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Evolution of an OSGi Application

Introductions

- Arum DataEye
 - www.arumdataeye.com
- Arum Systems Ltd
 - www.arum.co.uk
- Chris Brind (me)
 - www.brindysoft.com

Arum DataEye



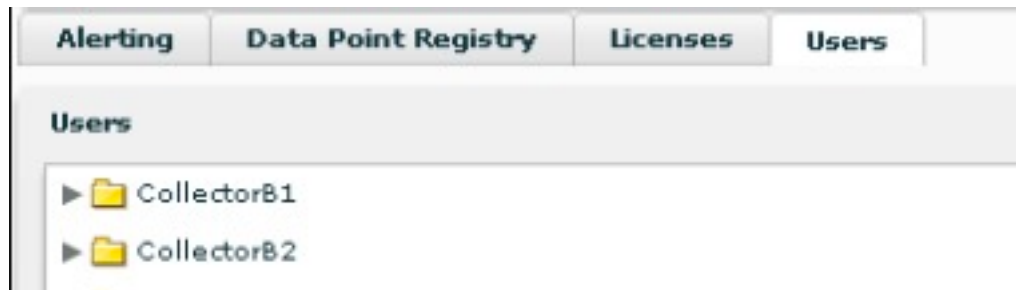
- Dashboard for Credit Management Industry
- Flash (Flex) front end
- Java (OSGi) back end

