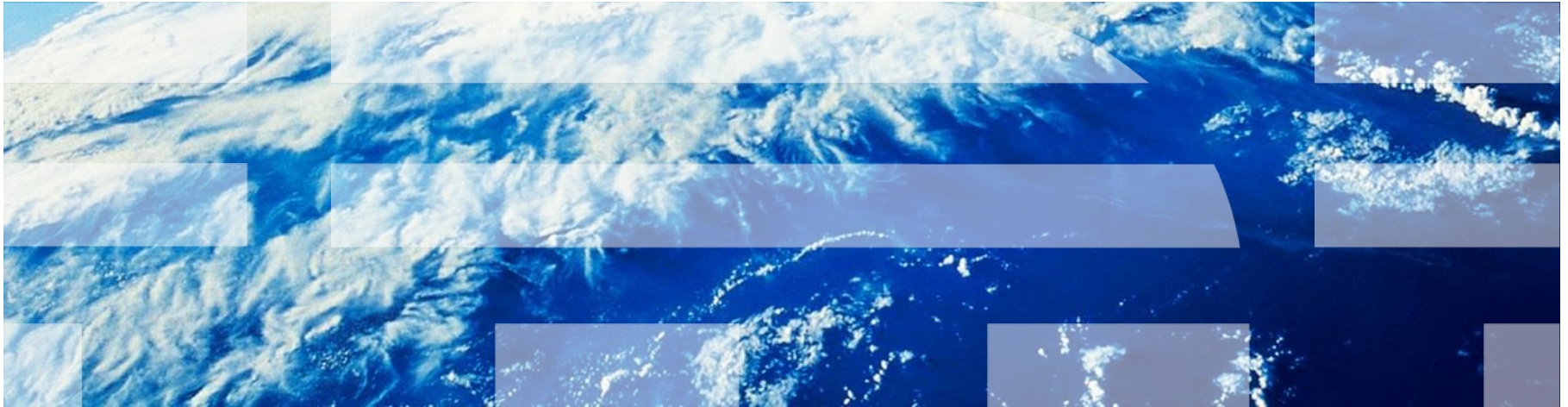


WebSphere Application Server -

Die Plattform für unternehmenskritische Java Enterprise Anwendungen



Application Server – Die zentrale Komponente in einer flexiblen dynamischen Infrastruktur

Welche Bedeutung hat ein Application Server ?

Bereitstellung der Laufzeitumgebung für Geschäftslogik.

Warum ist diese Komponente wichtig ?



*Reduziert Folgekosten
Erhöht die
Entwicklerproduktivität*



*Gewährleistet einen
zuverlässigen Betrieb
und Sicherheit*



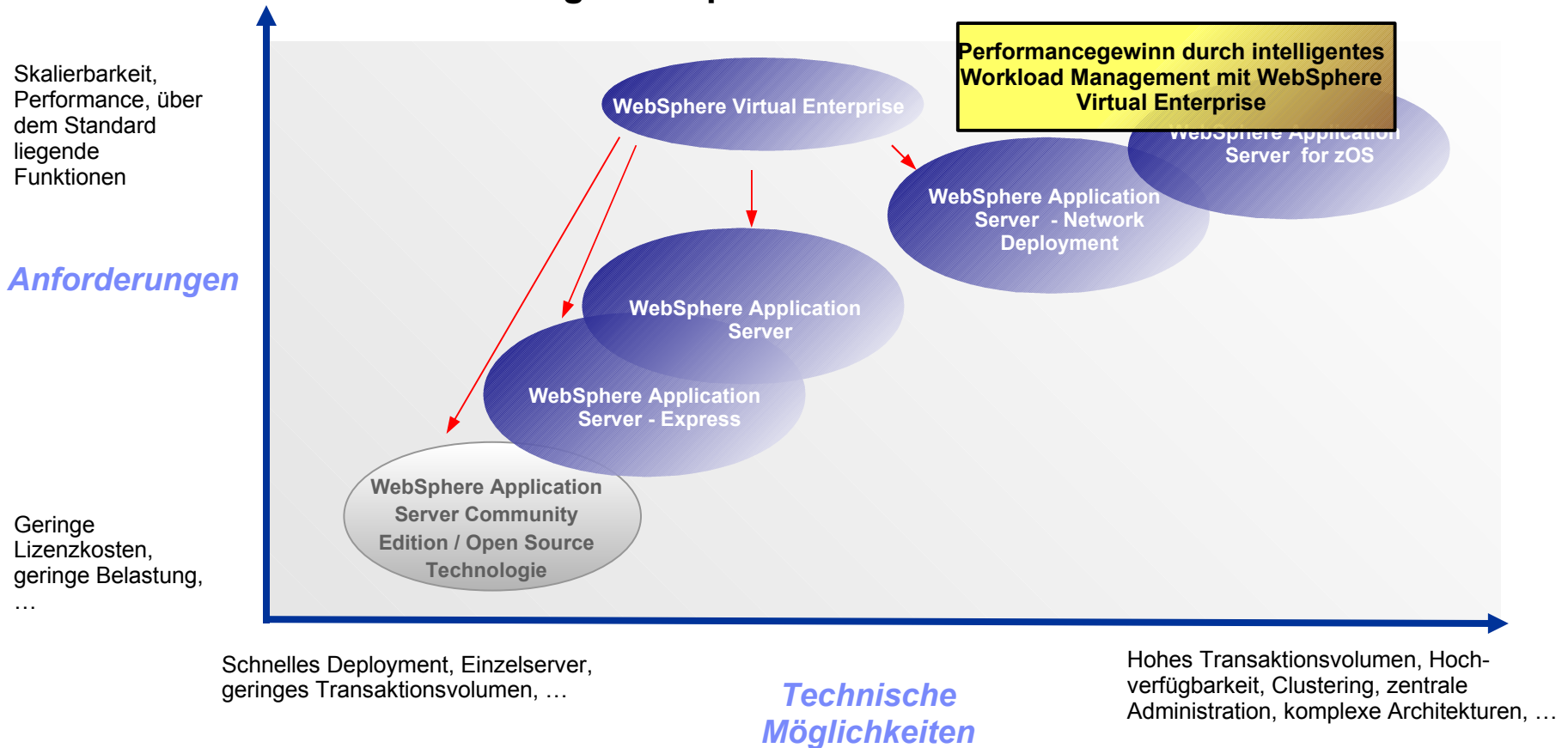
*Ermöglicht
Zusammenarbeit und
Wiederverwendung*



*Reduziert
Verwaltungs- und
Wartungsaufwände*

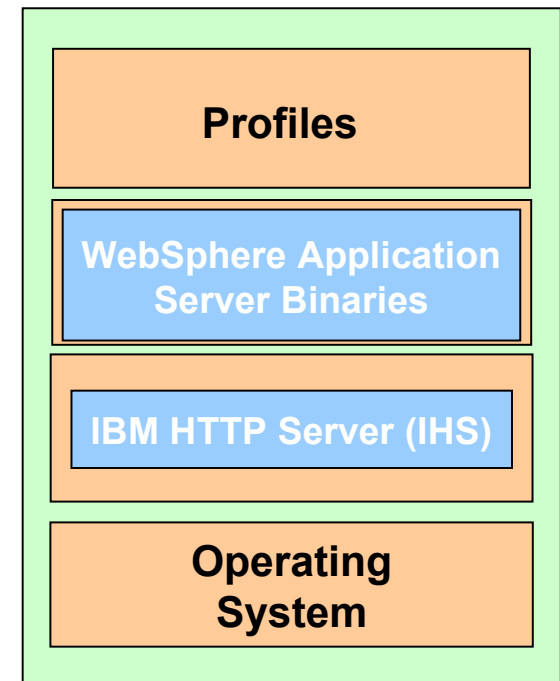
WebSphere Application Server (WAS) Plattform

WebSphere Application Server (WAS) ist in verschiedenen Editionen verfügbar, die sich hauptsächlich in den gewünschten “Qualities of Service” unterscheiden. Dies erlaubt eine kostengünstige, exakt auf den Einsatzzweck abgestimmte Produktauswahl. Einfache Migrationspfade unterstützen Wachstumsszenarien.



