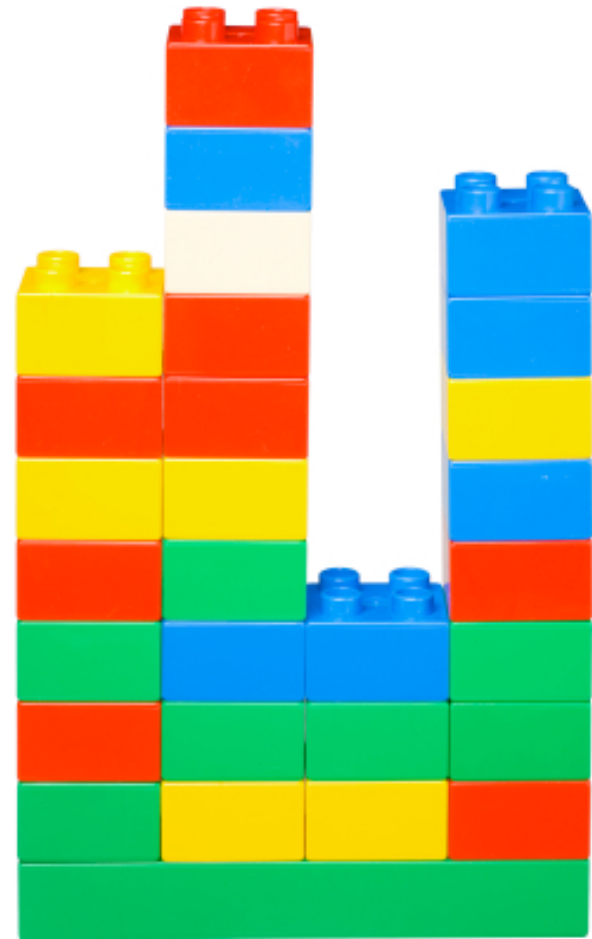


Plug-in Best Practices for Rich Client Applications

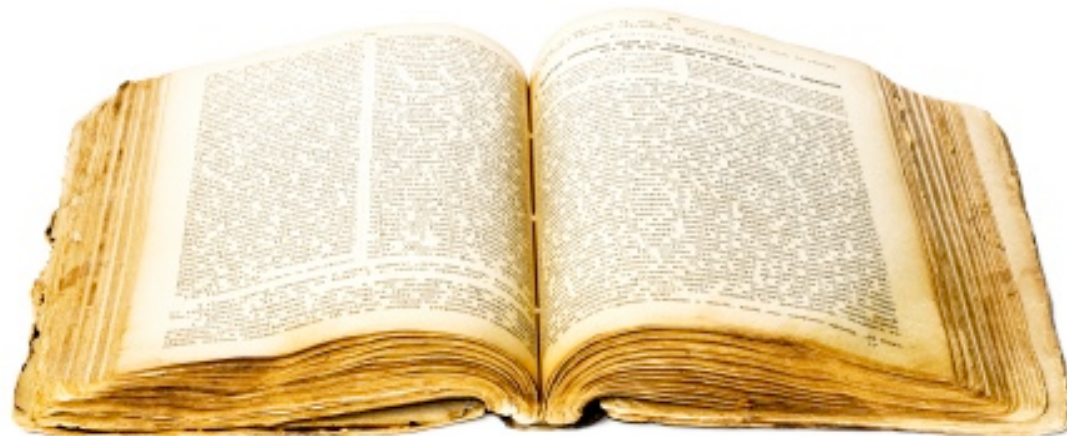
Patrick Paulin
Syntax Consulting

patrick@rcpquickstart.com

[www.rcpquickstart.com/training/presentations/
plugin-best-practices-ew2008](http://www.rcpquickstart.com/training/presentations/plugin-best-practices-ew2008)



