



IBM Software Group

Discovering business application services, featuring
IBM WebSphere Application Server ND V7.0

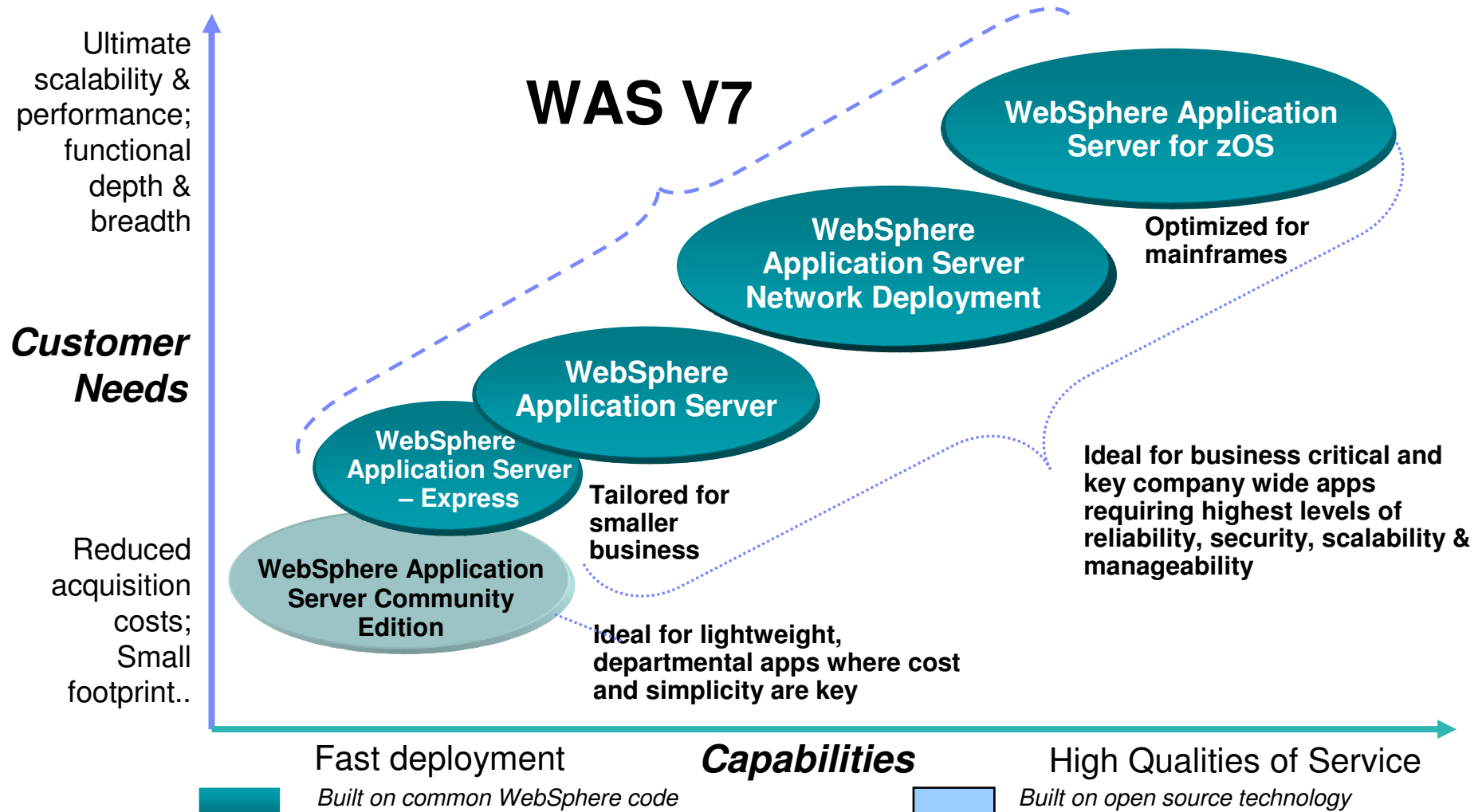
WebSphere Application Server V7 ***Technical Overview***

An IBM Proof of Technology



IBM WebSphere Application Server Family

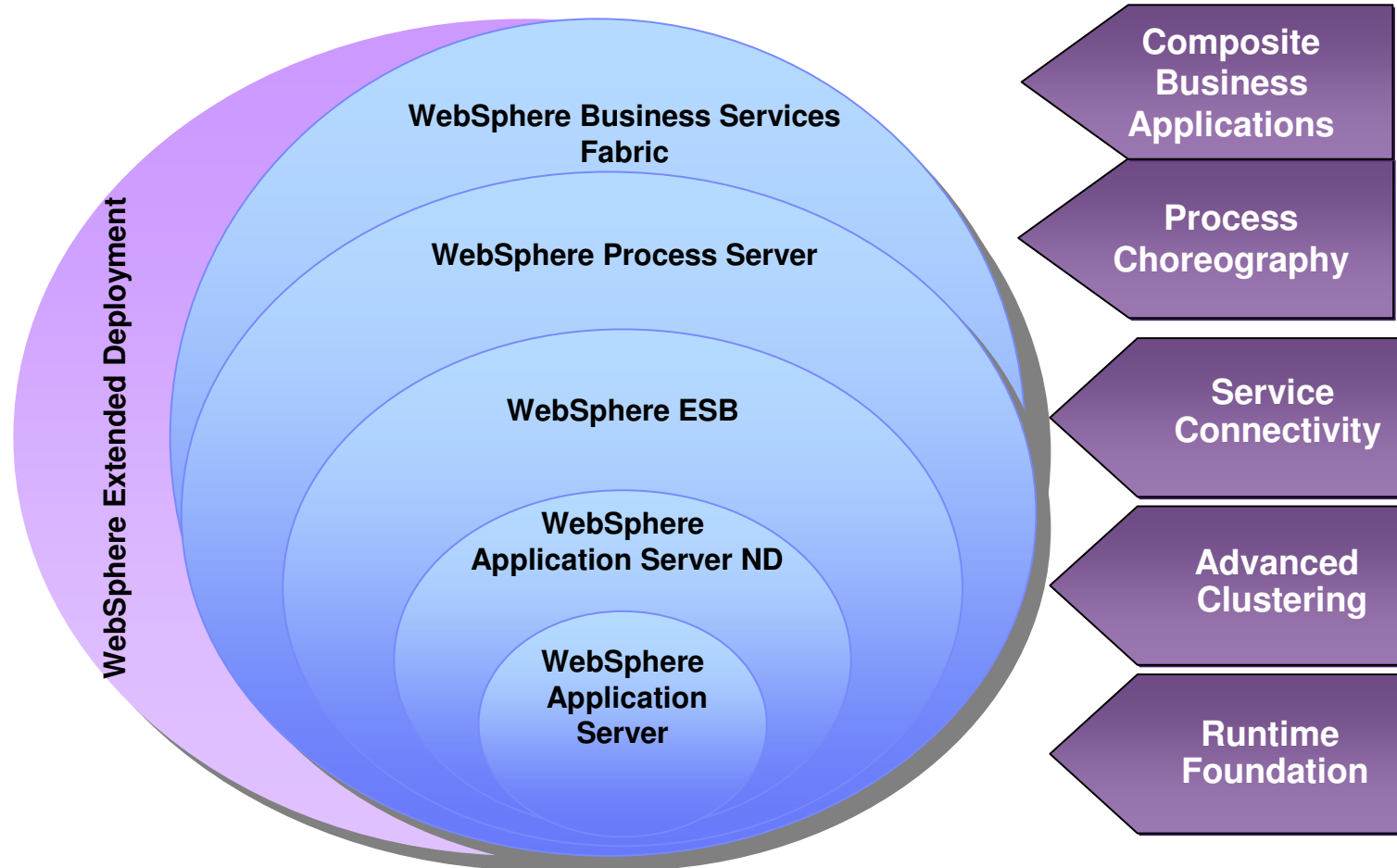
Your Choice of Innovative Performance Based Application Foundations



WebSphere Application Server stacked products

- OS**
- Windows
 - AIX
 - HP-UX
 - Solaris
 - Linux
 - I5/OS
 - z/OS
 - 32/64 bit exploitation

