



OSGi Alliance Community Event

**BEA's microService Architecture and OSGi:
How Customers Benefit**

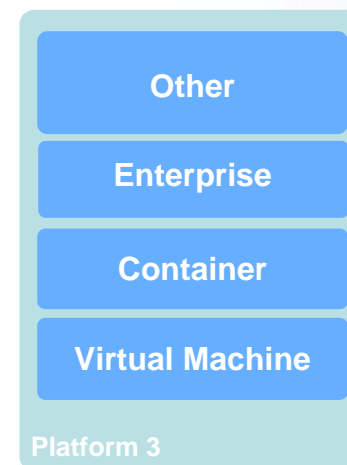
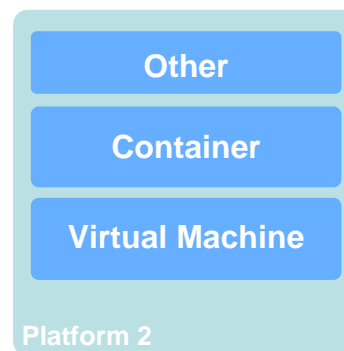
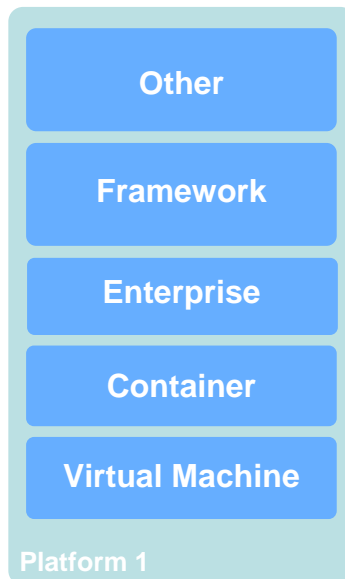
Craig Blitz
Senior Product Manager, BEA Systems



