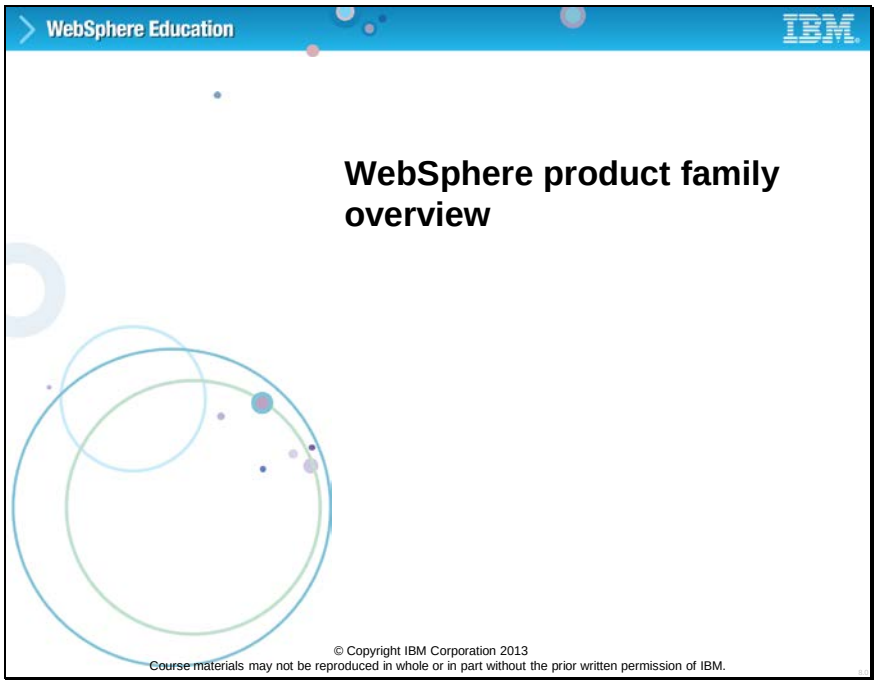
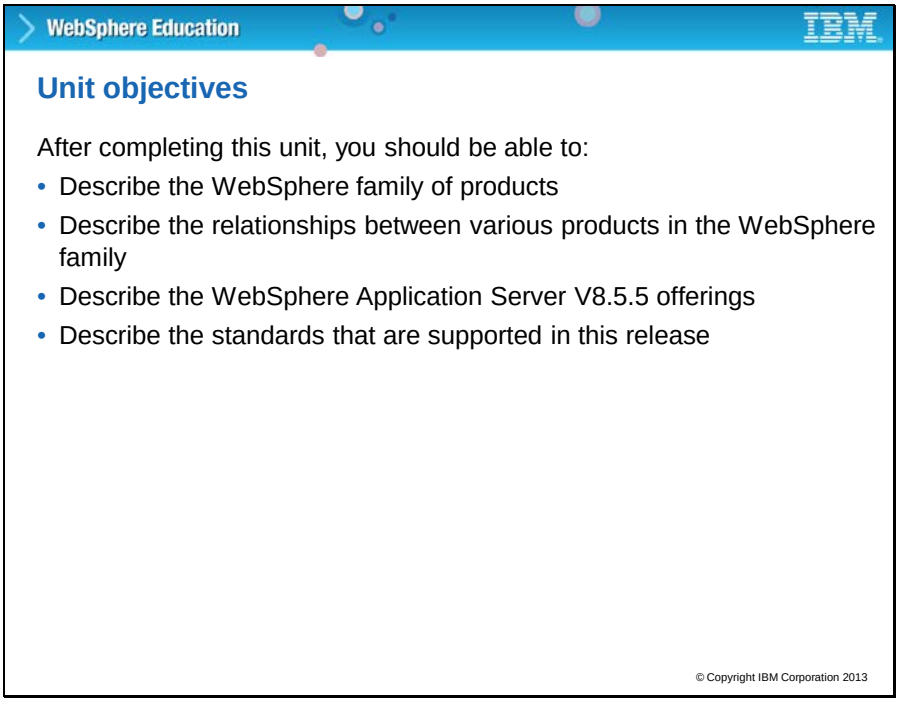
Slide 1



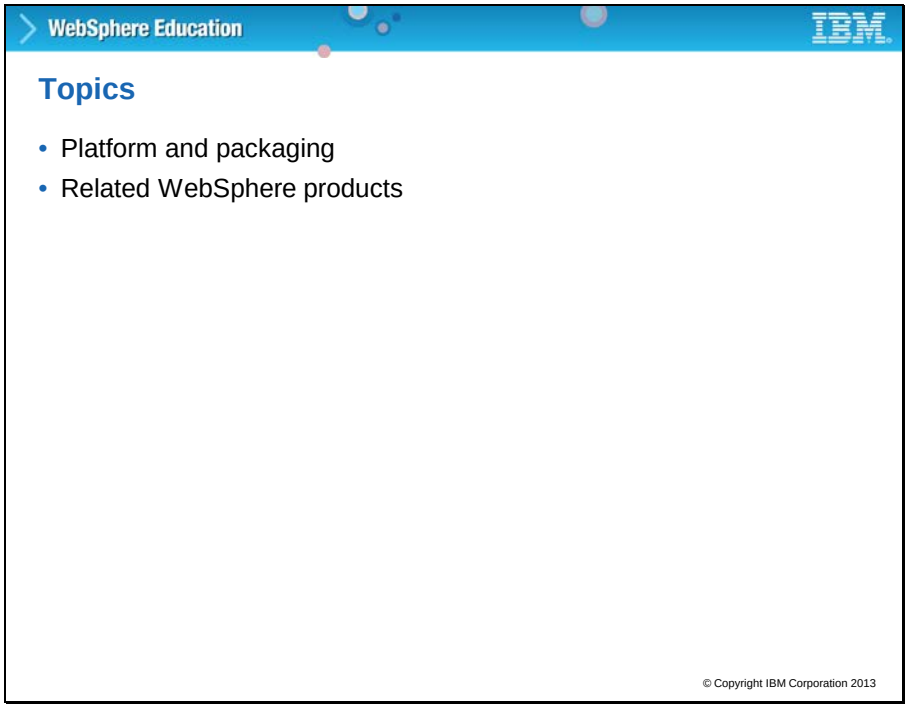
This unit describes the different products in the WebSphere family.

Slide 2



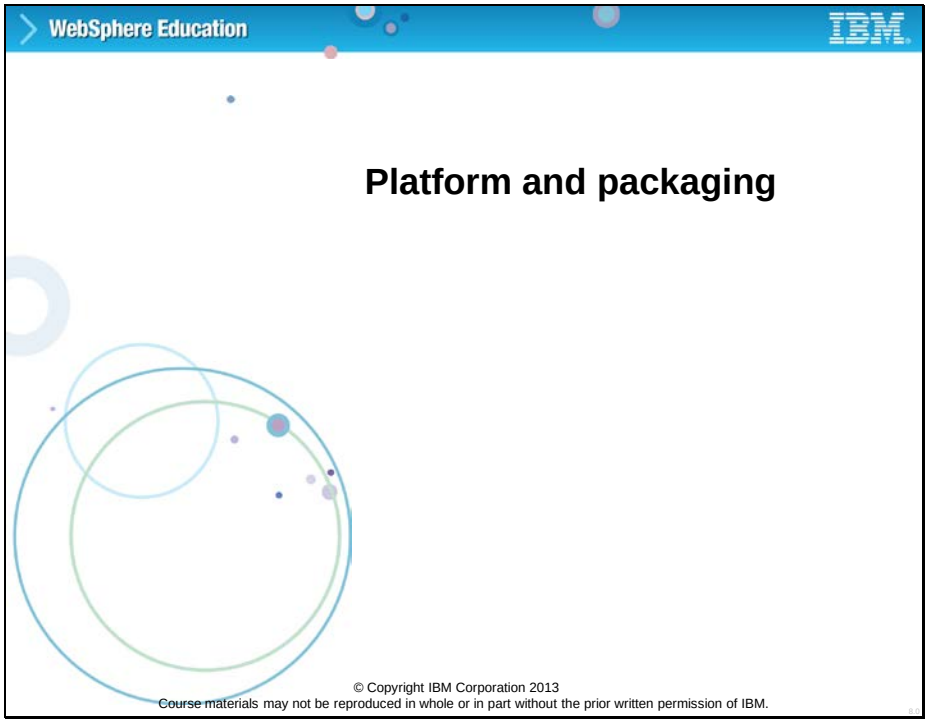
After completing this unit, you should be able to describe the WebSphere family of products and the relationships between various products in the WebSphere family. You should be able to describe the WebSphere Application Server V8.5.5 offerings and the standards that are supported in this release.