Extension Points

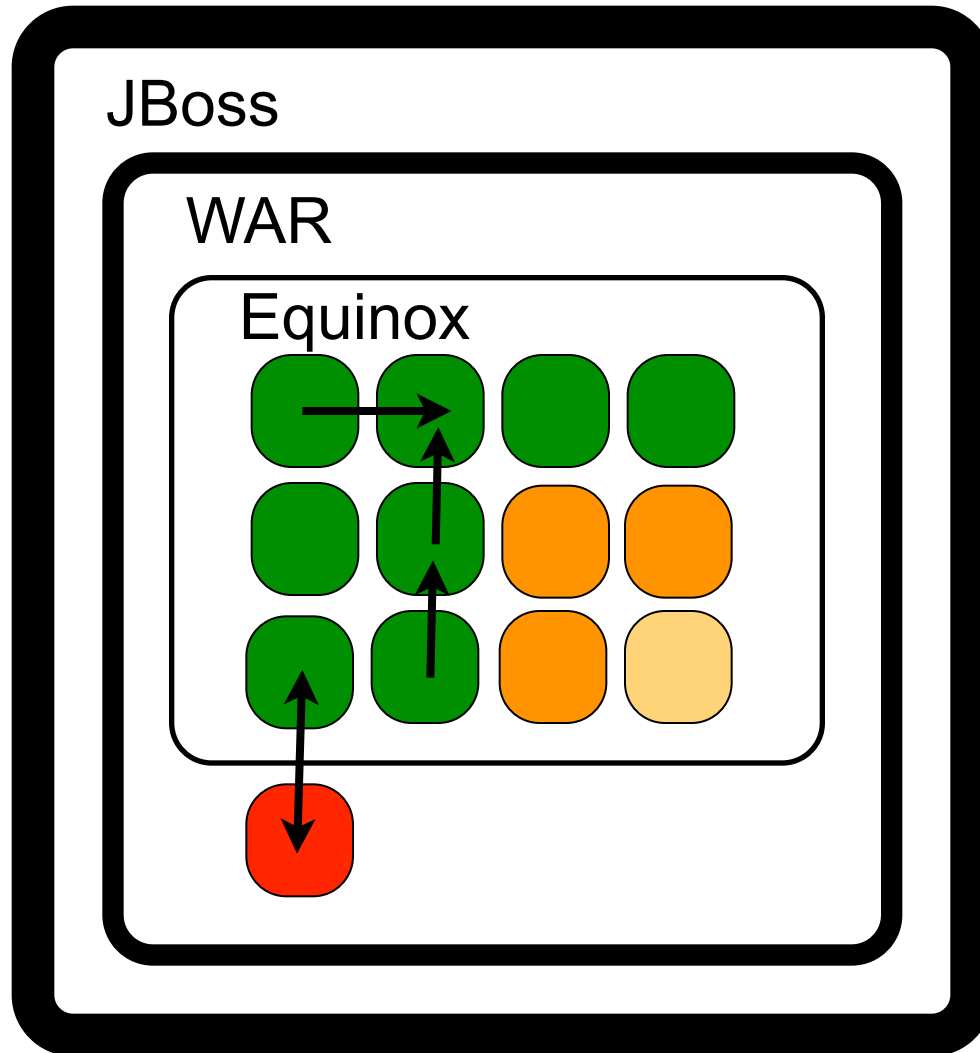
Dashboard Components



Administration Console

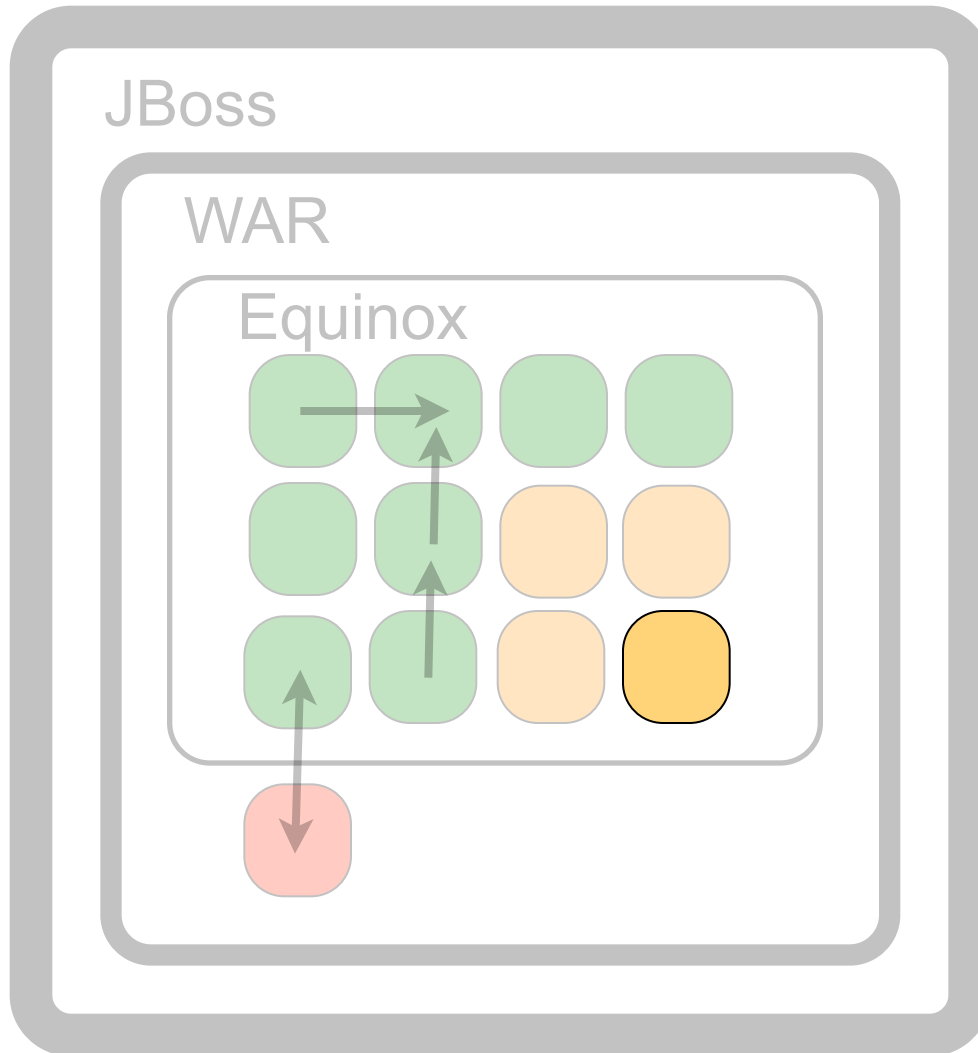


Architecture 1/5



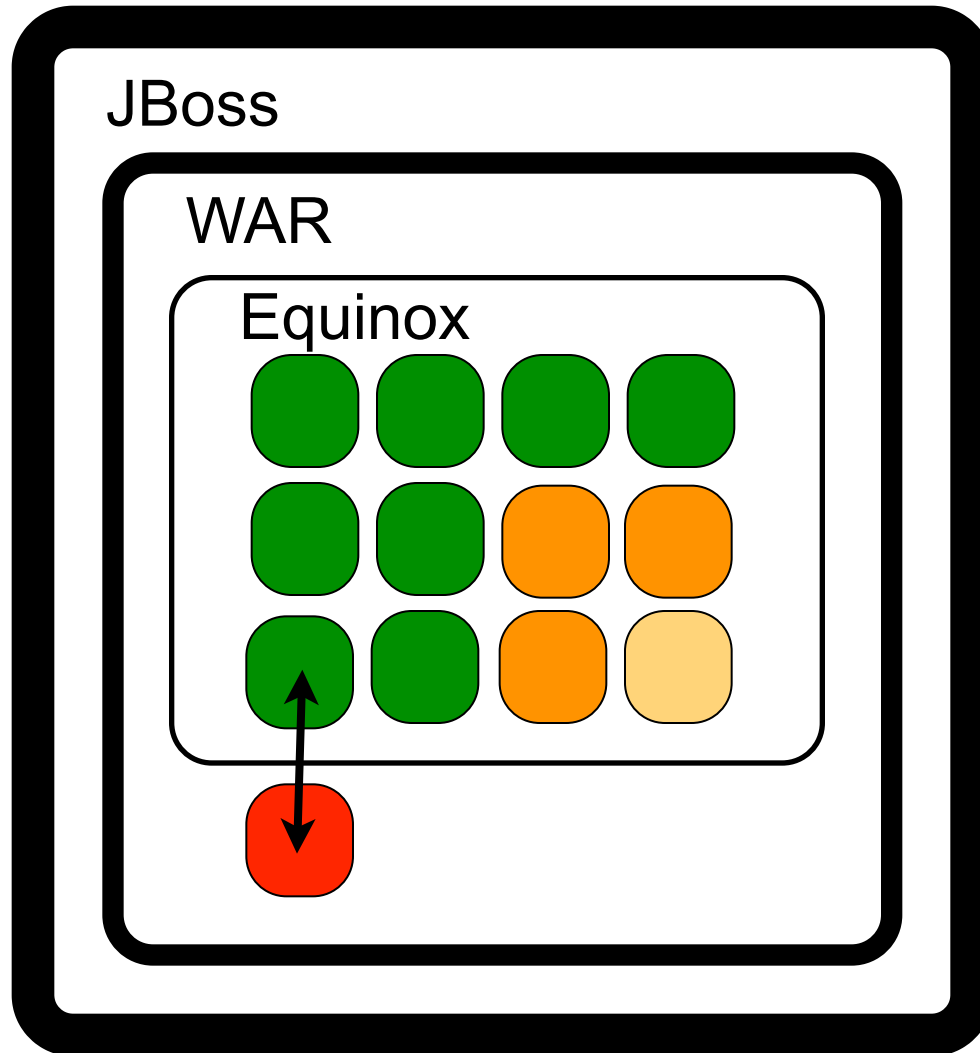
- Heavy weight
- OSGi-unfriendly dependencies
- Activators and Service Trackers
- Large footprint (120mb)
- Custom Ant tasks to help with CI
- Slow dev builds
- Slower CI builds
- PDE Bundles

