



Software
Summit 2010

Best Practices for Your WebSphere Application Infrastructure

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Smarter Planet Solutions Require ...



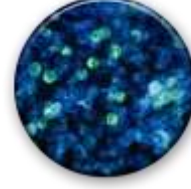
Smart industries



Smart supply chains



Smart countries



Smart weather



Smart regions



Smart cities

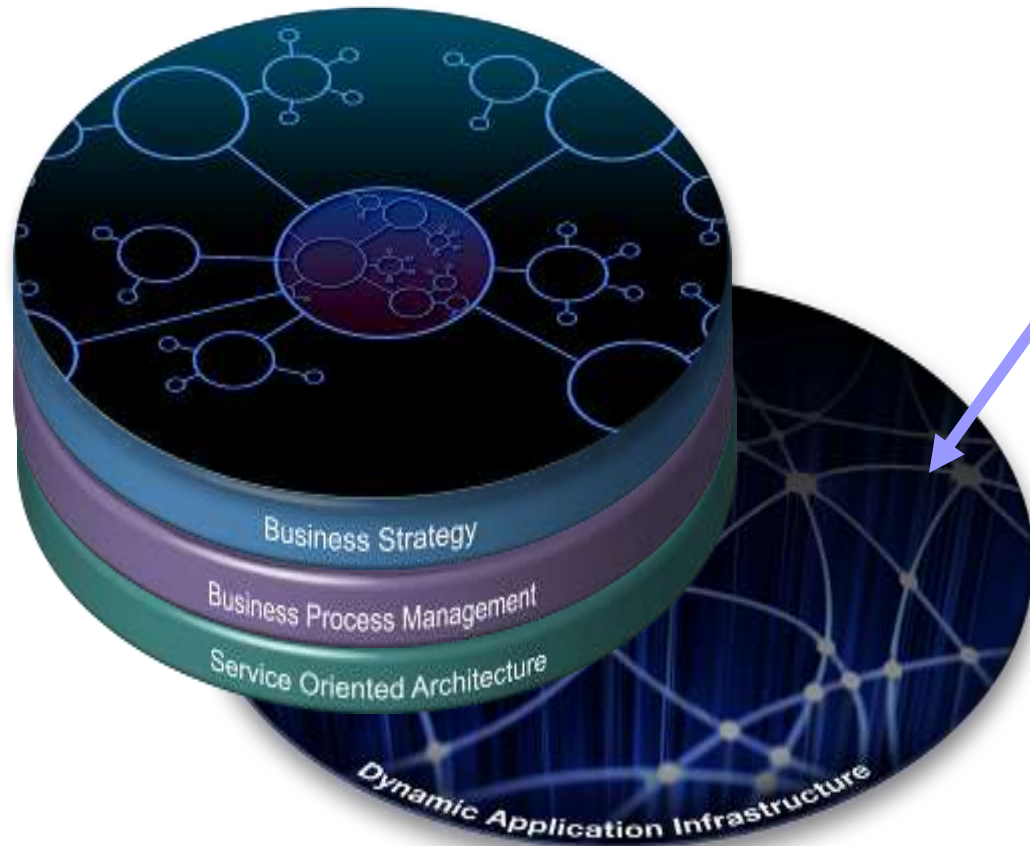
- **Scale quickly and efficiently**
- **Optimize workload performance**
- **Flexibly flow resources**
- **Avoid downtime**
- **Save energy**
- **Automate management tasks**



... a Dynamic Application Infrastructure

Dynamic Application Infrastructure

The Underlying Core Foundation that Enables Business Agility



***The Core Foundation
Powering Mission Critical
Business Processes***



Best Practices Of The Core Foundation

Help Address Today's Most Demanding Business Challenges

- Innovative products and services with limited resources
- Low cost, fast access to the best-of-breed infrastructure
- Consistent, fast response to both normal and peak demand



Challenges to Efficient Delivery of Innovative Products and Services

- Cost of development is rising, but budgets are declining
- Difficult to stay competitive and deliver rich user experiences
- New applications need to make the most of existing apps and services
- Increasing demand for mobile apps
- Need to deliver new & custom applications faster than ever before



