▶ Push server-side events to Web 2.0 clients using a standardized publish/subscribe messaging implementation

■ Ajax Development Toolkit

- ▶ Utilize a supported distribution of the Dojo Toolkit
- ▶ Leverage IBM enhancements to simplify working with different protocols, data formats and connectivity options
- ▶ Use sample Web 2.0 applications to jumpstart development



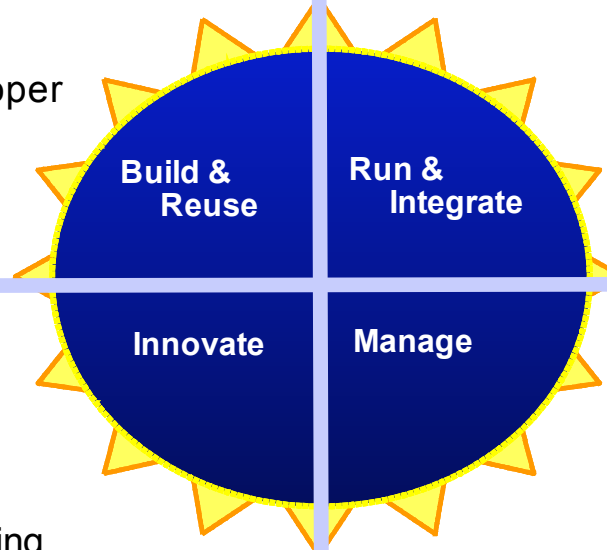
IBM WebSphere Application Server Version 7

Simplification for Developers

- New and enhanced Standards: Java EE 5 certification, EJB3, Web Services
- Web 2.0
- Feature Pack Strategy
- New Rational Application Developer Support

High Performance Foundation for SOA

- Performance leadership
- New Runtime Provisioning
- New and enhanced Security Features
- Multi-Cell Support
- Application investment protection
- New Consolidated WebSphere and DataPower administration



Innovation that Matters

- Feature Pack for Web 2.0
- Feature Pack for SCA
- Broad support for new programming models; J2SE 6, Java EE 5, WS-I Reliable Secure Profile, SIP and more

Intelligent Management

- New Flexible Management: Job Manager, Admin Agent
- New WebSphere Business Level Applications
- New Centralized Installation Manager



Innovation that Matters – Feature Packs

Revolutionizing the way customers consume application server technology now and in the future



1. Choose the application server technology you need.

2. Install additional functionality on core WAS 7

3. Build the Application Server you want without waiting for new releases.

As new technology evolves, so does WAS – get the technology you need now without waiting for a new release!



Combining WebSphere and System z

Offers Unique Benefits: Scaling, Reliability & Availability

- **Availability**
- **Disaster recovery**
- **Performance**
- **Management**
- **Security**
- **Low cost**
- **Utilization**



z/OS

WebSphere Application Server

- High availability
- Clustering
- JEE 5
- Web Services
- Security
- Messaging
- Platform optimized to leverage:

Platform

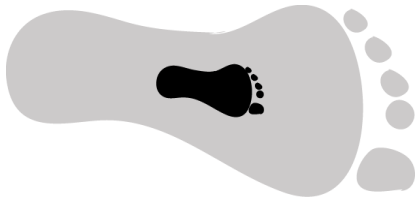
- Intelligent Resource Director
- z/OS WLM
- Mixed workload support
- Sysplex (GDPS)
- ARM
- RRS
- LPAR
- Mainframe security



WebSphere Application Server Community Edition v2

WAS CE

A lightweight JEE5 application server built on open source Apache Geronimo technology



**Small
Foot Print**
(~60MB download)



JEE5 Compatible



**No Upfront
Costs**



**World-class
Support Options** (3
tiers)



The **Apache Software Foundation**
<http://www.apache.org/>

**Built on Apache technology - The Gold
Standard in Open Source**



WAS Community Edition 2.0: Key features

WAS CE 2.0 – Highlights

- **NEW: Java EE 5.0 compatible**
 - Implements latest Java enterprise standards
 - Dramatically improves developer productivity
- **NEW: Support for Linux x86-64 platform**

WAS CE 2.0 – Customer Benefits

- **Benefits of Java EE 5**
 - Greater developer productivity...
 - ...accelerates time to value...
 - ...increases IT responsiveness to business needs...
 - ...and reduces development and maintenance costs.
- **Benefits of Web Service enhancements**
 - Increases code reusability...
 - ...encourages developers to leverage existing assets...
 - ...reduces enterprise-wide duplication of effort and functionality...
 - ...and reduces development and maintenance costs.

Java EE 5 at a glance

- **NEW: Simplified component & persistence models**
 - Java Persistence API (JPA) 1.0, EJB 3.0
 - *Brings benefits of lightweight IoC framework, and streamlines development of persistence code*
- **NEW: Updated Web application technologies**
 - Servlet 2.5, JSP 2.1
 - JavaServer Faces (JSF) 1.2, JSTL 1.2
 - *Eases development of web applications*
- **NEW: Enterprise application technologies**
 - Java Transaction API (JTA) 1.1
 - JavaMail 1.4, JAF 1.1
 - Java Authorization Contract for Containers (JACC) 1.1
 - *Improves robust transaction support and enhances security of Java EE applications*
- **NEW: Web Services enhancements**
 - JAX-WS 2.0, JSR-109 1.2
 - JAXB 2.0, StAX 1.0, WS-Metadata 2.0
 - *Enhances interoperability and dramatically speeds development of web services for easy integration with your SOA*

WebSphere Virtual Enterprise

The Product Formerly Known as WebSphere Extended Deployment (XD)



“XD Suite” contains 3 components, available as a single, integrated package or 3 individual components

Compute Grid	Virtual Enterprise	eXtreme Scale
<ul style="list-style-type: none"> - <i>Transactional Batch</i> - <i>Compute Intensive Tasks</i> - <i>Manage non-Java workloads</i> - <i>z/OS Integration Patterns</i> 	<ul style="list-style-type: none"> - <i>On-Demand Router</i> - <i>Extended Manageability</i> - <i>Application Editions</i> - <i>Health Management</i> - <i>Runtime Visualization</i> - <i>Virtualization</i> 	<ul style="list-style-type: none"> - <i>Distributed Caching</i> - <i>Partitioning Facility</i> - <i>In-memory Databases</i>



Workload Virtualization

Enables application services to share a common pool of heterogeneous resources, while optimizing service level attainment

Service Workload Management



Policy creation



Assess risk



File a claim



Billing



Account management

Application Services

Service Level Management

- Resources are pooled
- Workloads are prioritized using service policies
- Workloads are intelligently routed
- Application resources are dynamically adjusted
- Batch-type workloads are scheduled and balanced with transactional workloads
- Application performance is monitored using visualization

Application Edition Management

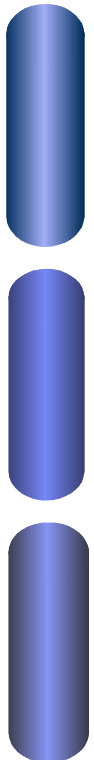
- Interruption-free deployment of new application versions
- Intelligent routing to application versions in production

Health Management

- Mitigates against common server health problems before production outages occur



Application Resources



Information Resources

