



Java. Cloud. Leadership.

JBoss Everywhere (Everyware?)

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15/11/2011

Overview

- Where are we today and why?
- Mobile and Cloud
 - Ubiquitous computing in the large
 - The real cloud!
- What does this mean for today's middleware offerings?
- The JBoss approach
 - <http://www.jboss.org/jbw2011keynote>



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30 years ago ...



Today ...



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The times have changed

- There are already more mobile devices than computers
- There are 4x more processors on the planet than people
 - Most have TCP stacks
 - dsPIC33FJ12GP 16-bit microcontroller has as much horsepower as a VAX (40MIPs), can handle 16+ sensors, and is 1/8 the size of a penny
 - 30 million iPads already
 - 1 in 2 Americans predicated to have smart phones by the end of 2011 compared to 1 in 10 in 2008



“Little’s law” (thanks to Parkinson)

- “Work expands to use the power available”
 - Basic word processors on PCs
 - Publisher-quality implementations now on laptops
 - Games pushing the envelope from Pong through Space Invaders to CoD
 - MVCC
 - Distributed systems
 - Grids
 - Mobile devices contain more and more personal data
 - Wallets via NFC
 - Disconnected operation is the normal situation

Cloud meets mobile

- Public Clouds important
- Private Clouds probably more important
 - Security and data consistency implications
- But Ubiquitous Computing has become a reality
- Mobility and embedded devices are the real Cloud
 - Thin clients aren't the future
 - Shannon's Limit



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Ubiquitous Computing

Smartphones and Tablets



- Smartphones and tablet shipments overtaking PCs
- Multi-device support the reality

