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# Evolution of an OSGi Application

# Introductions

- Arum DataEye
  - [www.arumdataeye.com](http://www.arumdataeye.com)
- Arum Systems Ltd
  - [www.arum.co.uk](http://www.arum.co.uk)
- Chris Brind (me)
  - [www.brindysoft.com](http://www.brindysoft.com)

# Arum DataEye



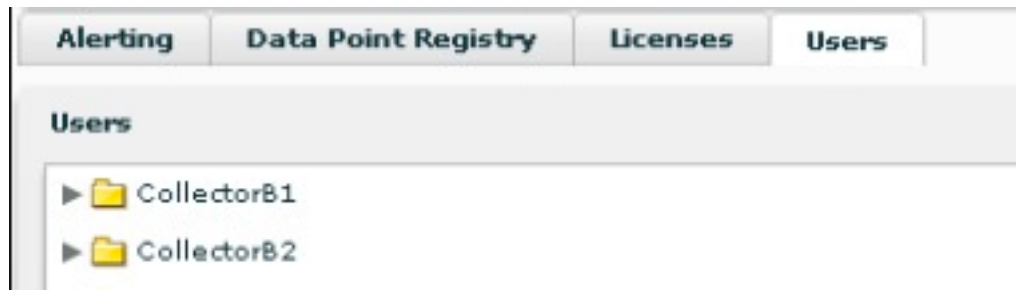
- Dashboard for Credit Management Industry
- Flash (Flex) front end
- Java (OSGi) back end