A (very) short history of software development





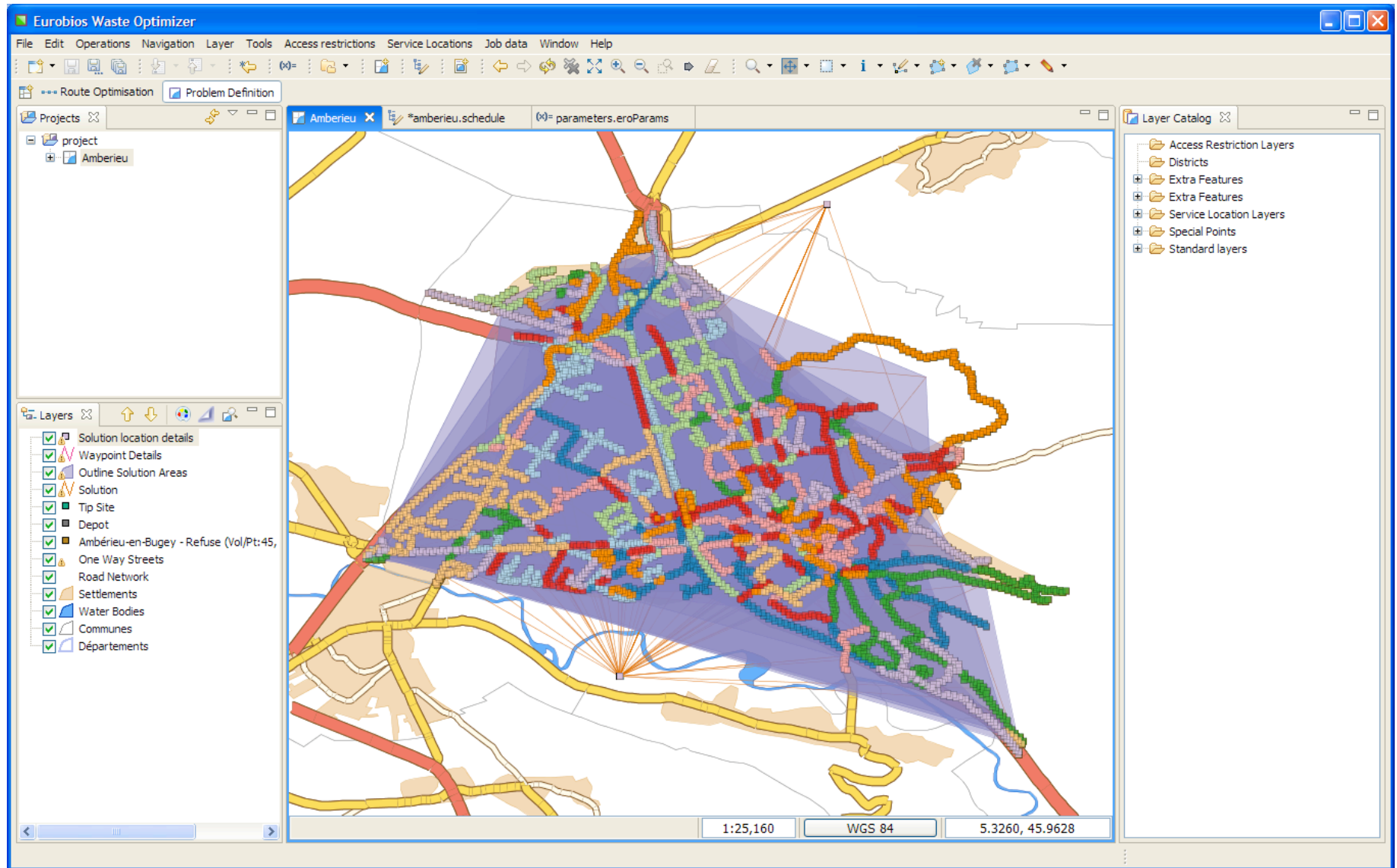
Centralized



Decentralized



Centralized



Decentralized

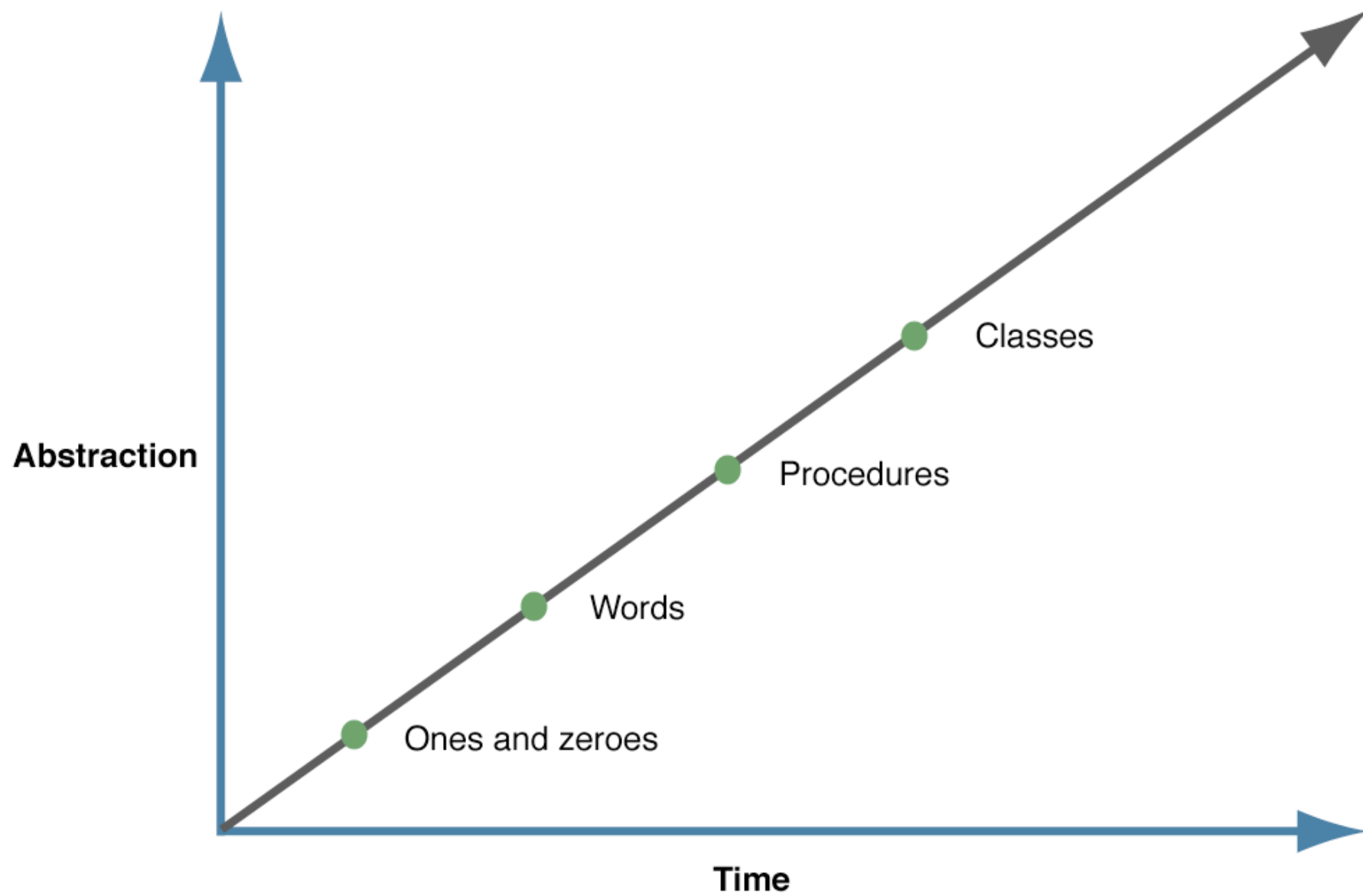
RIA - The holy grail?



An alternative history

“Software development has advanced in large part by increasing the granularity of the aggregations that we have to work with.”

- Steve McConnell,
Code Complete (2nd Ed.)