Pre-SOA: Apps are Silos



Application Infrastructure

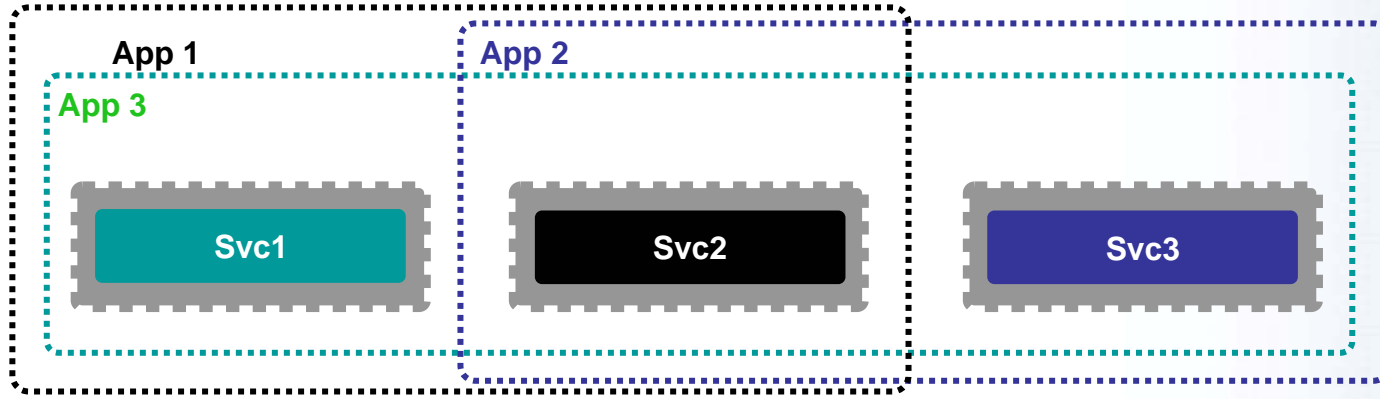




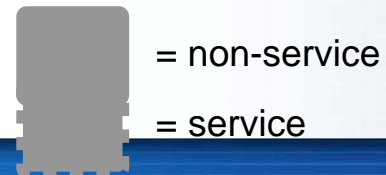
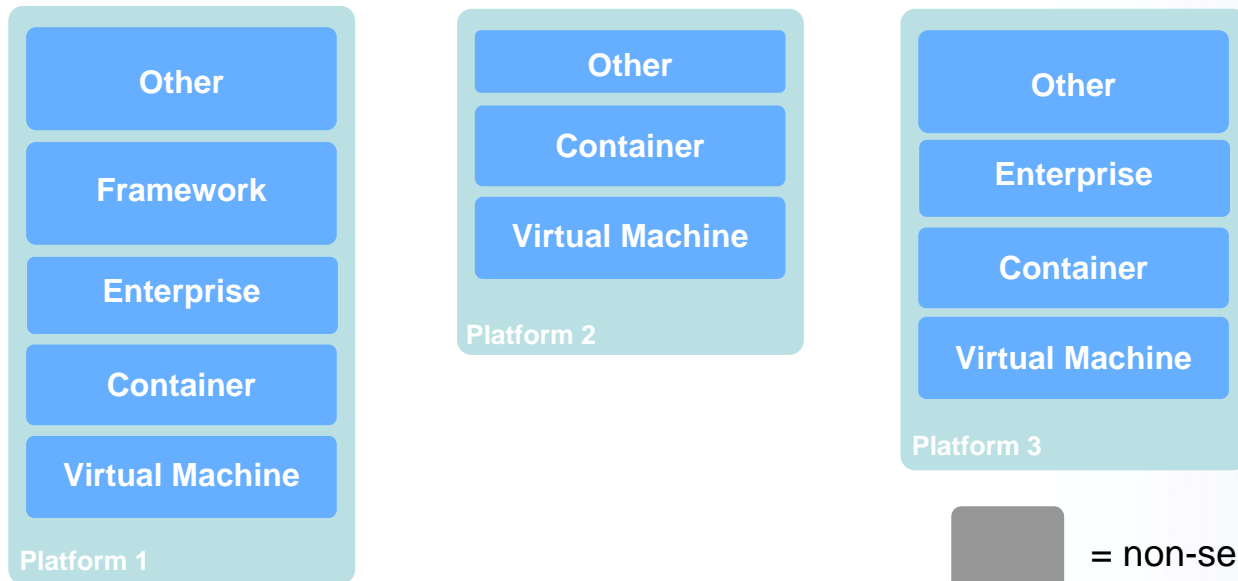
SOA: Apps are Assemblies of Services