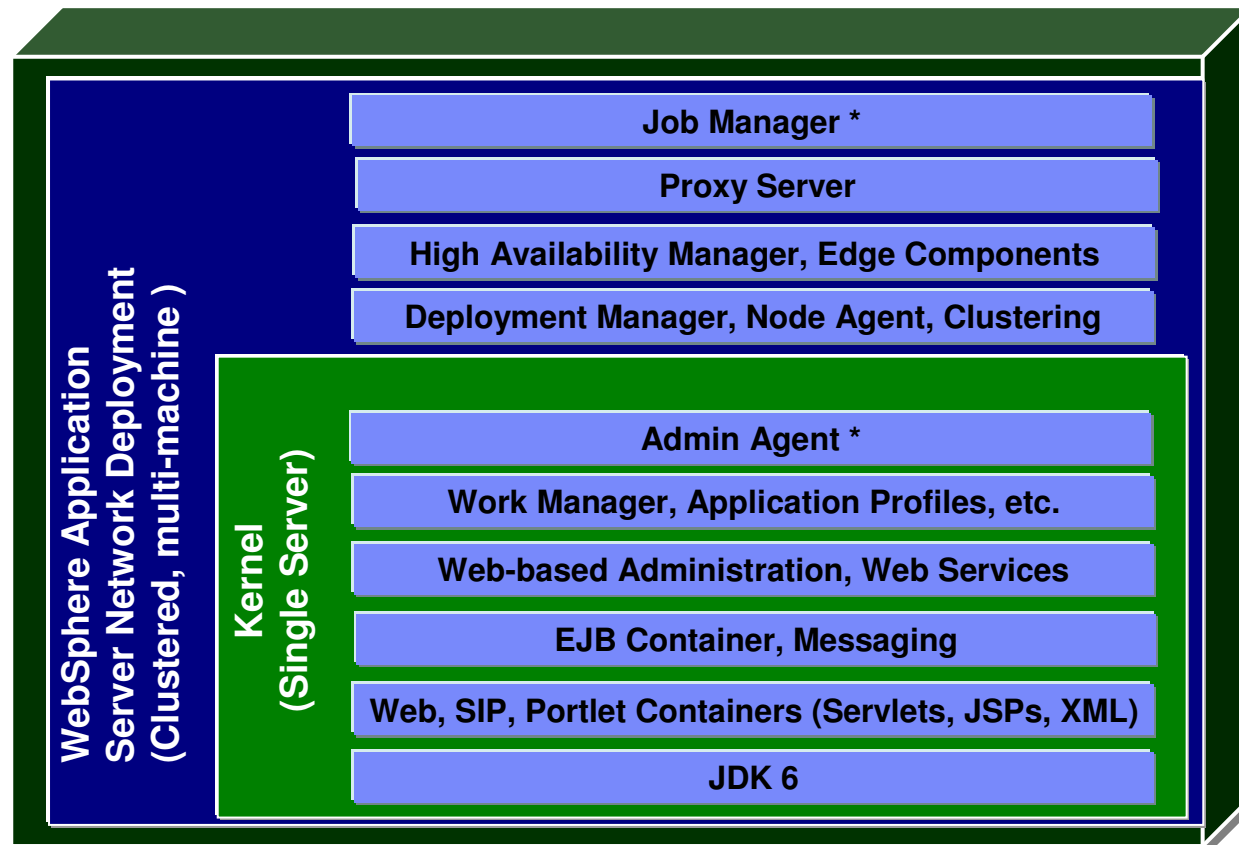
- Databases**
- DB2
 - Cloudscape
 - Oracle
 - MS SQL Server
 - Informix
 - IBM Information Integrator



Common administration interface for all products

WAS v7 Components

Product install will continue to have the same look and feel as Version 6.x



Plus.....

Secure Proxy Server

Application Client

Thin client libraries

IHS/plugin

Install tools

App development tools

IBM Support Assistant

ITCAM subset

New in WAS Version 7.0

Simplification for Developers

- **New and enhanced** Standards: Java EE 5 certification, EJB3, Web Services, JDK 6
- **New** Rational Application Developer Support

High Performance Foundation for SOA

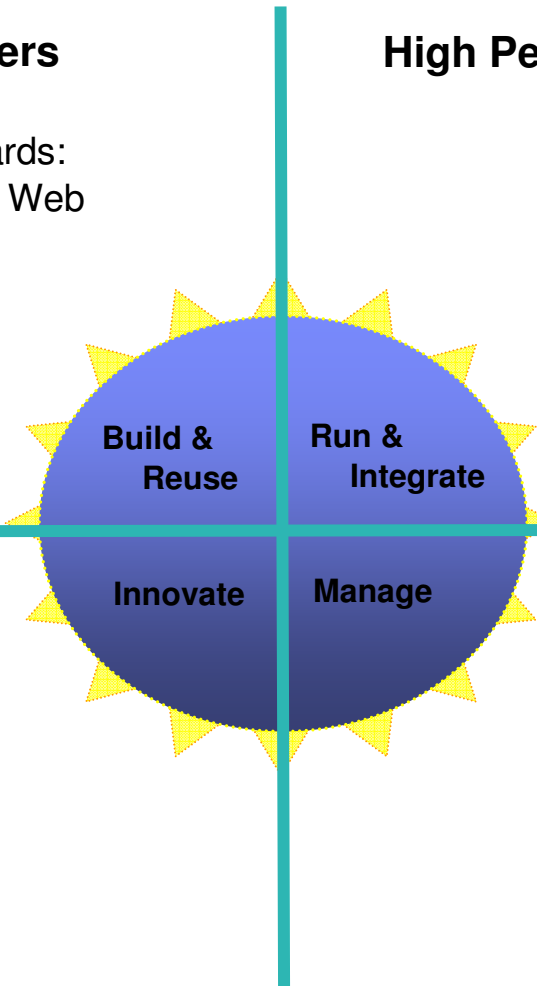
- Performance leadership
- **New** Runtime Provisioning
- **New and Enhanced** Security Features
- Application investment protection
- New Consolidated WebSphere and DataPower administration

Innovation that Matters

- Feature Pack Strategy
- Feature Pack for Web 2.0
- Feature Pack for SCA

Intelligent Management

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



Agenda

1. High Performance Foundation for SOA
2. Intelligent Management
3. Simplification for Developers
4. Innovation That Matters

High Performance Foundation for SOA

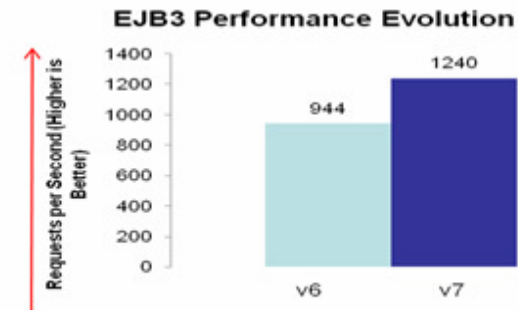
- *Grow your business on a reliable, available, scalable, secure foundation that promotes business agility*

Optimized Runtime Performance

Do more with less. Better performance means you need fewer processors = savings in hardware and energy!

Significant improvements in WAS V7 performance over V6.1

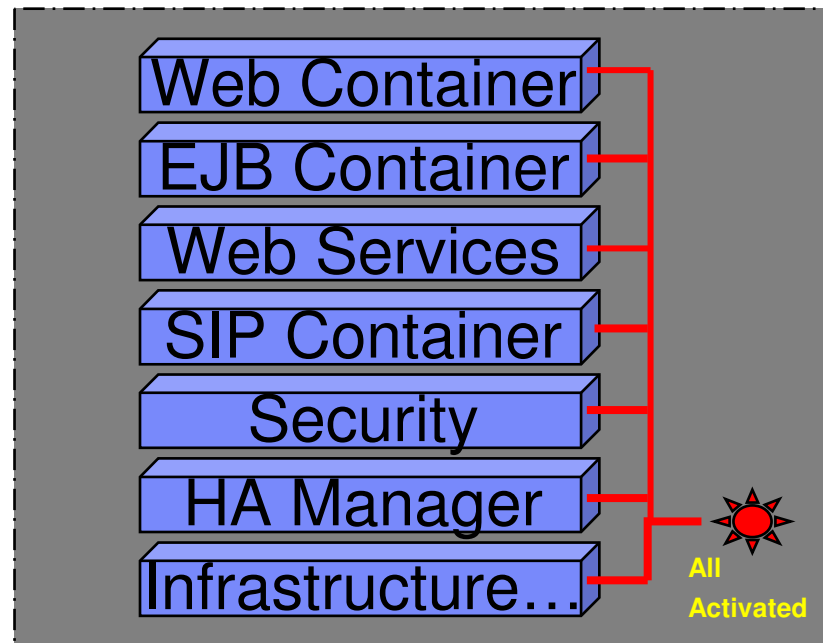
- Improved performance with Java 6
- EJB improvements based on heavily optimized EJB3/JPA runtime
- Improved secure runtime performance
- V7 Web Services performance improvements of up to 100% over the WAS V6.1 Web Services FEP
- Startup time and memory footprint improvements
- WAS Dominates the overall benchmark category by 33%