Slide 3



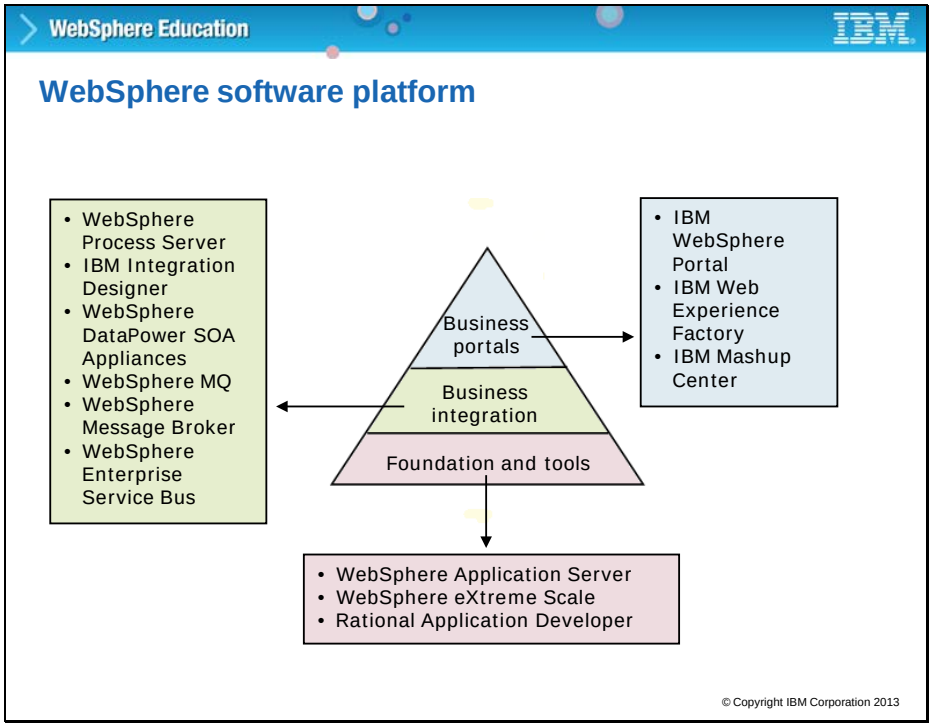
This unit consists of the following topics: platform and packaging and related WebSphere products.

Slide 4



This topic describes the major components of the WebSphere platform and how various editions are packaged.

Slide 5



The WebSphere software platform consists of multiple products. These products can be grouped into three categories: (1) foundation and tools, (2) business integration, and (3) business portals. As shown in the graphic, these three categories build upon each other in the order listed. WebSphere Application Server is the base product for all others that are listed in this slide. Rational Application Developer is the primary Java development tool for all these products.

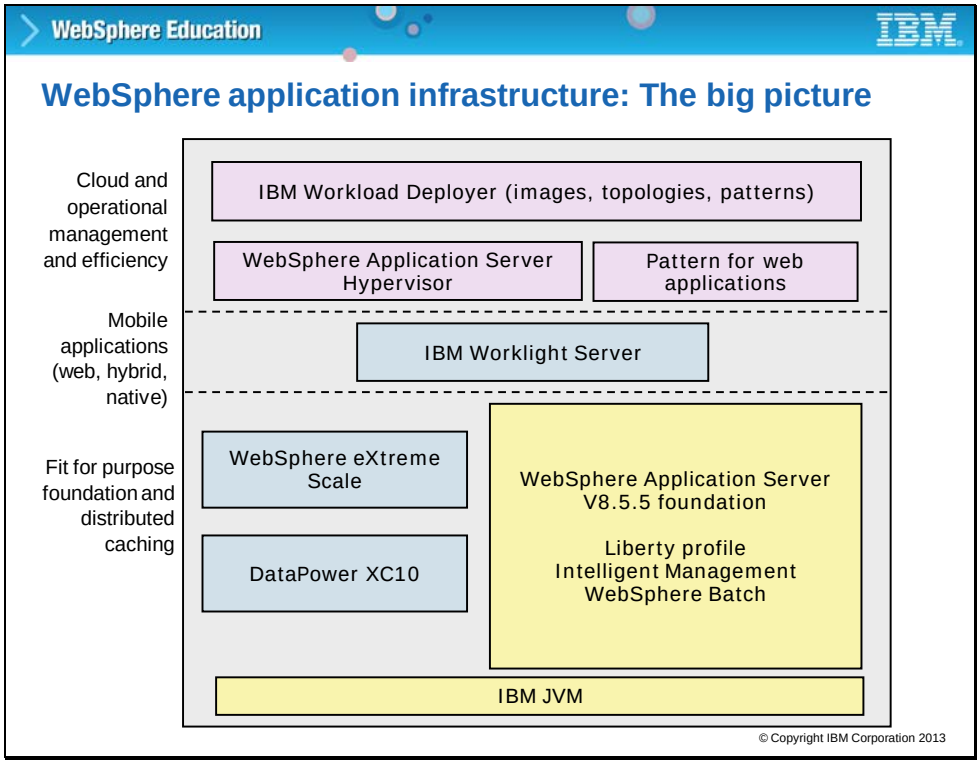
This diagram depicts the WebSphere software platform as a pyramid, with the foundation and tools at the bottom, business integration in the middle, and business portals at the top. WebSphere Application Server falls into the foundation and tools category and is a prerequisite, or provides a base, for many of the other WebSphere products that are listed on the chart.

Foundation and tools provide a high-quality foundation to rapidly build and deploy applications for high-performance e-business on demand. For example, WebSphere Application Server, WebSphere eXtreme Scale, and Rational Application Developer fall into this category.

Business portals enhance customer, partner, employee, and supplier user experiences for optimal satisfaction. For example, WebSphere Portal and WebSphere Portlet Factory support this aspect of e-business on demand.

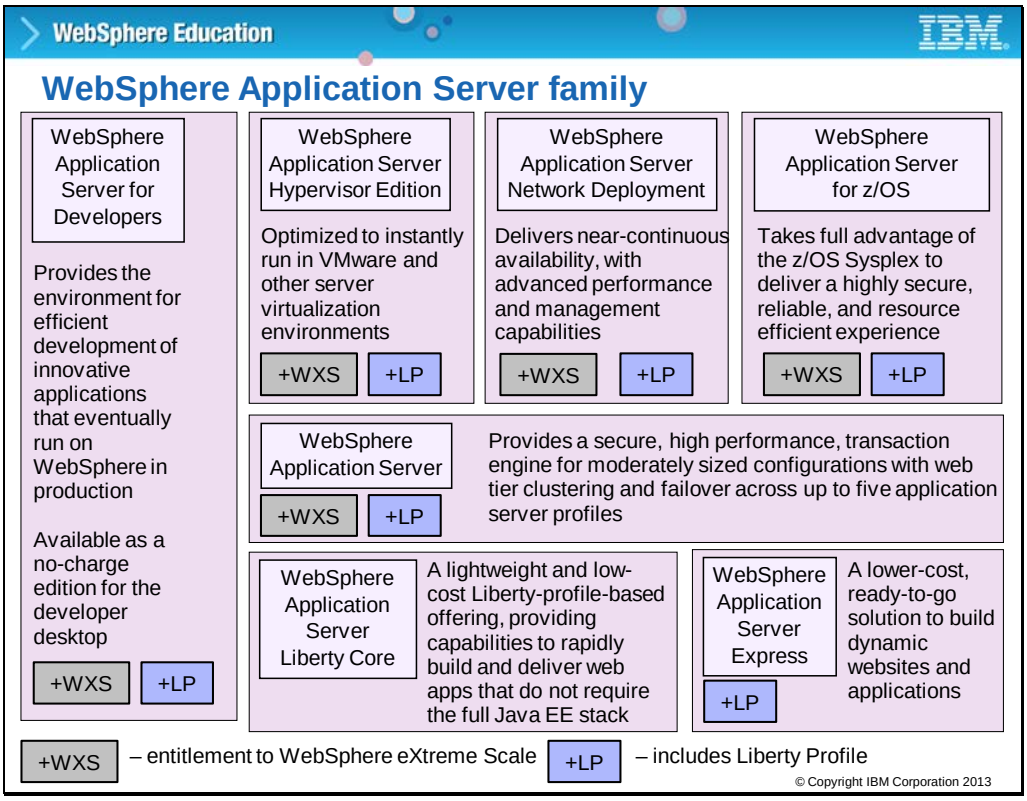
Business integration products integrate applications and automate business processes for operational efficiency and business flexibility. For example, WebSphere Business Integration Server, WebSphere Process Server, WebSphere Integration Developer, and many other projects fall into this category.

Slide 6



WebSphere Application Server Version 8.5.5 delivers the core foundational requirements for the rest of the WebSphere Application Server portfolio of products. Built upon the IBM Java virtual machine (JVM), the application server provides the foundation for the WebSphere portfolio, including IBM Workload Deployer, IBM Worklight Server, WebSphere eXtreme Scale, and the DataPower XC10 Appliance.