WebSphere Application Server Hypervisor Edition

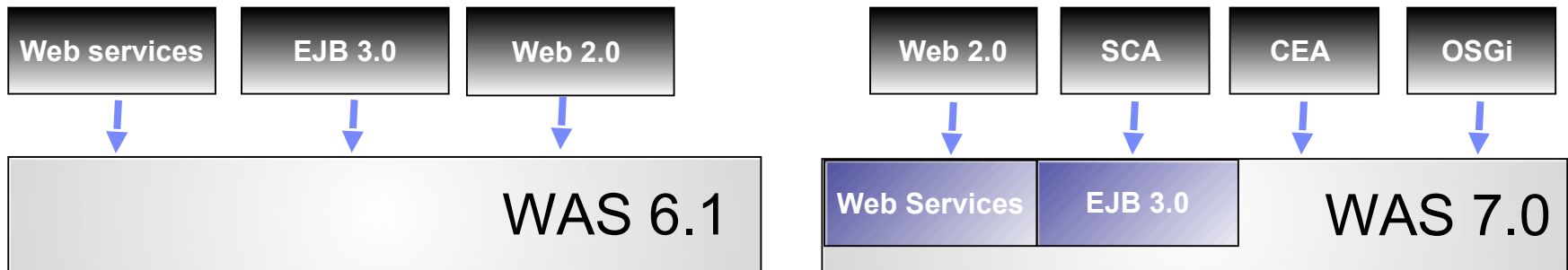
- Neue Edition von WAS, optimiert für virtualisierte Umgebungen
- Vorkonfiguriert, bereit um auf einem Hypervisor zu laufen
- Images werden supported und gewartet von IBM
- Dramatisch reduzierte Installations- und Konfigurationszeit
 - Betriebssystem (OS) and WebSphere Application Server (WAS) installiert
 - WAS Profile werden erzeugt
 - Konfiguration/Tuning
- WebSphere Application Server Clustering und Hochverfügbarkeit möglich



Unterstützung von Standards

WebSphere Application Server (WAS) unterstützt aktuelle Technologiestandards. Neue und aktuellste Standards und Spezifikationen werden über Feature Packs bereitgestellt. IBM ist führendes Mitglied in den Standardisierungsgremien. *

- WAS unterstützt Java Enterprise (JEE5) Spezifikationen, neueste Web Services Technologien, Portlet APIs oder auch SIP (Session Initiation Protocol).
- ServicesFeature Packs werden auf existierende WAS Umgebungen installiert und erweitern diese um neue APIs.
- Alle bisherigen Feature Packs sind kostenlos herunterladbar
- Zusätzliche Funktionalität On Top installierbar ohne vollständige Neuinstallation



1. Auswahl des Basis Application Servers

2. Zusatzfunktionen auf die Kernfunktionalität des WAS v7 installieren

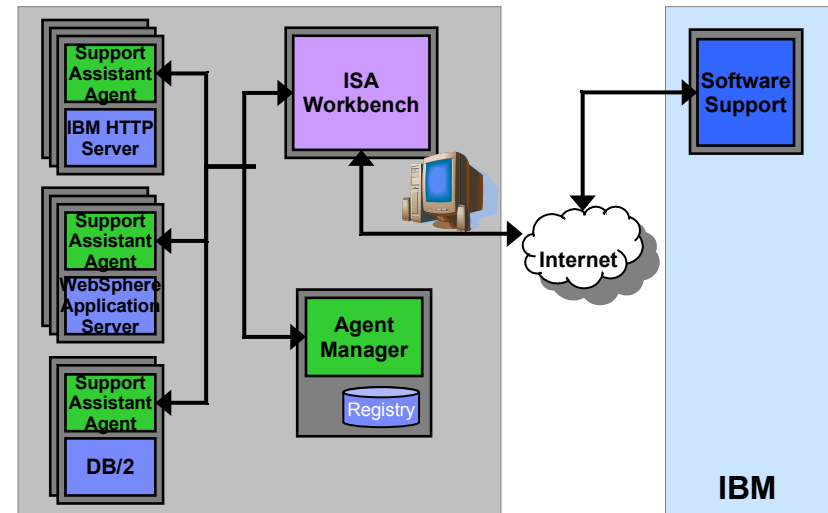
3. Schnelle Verfügbarkeit neuer APIs ohne Migration auf neuen Application Server

* Liste der Standards im Anhang

Werkzeuge und Zusatzkomponenten

WebSphere Application Server (WAS) beinhaltet zahlreiche Werkzeuge und Zusatzprogramme zur Performancesteigerung, Ausfallsicherheit und Fehleranalyse.

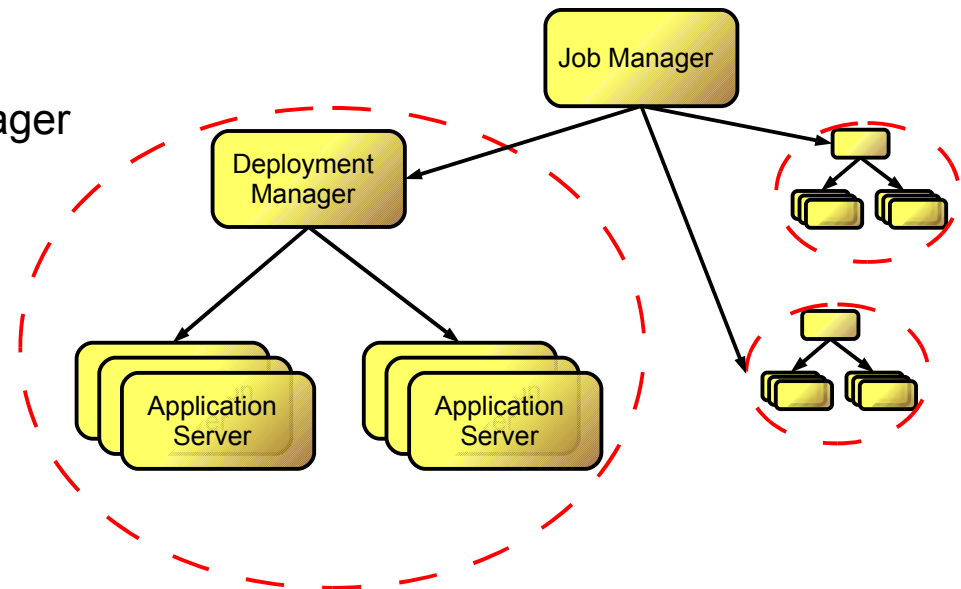
- WebSphere Application Server beinhaltet viele zusätzliche **kostenfreie Softwarekomponenten**, die für eine komplette Application Server Produktionsumgebung i.d.R. notwendig sind :
 - Webserver: IBM HTTP Server (IHS) basierend auf Apache
 - Webserver Plugins für IHS, Apache, SunOne, Domino, IIS
 - LDAP Server: Tivoli Directory Server
 - TCP/IP Sprayer: Edge Components Load Balancer
 - Secure DMZ Proxy: Proxy Server
 - DB2 Lizenz: Zur Persistenz von HTTP Sessions
 - Tivoli Access Manager zur Verwendung als JACC Provider
- Hierfür müssen **keine zusätzlichen Lizenzkosten** bezahlt werden, i.d.R. auch wenn sie auf zusätzlicher Hardware installiert werden.
- IBM Support Assistant (ISA):
 - Kostenloses Framework, das zur Problemanalyse und Fehlerbehebung dient
 - Zentrale Stelle für Werkzeuge zur Fehlersuche in IBM Umgebungen
 - Log Analyzer, Heap Analyzer, Thread Analyzer, Memory Analyzer, Garbage Collector Analyzer, ...