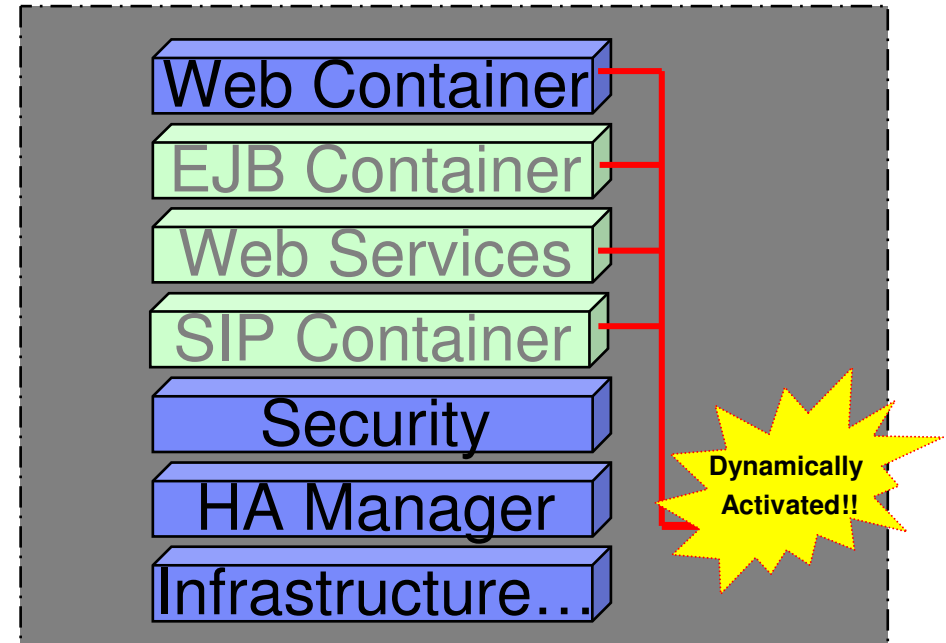
Runtime Provisioning

Selects only the needed functions for memory and space efficiencies significantly reducing the application server footprint and start-up times

V6.1 Server



V7 Server



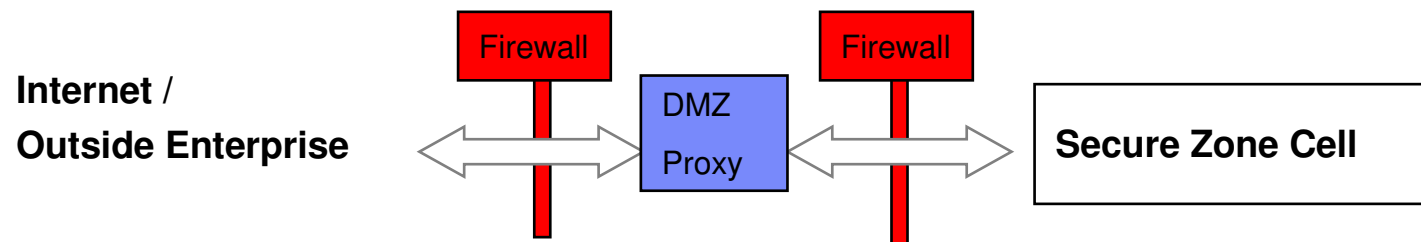
Security Auditing

KNOW what changes are being made to your system!!

- Option to generate security auditing records of WebSphere administrative actions
- Option to generate security auditing records of business applications
- Separation of administrative user privileges: Administrator and Auditor

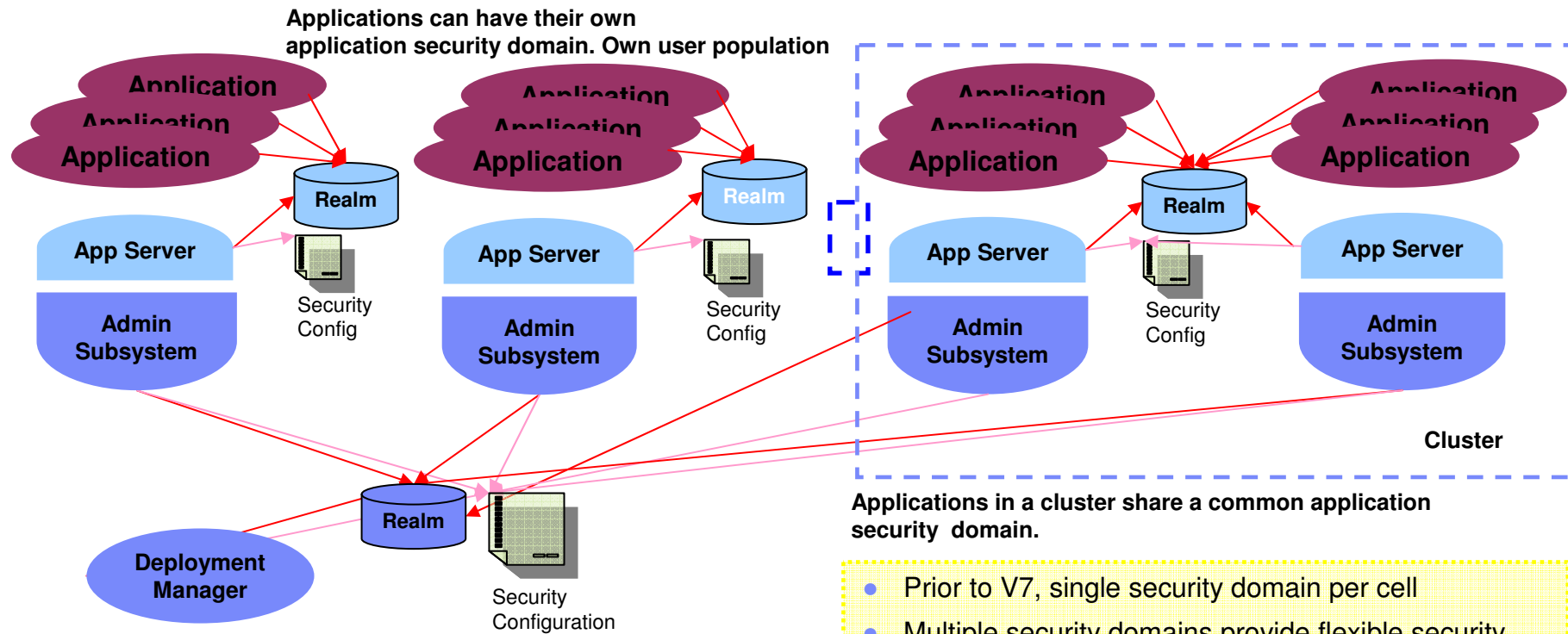
WebSphere Secure Proxy

- Proxy Server hardened for DMZ topologies
- External ports reduced to bare minimum to support proxying
- Loads only digitally signed jars
- Runs as unprivileged user while binding to well known ports



WebSphere Multiple Security Domains

Greater granularity, flexibility and control over users and infrastructure reduces administrative costs and keeps your infrastructure safe