# Extension Points

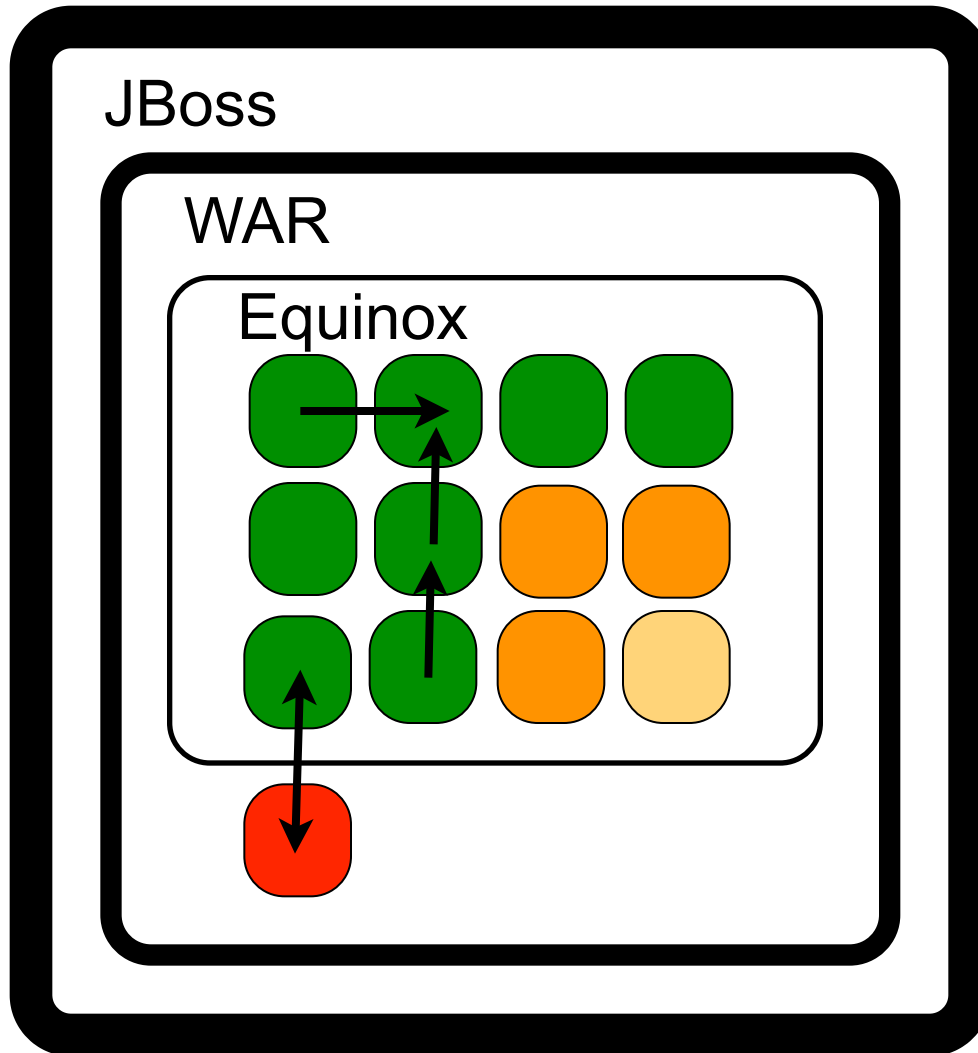
## Dashboard Components



## Administration Console

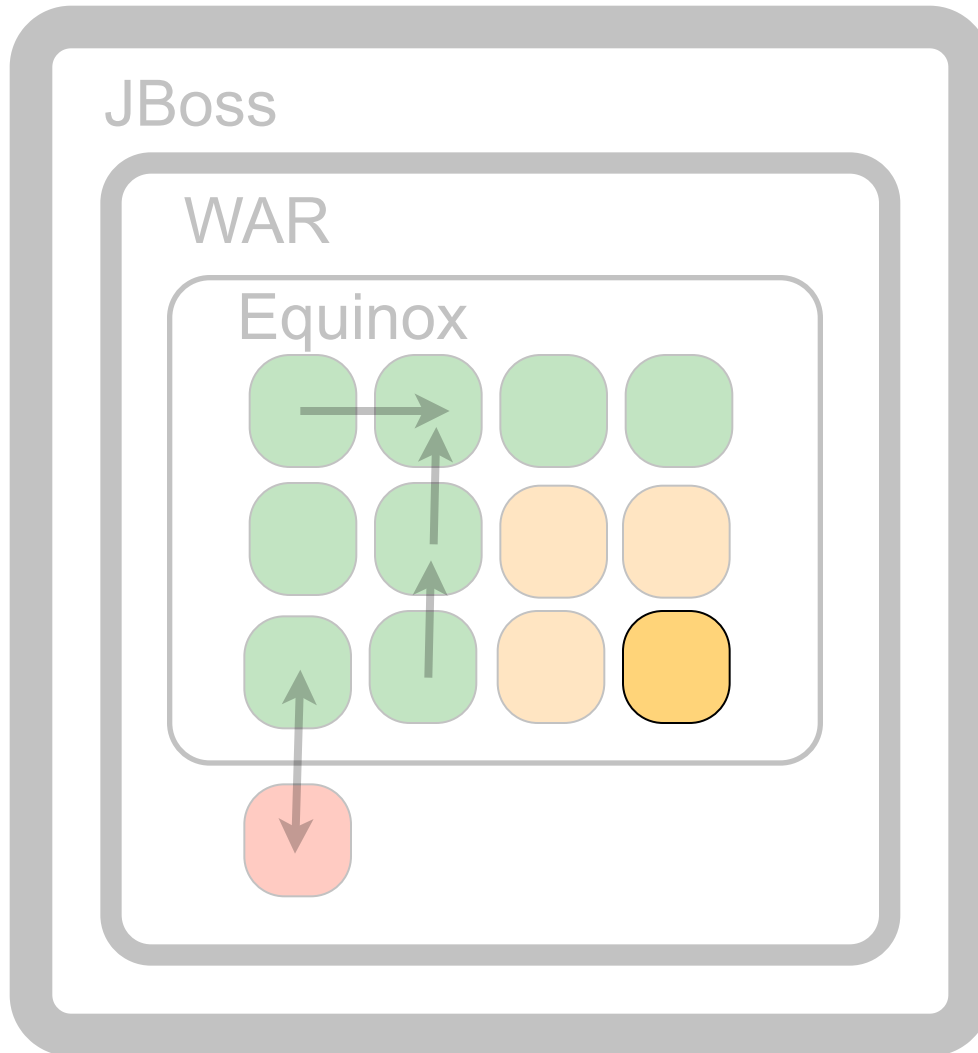


# Architecture 1/5



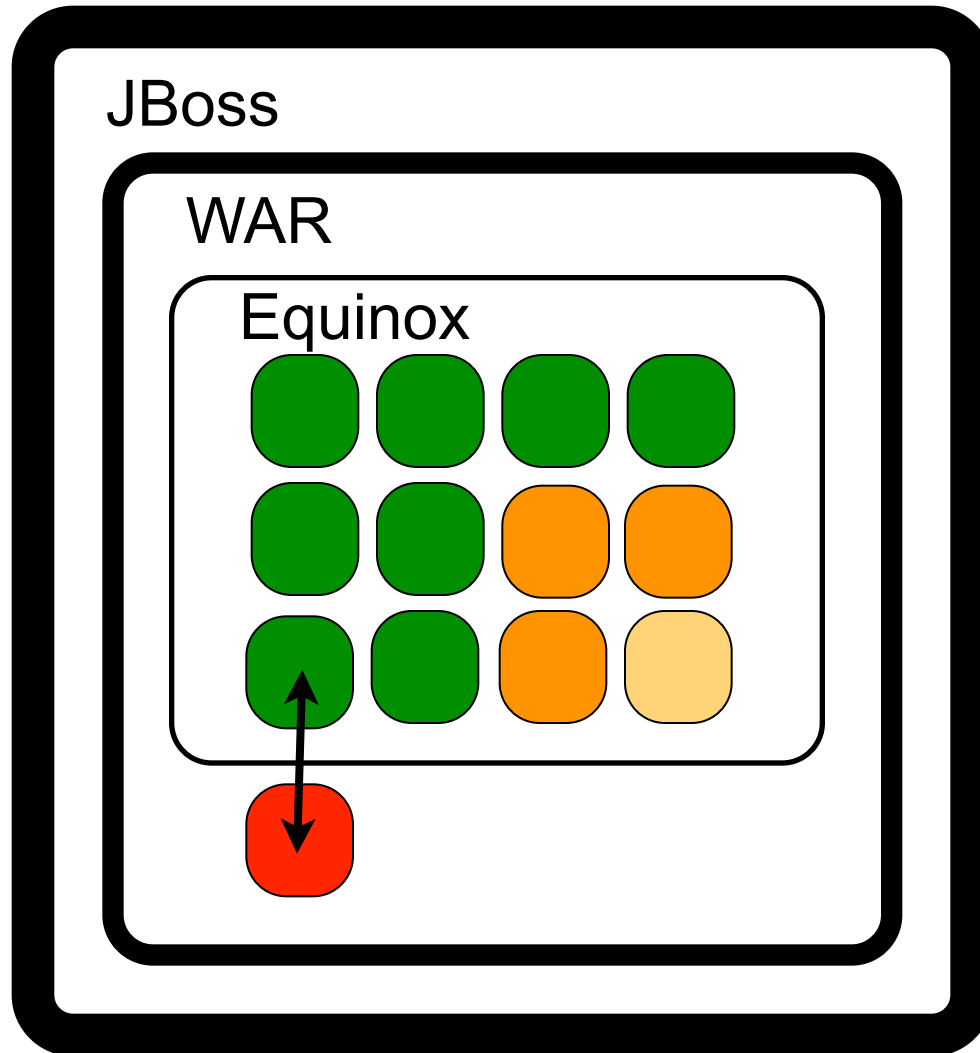
- Heavy weight
- OSGi-unfriendly dependencies
- Activators and Service Trackers
- Large footprint (120mb)
- Custom Ant tasks to help with CI
- Slow dev builds
- Slower CI builds
- PDE Bundles