Administration und Konfiguration

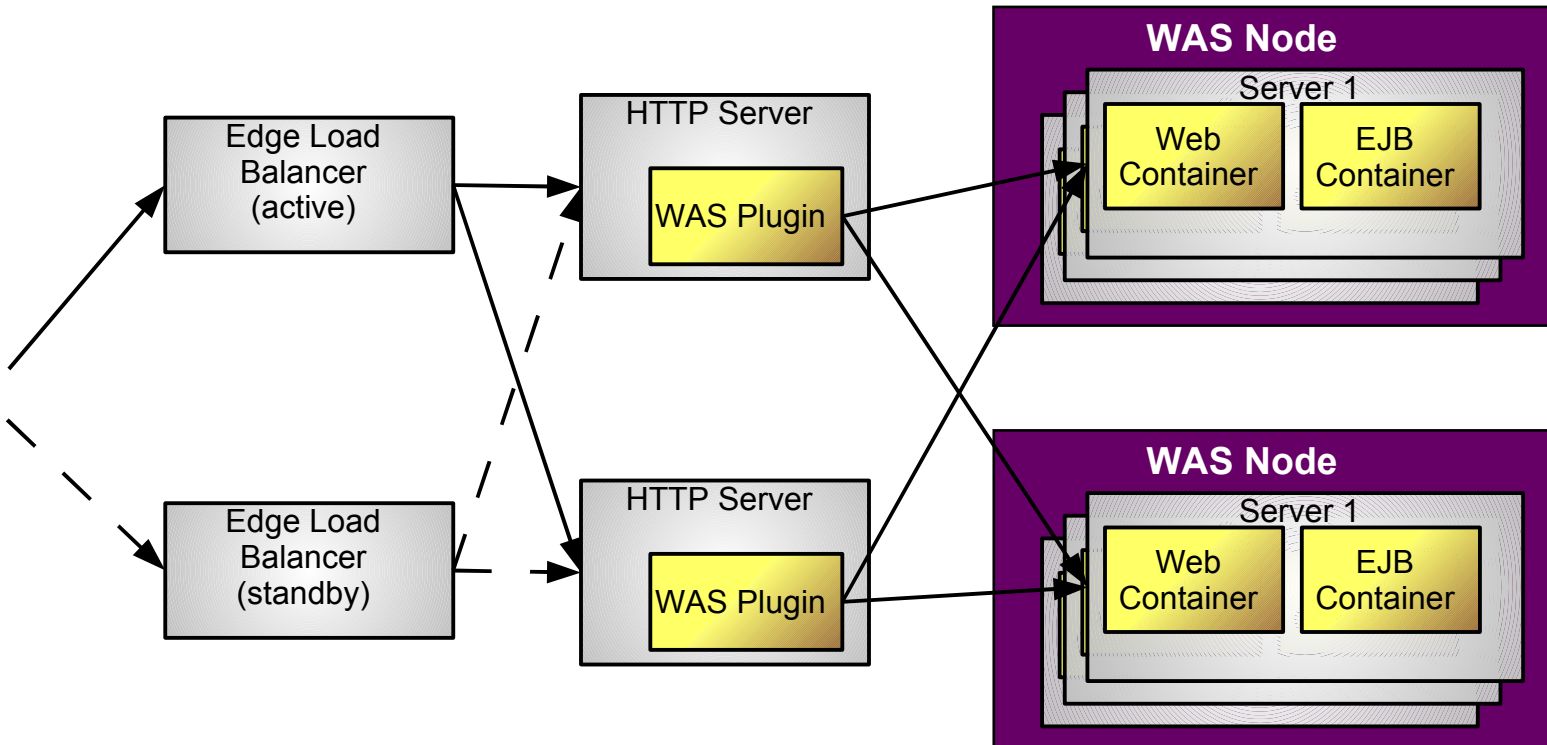
WebSphere Application Server (WAS) bietet leistungsfähige und effiziente Werkzeuge zur Administration und Konfiguration. Systemsmanagement ist somit schneller, weniger aufwendig und risikoärmer (da weniger fehleranfällig).

- Konzept einer administrativen Domäne (Zelle), die Rechner-, Betriebssystem- und Versionsgrenzen überspannen kann
- Graphische und skriptbasierte Administration einer gesamten Zelle. **Kein manuelles Editieren von XML-Konfigurationsdateien nötig.**
- Dateien werden automatisch verteilt.
- Asynchrone Administration über Job Manager skaliert bis zu vielen hundert Servern.
- Stellt identisch konfigurierte Systeme sicher



Laufzeitarchitektur

WebSphere Application Server (WAS) bietet die Möglichkeit, in allen Ebenen Lastverteilung und Ausfallsicherheit zu konfigurieren.



Unterstützung einer Vielzahl von Plattformen

WebSphere Application Server (WAS) wird für fast alle gängigen Laufzeitplattformen wie auch für virtualisierte Umgebungen unterstützt. WAS orientiert sich am Kundenumfeld und fügt sich in vorhandene Systemlandschaften ein.

Auszug:

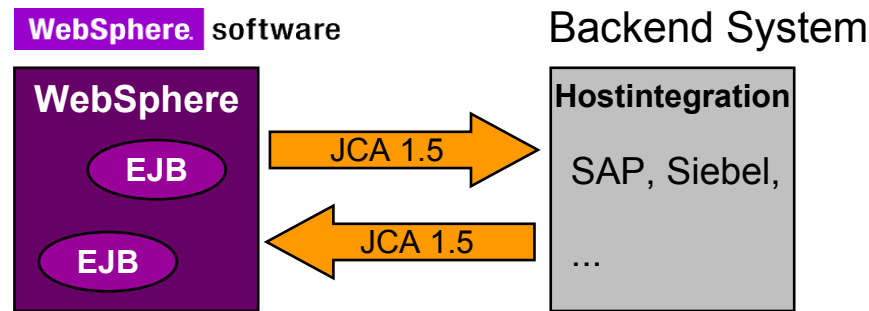
- SUSE Linux ES 9, 10, 11
- Red Hat Ent. Linux 4, 5
- Linux on power , zLinux
- Windows 7/Vista/2003/2008
- IBM AIX
- IBM iOS
- Solaris 9, 10
- HP-UX
- IBM zOS
- **Virtualisierte Umgebungen, z.B. VMWare ESX und andere**

- IBM DB2
- Informix
- Derby
- Oracle 10g R1, R2, 11g
- MS SQL Server

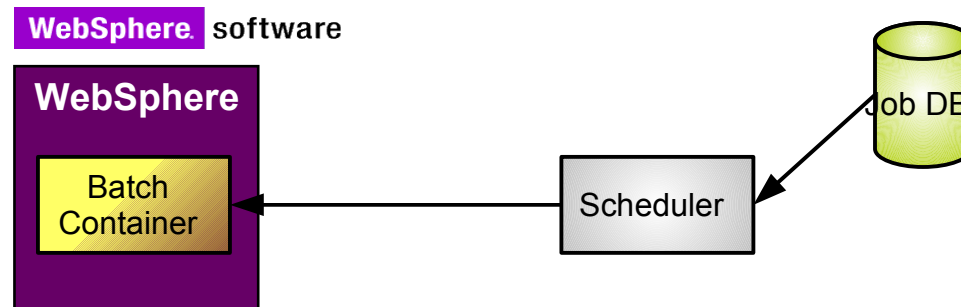


Architektur- und Anwendungsoptionen

WebSphere Application Server (WAS) bietet die Möglichkeit, über WebSphere JCA Adapter z.B. zu ERP Anwendungen zu kommunizieren.



Zu WAS gibt es als Erweiterung einen **Batch Container, der es erlaubt, typische Stapelverarbeitungsprogramme in einem JEE Server Kontext auszuführen.**



Sicherheit und Codequalität

WebSphere Application Server (WAS) ist nach wichtigen Sicherheitsstandards zertifiziert.

- Common Criteria: **WAS erreicht einen Zertifizierungslevel von EAL4+**. Dieser schließt neben dem reinen Laufzeitverhalten auch eine Untersuchung und Bewertung des Quellcodes ein.

EAL2: strukturell getestet

EAL3: methodisch getestet und überprüft

EAL4: methodisch entwickelt, getestet und durchgesehen

(Quelle: Wikipedia)