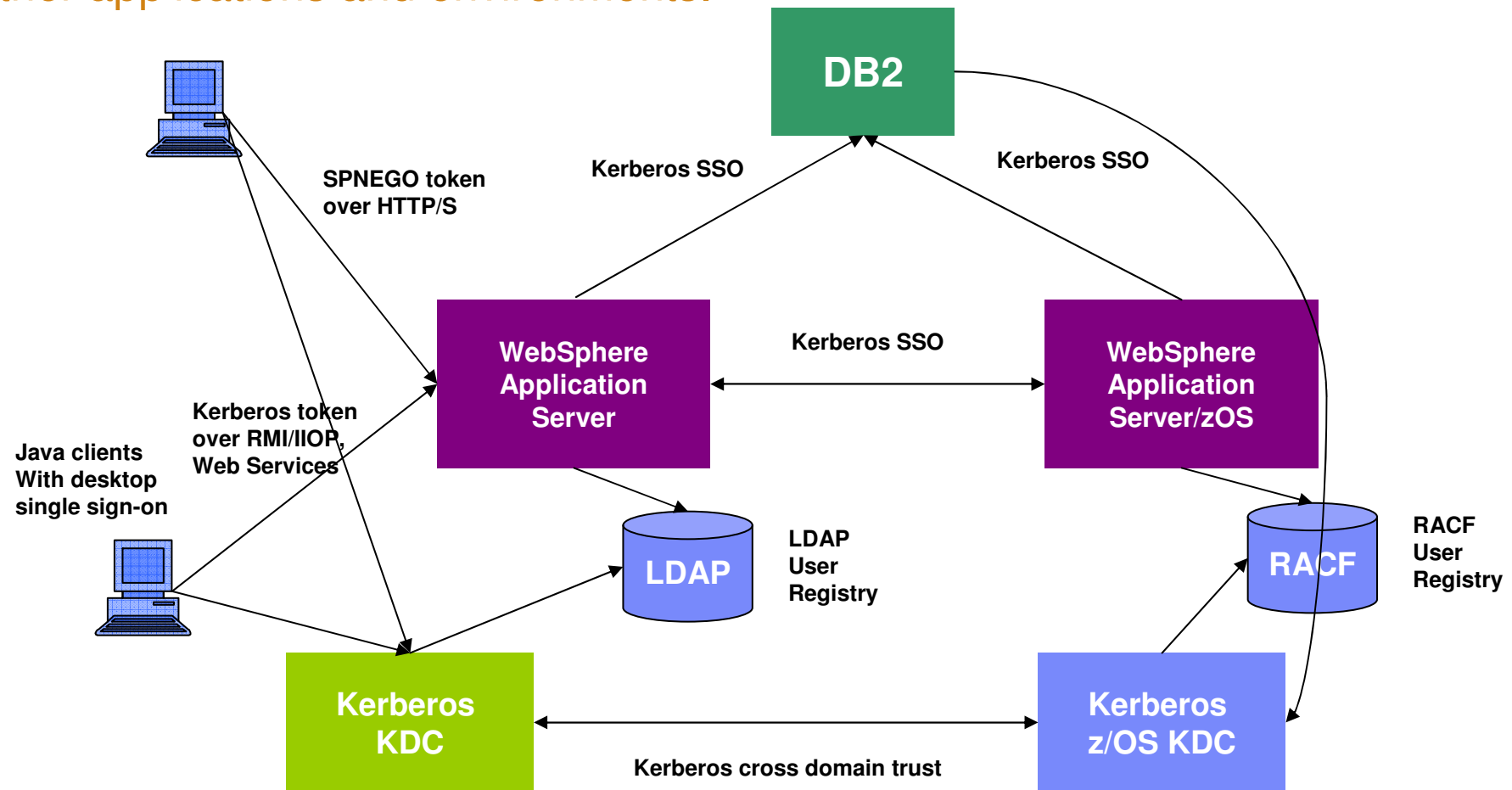


Deployment Manager, Node Agent, and the Admin Subsystem common administrative security domain.

- Prior to V7, single security domain per cell
- Multiple security domains provide flexible security configuration under centralized management
- Option to separate User security domain from administrative security domain

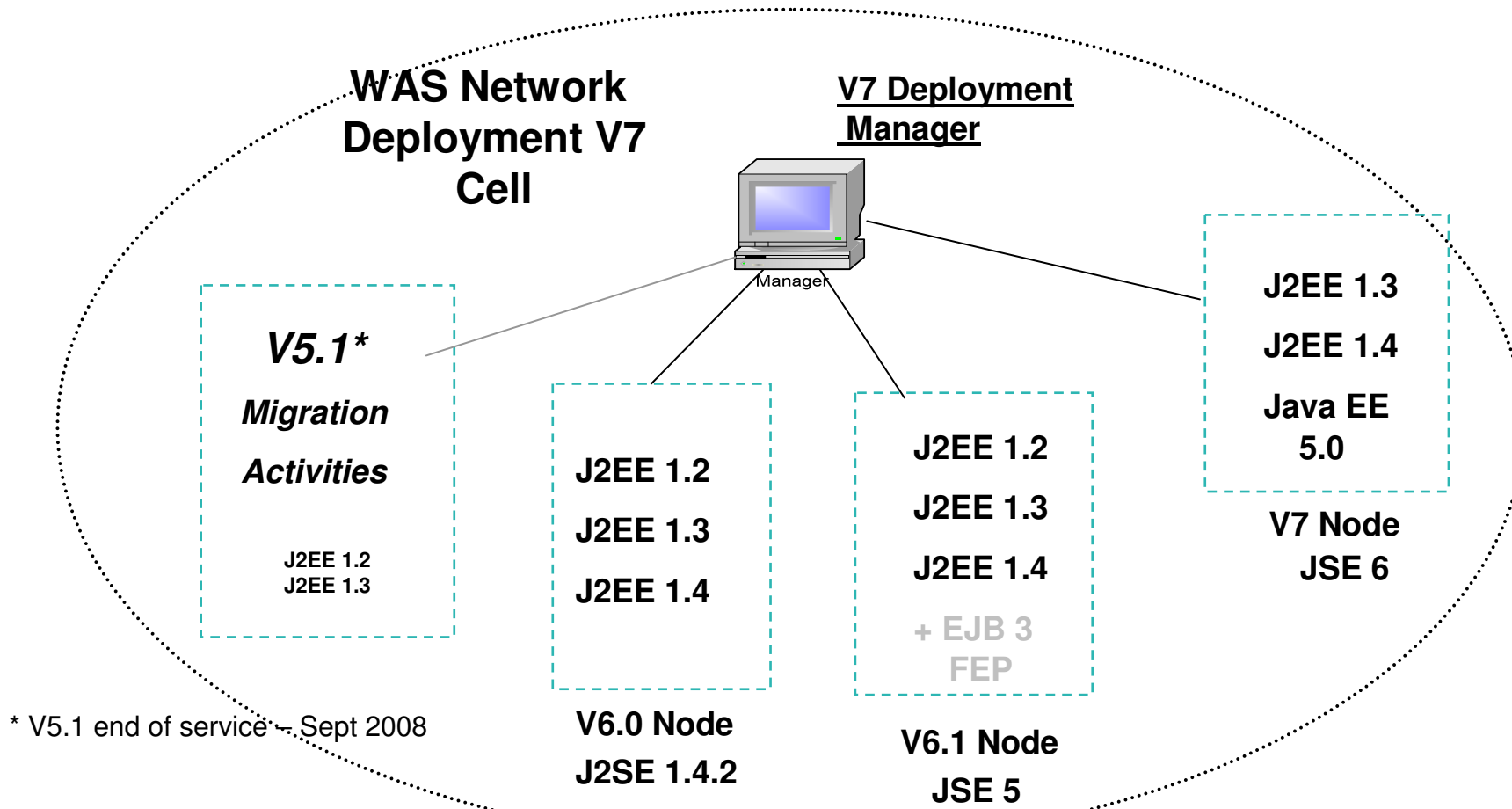
Kerberos Authentication And Single Sign-on

Broader implementation of Kerberos delivers improved interoperability with other applications and environments.



Continued Support for Existing Applications

Eliminate Intensive Cost and Development Resource



Programming models added, not replaced
Many existing applications run unchanged in new WAS versions.
Regression testing of applications is required!

Improved integration with WebSphere MQ

- **WAS 7.0 includes a WMQ JMS JCA 1.5 Resource Adapter**
 - ▶ New panels and admin commands
 - ▶ MDBs can now use activation specifications
 - ▶ It's cognizant of multi-regions in WAS on zOS and supports zWLM
 - ▶ It supports WMQ v6 and v7 (v5 is not JCA compliant)

- **WAS 7.0 also includes the new WMQ v7 JMS client**
 - ▶ WMQ extended transactional client functionality for use with WAS is included.

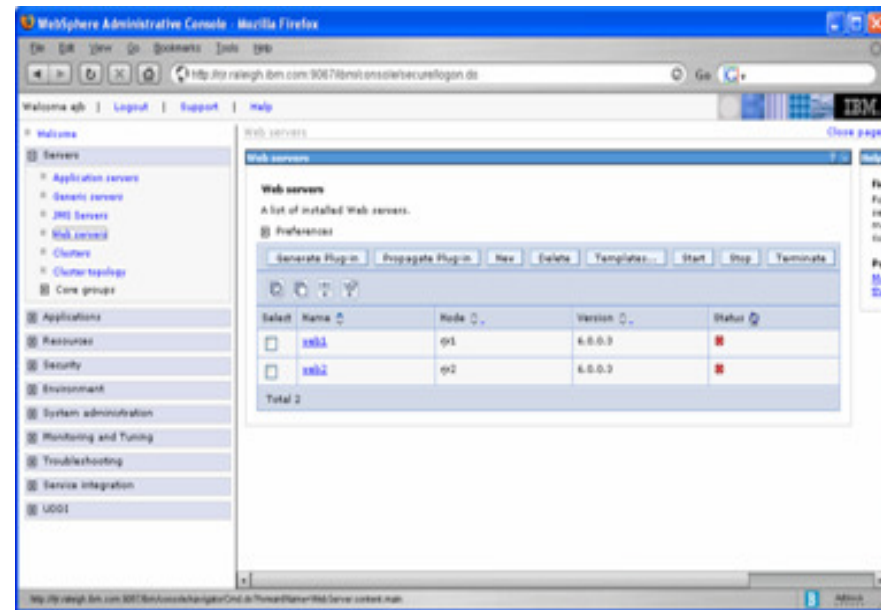
New WAS v7 Capabilities Improve Messaging Consumability

- New SIBus wizards
 - ▶ Configuring a Cluster Bus Member
 - ▶ Configuring a Foreign Bus Connection
- New panels
 - ▶ SIBus Authorizations
 - ▶ WMQ JCA Resource Adapter
 - ▶ Panels for inspecting application use of SIBus resources
- Simplification of existing SIBus panels
 - ▶ Removal of a number of security settings

WebSphere and DataPower

A next step in the evolution of broader administration integration across WebSphere.