Slide 7



The WebSphere Application Server family provides offerings to fit your needs, which might range from lightweight developer desktop environments, to highly complex, and highly available enterprise environments. As more qualities of service are required in your environment, the WebSphere Application Server family of offerings continues to meet those requirements on a common code base.

This chart shows each of the different versions of WebSphere Application Server and how they relate to one another regarding customer needs and capabilities.

WebSphere Application Server Express is built on the common WebSphere Application Server code base. It also features reduced acquisition cost and enables fast deployment of a single application. The difference between this package and the WebSphere Application Server “base” edition is the license. Both editions are virtually the same, but “base” includes a license for unlimited processors. Express is limited to two processors. Both Express and base editions can support a stand-alone deployment.

WebSphere Application Network Deployment includes all the capabilities of the base edition, but also supports high transaction volume, scalability, clustering, high availability, failover, and more.

WebSphere Application Server for z/OS includes all the features of Network Deployment for the z/OS platform. This edition takes advantage of features in the z/OS platform.

WebSphere Application Server Liberty Core edition is a lightweight and dynamic offering that is targeted at web applications that do not require a full Java EE stack. Other Liberty editions, such as the Liberty Network Deployment edition, include more function.

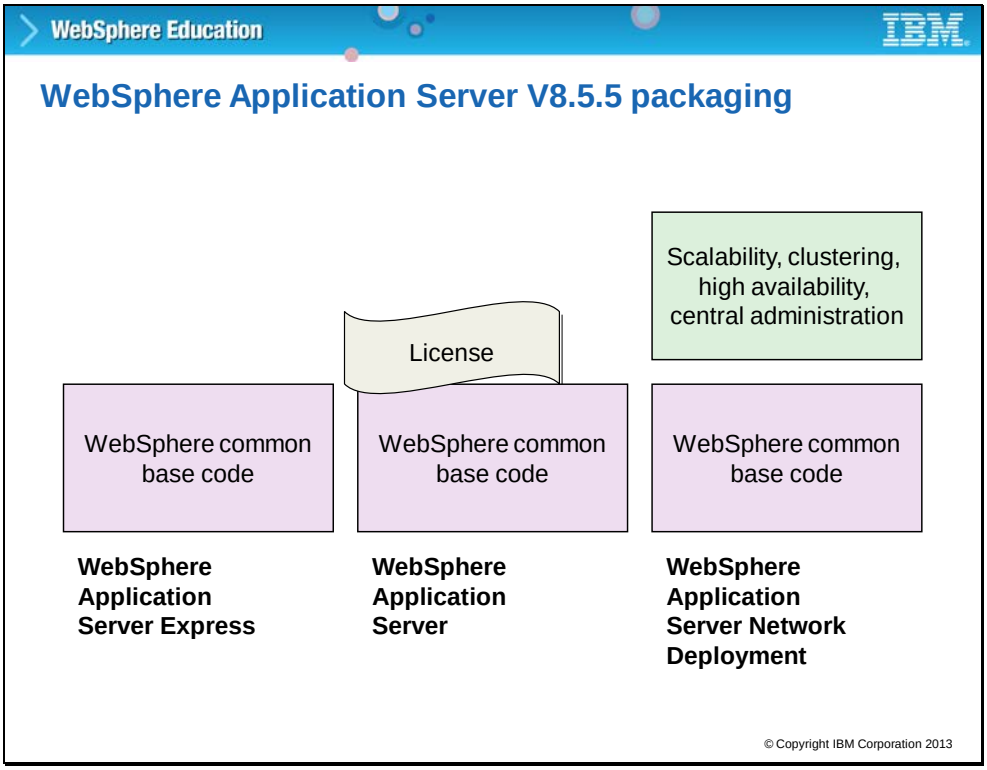
WebSphere Application Server for Developers is a no cost edition for developers.

WebSphere Application Server Hypervisor Edition is optimized to run in virtualized environments.

Each WebSphere Application Server edition also includes entitlement to use WebSphere eXtreme Scale function.

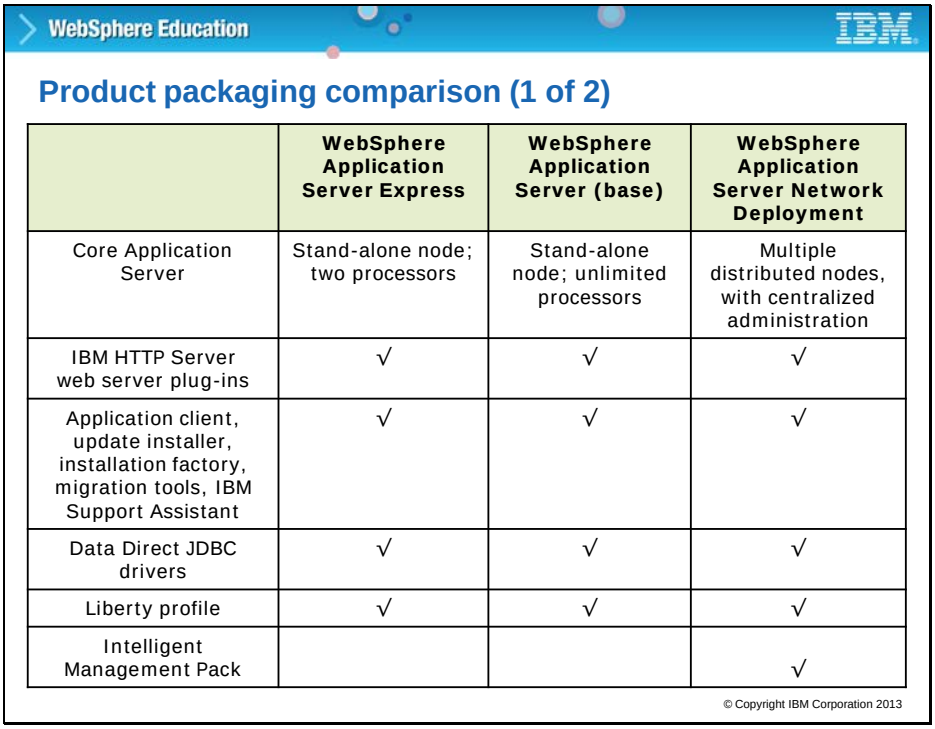
Each of these editions is described in more detail on the following slides.

Slide 8



The graphic on this slide compares the basic differences in packaging between the WebSphere Application Server Express, base, and Network Deployment editions. All three packages include the WebSphere common base code. The major difference between Express and base is the license. Express has a limited license for two processors; base has a license for unlimited processors. The Network Deployment product adds support for scalability, clustering, high availability, and central administration.

Slide 9



This chart summarizes the WebSphere Application Server V8.5 Express, base, and Network Deployment packages for production use, and provides a side-by-side comparison of some of the important features.

All three versions include the core application server, IBM HTTP Server, web server plug-ins, application client, Data Direct JDBC drivers, and the Liberty profile.

The Intelligent Management Pack is a new feature in Network Deployment.

The Express and base packages support deployment of a stand-alone node. In addition to a stand-alone node, the Network Deployment edition supports a managed or clustered multi-node environment with a central point of administration.

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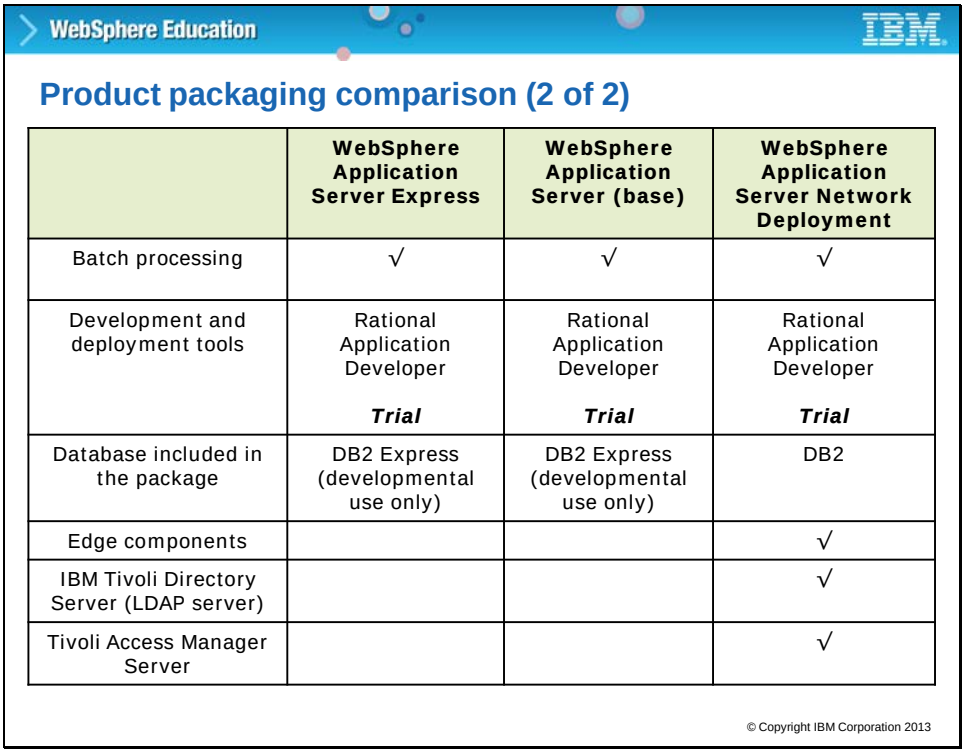
Slide 10