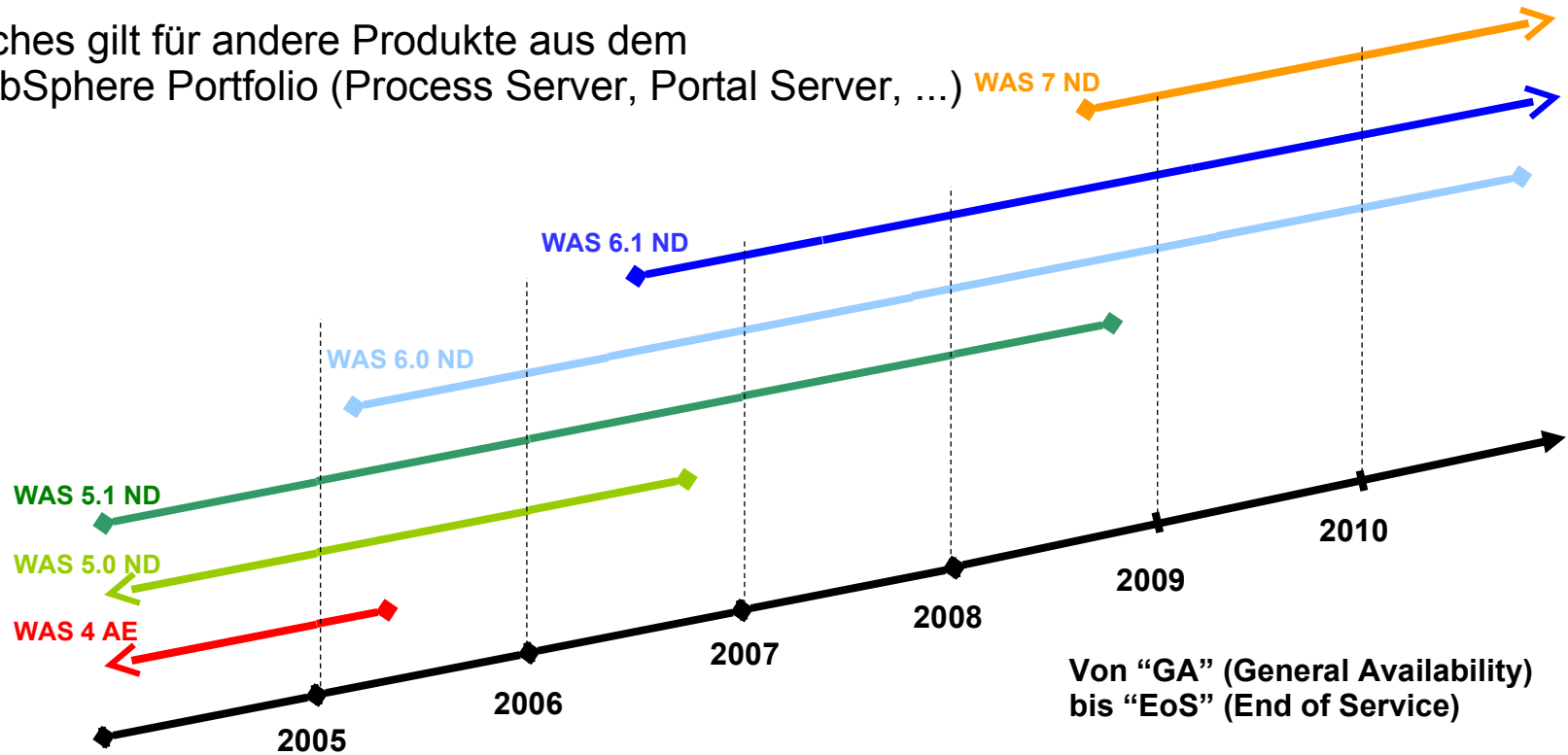
- Federal Information Processing Standards (FIPS): Die Komponenten “Java Secure Socket Extension” (JSSE) und “Java Cryptography Extension” (JCE) im WAS sind gemäß FIPS 140-2 zertifiziert.
- Kritische Fehler - z.B. in Security Klassen oder Transaktionsverhalten - werden schnellstmöglich behoben. Es gibt Newsletter, die diese Art der Information an die Kunden verteilen.



Kontinuität der WAS Versionen (Wichtig für Migrationsaufwand)

WebSphere Application Server (WAS) blickt auf eine lange kontinuierliche Weiterentwicklung zurück. Die Plattform ist ohne Einschnitte (**Eigenentwicklung) und radikale Umbrüche (**ohne Zukäufe**) gewachsen.**

- Ideale Plattform für eine langfristig angelegte Unternehmensstrategie
- Gleiches gilt für andere Produkte aus dem WebSphere Portfolio (Process Server, Portal Server, ...)



Investitionsschutz

IBM bietet für WebSphere Application Server (WAS) langjährige Zusagen in Bezug auf Softwaresupport, Kompatibilität und Migrationsfähigkeit.

- **Supportzeitraum:**

Beginning with IBM® WebSphere® Application Server version 6.0, and applying to later versions, IBM will now provide standard support for 5 years with an optional purchasable extension of service for 3 additional years, "5 plus 3"

([http://www-1.ibm.com/support/docview.wss?rs=180&context=SSEQTP&dc=D600&uid=swg21256700&loc=en_US&cs=utf-8\(=en\)](http://www-1.ibm.com/support/docview.wss?rs=180&context=SSEQTP&dc=D600&uid=swg21256700&loc=en_US&cs=utf-8(=en)))

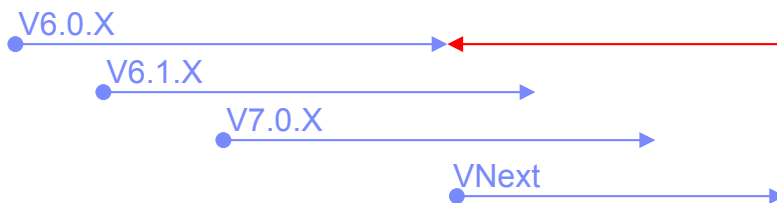
- **Abkündigung von Produktfunktionen:**

"Typically, a feature is not removed until at least two major releases or three full years (whichever time period is longer) after the release in which that feature is deprecated."

(http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.nd.doc/info/ae/ae/rmig_deprecationlist.html)

- **Migration, gemischte Zellen und Interoperabilität:**

V6.1 und V7.0 unterstützen n-3 Versionen

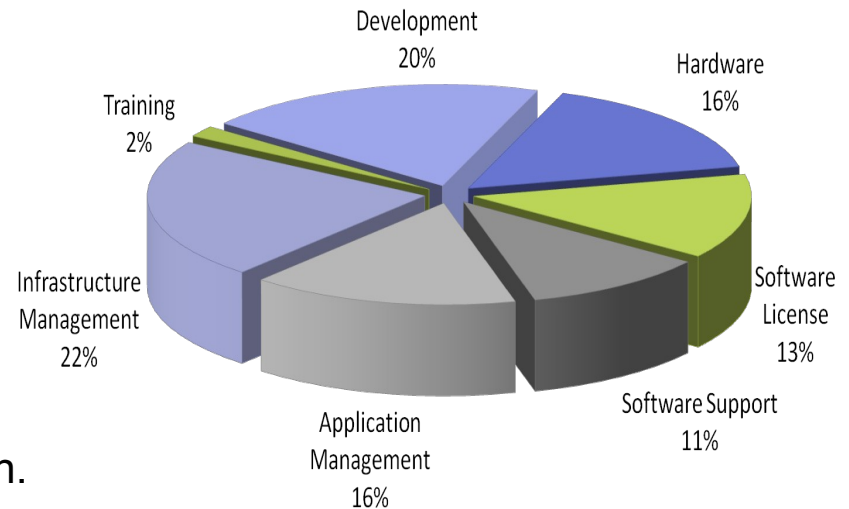


- Neues API in WAS 6.0.x, ersetzt früheres API
- Früheres API immer noch unterstützt
- Früheres API immer noch unterstützt
- Frühere WAS v6.0 APIs werden eventuell entfernt

Kostenrechnung

Die Gesamtbetrachtung aller Kosten zeigt Vorteile von WebSphere Application Server (WAS) sowohl im Vergleich zu Open Source wie auch zu anderen kommerziellen Application Servern

- Lizenzkosten machen nur einen sehr geringen Teil der Gesamtkosten eines Projektes aus.
- Supportkosten, Infrastrukturkosten, Administration, etc. sind mindestens ebenso wichtig. (Siehe IBM Grafik)
- Gute Laufzeiteigenschaften (Performance, Flexibilität, Skalierbarkeit, etc.) bedingen geringere Kosten für Hardware. Und damit auch Einsparungen bei RZ Aufwänden, Administrations- und sonstigen Betriebskosten.
- **Keine Lizenz- und Supportkosten für “Cold” und “Warm Standby” Installationen**
- **Preismodelle für virtualisierte Umgebungen: “Subcapacity Pricing” z.B. auch für VMWare** (D.h nicht alle physikalisch vorhandenen CPU Kerne müssen lizenziert werden, sondern nur diejenigen, die auch genutzt werden.)