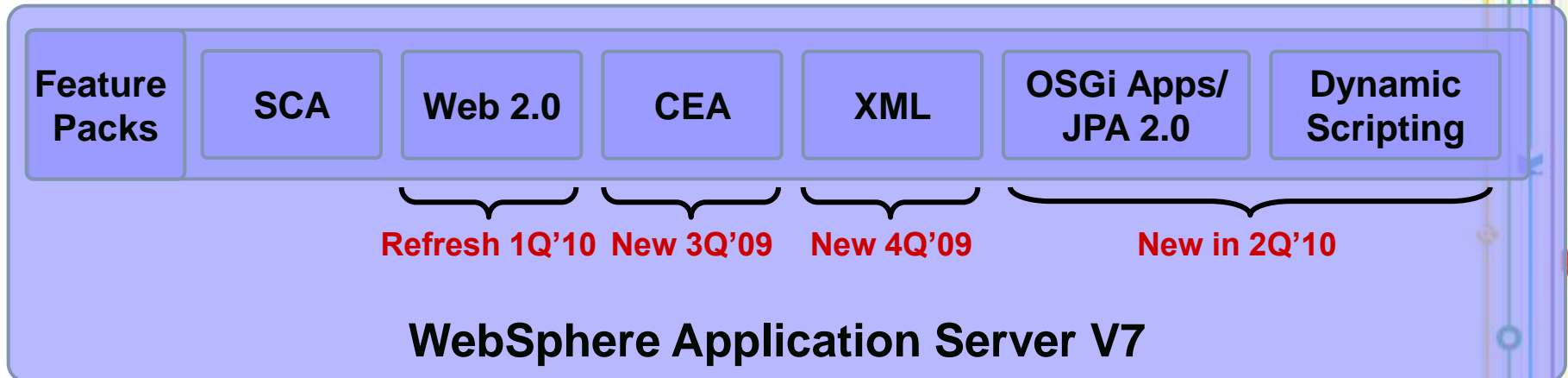
Dynamic Applications Built with the Latest Standards and Programming Models Enable Rapid Innovation

WebSphere Application Server Feature Packs

- Adopt the latest technologies without disruptive upgrades
- No additional charge: included in WAS PPA subscription
- Synergy with IBM open source contributions



JSR 289



Preserve Data Integrity during Innovation with JPA 2.0

- Java Persistence API (JPA) provides standardized object relational mapping for Java applications
- Ensures consistent mapping between your database and applications
- As processes change, JPA facilitates change through standardized, proven patterns and techniques
- The latest JPA 2.0 standard also helps improve developer productivity and application performance



Record Performance with JPA 2.0 per SPECjEnterprise2010¹ benchmark

IT infrastructure is under tremendous pressure *It will reach a breaking point.*

85% idle

In distributed computing environments, up to 85% of computing capacity sits idle.

70¢ per \$1

70% on average is spent on maintaining current IT infrastructures versus adding new capabilities

82%

of executives report that their organization has experienced a security breach and are not **confident** that they can prevent future breaches.

78%

of CIO's want to improve the way they use and manage their data

Today's IT Infrastructure isn't built for what's coming

Information explosion & rapid change create new challenges

10x

Digital data is projected to grow tenfold from 2007 to 2011

1.5x

Explosion of information driving 54% growth in storage shipments every year

500k GB

Global internet traffic volume expected by 2013

83%

83% of CEOs expect to face substantial change over the next 3 years

Fast Access to World-Class IT Infrastructure At Lower Costs Is Now A Business Imperative



Doing More with Less

Reduce capital expenditures and operational expenses

Higher Quality Services

Improve quality of services and deliver new services that help the business grow and reduce costs

Breakthrough Agility

Increase ability to quickly deliver new services to capitalize on opportunities while containing costs and managing risk



Virtualized Access To Infrastructure In the Cloud Lowers Cost Barriers while delivering Highest QoS



Cloud Deployments are fundamentally changing the way organizations are delivering and consuming IT services

- Speed application set-up and deployment
- Reduce risk and improve repeatability
- Drive out manual labor costs
- Increase agility and time to value
- Security through the entire infrastructure lifecycle



Deploy Virtualized Infrastructure in the Cloud with Secure, Ready-to-Use, Pre-Configured Patterns