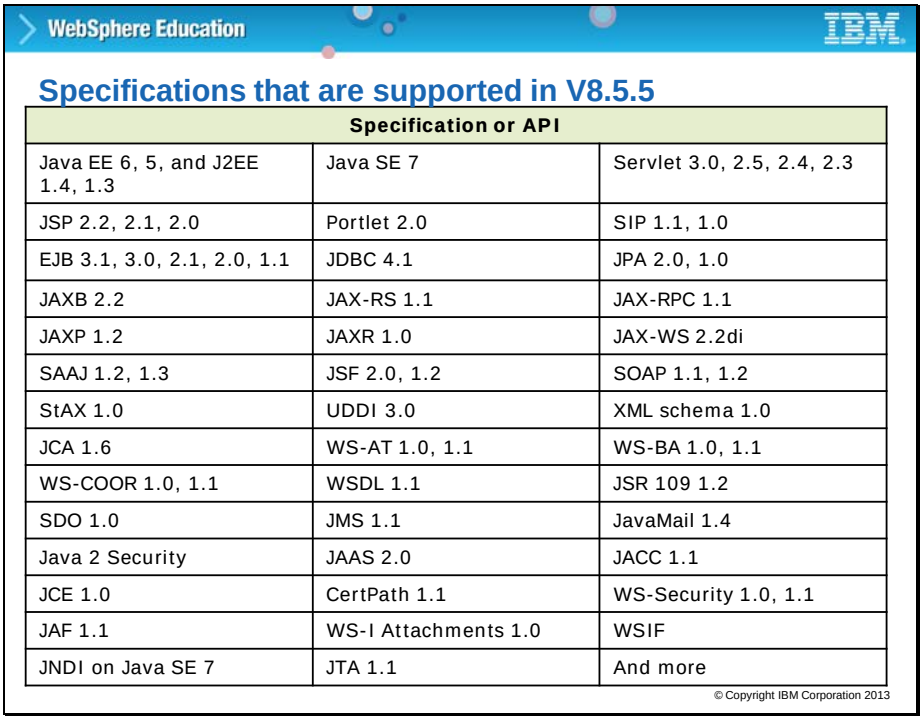


Batch processing is available in all three packages. DB2 Express is included with Express and base, while DB2 Workgroup Server is included with Network Deployment.

All three packages include a trial version of Rational Application Developer.

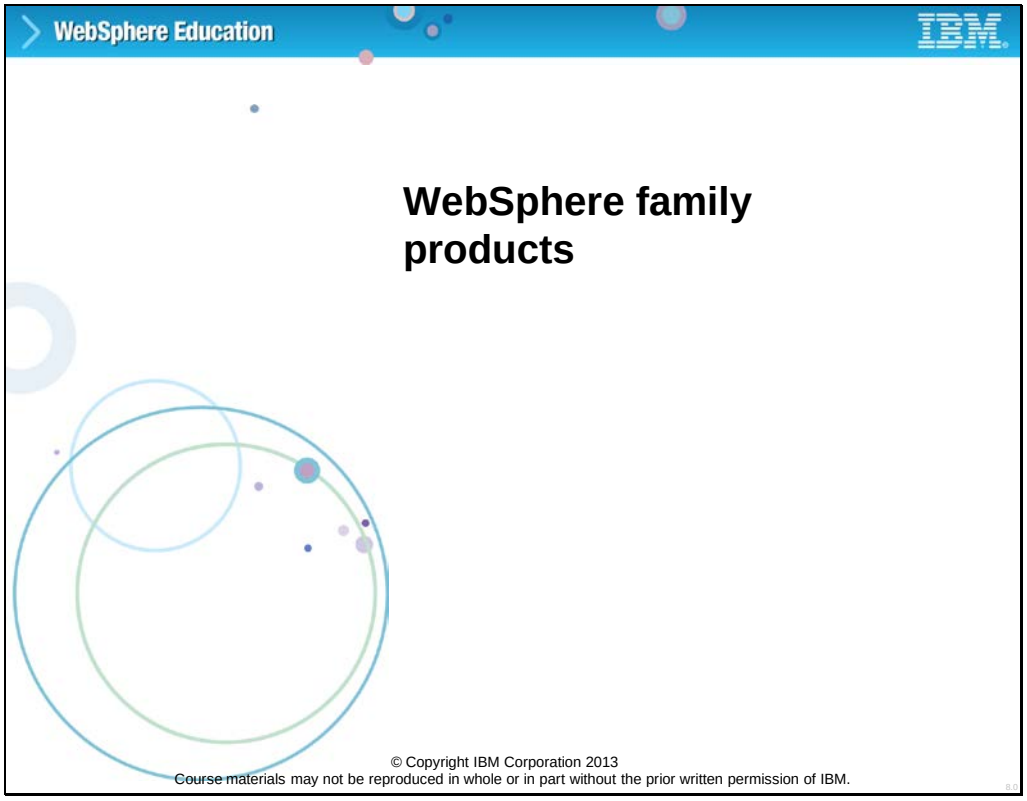
In addition, the Network Deployment edition also includes the Edge Components, IBM Tivoli Directory Server, and Tivoli Access Manager Server.

Slide 11



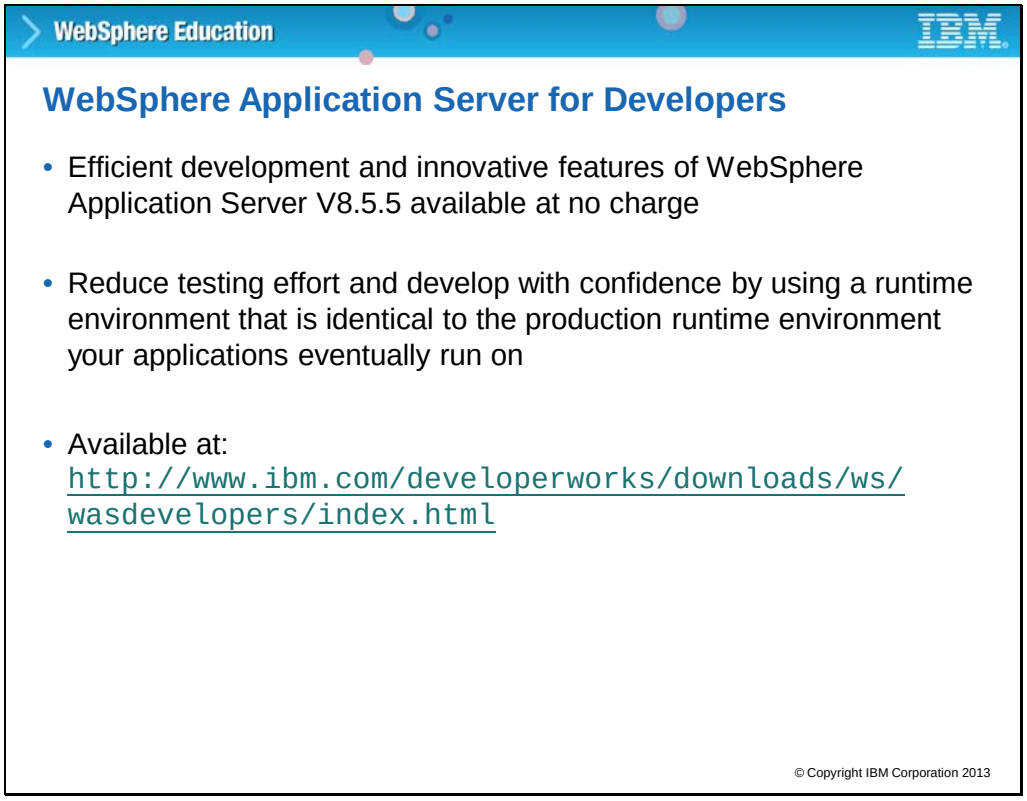
This chart lists some of the specifications and APIs supported in WebSphere Application Server V8.5.5. For a more exhaustive list of supported specifications and APIs, refer to the WebSphere information center.

Slide 12



Several different WebSphere products are described in this topic.