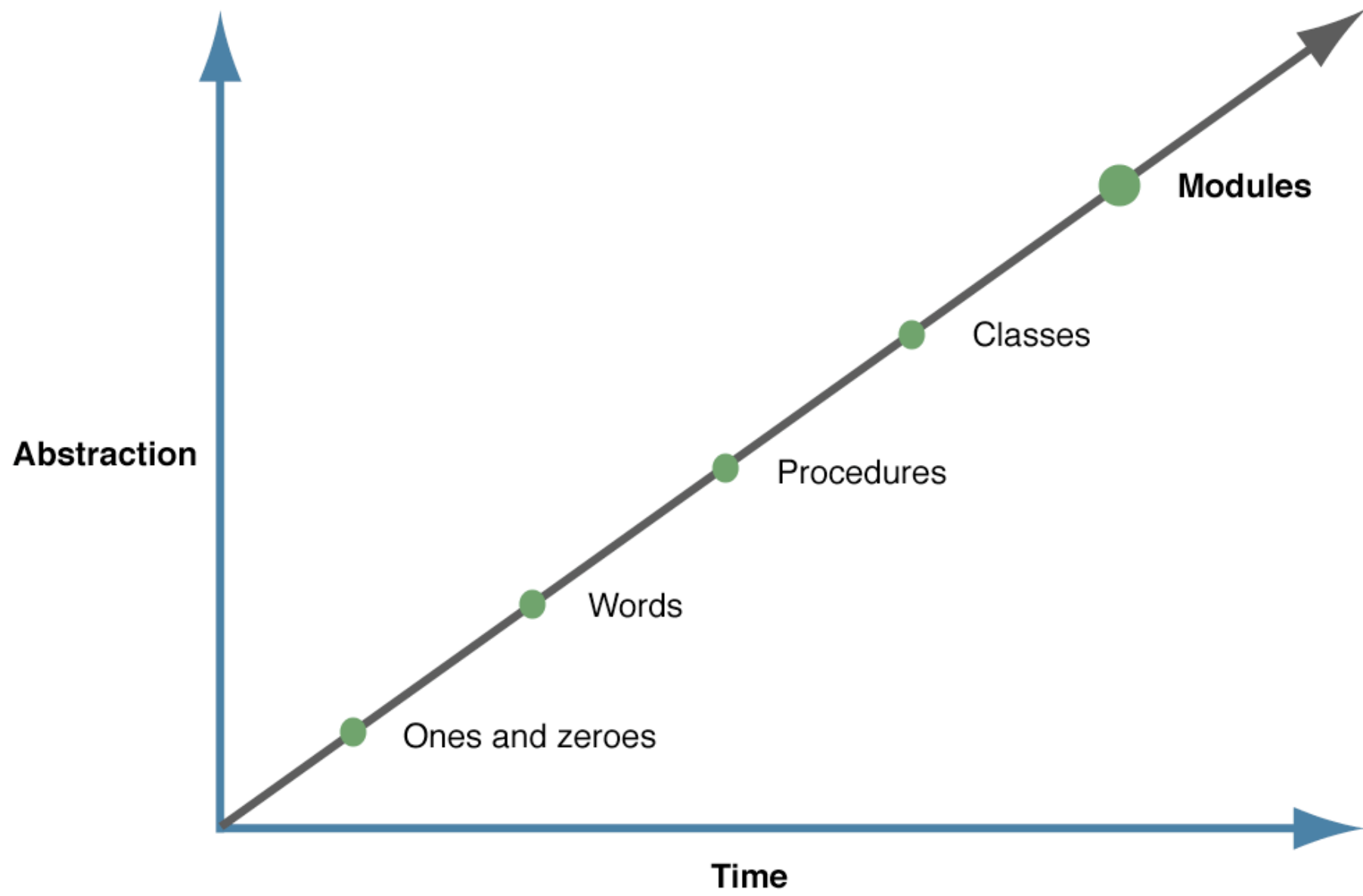


Managing complexity



Refactoring

“Not enough get's
said about the importance
of abandoning crap.” - Ira Glass