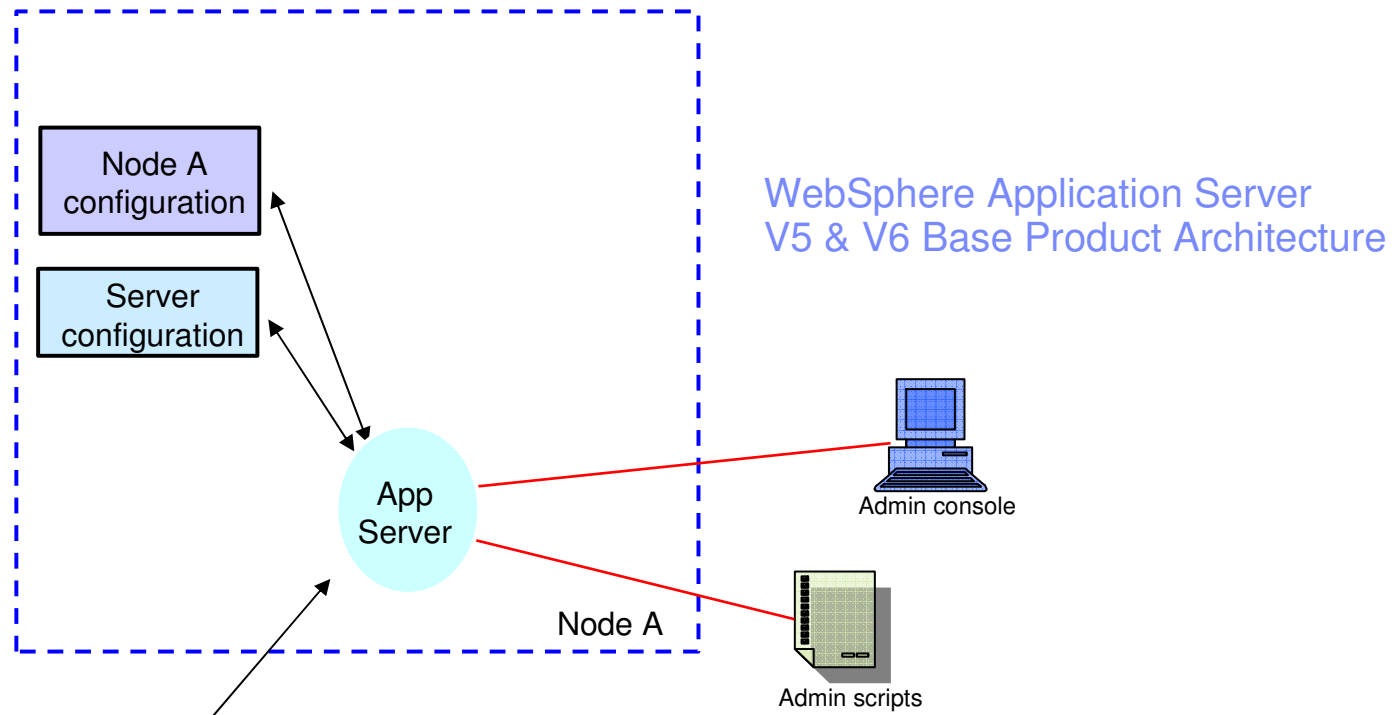
- Single Admin interface for managing both WAS and DataPower
 - ▶ Tighter integration for management
- Admin interface for managing multiple DataPower boxes
 - ▶ Multi-box management (existing DataPower requirement)
- Single point of administration for solutions that combine WebSphere Application Server applications with DataPower



Intelligent Management

- *Anticipate and adjust to evolving business and technology needs with infrastructure and application intelligence*

Current WebSphere Application Server “Base” Management



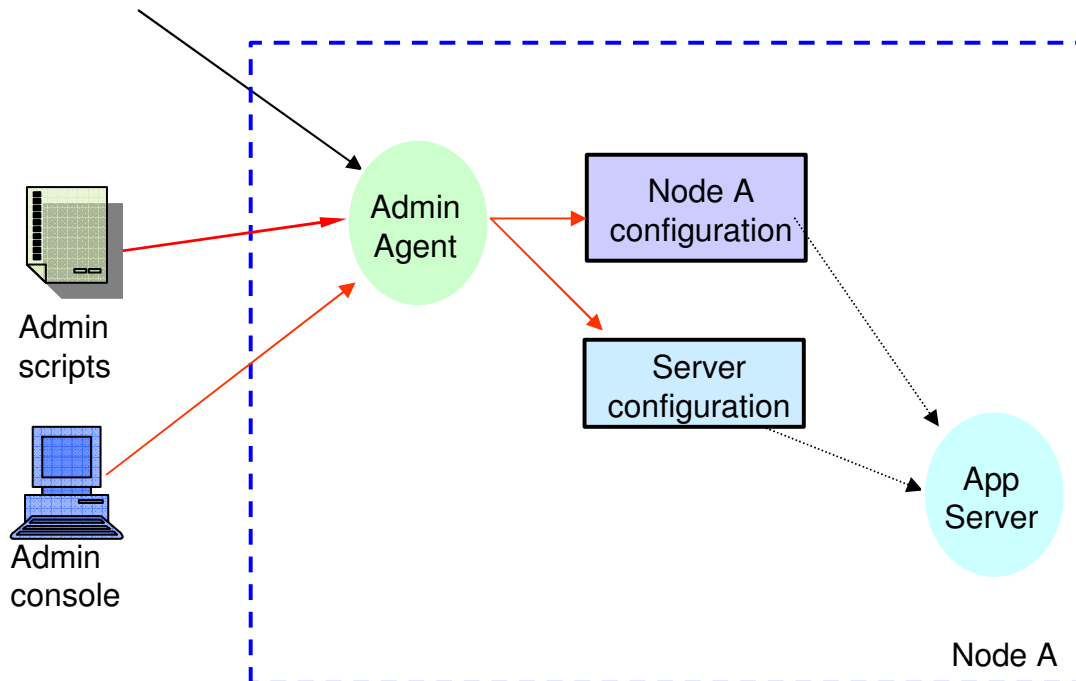
Admin logic hosted in the same JVM as application server and customer applications.

Flexible Management Options

Improves control and eases administration

WebSphere Application Server V7
Base and Express Product Architecture

Admin agent included in base and Express product



- Central administration of Express and Base servers

- Admin logic hosted in separate JVM from application server offloading the application server