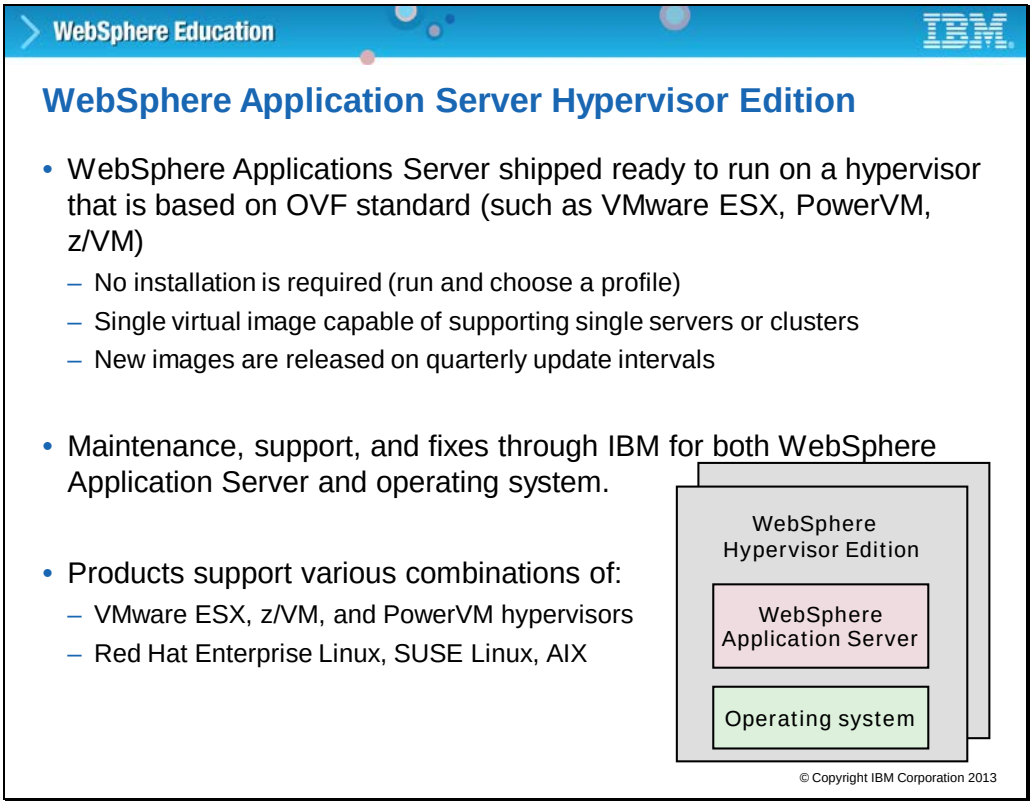
Slide 13



WebSphere Application Server delivers a no-charge offering to enable quick and easy developer access to the application server that is built upon the same code base as the other WebSphere Application Server offerings.

With WebSphere Application Server for Developers, a developer can test applications on a local desktop before moving the application into a production runtime environment. It includes the new Liberty profile, which is a lightweight, fast, and simplified runtime environment. The Liberty profile is designed for developers to improve their productivity and experience, and comprehensive support of open standards and programming models, including: Java EE 6, pluggable JDK Java 6 or Java 7, OSGi applications, Web 2.0 and Mobile Toolkit, Java Batch, XML, Service Component Architecture (SCA), Communications Enabled Applications (CEA), and Session Initiation Protocol (SIP). Use the no-charge WebSphere Application Server Developer Tools for Eclipse for V7.0, V8.0, Liberty Profile, and V8.5 that are a subset of Rational Application Developer plug-ins. You install them on top of your existing Eclipse environment.

Slide 14



Previously, when customers wanted to use WebSphere Application Server in a virtualization context, they needed to build and own these images, which involved managing two parallel code paths (operating system and middleware). Now, IBM is building and supporting the entire virtual image.

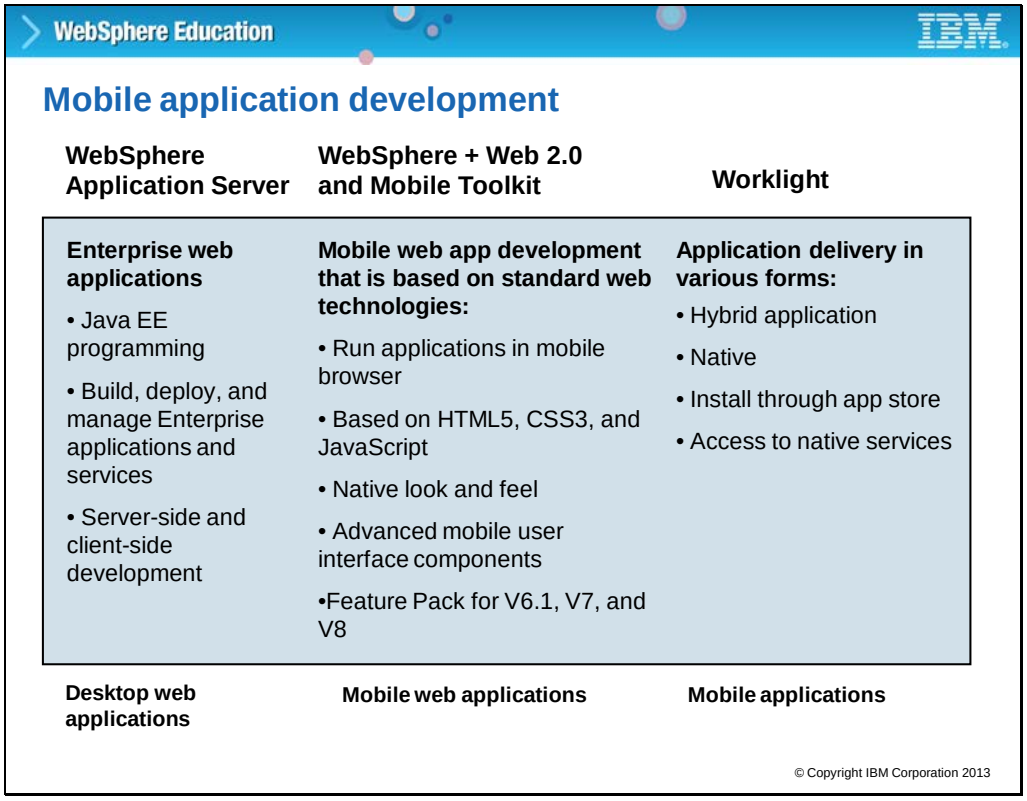
A *virtual machine*, or *virtual image*, is a complete system platform that contains an operating system on which you can install any number of customized applications to create a complete virtual image. A virtual image requires less time and labor to set up because the operating system and applications are already installed and partially configured. Virtual images are ones that are run on a *hypervisor*, which is the virtualization technology that manages the state of virtual images. A hypervisor product can run on top of a host operating system, or the hypervisor can run as the operating system itself, such as VMware ESX. Some hypervisors also handle load balancing and failover.

Open Virtualization Format (OVF) specifies an open, secure, portable, and flexible format for the packaging and distribution of virtual machines. By deploying virtual images on VMware and other virtualization technologies, you can consolidate servers and streamline your environments.

WebSphere Application Server Hypervisor Edition Version 8.5 can function either as a stand-alone server or with IBM Workload Deployer. Workload Deployer is a hardware appliance that provides access to software virtual images and patterns.

The virtual image can be used as a demonstration, a development system, or a simple quality assurance system. A single virtual image can also be a single production system for a small department.