Quick focus on db4o



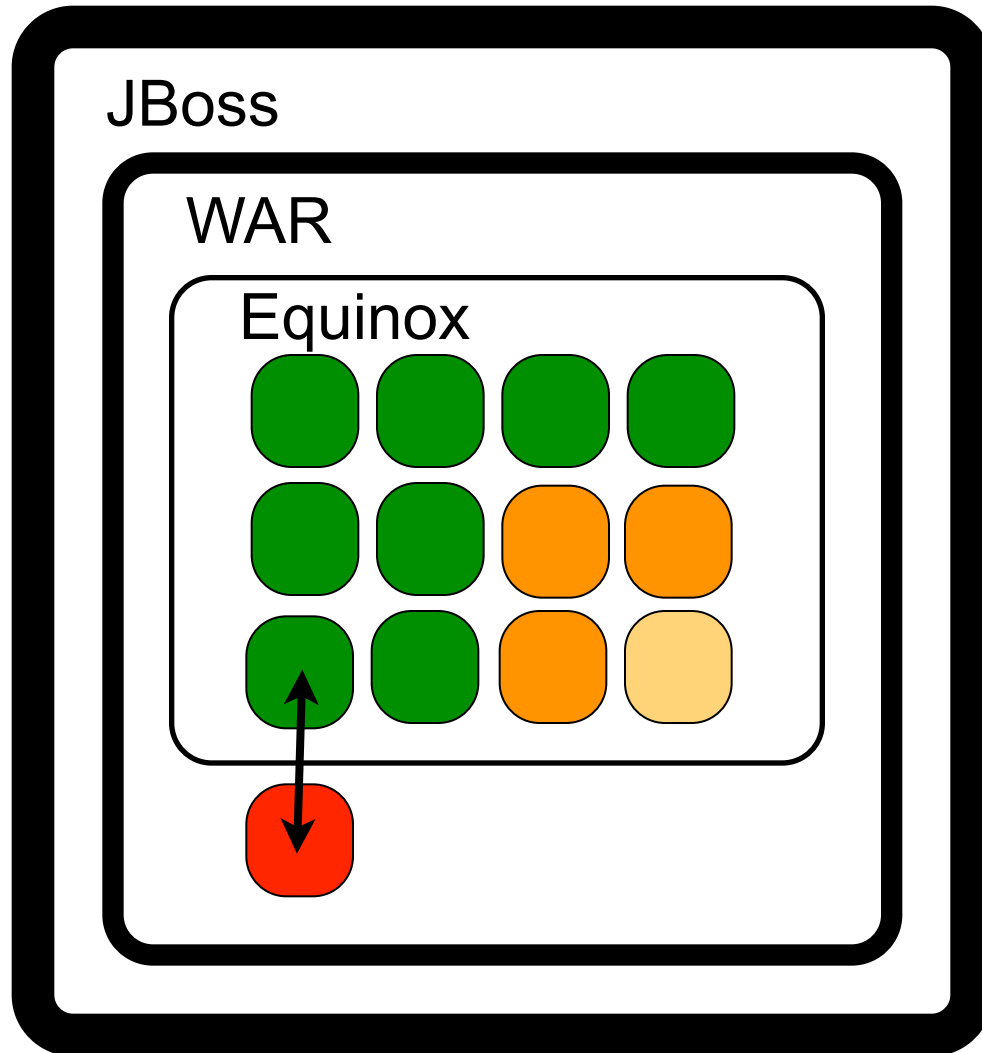
- No RDBMS
- Extremely simple OODB persistence
- Saved 30% of initial dev time
- Temporary, but worked so well, we kept it.
- www.db4o.com