धन्यवाद
Hindi
Hindi

多謝
Traditional Chinese

ขอบคุณ
Thai

Спасибо
Russian

Gracias
Spanish

Thank You
English

شكراً
Arabic

Merci
French

Obrigado
Brazilian Portuguese

Grazie
Italian

多谢
Simplified Chinese

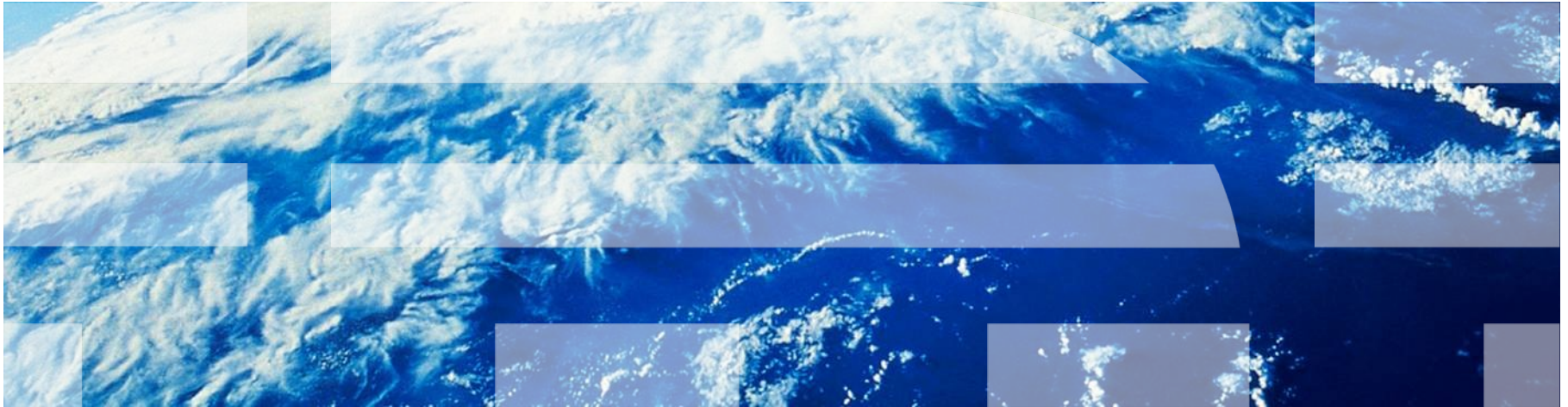
Danke
German

நன்றி
Tamil
Tamil

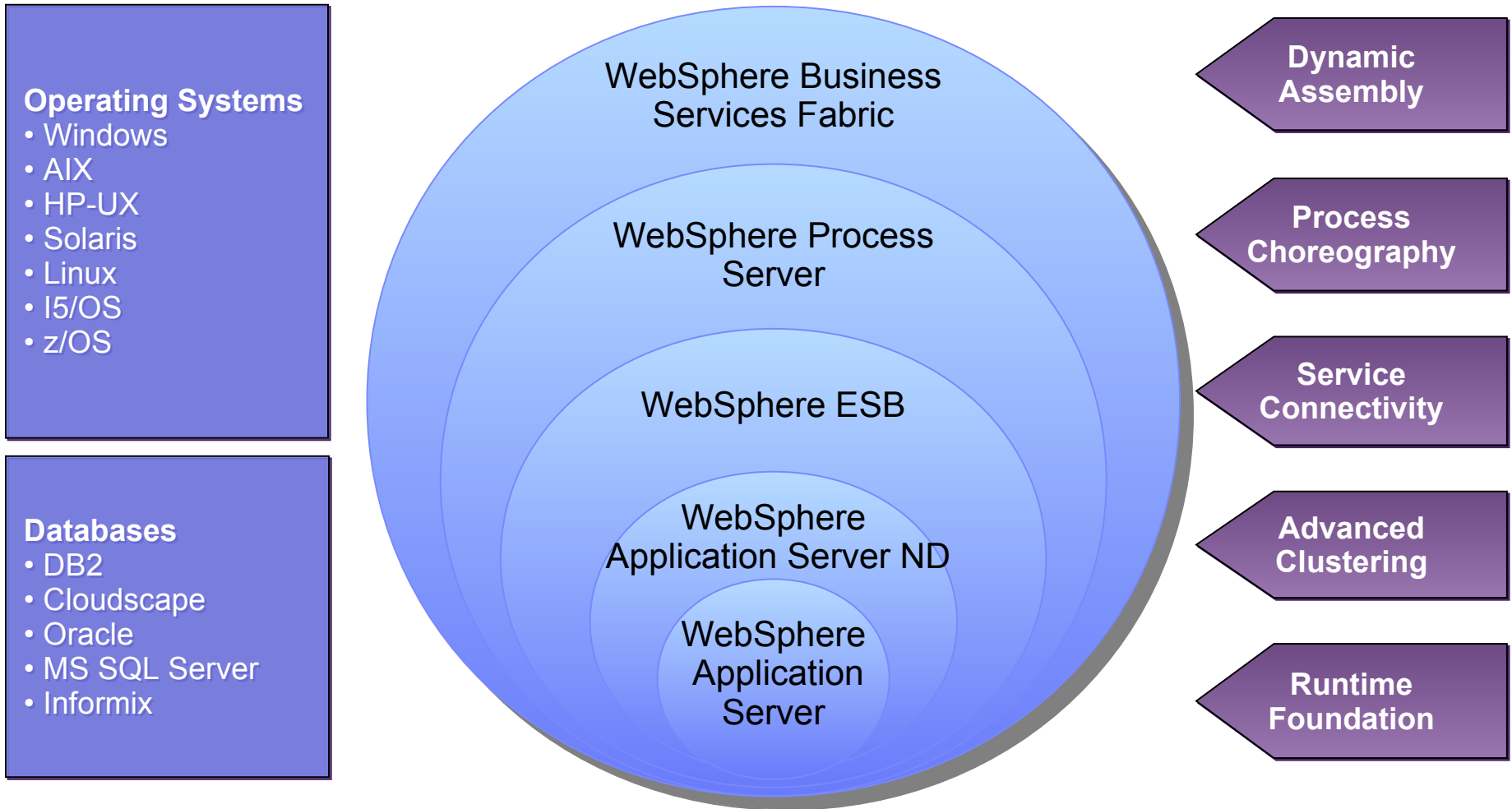
ありがとうございました
Japanese

감사합니다
Korean

Backup Folien

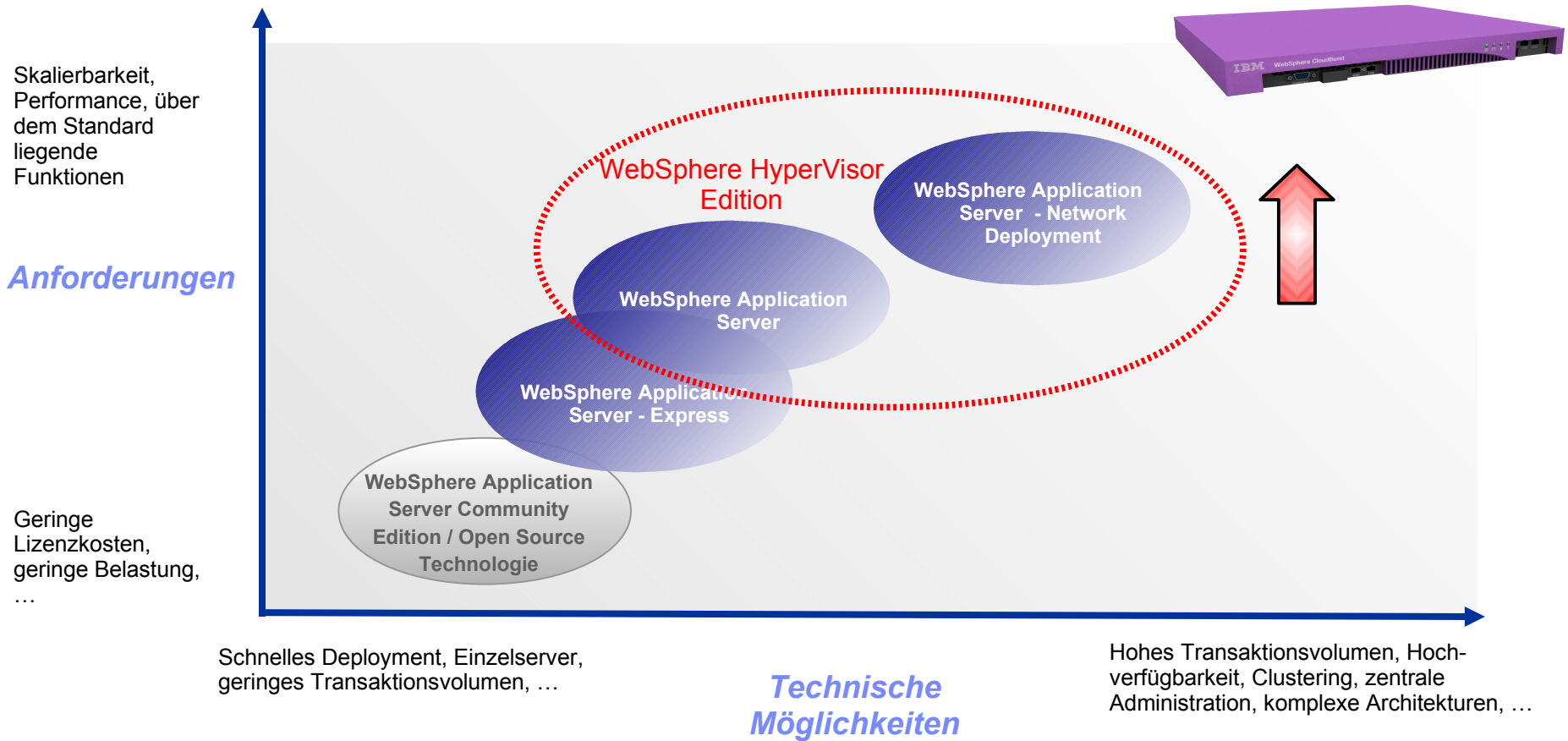


WebSphere BPM Runtime Stack



Gleichartige Administration, Wiederverwertung von Skills

WebSphere HyperVisor Edition und CloudBurst Appliance in der WAS Plattform



WebSphere CloudBurst

Intelligentes Management für Virtualisierte Infrastruktur

WebSphere® Application Server Hypervisor Edition

Neue Edition von WAS optimiert für virtualisierte Umgebungen

Vorkonfiguriert, bereit um auf einem Hypervisor zu laufen

Images werden supported und gewartet von IBM

WebSphere CloudBurst Appliance

Sichere Cloud Management Appliance

Reduziert die Zeit für das Aufsetzen einer WebSphere Umgebung

Kodierung Ihrer Infrastruktur für reduziertes Risiko

Verteilung von WebSphere Virtual Image Software

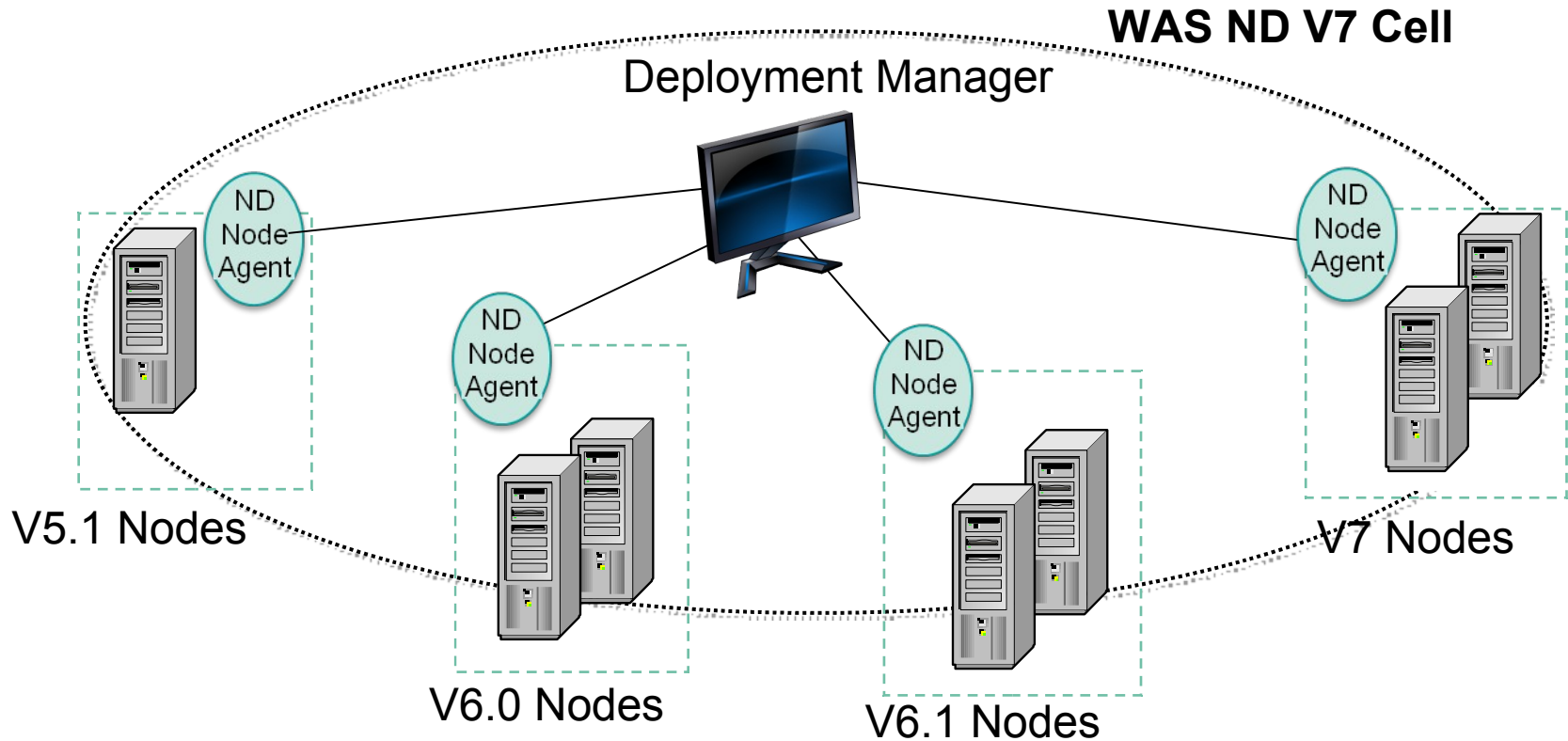


WebSphere Application Server Hypervisor Edition



WebSphere CloudBurst Appliance

WAS: Gemischte Zellen



Von WAS unterstützte Standards (1)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Any application type

Table 1. Supported specifications for any application type. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java™ Platform, Enterprise Edition (Java EE) specification Prior to Java EE 5, the specification name was Java 2 Platform, Enterprise Edition (J2EE).	Java EE 5 New J2EE 1.4 J2EE 1.3	J2EE 1.4 J2EE 1.3 J2EE 1.2	J2EE 1.4 New J2EE 1.3 J2EE 1.2	J2EE 1.3 J2EE 1.2