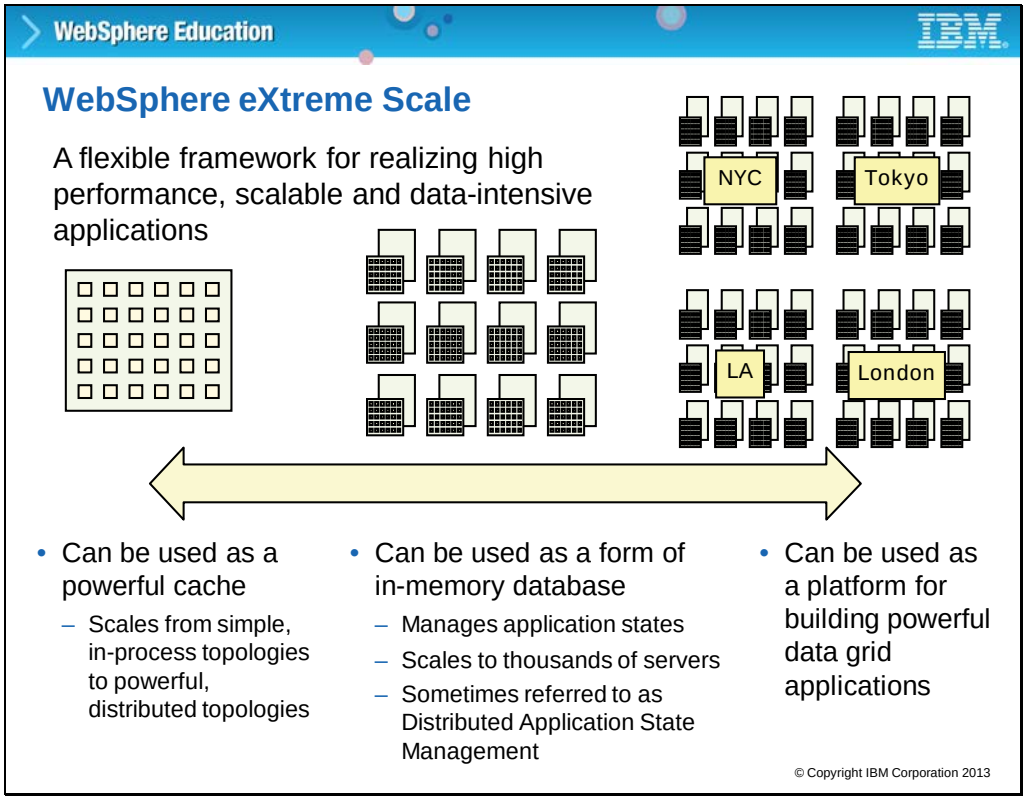
Slide 15



Worklight takes WebSphere Application Server Mobile Web applications to the next level. With WebSphere Application Server V8.5, the Web 2.0 and Mobile Feature Pack is now part of WebSphere Application Server. WebSphere developers can build and deploy reliable Mobile Web applications by using standards web technologies, such as HTML 5, CSS3, and JavaScript. Resulting applications are usable on various mobile platforms by using the web browser of the device. Supported platforms are iPhone OS, Android, and BlackBerry. User experience is close to each mobile operating system, and supports usual touch interactions.

Worklight extends those applications to make them deployable as hybrid or local applications. Other functions include access to local resources and functions (such as camera, GPS). Installation is done through a feature that is called App Stores.

Slide 16

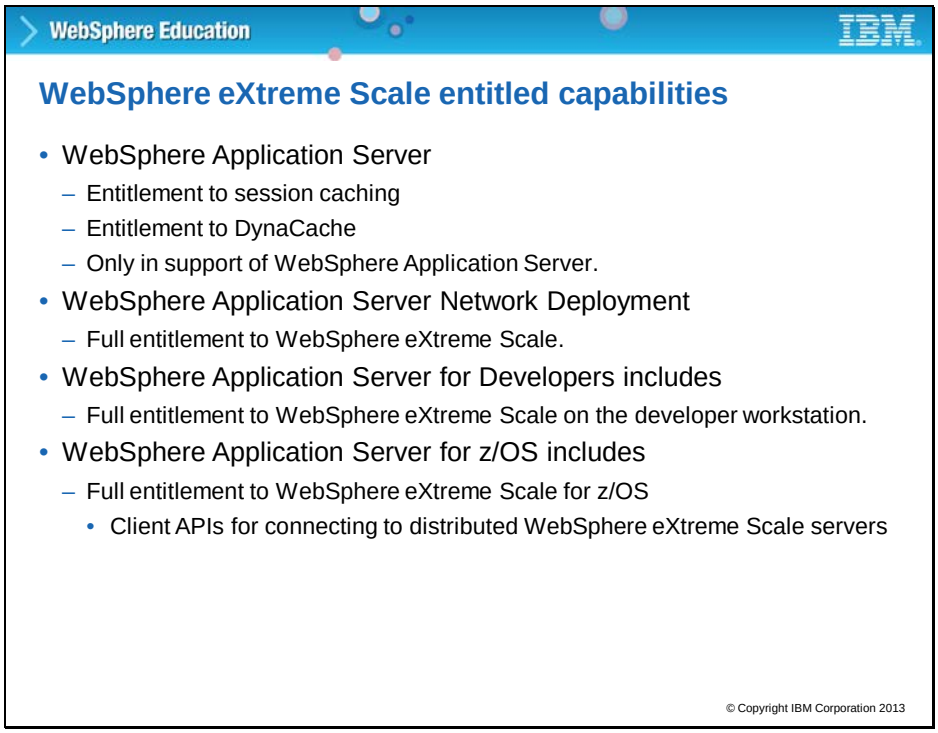


Applications and organizations can evolve as business needs and requirements change, which can require more scalability or the use of some of the other advanced features that eXtreme Scale provides.

What is IBM WebSphere eXtreme Scale? IBM WebSphere eXtreme Scale is a flexible framework for realizing high-performance, scalable, and data-intensive applications. It is a single map addressable space of virtualized JVM heap spaces. First, use of WebSphere eXtreme Scale is a power cache for your applications. WebSphere eXtreme Scale can move that collection of application caches into a grid that is highly available, elastic, and self-healing. Second, use of WebSphere eXtreme Scale is a form of in-memory database. Third, use of WebSphere eXtreme Scale is a form of redundancy across data centers.

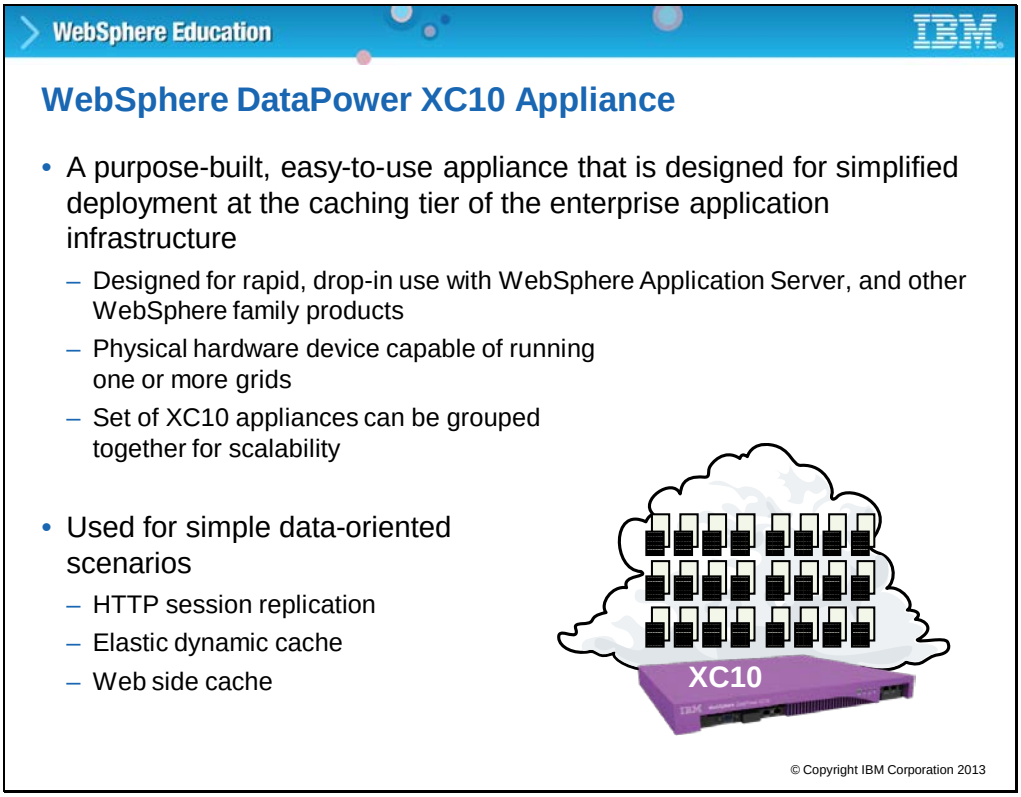
WebSphere eXtreme Scale dynamically caches, partitions, replicates, and manages application data and business logic across multiple servers. WebSphere eXtreme Scale handles massive volumes of transaction processing with high efficiency and linear scalability, and provides qualities of service such as transactional integrity, high availability, and predictable response times. WebSphere eXtreme Scale can be used in different ways. It can be used as a powerful cache, as a form of an in-memory database processing space to manage application state, or as a platform for building powerful extreme transaction processing (XTP) applications.