Field Service / Warehouse Devices



- Primarily Windows based
- Application tied to device and OS

Embedded / Unattended



- New use cases for embedded processors / computing

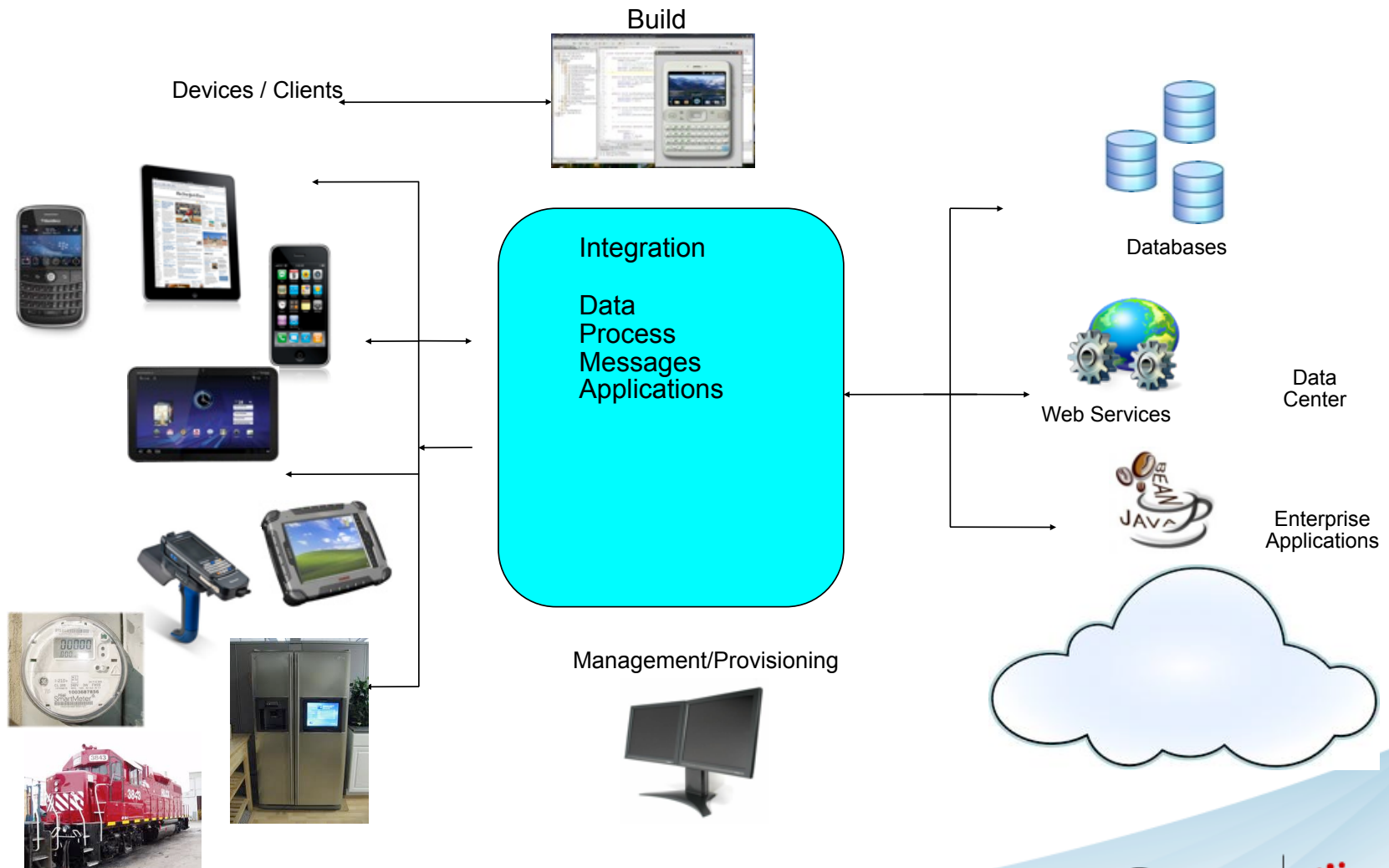
“New age” development

- New architectures
- New implementations
- New frameworks
- New operating systems
- New new new ..?



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“Mobility” meets Enterprise



Application complexity

- Types of applications increasing in complexity
 - Online purchases
 - Distributed peer-to-peer interactions
- Enterprise requirements becoming a necessity
 - Security and identity
 - High performance, low latency, reliable messaging
 - Database updates with transactions
 - Workflows as inter-app interactions increase



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Peer-to-Peer



Mobile displaces consoles



Ubiquitous computing realities

- Trust is important!
- Trust is measured in:
 - Who is providing the service?
 - And are they doing it in a way that matches my requirements?
 - Are they living up to my required QoS
 - Fault tolerance, performance, etc.
- Several well publicised Cloud outages and intrusions
 - Mobile viruses, identity theft ...

40 years of middleware shows ...

- Many things common
 - Security
 - Messaging
 - Transactions
 - Replication/Cacheing
 - Data store (e.g., database)
 - Distribution
 - Multi-tenancy (multi-threaded/multi-application)
- The industry has spent 40+ years designing enterprise infrastructures



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So what does this mean?

- Middleware is needed whatever the deployment environment
 - Mainframes, servers, laptops etc.
- Don't tie the definition of middleware to an implementation
- Mobile and Cloud should not be new silos for developers!
- Enterprise requirements transcend deployment realities



JBoss approach

- JBoss makes middleware available to everyone
- We have many of the technologies to help developers on a range of platforms
 - HornetQ, Infinispan, SwitchYard, RESTeasy, Seam, ...
- This is more like building a new jigsaw puzzle from the same pieces
 - And incorporating existing completed jigsaws!
- We need to facilitate approaches that build on what we have already

“Java EE is too bloated”

- Differentiate the standard from implementations!
 - Let's not live in the past
- It is possible to be lightweight and enterprise ready



The Open Source Java application server *reignited*

Designed for flexibility.

Amped with electrifying speed.

Launch your Java EE applications in a flash!

Lightning Fast... start-up / deployment / configuration



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JBoss Fabric

- Stop designing just for today or yesterday
- Flexible
 - Different environments (not all Java)
 - Different component implementations
- Adaptable
 - Dynamic and static
 - Applications could migrate between environments
- Reliable, Securable, Available, Scalable



REST
Eas

JBoss
Community

Infinispan





Enterprise
Mobile



API (Java, Ruby, Python, C++, etc...)



Infinispan
Services

JBossMSC



Enterprise
Mobile



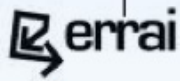
JavaEE



API (Java, Ruby, Python, C++, etc...)



Infinispan
Services



JBossMSC



Social Aspect



But there are still open areas

- It's not all doom and gloom
- But it's not all perfection either
- Several key issues remain
 - Software reliability
 - The “human factor”
 - Development models
 - parallel processing is still too hard
 - Data
 - OldSQL, NoSQL, NewSQL

Conclusions

- Cloud and mobile will evolve
- Enterprise middleware applications aren't going away
 - The industry cannot afford to track multiple platforms
 - Middleware components should be available to all
- The next decade will be defined by ubiquitous computing
- There are still areas that need to be addressed



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