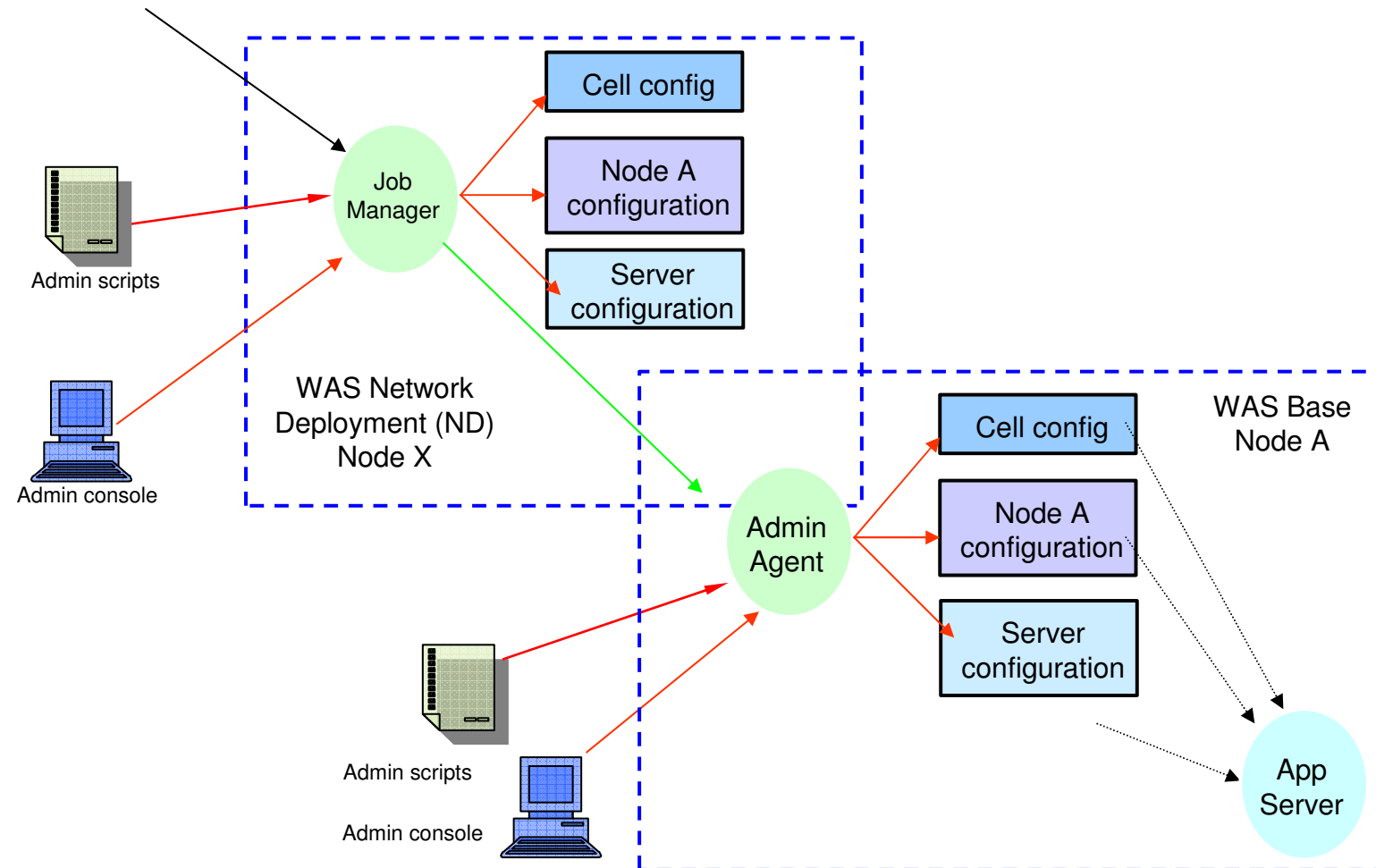
- Admin agent can manage multiple local application servers



Capitalizing on Intelligent App Server Management

WAS V7 ND Allows Loose Federation for Multi-node Management ...

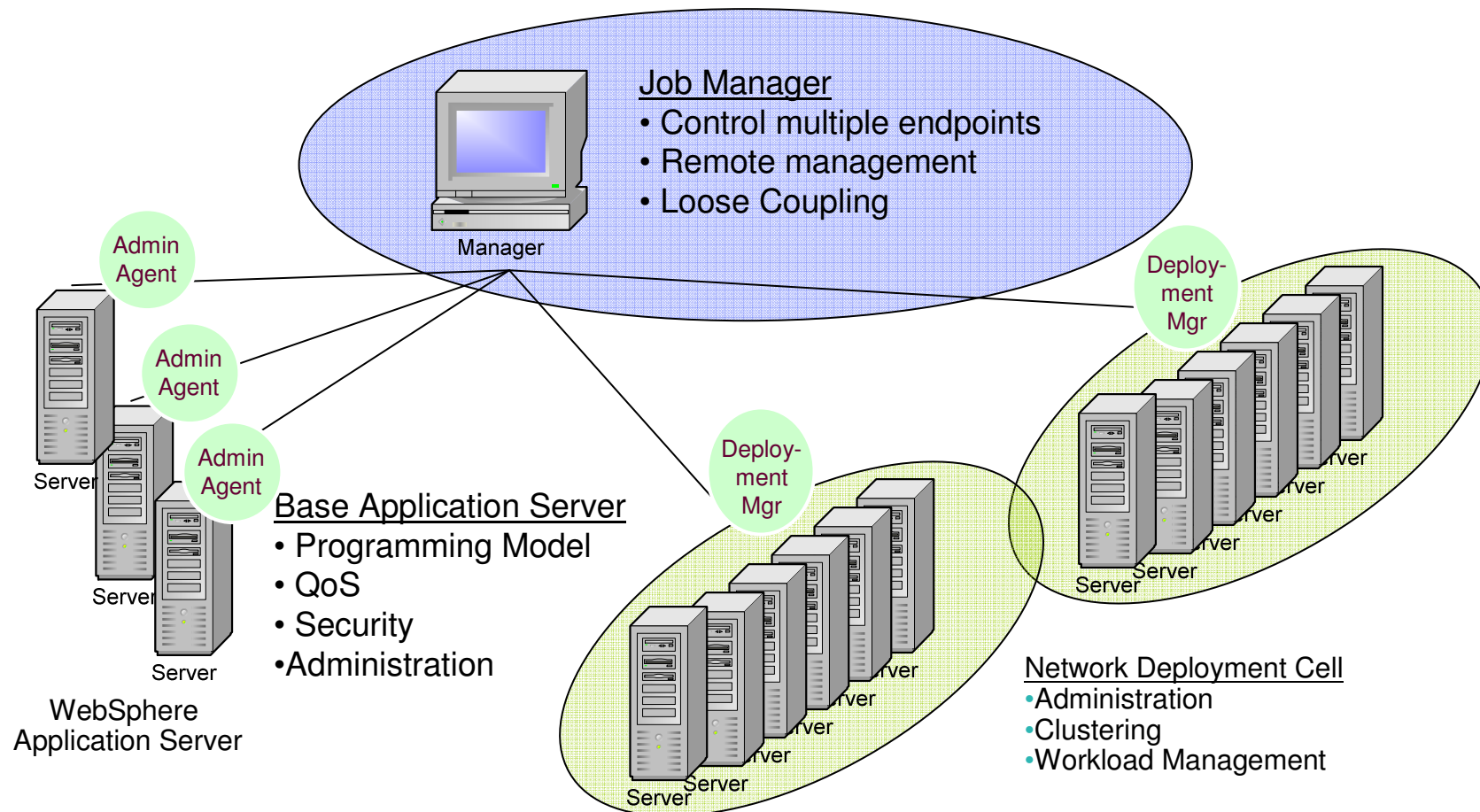
New Flexible Job Manager





Capitalizing on Intelligent App Server Management

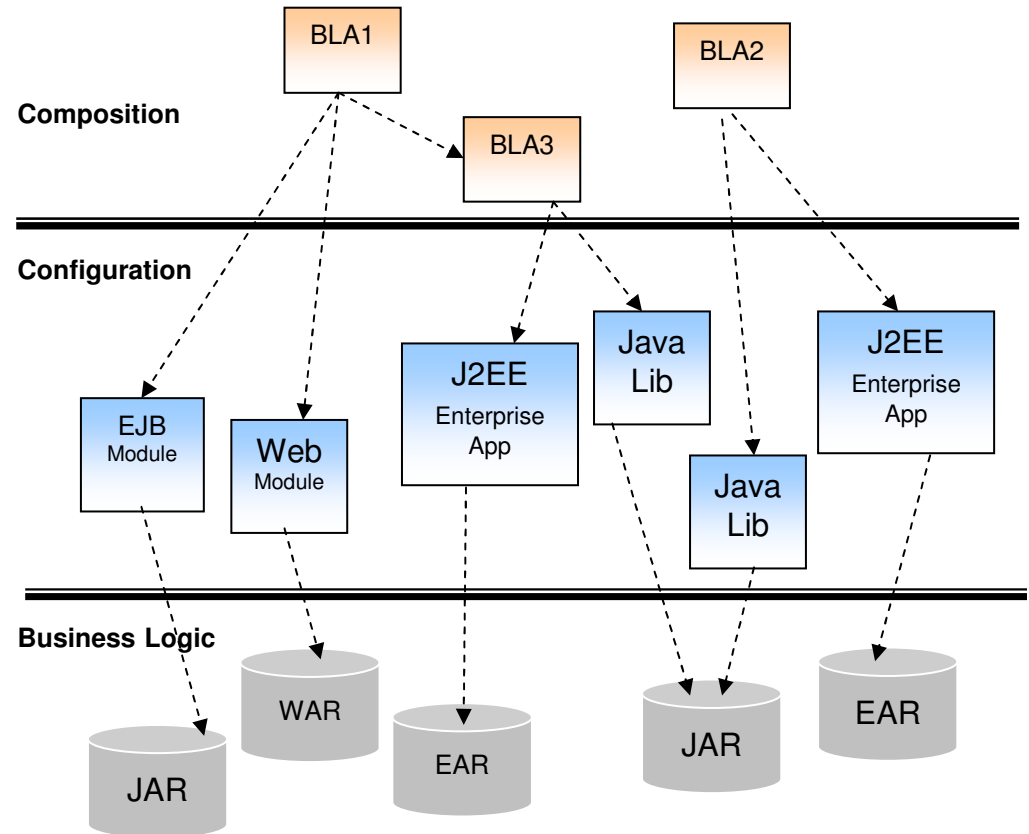
WAS V7 Sets the Stage for More Flexible Management Topologies