Slide 17



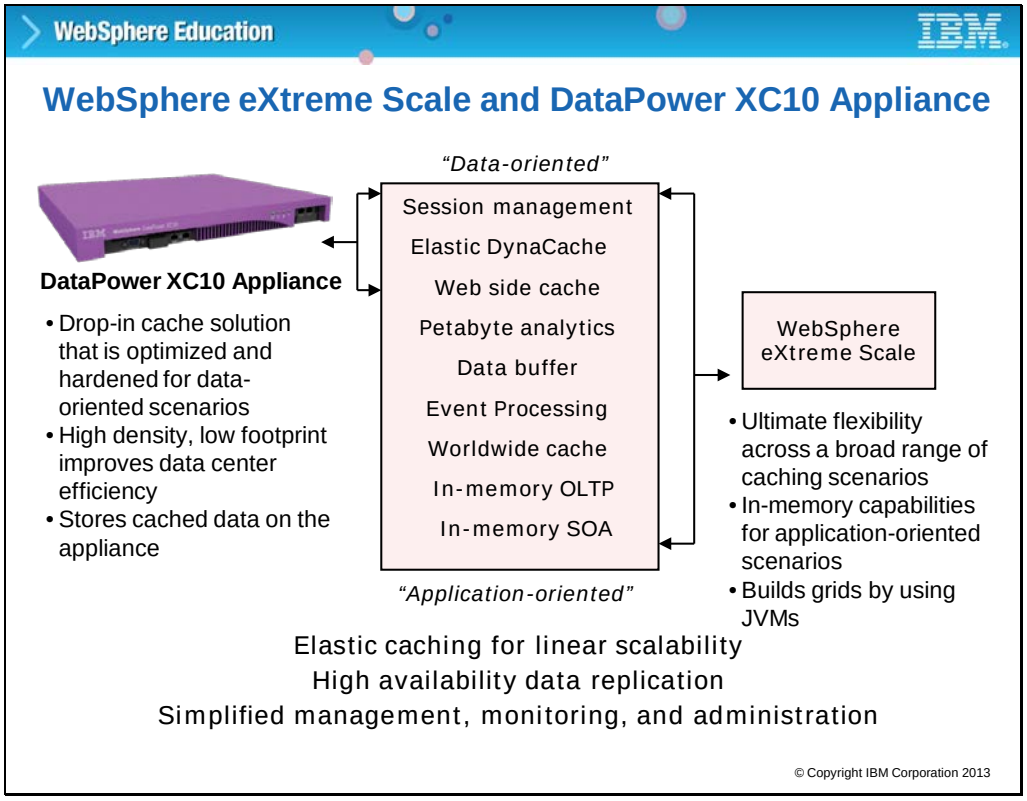
Each WebSphere Application Server edition also includes entitlement to use some WebSphere eXtreme Scale function. The Network Deployment edition allows full use of all WebSphere eXtreme Scale function, while the base edition allows for the use of WebSphere eXtreme Scale only for session caching or in support of DynaCache.

Slide 18



The IBM WebSphere DataPower XC10 is a purpose-built, easy-to-use appliance that is designed for simplified deployment at the caching tier of your enterprise application infrastructure. The DataPower XC10 is designed for rapid, "drop-in" use along with WebSphere Application Server and other WebSphere family products. It is based on the DataPower 9004 platform and contains 160 gigabytes of storage per unit. Because your data can be stored on the appliance in an in-memory grid, application caching functions can be handled quickly and can scale with consistent performance.

Slide 19



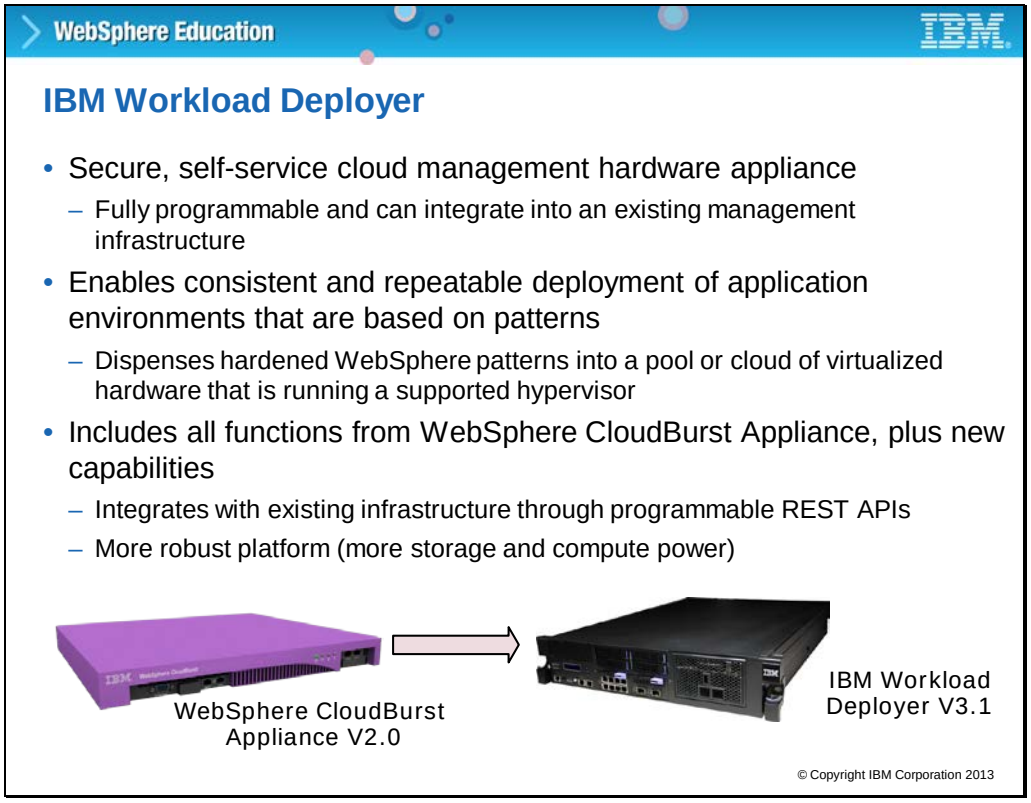
A combination of WebSphere eXtreme Scale and DataPower XC 10 Appliance can provide simple, data-oriented scenarios. Few code changes are necessary to adopt elastic caching in these scenarios.

Application-oriented scenarios require investment in new architectures.

XC10 focus is on simple, data-oriented caching scenarios where customers want to quickly and cost effectively scale their applications while improving performance. Data-oriented caching scenarios require few application code changes with XC10. No application code changes are required at all for WebSphere Session Management and extending Dynamic Caching. XC10 provides a large (160 GB) cache in a high-density, low footprint that allows you to save time, money, and rack space. Fault tolerance is built in, lowering your risk of data loss and providing continuous availability.

WebSphere eXtreme Scale provides the ultimate flexibility that supports a broad range of caching scenarios, which include caches where the data and application are co-located.

Slide 20



IBM Workload Deployer, previously known as IBM WebSphere CloudBurst Appliance, dispenses ~~,~~ and manages IBM middleware to virtualized servers and private cloud-computing environments. Workload Deployer manages two styles of patterns.

The first style is "topology patterns," which are customizable patterns of IBM middleware that are packaged as "Hypervisor Edition" images. This familiar pattern was available since WebSphere CloudBurst V1.0, but is more dynamic in Workload Deployer V3.0. When IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack is enabled in a deployed environment, users might enable automated elasticity to allow patterns to grow and shrink without manual input.

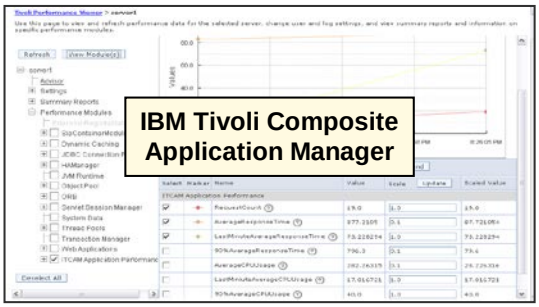
The second style of pattern is "workload patterns," which contain all IT components that are needed to run a certain type of workload. This type of pattern is less customizable, but is designed to meet the needs of common use cases with little modification. As such, workload patterns offer a much more cost-effective way of deploying and managing suitable applications.

Slide 21

WebSphere Education

IBM Tivoli Composite Application Manager for WebSphere Application Server

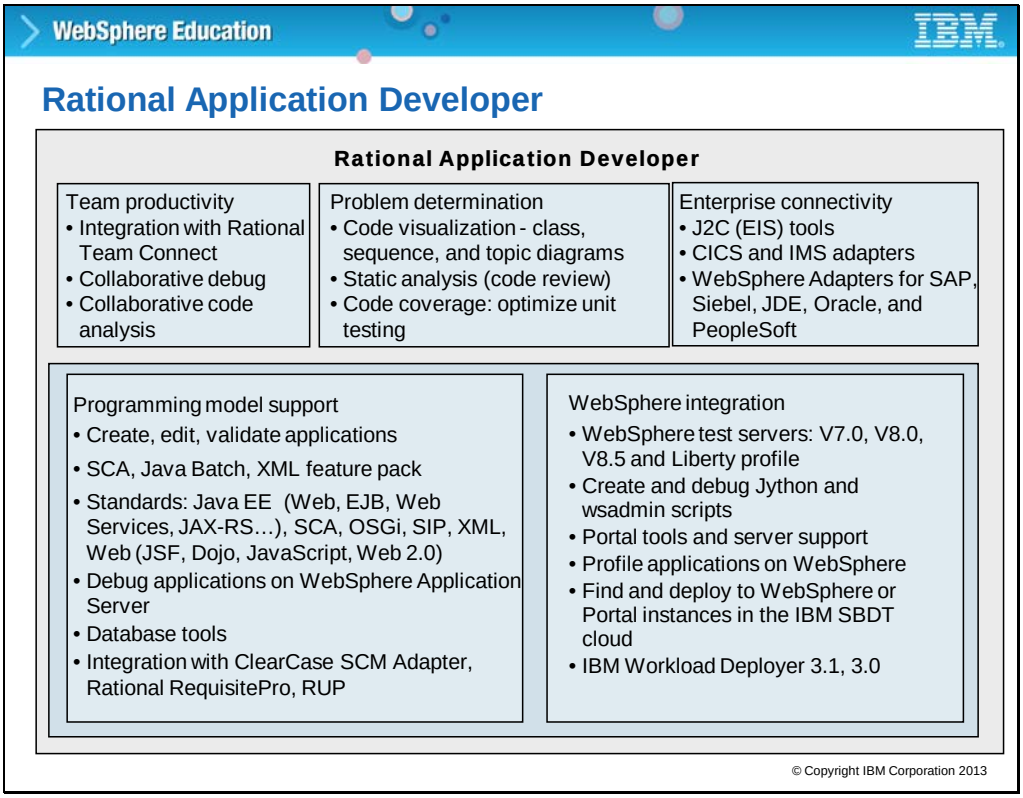
- Data Collector available in WebSphere Application Server V8.5.5 as an extension offering (optional download and installation)
- IBM Tivoli Composite Application Manager for WebSphere Application Server provides more request-based response time and processor metrics
- Customer application code is not instrumented
- Simple upgrade from IBM Tivoli Composite Application Manager for WebSphere Application Server to IBM Tivoli Composite Application Manager for Application Diagnostics
- After upgrade IBM Tivoli Composite Application Manager data still visible in Tivoli Performance Viewer