Service-Oriented Architecture

Service Infrastructure



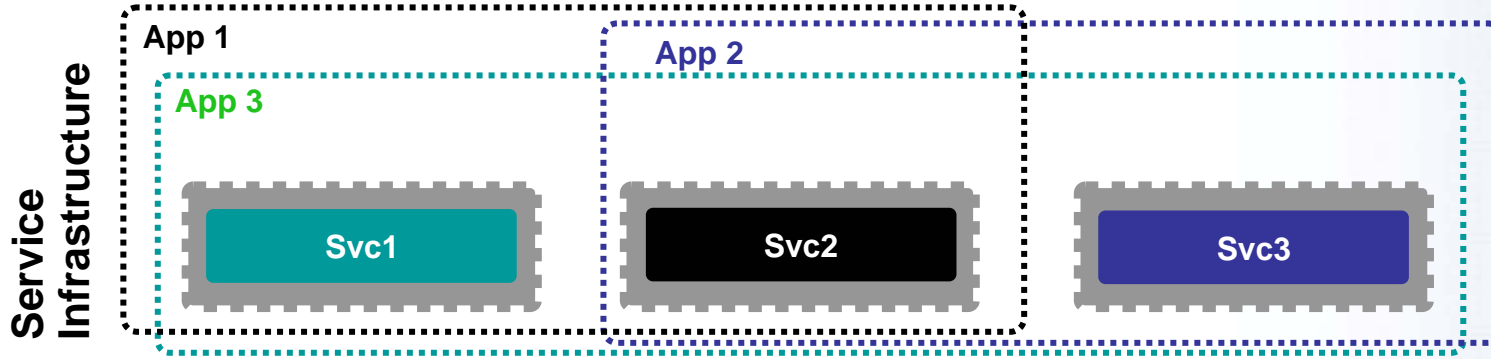
Application Infrastructure



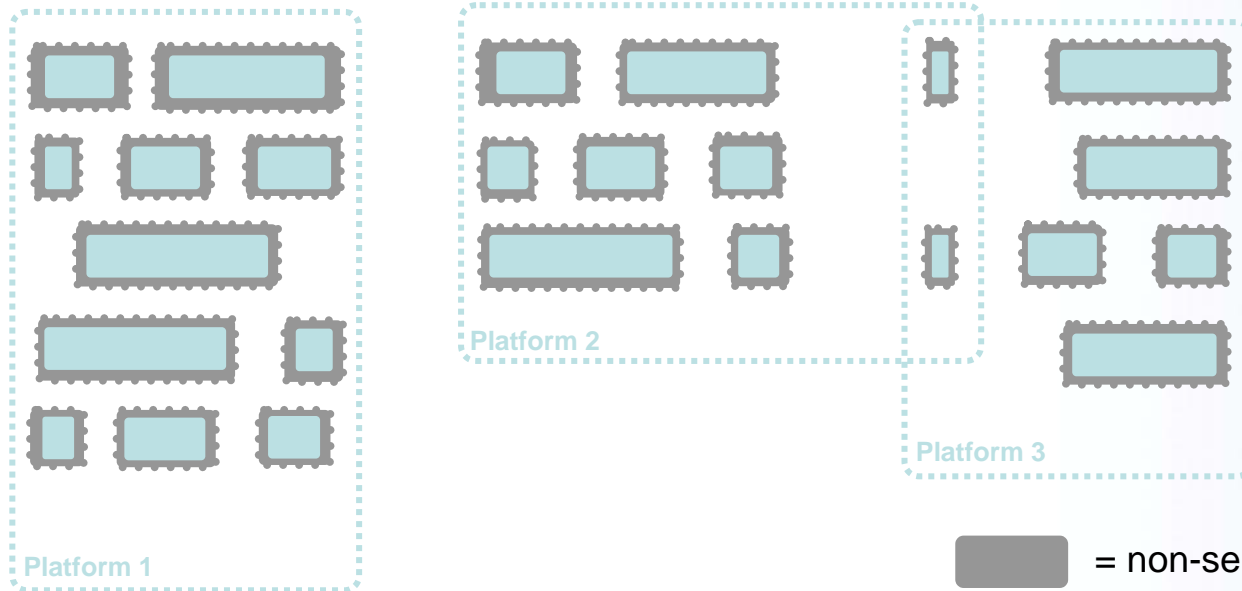




mSA: Platform Itself is Services

Service-Oriented Architecture



Application Infrastructure



 = non-service
 = service



BEA's microService Architecture (mSA)

- Create innovative products from existing components
- Naturally “blendable”
 - Products built from “best for purpose” modules
 - Proprietary BEA, Open Source, Third-Party
- Services plug into OSGi Backplane
 - Application Frameworks
 - Infrastructure Services
 - Activity Services
 - Presentation Services



mSA Design Principles

- Service-based infrastructure software
 - Lightweight, open, interoperable, embeddable
 - Naturally extensible for 3rd party development
 - Standards-based leveraging OSGi, SCA, etc.
- Based on the principles and philosophy of SOA
 - Service Network concepts
 - Modular and lightweight
 - Separation of concerns as opposed to point-to-point integration



OSGi: mSA's Backplane

- OSGi key enabler to realizing mSA
- The Standard Java modularity environment
- Pluggable, service-based network
- Universal Middleware
 - Flexible, adaptable, embeddable
 - Allows mSA-based products to span broad variety execution environments
 - Natural affinity to virtualization solutions



OSGi/mSA Customer Benefits: Reduced Footprint

- Reduced footprint leads to improved IT efficiency
 - Reduce Operating Costs
 - Control Product Usage
- Pre-OSGi products
 - One-size fits all products
 - Add functionality to monolithic stack
- OSGi-based products
 - Tailored module sets to target problem at hand
 - Remove unused functionality
 - Package only needed functionality
 - Deploy only required services
 - Start/stop services on demand



OSGi/mSA Customer Benefits: Improved Serviceability & Availability

- Dynamic module management
 - install, start, stop, update and uninstall bundles
 - Extensive dependency management
 - Fully integrated with security architecture
- Enables zero down-time patch/upgrade
- Add functionality on-demand
- Remove services that are no longer needed



OSGi/mSA Customer Benefits: Improved Extensibility

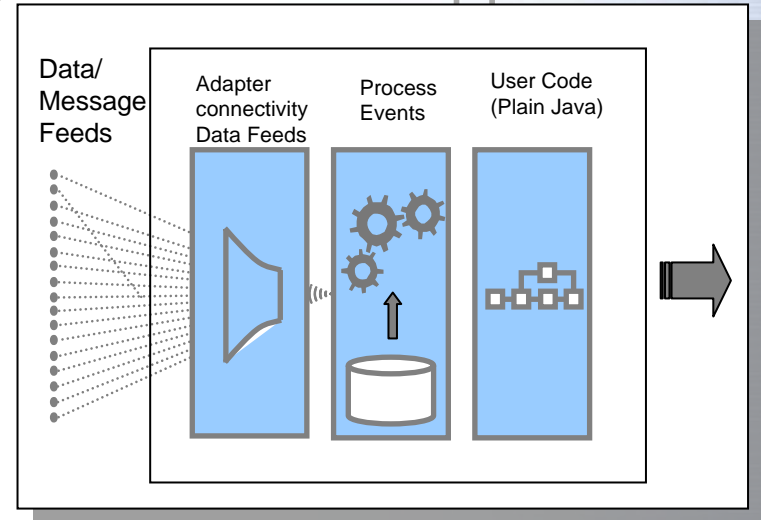
- Controlled environment for adding modules
 - Class-loading model protects private resources
 - Replaces single class-path model or proprietary solutions
 - Built-in versioning
 - Run multiple versions of module in same application
 - Service registry to control dynamic interactions among modules
- Simplifies and standardizes third-party module integration
- More predictable interactions between modules via service registry