Java Platform, Standard Edition (Java SE) specification Prior to Java SE 6, the specification name was Java 2 Platform, Standard Edition (J2SE).	Java SE 6 New	J2SE 5	J2SE 1.4.2	J2SE 1.4.2 New J2SE 1.3
ISO 8859 specifications	ISO 8859 applies to these versions.			

Portlet applications

Table 3. Supported specifications for portlet applications. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Portlet specification	Portlet 2.0 (JSR 286) New	Portlet 1.0 (JSR 168)	Not applicable. The product first supports portlets in Version 6.1.	

Von WAS unterstützte Standards (2)

Web applications

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovv_specs.html

Table 2. Supported specifications for Web applications. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java Servlet specification (JSR 154 and JSR 53)	Java Servlet 2.5 New Java Servlet 2.4 Java Servlet 2.3	Java Servlet 2.4 Java Servlet 2.3	Java Servlet 2.4 New Java Servlet 2.3	Java Servlet 2.3
JavaServer Pages (JSP) specification (JSR 245, JSR 152, and JSR 53)	JSP 2.1 New JSP 2.0 JSP 1.2	JSP 2.0 JSP 1.2	JSP 2.0 New JSP 1.2	JSP 1.2

Session Initialization Protocol applications

Table 4. Supported specifications and APIs for SIP applications. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Session Initiation Protocol (SIP) Servlet API (JSR 116) For a complete list of SIP and SIP proxy standards, see SIP industry standards compliance .	SIP 1.0	SIP 1.0	Not applicable. The product first supports SIP in Version 6.1.	