IBM Tivoli Composite Application Manager (ITCAM) for WebSphere Application Server is an optional component that you can install during the installation of WebSphere Application Server. ITCAM for WebSphere Application Server monitors the performance of WebSphere Application Server applications and provides real-time status information about the health of applications. You can view this data in the Tivoli Performance Viewer console in WebSphere Application Server.

The ITCAM for WebSphere Application Server component is composed of a Data Collector. After you install this component, configure the Data Collector to a WebSphere Application Server instance. The Data Collector runs within the same JVM as the application server and captures information about the running applications. This Data Collector configuration tool adds a Performance Monitoring Infrastructure (PMI) module in the application server. The data that ITCAM for WebSphere Application Server provides, augments the data from the application server through the existing PMI statistics.

Slide 22

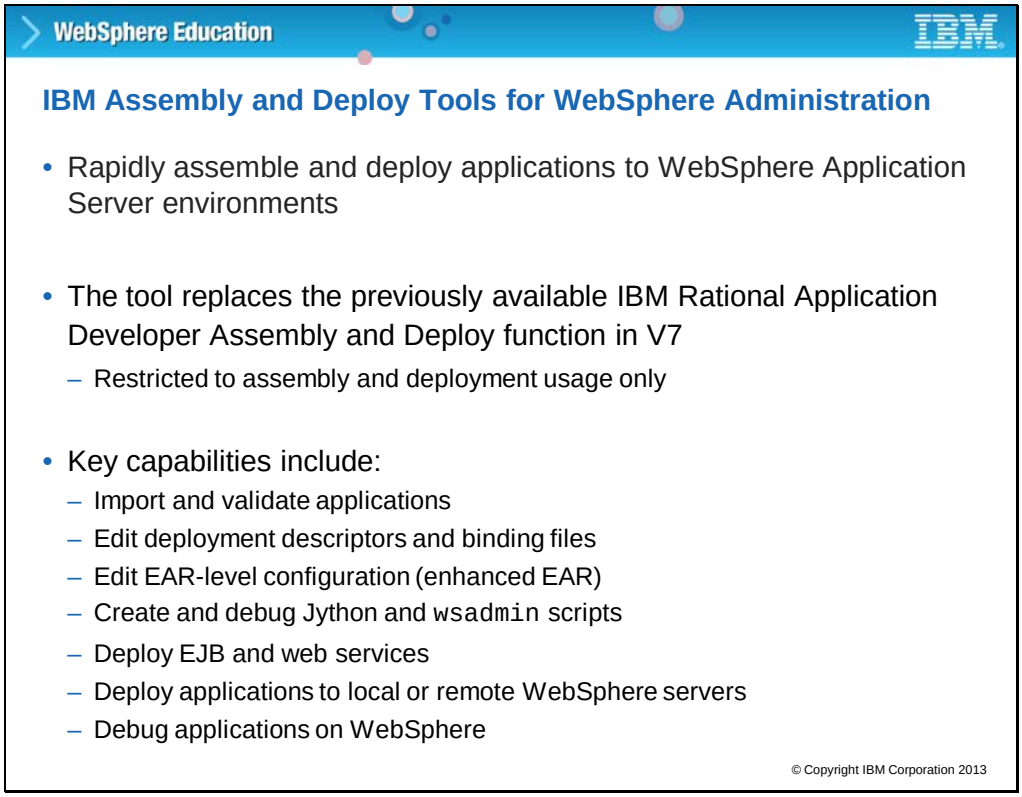


Rational Application Developer is the only tool that is needed to design, develop, and deploy your applications. It provides a development environment for building applications that run on WebSphere Application Server V8.5.

Rational Application Developer is a full suite of development, analysis and test, and deployment tools for rapidly implementing Java SE and EE, Portal, web and Web 2.0, web services, OSGi, and SOA applications.

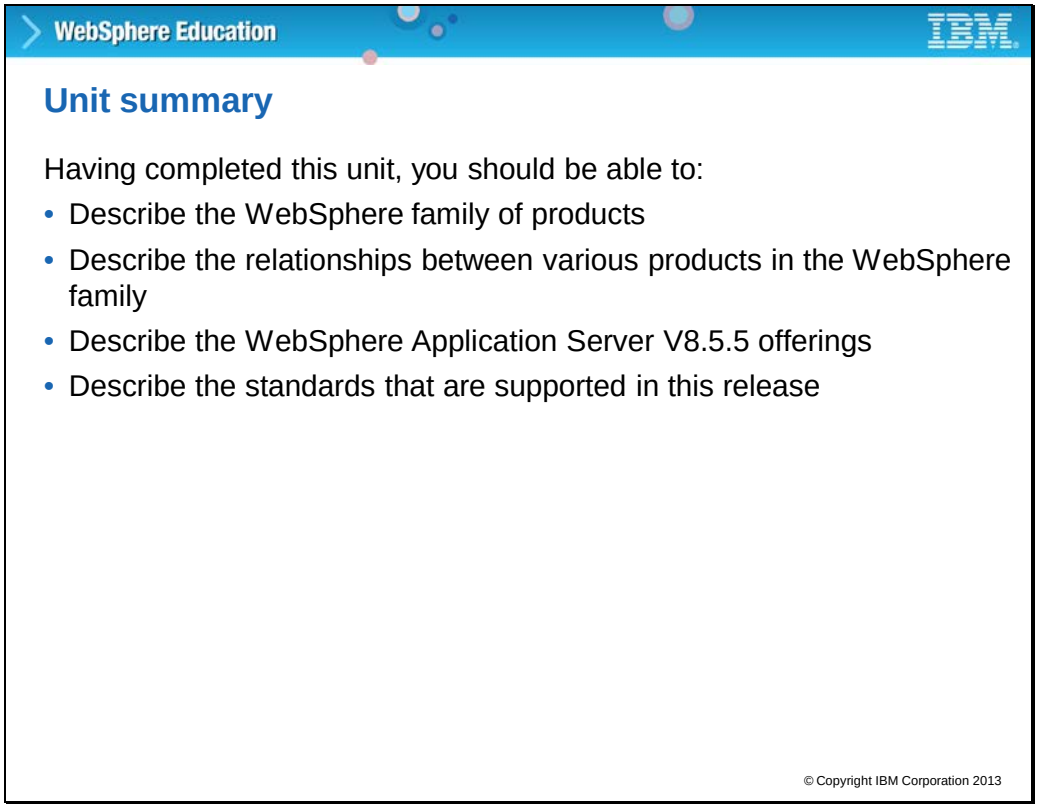
Rational Application Developer is available in two editions: Rational Application Developer for WebSphere Software and Rational Application Developer Standard Edition for WebSphere Software. Standard Edition contains all the features of the full Rational Application Developer except for WebSphere adapter support, team development, code quality, testing and deployment, and code visualization.

Slide 23



The application assembly and deployment tools, which are delivered together with the WebSphere Application Server Version 8.5 offering, is called the IBM Assembly and Deploy Tools for WebSphere Administration (or IADT). With IBM Assembly and Deploy Tools for WebSphere Administration, administrators can accomplish key assembly and deployment needs including editing of deployment artifacts, script development and testing, and application deployment and debugging. This tool is not intended for general application development; however it provides the tools for administrators to assemble and deploy web, Java, Java EE, and OSGi applications to WebSphere Application Server Version 8.5.

Slide 24



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