- 1 User selects the middleware pattern depending on their needs



- 2 WebSphere CloudBurst dispenses the pattern to a pool of Hypervisors

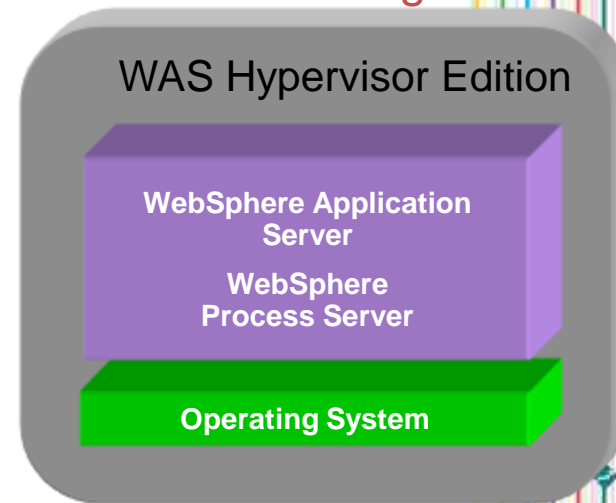


- 3 In just minutes, user is ready to deploy applications on the middleware

Images are disposed right after use freeing up valuable resources



Virtual Images



WebSphere CloudBurst Appliance v2.0

- **WebSphere Virtual Enterprise integration through Intelligent Management Pack**
 - Deliver application edition and health management in WebSphere CloudBurst managed environments

- **Multi-image pattern support**
 - A single pattern can contain multiple product virtual images

- **License Management**
 - Prevent exceeding entitlement of products in the cloud by alerting users and admins

- **Extended support for heterogeneous platforms and products**
 - Red Hat Enterprise Linux support
 - Added Support for WebSphere Process Server



Large Insurance Company Realizes Time and Cost Savings by Deploying Virtualized Test Infrastructure

Business Challenge

- Significant costs and resources invested in the deployment of application maintenance.
- Maintenance took approximately 30 minutes on average
 - Manual process, often executed in the middle of the night
 - Requiring significant resource time and costs

Solution

- Leveraged WebSphere CloudBurst Appliance to improve fix management with deployment time down to just 4 minutes
- Increased efficiencies, driving resource costs out of the process via scheduled deployment

Benefits

- Deployment time improved from 30 minutes to 4 minutes
- Gained efficiencies and cost savings in maintenance with an automated and scheduled deployment process.

Solution Components

- IBM WebSphere CloudBurst Appliance
- IBM WebSphere Application Server Hypervisor Edition



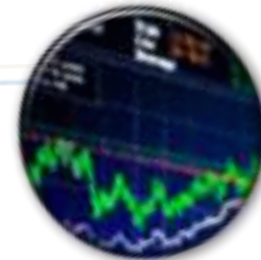
Challenges in Responding Consistently to Variable Demand in Diverse Business Contexts

High volume of concurrent POS transactions



Detect fraud through precise, real-time alerts

Market volatility results in surge in demand



Consistent, stable response times; no lost transactions for increased revenue

Millions of GPS events



Quickly detect and process actionable events that matter



Today's world operates at "Internet Scale" That Puts Enormous Strain on Computing Resources