Von WAS unterstützte Standards (3)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Enterprise bean (EJB) applications

Table 5. Supported specifications and APIs for EJB applications. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Enterprise JavaBeans™ (EJB) specification	EJB 3.0 EJB 2.1 EJB 2.0	EJB 3.0 New for Feature Pack for EJB 3.0 EJB 2.1 EJB 2.0 EJB 1.1	EJB 2.1 New EJB 2.0 EJB 1.1	EJB 2.0 EJB 1.1
Java DataBase Connectivity (JDBC) API	JDBC 4.0 New JDBC 3.0 JDBC 2.1 and Optional Package API (2.0)	JDBC 3.0 JDBC 2.1 and Optional Package API (2.0)	JDBC 3.0 New JDBC 2.1 and Optional Package API (2.0)	JDBC 2.0
Java Message Service (JMS) specification	JMS 1.1	JMS 1.1	JMS 1.1 New	JMS 1.02
Java Persistence API (JPA) specification	JPA	JPA	Not applicable	Not applicable

Von WAS unterstützte Standards (4)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fe/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Client applications

Table 6. Supported specifications and APIs for client applications. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java Web Start architecture	Java Web Start 1.4.2	Java Web Start 1.4.2	Java Web Start 1.4.2 New	Not applicable

Service integration

Table 8. Supported specifications and APIs for service integration. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java DataBase Connectivity (JDBC) API	JDBC 4.0 New	JDBC 3.0	JDBC 3.0 New	JDBC 2.0

Von WAS unterstützte Standards (5)

Web services

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovvr_specs.html

Table 7. Supported specifications and APIs for Web services. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java Architecture for XML Binding (JAXB) specification	JAXB 2.1 New	JAXB 2.0 New for Feature Pack for Web Services	Not applicable	Not applicable
Java Architecture for XML Binding (JAXB) Reference Implementation Vendor Extensions Runtime Properties specification	JAXB 2.1 RI Vendor Extensions New	JAXB 2.0 RI Vendor Extensions New for Feature Pack for Web Services	Not applicable	Not applicable
Java API for XML Processing (JAXP) specification	1.2 Included in Java SE 6 .	1.2 Included in J2SE 5 .	1.1 Specification is no longer available.	1.1 Specification is no longer available.
Java API for XML Registries (JAXR) specification	JAXR 1.0	JAXR 1.0	JAXR 1.0 New	Not applicable
Java API for XML-based RPC (JAX-RPC) specification	JAX-RPC 1.1	JAX-RPC 1.1	JAX-RPC 1.1 New	JAX-RPC 1.0

Von WAS unterstützte Standards (6)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Java API for RESTful Web Services (JAX-RS) specification	JAX-RS 2.6	JAX-RS 2.6 New for Feature Pack for Web Services	Not applicable	Not applicable
Java API for XML Web Services (JAX-WS) specification	JAX-WS 2.1 New for Feature Pack for Web 2.0	JAX-WS 2.0 New for Feature Pack for Web 2.0	Not applicable	Not applicable
Reliable Asynchronous Messaging Profile (RAMP)	RAMP 1.0	RAMP 1.0 New for Feature Pack for Web Services	Not applicable	Not applicable
SOAP	SOAP 1.1 SOAP 1.2	SOAP 1.1 SOAP 1.2 New for Feature Pack for Web Services	SOAP 1.1	SOAP 1.1
SOAP with Attachments API for Java (SAAJ) Specification	SAAJ 1.2 SAAJ 1.3	SAAJ 1.2 SAAJ 1.3 New for Feature Pack for Web Services	SAAJ 1.2 New	SAAJ 1.1
SOAP over Java Message Service (SOAP over JMS)	W3C SOAP over JMS 1.0 (submission draft)			
SOAP Message Transmission Optimization Mechanism (MTOM)	MTOM 1.0	MTOM 1.0 New for Feature Pack for Web Services	Not applicable	

Von WAS unterstützte Standards (7)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Streaming API for XML (StAX)	StAX 1.0	StAX 1.0 New for Feature Pack for Web Services	Not applicable	
Universal Description, Discovery and Integration (UDDI)	UDDI 3.0	UDDI 3.0	UDDI 3.0 New	UDDI 2.0
W3C XML Schema	<ul style="list-style-type: none"> • XML Schema 1.0 • XML Schema Part 1 • XML Schema Part 2 	<ul style="list-style-type: none"> • XML Schema 1.0 • XML Schema Part 1 • XML Schema Part 2 	<ul style="list-style-type: none"> • XML Schema 1.0 • XML Schema Part 1 • XML Schema Part 2 	
Web Services Addressing (WS-Addressing)	WS-Addressing 1.0 family of specifications: <ul style="list-style-type: none"> • 1.0 Core • 1.0 SOAP Binding • 1.0 Metadata 	WS-Addressing 1.0 family of specifications: <ul style="list-style-type: none"> • 1.0 Core • 1.0 SOAP Binding • 1.0 Metadata (partially supported) 	Not applicable	
Web Services Atomic Transaction (WS-AT)	WS-AT 1.0 WS-AT 1.1 New	WS-AT 1.0	WS-AT 1.0 New	Not applicable
Web Services Business Activity (WS-BA)	WS-BA 1.0 WS-BA 1.1 New	WS-BA 1.0	Not applicable	

Von WAS unterstützte Standards (8)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Web Services Coordination (WS-COOR)	WS-COOR 1.0 WS-COOR 1.1 New	WS-COOR 1.0	WS-COOR 1.0 New	Not applicable
Web Services Description Language (WSDL)	WSDL 1.1	WSDL 1.1	WSDL 1.1	WSDL 1.1
Web Services for Java Platform, Enterprise Edition (Java EE) (JSR 109) Prior to Web Services for Java EE, the specification name was Web Services for Java 2 Platform, Enterprise Edition (J2EE).	JSR 109 1.2 New	JSR 109 1.1	JSR 109 1.1 New	JSR 109 1.0
Web Services Interoperability Organization (WS-I) Basic Profile	WS-I Basic Profile 1.1 WS-I Basic Profile 1.2 (draft) WS-I Basic Profile 2.0 (draft)	WS-I Basic Profile 1.1 WS-I Basic Profile 1.2 (draft) New for Feature Pack for Web Services WS-I Basic Profile 2.0 (draft) New for Feature Pack for Web Services	WS-I Basic Profile 1.1 New	WS-I Basic Profile 1.0

Von WAS unterstützte Standards (9)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Web Services-Interoperability Attachments Profile	WS-I Attachments 1.0	WS-I Attachments 1.0	WS-I Attachments 1.0 New	Not applicable
Web Services Invocation Framework (WSIF)	WSIF	WSIF	WSIF	WSIF
Web Services Metadata for the Java Platform (JSR 181)	Web Services Metadata for the Java Platform	Web Services Metadata for the Java Platform New for Feature Pack for Web Services	Not applicable	
Web Services Notification (WS-Notification)	WS-Notification 1.3 family of specifications: <ul style="list-style-type: none"> • WS-BaseNotification 1.3 • WS-BrokeredNotification 1.3 • WS-Topics 1.3 	WS-Notification 1.3 family of specifications: <ul style="list-style-type: none"> • WS-BaseNotification 1.3 • WS-BrokeredNotification 1.3 • WS-Topics 1.3 	Not applicable	

Von WAS unterstützte Standards (10)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

<p>Web Services Policy (WS-Policy) specification</p>	<p>Web Services Policy 1.5 New</p> <p>Web Services Addressing 1.0 - Metadata New</p> <p>Web Services Atomic Transaction Version 1.0 and Web Services Atomic Transaction Version 1.1 New</p> <p>Web Services Reliable Messaging Policy Assertion Version 1.0 and Web Services Reliable Messaging Policy Assertion Version 1.1 New</p> <p>WS-SecurityPolicy 1.2 New</p>	<p>Not applicable</p>	
<p>Web Services Reliable Messaging</p>	<p>WS-ReliableMessaging 1.0</p> <p>WS-ReliableMessaging 1.1</p> <p>WS-MakeConnection Version 1.0 New</p>	<p>WS-ReliableMessaging 1.0 and WS-ReliableMessaging 1.1. New for Feature Pack for Web Services</p>	<p>Not applicable</p>
<p>Web Services Resource Framework (WSRF)</p>	<p>WSRF 1.2</p>	<p>WSRF 1.2 New</p>	<p>Not applicable</p>
<p>XML-binary Optimized Packaging (XOP)</p>	<p>XOP 1.0</p>	<p>XOP 1.0 New for Feature Pack for Web Services</p>	<p>Not applicable</p>

Von WAS unterstützte Standards (11)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Data access resources

Table 9. Supported specifications and APIs for data access resources. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java DataBase Connectivity (JDBC) API	JDBC 4.0 New	JDBC 3.0	JDBC 3.0 New	JDBC 2.0
Java EE Connector Architecture (JCA) resource adapter	JCA 1.5	JCA 1.5	JCA 1.5 New	JCA 1.0
Service Data Objects (SDO) specification	SDO 1.0	SDO 1.0	SDO 1.0 New	Not applicable

Messaging resources

Table 10. Supported specifications and APIs for messaging resources. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java Message Service (JMS)	JMS 1.1	JMS 1.1	JMS 1.1 New	JMS 1.0.2
Java EE Connector Architecture (JCA) resource adapter	JCA 1.5	JCA 1.5	JCA 1.5 New	JCA 1.0

Von WAS unterstützte Standards (12)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Mail, URLs, and other Java EE resources

Table 11. Supported specifications and APIs for mail, URLs, and other Java EE resources. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
JavaMail API documentation (JSR 919)	JavaMail 1.4 New	JavaMail 1.3	JavaMail 1.3 New	JavaMail 1.2
URL API documentation	URL 1.4.2	URL 1.4.2	URL 1.4.2 New	1.2 Specification is no longer available.
JavaBeans Activation Framework (JAF) Specification	JAF 1.1 New	JAF 1.0.2	JAF 1.0.2 New	JAF 1.0
W3C Architecture - Naming and Addressing: URIs, URLs	W3C Naming and Addressing applies to these versions.			