JSR 277

Spring DM

Maven

Apache Felix

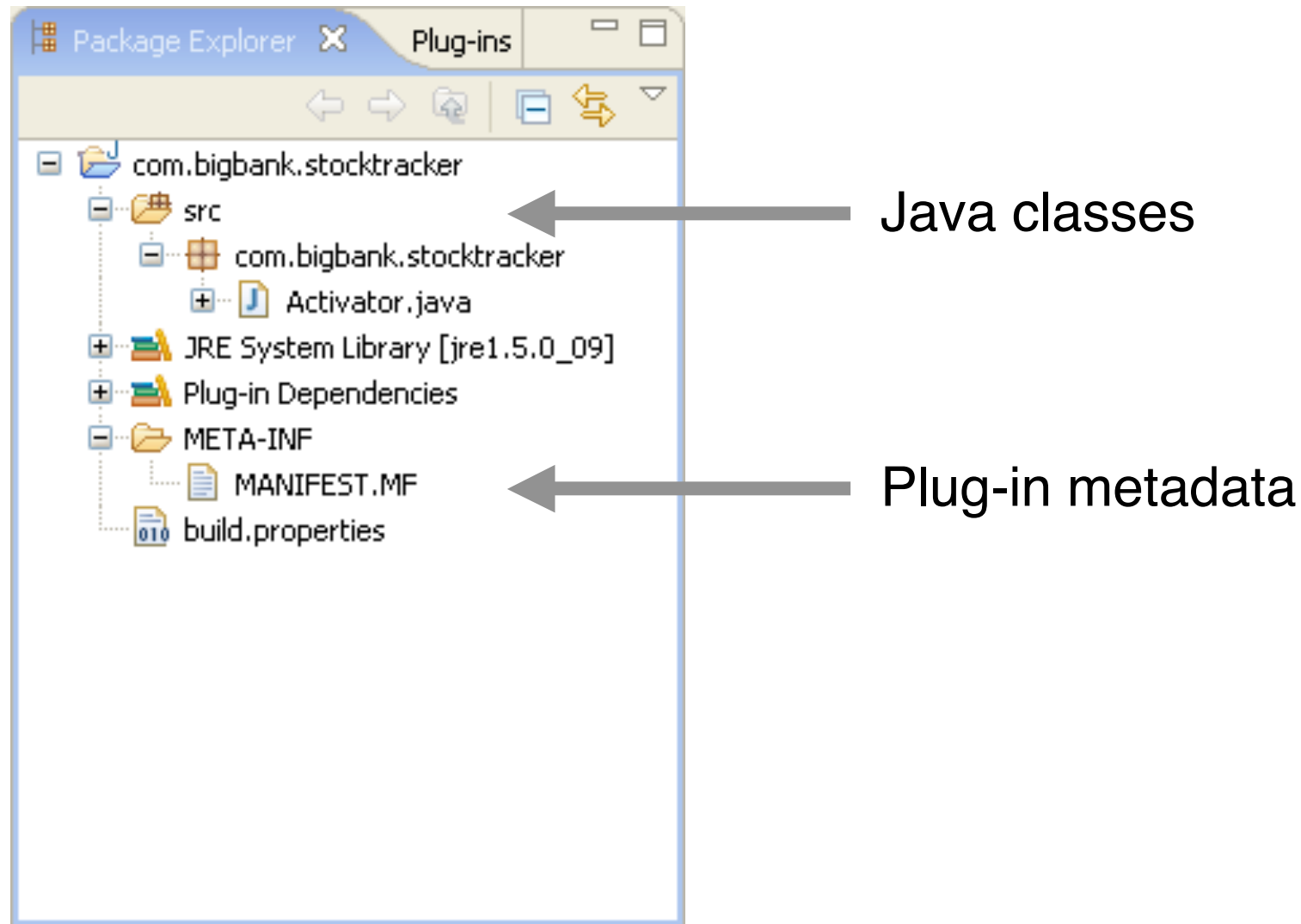
JSR 294

OSGi

JSR 291

Equinox

What is a plug-in?



What is a plug-in?