WebLogic Event Server: 100% mSA

the FIRST and ONLY Java container for
High Volume, Real Time, Complex, Event-Driven applications

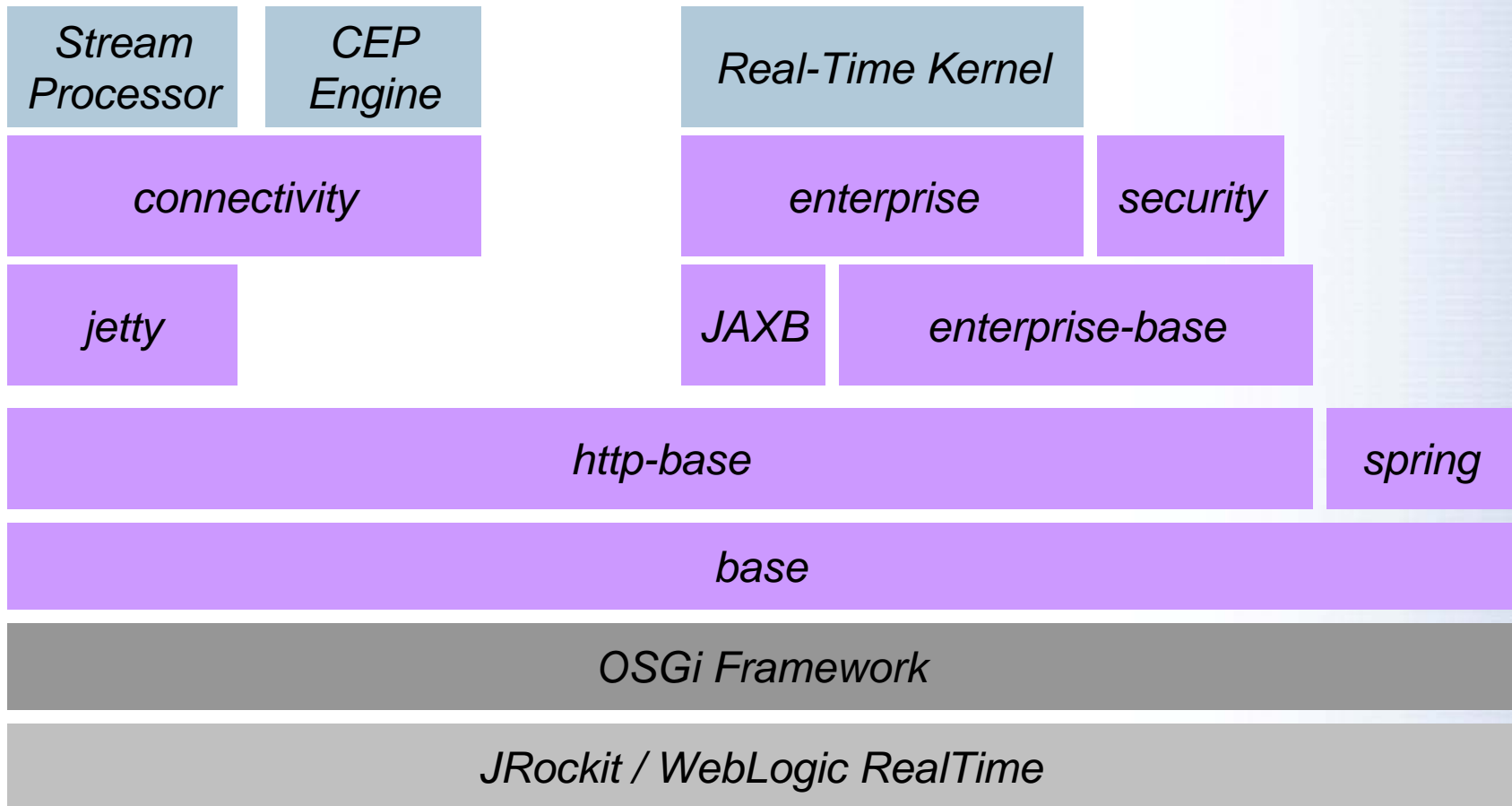
- **High Throughput**
 - ▶ >50,000 complex events per second
- **Complex Event Processing**
- **Extreme Low Latency -- Microseconds**
- **100% Latency Guarantee**
- **Purpose-built**
 - ▶ Specifically High Volume, Low Latency Complex Event Processing applications
 - ▶ 100% mSA – a BEA First



WLEvS Conceptual Function



WebLogic Event Server





BEA mSA and OSGi

- mSA is using principles of SOA to deliver new capabilities to its customers
- OSGi is a key, standards-based enabler of mSA
- New products continue to roll-out on mSA
- Resources
 - <http://www.bea.com/msa>
 - <http://www.bea.com/eventserver>
 - <http://osgi.org>