Von WAS unterstützte Standards (13)

Security

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Table 12. Supported specifications and APIs for security. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java 2 Security Manager	Java 2 Security Manager 1.5	Java 2 Security Manager 1.5	Java 2 Security Manager 1.4 New	Java 2 Security Manager 1.3
Java Authentication and Authorization Service (JAAS)	JAAS 2.0 applies to these versions.			
Java Authorization Contract for Containers (JACC)	JACC 1.1 New	JACC 1.0	JACC 1.0 New	Not applicable
Common Secure Interoperability Version 2 (CSIv2) specification This is an Object Management Group (OMG) CORBA/IIOP specification.	CSI 2.0 applies to these versions.			
Secure Sockets Layer (SSL) configuration The product uses Java Secure Sockets Extension (JSSE) as the SSL implementation for secure connections. JSSE is part of the Java 2 Standard Edition (J2SE) specification and is included in the IBM [®] implementation of the Java Runtime Extension (JRE) specification.	JSSE 5.0	JSSE 5.0 New	JSSE 1.0.3	JSSE 1.0.3
Java Generic Security Service (JGSS) Use JGSS with the Kerberos Network Authentication Service, Version 5	JGSS 1.0.1 applies to these versions.			

Von WAS unterstützte Standards (14)

The Simple and Protected GSS-API Negotiation Mechanism (SPNEGO)	SPNEGO 1.0 applies to these versions.			
Java Cryptographic Extension (JCE) specification	JCE 1.0 applies to these versions.			
Java Certification Path (CertPath) API	CertPath 1.1	CertPath 1.1 New CertPath 1.0	CertPath 1.0	CertPath 1.0

Naming and directory

Table 14. Supported specifications and APIs for naming and directory. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java Naming and Directory Interface (JNDI) Specification See also JNDI support in WebSphere Application Server .	JNDI on Java SE 6 New	JNDI on J2SE applies to these versions.		
Common Object Request Broker: Architecture and Specification (CORBA) specification This is an Object Management Group (OMG) Interoperable Naming (CosNaming) specification.	CORBA 2.4 applies to these versions.			
Interoperable Naming Service specification This is an OMG CosNaming specification.	Interoperable Naming Service			
Naming Service specification This is an OMG CosNaming specification.	Naming Service applies to these versions.			

Von WAS unterstützte Standards (15)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Web services security

Table 13. Supported specifications and APIs for Web services security. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Canonical XML	Canonical XML 1.0 applies to these versions.			
Decryption Transform for XML Signature	Decryption Transformation for XML Signature applies to these versions.			
Exclusive XML Canonicalization	Exclusive XML Canonicalization 1.0 applies to these versions.			
OASIS Web Services Security: SOAP Message Security (WS-Security)	WS-Security 1.0 WS-Security 1.1	WS-Security 1.0 WS-Security 1.1 New for Feature Pack for Web Services	WS-Security 1.0	WS-Security draft 13
OASIS Web Services Security: Kerberos Token Profile	Kerberos Token Profile 1.1 New	Not applicable		
OASIS Web Services Security: Username Token Profile	Username Token Profile 1.0 Username Token Profile 1.1	Username Token Profile 1.0 Username Token Profile 1.1 New for Feature Pack for Web Services	Username Token Profile 1.0 New	Username Token Profile Draft 2

Von WAS unterstützte Standards (16)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

OASIS Web Services Security: X.509 Token Profile	X.509 Token Profile 1.0 X.509 Token Profile 1.1	X.509 Token Profile 1.0 X.509 Token Profile 1.1 New for Feature Pack for Web Services	X.509 Token Profile 1.0 New	Not applicable
Web Services Interoperability Organization (WS-I) Basic Security Profile	WS-I Basic Security Profile 1.0 WS-I Basic Security Profile 1.1 New	WS-I Basic Security Profile 1.0	Not applicable	
Web Services Interoperability Organization (WS-I) Reliable Secure Profile	WS-I Reliable Secure Profile 1.0 (draft)	WS-I Reliable Secure Profile 1.0 (draft) New for Feature Pack for Web Services	Not applicable	
Web Services Secure Conversation (WS-SecureConversation)	OASIS WS-SecureConversation 1.0 (submission draft) OASIS WS-SecureConversation 1.3 New	OASIS WS-SecureConversation 1.0 (draft submission) New for Feature Pack for Web Services	Not applicable	
Web Services Trust	OASIS WS-Trust 1.1 OASIS WS-Trust 1.3 New	OASIS WS-Trust 1.1 New for Feature Pack for Web Services	Not applicable	
XML Signature Syntax and Processing	XML Signature Syntax and Processing applies to these versions.			
XML Encryption Syntax and Processing	XML Encryption Syntax and Processing applies to these versions.			

Von WAS unterstützte Standards (17)

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Table 15. Supported specifications and APIs for ORB. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Common Object Request Broker Architecture (CORBA) specifications	CORBA 2.3.1 applies to these versions.			
Revised IDL to Java language mapping	Revised IDL to Java language mapping applies to these versions.			
New IDL to Java Mapping Chapter	New IDL to Java Mapping Chapter applies to these versions.			
Updated Java to IDL Mapping specification	Updated Java to IDL Mapping applies to these versions.			
Interoperable Naming Service revised chapters	Interoperable Naming Service revised chapters applies to these versions.			
Object Reference Template Final Adopted specification	Object Reference Template Final Adopted specification	Object Reference Template Final Adopted specification New	Not applicable	
Portable Interceptors specification	Not applicable	Not applicable	Portable Interceptors specification	

Von WAS unterstützte Standards (18)

Transactions

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Table 16. Supported specifications and APIs for transactions. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
CORBA Object Transaction Service (OTS) specification	OTS 1.4	OTS 1.4	OTS 1.4 New	OTS 1.2
Java EE Connector Architecture (JCA) resource adapter	JCA 1.5	JCA 1.5	JCA 1.5 New	JCA 1.0
Java Transaction API (JTA) specification	JTA 1.1 New	JTA 1.0.1B	JTA 1.0.1B New	JTA 1.0.1
Java Transaction Service (JTS) specification	JTS 1.0 applies to these versions.			
Web Services Atomic Transaction (WS-AT)	WS-AT 1.0 WS-AT 1.1 New	WS-AT 1.0	WS-AT 1.0 New	Not applicable
Web Services Business Activity (WS-BA)	WS-BA 1.0 WS-BA 1.1 New	WS-BA 1.0	Not applicable	
Web Services Coordination (WS-COOR)	WS-COOR 1.0 WS-COOR 1.1 New	WS-COOR 1.0	WS-COOR 1.0 New	Not applicable

Von WAS unterstützte Standards (19)

Administration

Quelle: http://publib.boulder.ibm.com/infocenter/wasinfo/fep/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rovr_specs.html

Table 18. Supported specifications and APIs for administration. The product supports the specifications and APIs in this table.

Specification or API	Version 7.0	Version 6.1	Version 6.0	Version 5.1
Java EE Application Deployment specification See Installing enterprise modules with JSR-88 .	Java EE Deployment 1.2 New	J2EE Deployment 1.1	J2EE Deployment 1.1 New	Not applicable
J2EE Extension Mechanism Architecture See Installed optional packages . For Version 5.1, which uses J2EE 1.3, for an extension you must use a classpath entry in the manifest.	J2EE Extension Mechanism Architecture 1.4.2	J2EE Extension Mechanism Architecture 1.4.2	J2EE Extension Mechanism Architecture 1.4.2 New	Not applicable
Java Management Extensions (JMX) JSR-000003	JMX 1.2	JMX 1.2	JMX 1.2 New	JMX 1.0
Java Management Extensions (JMX) Remote API	JMX Remote API 1.0	JMX Remote API 1.0 New	Not applicable	
Java Virtual Machine (JVM) specification See WebSphere Application Server detailed system requirements .	JVM 6 New	JVM 5.0 New	JVM 1.4.2	JVM 1.4.2
Logging API specification (JSR 47)	Logging API specification (JSR 47) 1.0	Logging API specification (JSR 47) 1.0	Logging API specification (JSR 47) 1.0 New	Not applicable

WebSphere Application Server -

Die Plattform für unternehmenskritische Java Enterprise Anwendungen