1 billion

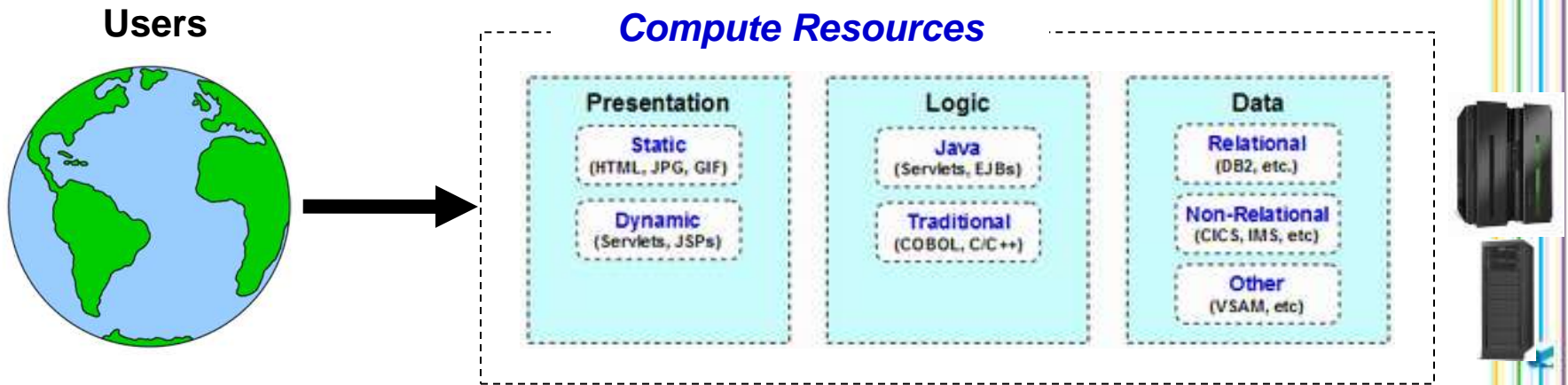
people are on the internet

15 petabytes

of new information are generated each day

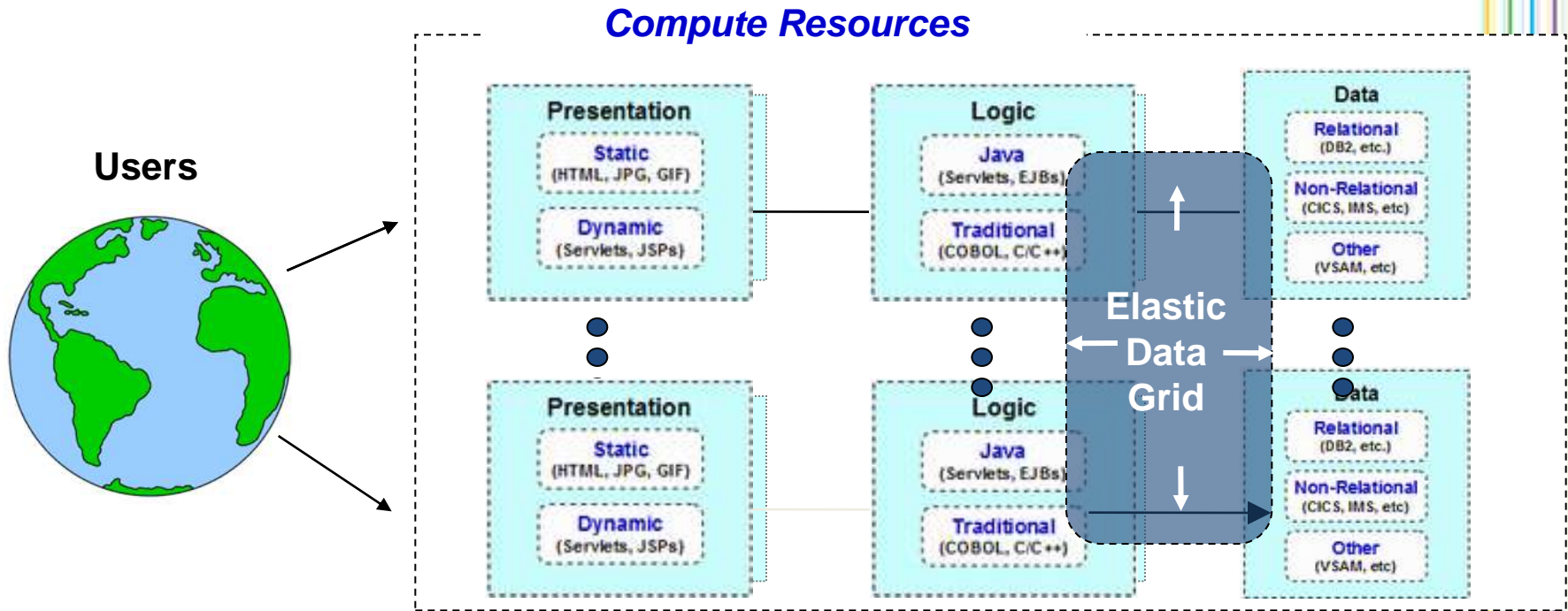
1 trillion

things are connected to the internet



There's Clearly a Need for Graceful Scaling With Demand

Smart Data “Grids” Provide **Elastic Scaling** *With Distributing Data Caching*



Data Grids are fast access data stores that sit between the application and the traditional hardened data stores