Architecture 2 / 5



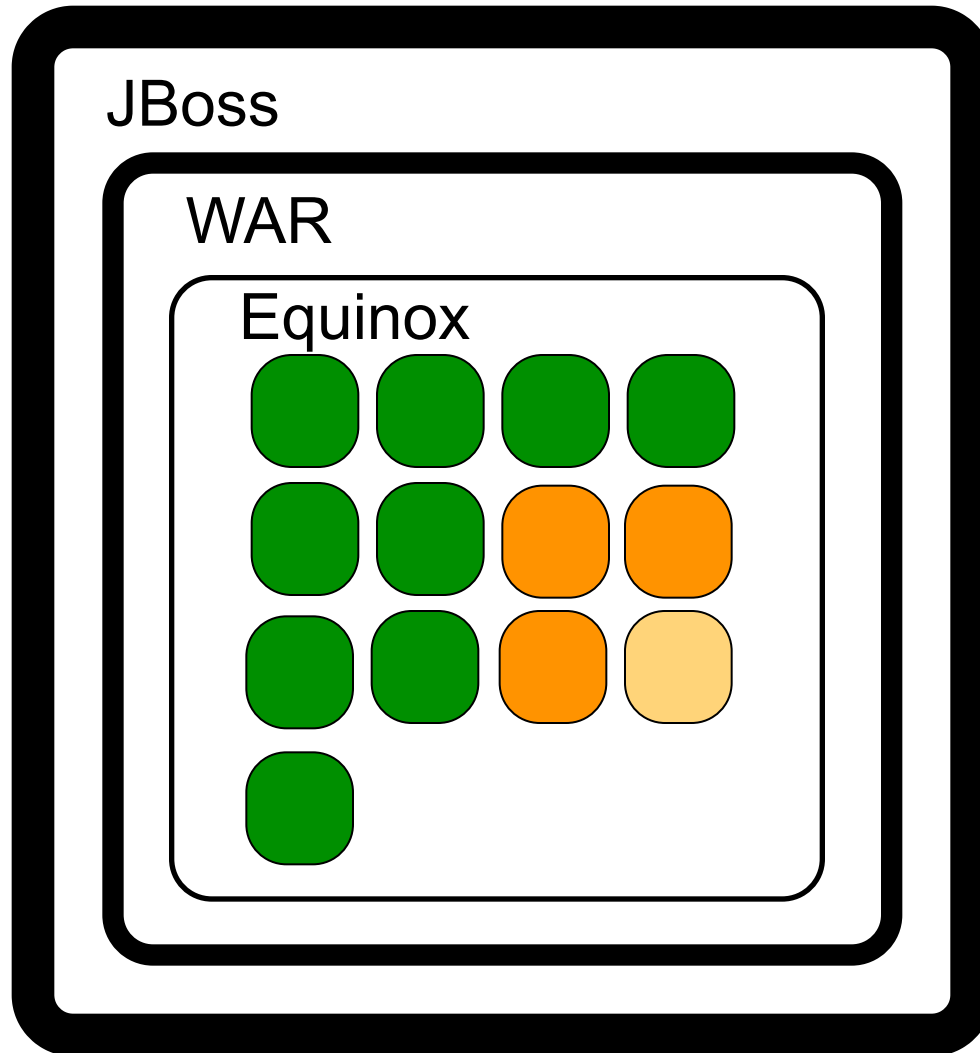
- Activators and Service Trackers becoming a real problem
- Bundle start ordering problems
- Custom DI
- Composition over Inheritance

Architecture 3 / 5



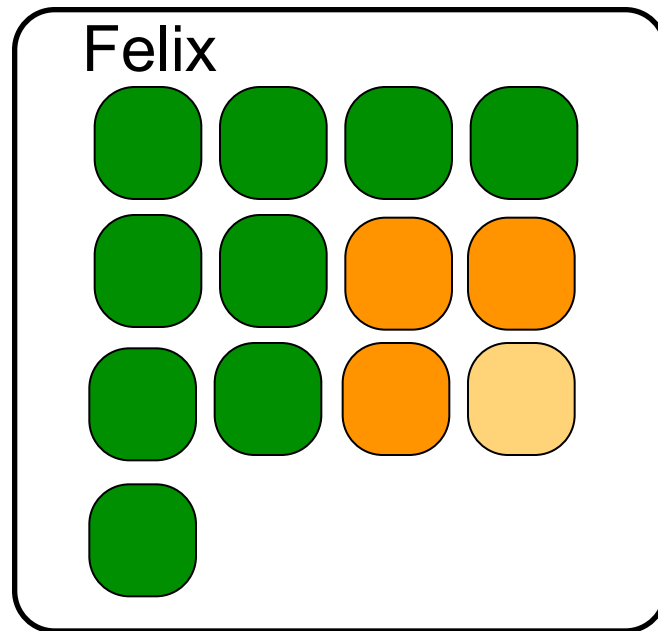
- Custom DI too rigid, too difficult to maintain
- Moved to DS
- Optimised Dev Builds

Architecture 4/5



- Removed external dependency
- Blaze DS -> AMF3OSGi
- Why is this still deployed as a WAR?

Architecture 5 / 5



- Much more lightweight (15mb inc. container)
- Felix -> Equinox
- With UI overhaul, became ADE 2.0

Scalability

- Service Oriented Front-end Architecture
 - i.e. a browser based RIA
- Server is basically a database for the front end
- No problems with 1GB JVM + 100s of users

The Future

- Improve scalability for 1000s, 10000s or more users?
 - OSGI clustering / cloud?
 - Paremus Service Fabric
 - Large scale JVMs?
 - Zing VM by Azul Systems
- db4o is an embedded database
 - Switch to Versant
 - Replace with RDBMS

Thanks for listening!

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BrindySoft

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