# Quick focus on db4o



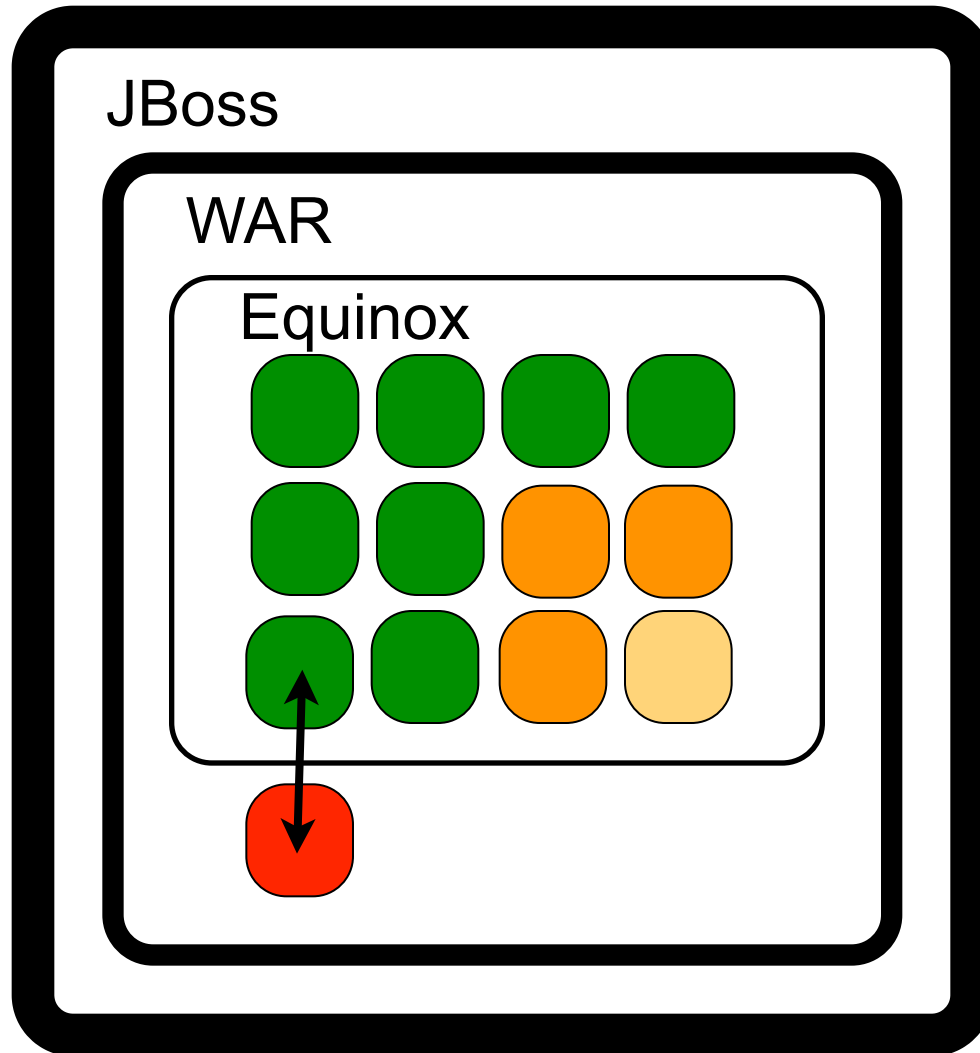
- No RDBMS
- Extremely simple OODB persistence
- Saved 30% of initial dev time
- Temporary, but worked so well, we kept it.
- [www.db4o.com](http://www.db4o.com)