WebSphere Business Level Applications

Significantly improves the management of multi-component applications, simplifying administrative tasks

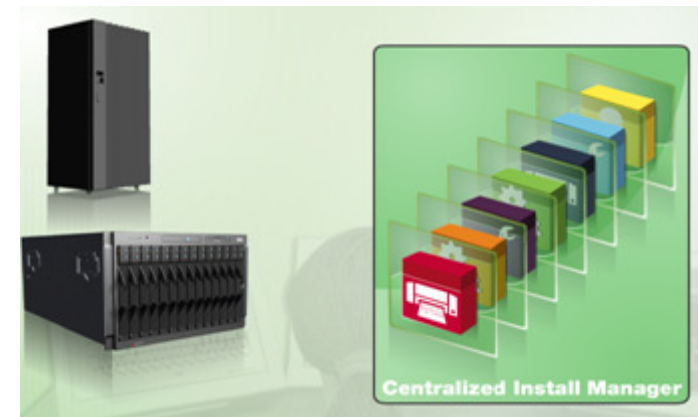
- **BLA** is a grouping notion for managing Java EE and other artifacts under a single application definition.
 - ▶ Artifacts like SCA packages, libraries, proxy filters etc.
- Supports full lifecycle management of applications
 - ▶ Install, distribute, activate, update, remove
- Aligns WebSphere Applications better with business as opposed to IT configuration



Centralized Installation Manager

Simplifying Installation & Deployment

- Supports centralized installation from the Deployment Manager to Nodes in the cell
- Single install to the Deployment Manager which allows Push install package from DMGR to endpoints
 - Select a set of hosts and push to those endpoints
 - Installs appropriate endpoint code based on type of endpoint
 - Agent-less
- Centralization of patch management



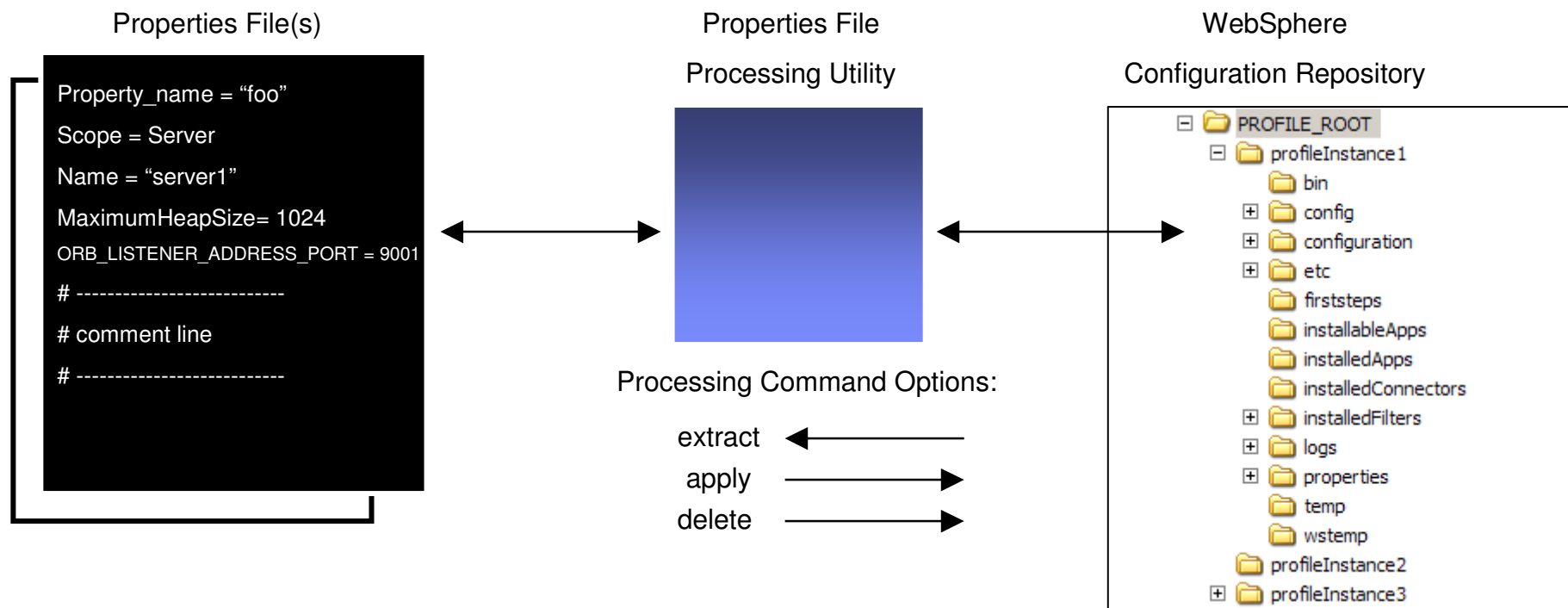
Centralized Installation Manager Tasks

- Install product components on one or more target workstations.
- Apply various types of maintenance to your WebSphere Application Server Network Deployment environment.
- Monitor your submitted requests by viewing the progress, completion status, and log files of each.
- Create additional installation targets to enhance your environment, and manage any existing installation targets.



Easing Application Serving Management Burden

WAS V7 Properties File Based Configuration Utility Reduces Manual Effort



Simplification For Developers

- *Increase developer productivity with a proven, standards based platform*

WAS v7 Ensures Programming Model Currency

- Support for core programming model standards
 - ▶ Java EE 5.0
 - ▶ Java SE 6.0
- Support for latest Web services profiles
 - ▶ WS-I Basic Profile 1.2 and 2.0, WS-I Reliable Secure Profile
- Support for Java Portlets (JSR 286)

WAS v7 Tools Packaging

RAD V7.5 for WebSphere

Programming Model Tools

- EJB3 productivity features
- Domain Modeling (visual edit)
 - Java, EJB, XSD, WSDL, Data,
- Web Development (visual edit)
- Web 2.0
 - REST Style Services, Javascript, Dojo
- Web Services productivity features
- Basic Code Review, Java & EJB
- Portlet and Portal Tools

Miscellaneous

- Extra Debuggers (XSLT, stored proc...)
- XML productivity features
- Code Coverage
- Relational Data
- Crystal Reports (tools only)
- WAS n-2 support
- WAS test servers v6.0, v6.1, V7
- JCA
 - CICS and IMS Adapters
- WAS Adapters
 - SAP, Siebel, JDE, Oracle, PeopleSoft
- RTC Client
- CC SCM Adapter
- ReqPro
- RUP

RAD Assembly and Deploy

- Jython tools
- J2EE 1.4 (same level as AST 6.1)
- JEE5 XML-form based DD editors
- JEE5 application support
- WAS V7 support only
- WAS debug extensinos
- Application Deployment Support (WAS V7)

RAD V7.5 for WebSphere Features

- Trial license
- Comprehensive tools to improve developer productivity...targeting IBM Middleware
- Full-featured Integrated Dev Environment (IDE)
- Tutorials, demos, wizards and sample code