WebSphere DataPower XC10 Appliance

Elastic Data Grid for Data-Oriented Distributed Caching

Easy drop in use for common data oriented caching scenarios

- Support of WAS HTTP Session Management, extension of Dynacache and web side-cache



Scale out with ease

- Large, elastic cache allows you to scale more efficiently while providing high Quality of Service



Better Fault tolerance

- Lower risk of data loss while providing continuous availability

Flexible and simple user management

- Simple solution for real world management and monitoring



WebSphere eXtreme Scale v7.1

Elastic Data Grid for Customizable Distributed Caching

Broadened Market Applicability

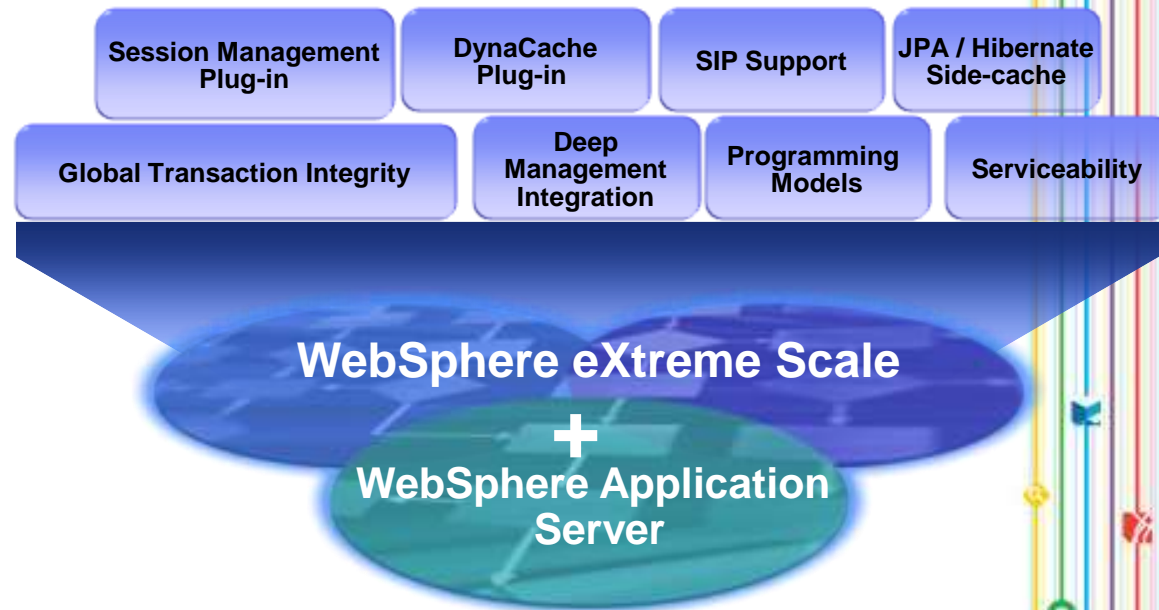
- Interoperability with WebSphere Commerce and WebSphere Portal
- Cross data-center replication
- Windows .NET platform support

Improved Reporting and Monitoring

- Support for DB2 Performance Monitor
- Enhanced monitoring consoles integration
- Native Admin console

Enhanced Foundational Capabilities

- Faster throughput and response time



Multinational Bank Improves Customer Satisfaction By Leveraging Elastic Scaling of Key Applications

Business Challenge

- Manage rapid growth as a result of leveraging new opportunities
- Offer services in an efficient manner to meet the growing demand and volume of its customer base

Solution

- Leveraged eXtreme Scale to cache user profiles
- User information (including account details) brought in during the authentication process
- Ensures security and replication management across multiple data centers

Benefits

- 35x reduction in response time (down to 20MS)
- 20ms to login with profile cache access
- \$6M cost savings in MIPs reduction

Solution Components

- IBM WebSphere eXtreme Scale
- IBM WebSphere Real Time





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IBM Education Assistant

For product information, tutorials, YouTube videos, etc.

<http://publib.boulder.ibm.com/infocenter/ieduasst/v1r1m0/index.jsp>

WebSphere Application Infrastructure

On-Site Lab Seminar – Free!

Deep dive sections that can be added based on your interests include: WebSphere Application Server Migration, Java tuning, High availability/failover, WebSphere Security, and more.

For more information, contact your WebSphere Sales Specialist or send a note to me, John Maas, johnm@br.ibm.com