# Architecture 2 / 5



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

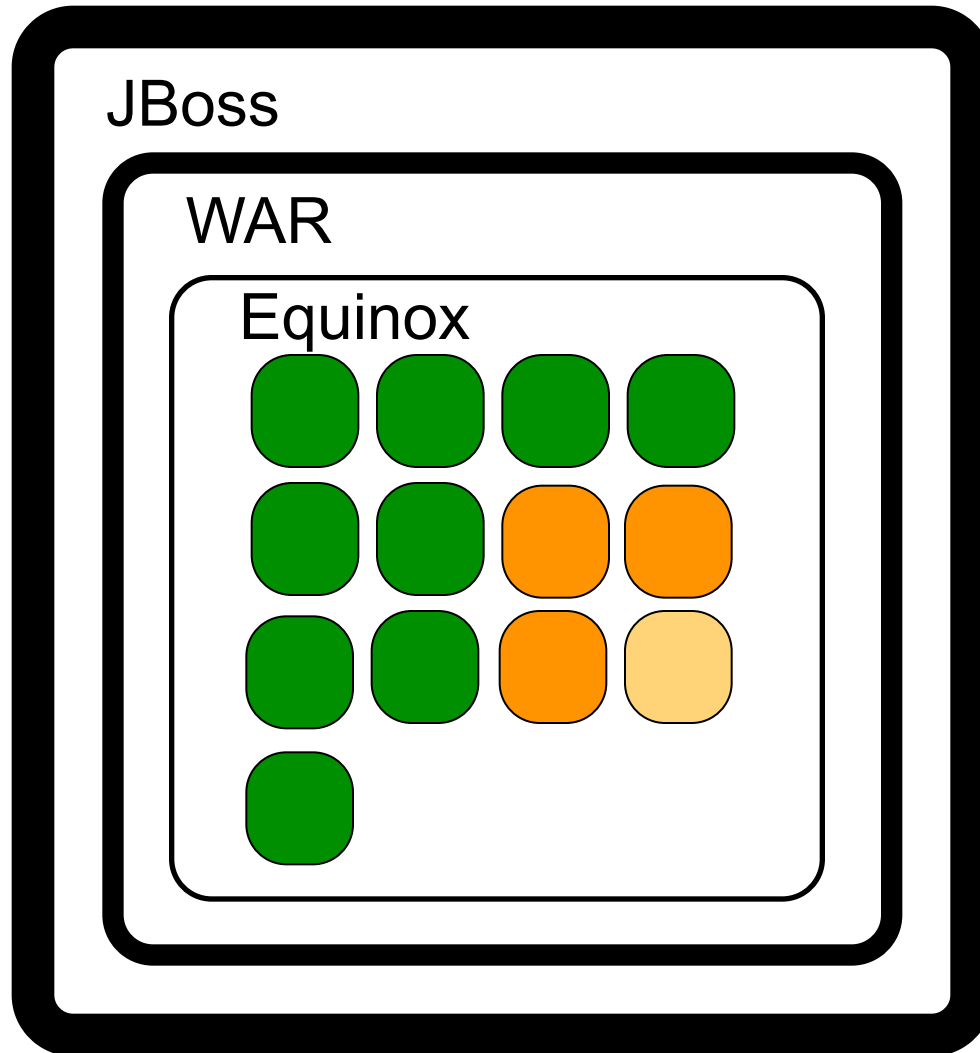
# Architecture 3 / 5



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

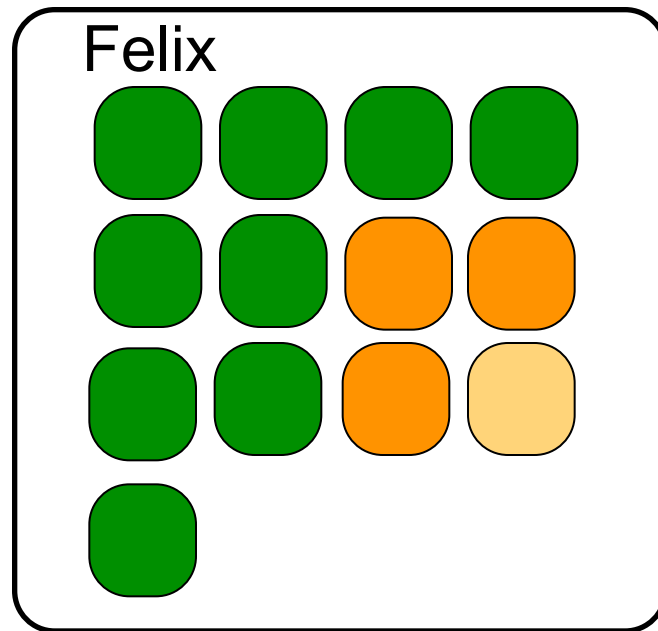


# Architecture 4/5



- 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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- Chris Brind (me)
  - [www.brindysoft.com](http://www.brindysoft.com)



# BrindySoft

FREELANCE SOFTWARE DEVELOPMENT

[www.brindysoft.com](http://www.brindysoft.com)