RAD Assembly and Deploy Features

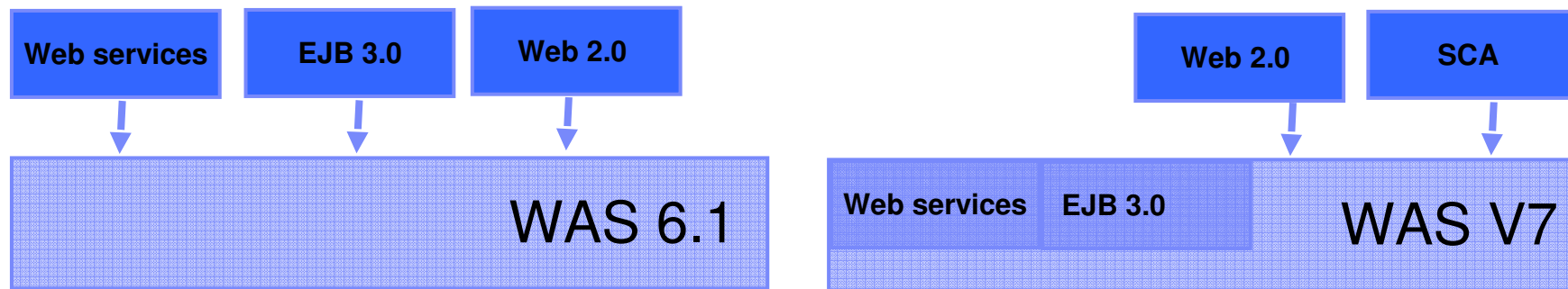
- Perpetual license as part of WAS
- Support for creating, building, testing and deploying J2EE 1.4 applications
- Basic support for Java EE 5 applications
- Support for building, testing and deploying Java EE 5 applications

Innovation That Matters

- *Our innovations support yours with support for the hottest technology now and in the future: JEE5, Web 2.0, EJB3, SCA*

Innovation that Matters – Feature Packs

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

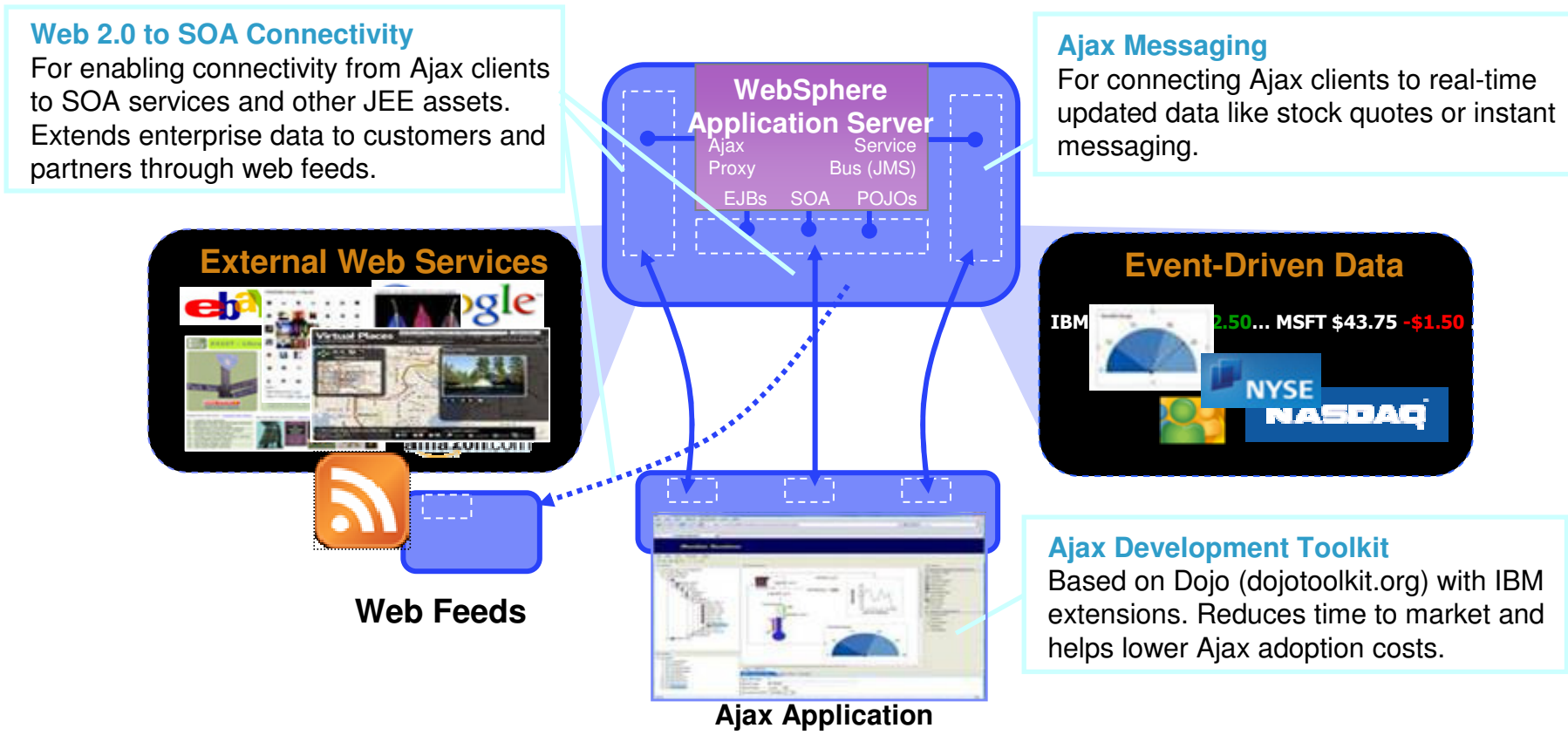


1. Choose the application server technology you need.
2. Install additional functionality on core WAS 7
3. Build the Application Server you want without waiting for new releases.

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

Web 2.0 Support

Bring all your most important services to the forefront in an application that gives you immediate insight and interaction with customers, partners, suppliers & retailers



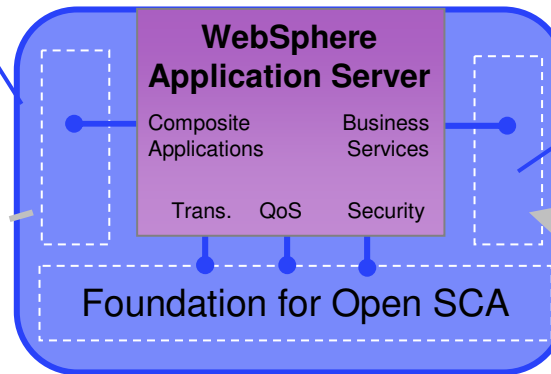
Feature Pack for SCA* (Service Component Architecture)

Simplify SOA Development

Service Composition

Programming model support for building composite applications to leverage services that reside within a Services Oriented Architecture.

Supported Bindings:
WS, EJB2-3, SCA



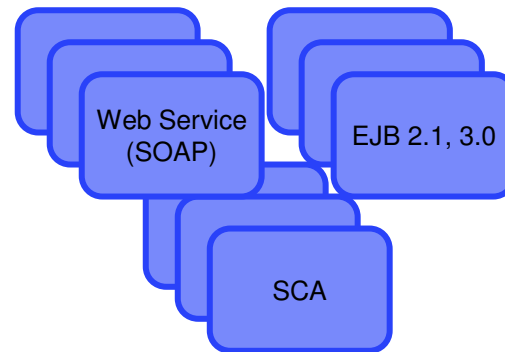
Service Assembly

Programming model for building and deploying services that can be leveraged within a Services Oriented Architecture.

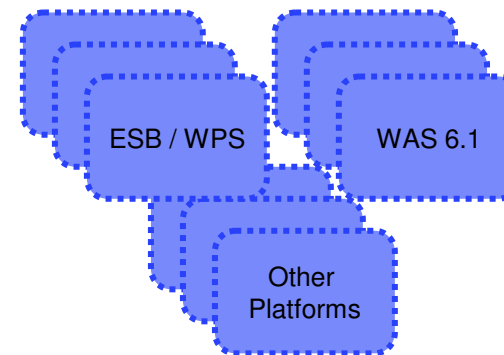
Supported Bindings:
WS, EJB2-3, SCA

Service Oriented Architecture (SOA)

Existing Enterprise Services



Composite Applications / Services



WebSphere Application Server V7 Highlights

- High Performance Foundation for SOA
 - ▶ Performance leadership
 - ▶ New Runtime Provisioning
 - ▶ New Security Auditing
 - ▶ New WebSphere Secure Proxy
 - ▶ New WebSphere Multiple Security Domains
 - ▶ Kerberos Enhancements
 - ▶ Application investment protection => Backward compatibility wherever possible, 5 plus 3 years support
 - ▶ Improved WMQ Integration
 - ▶ New Consolidated WebSphere and DataPower administration
- Intelligent Management
 - ▶ New Flexible Management: Job Manager, Admin Agent
 - ▶ New WebSphere Business Level Applications
 - ▶ New Centralized Installation Manager
- Simplification for Developers
 - ▶ New and enhanced Standards: JDK 6, Java EE 5 certification, EJB3, Web Services
 - ▶ New Rational Application Developer Support
- Innovation That Matters
 - ▶ Feature Pack Strategy
 - ▶ Feature Pack for Web 2.0 available
 - ▶ Feature Pack for SCA (Service Component Architecture)