Regular JAR

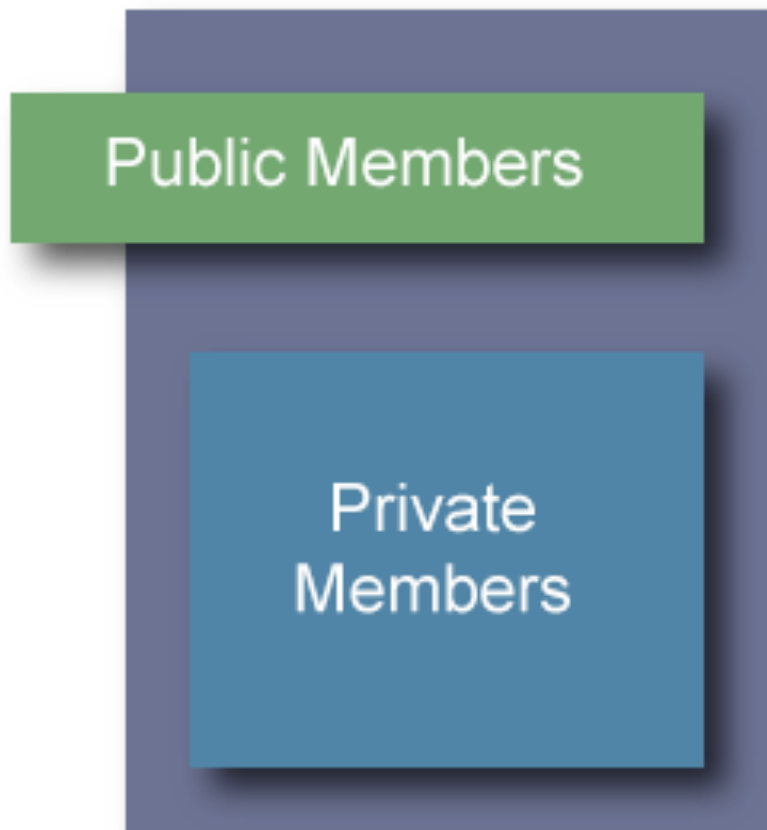


Modularized JAR

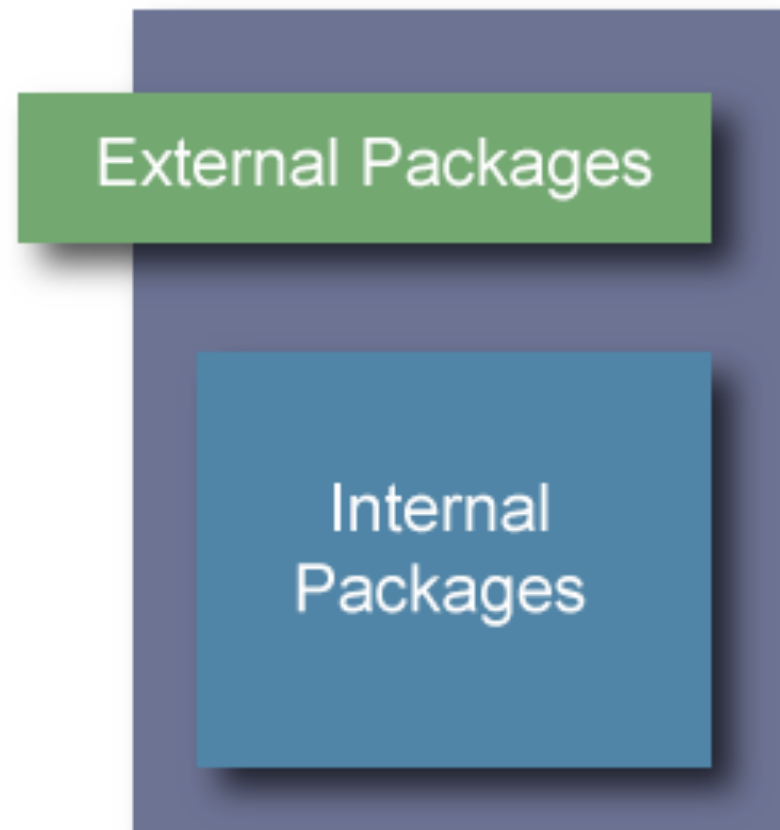


Encapsulation

Class



Plug-in



Runtime

Exported Packages

Enumerate all the packages that this plug-in exposes to clients. All other packages will be hidden from clients at all times.

[Add...](#)[Remove](#)[Properties...](#)

Package Visibility (Eclipse 3.1 or later)

When the runtime is in strict mode, the selected package is:

☐ visible to downstream plug-ins☐ hidden from all plug-ins except:[Add...](#)[Remove](#)

Classpath

Specify the libraries and folders that constitute the plug-in classpath. If unspecified, the classes and resources are assumed to be at the root of the plug-in.

[New...](#)[Add...](#)[Remove](#)[Up](#)[Down](#)[Overview](#)[Dependencies](#)[Runtime](#)[Extensions](#)[Extension Points](#)[Build](#)[MANIFEST.MF](#)[build.properties](#)

Cohesion



A plug-in should represent a coherent concept



A plug-in should do one thing and do it well

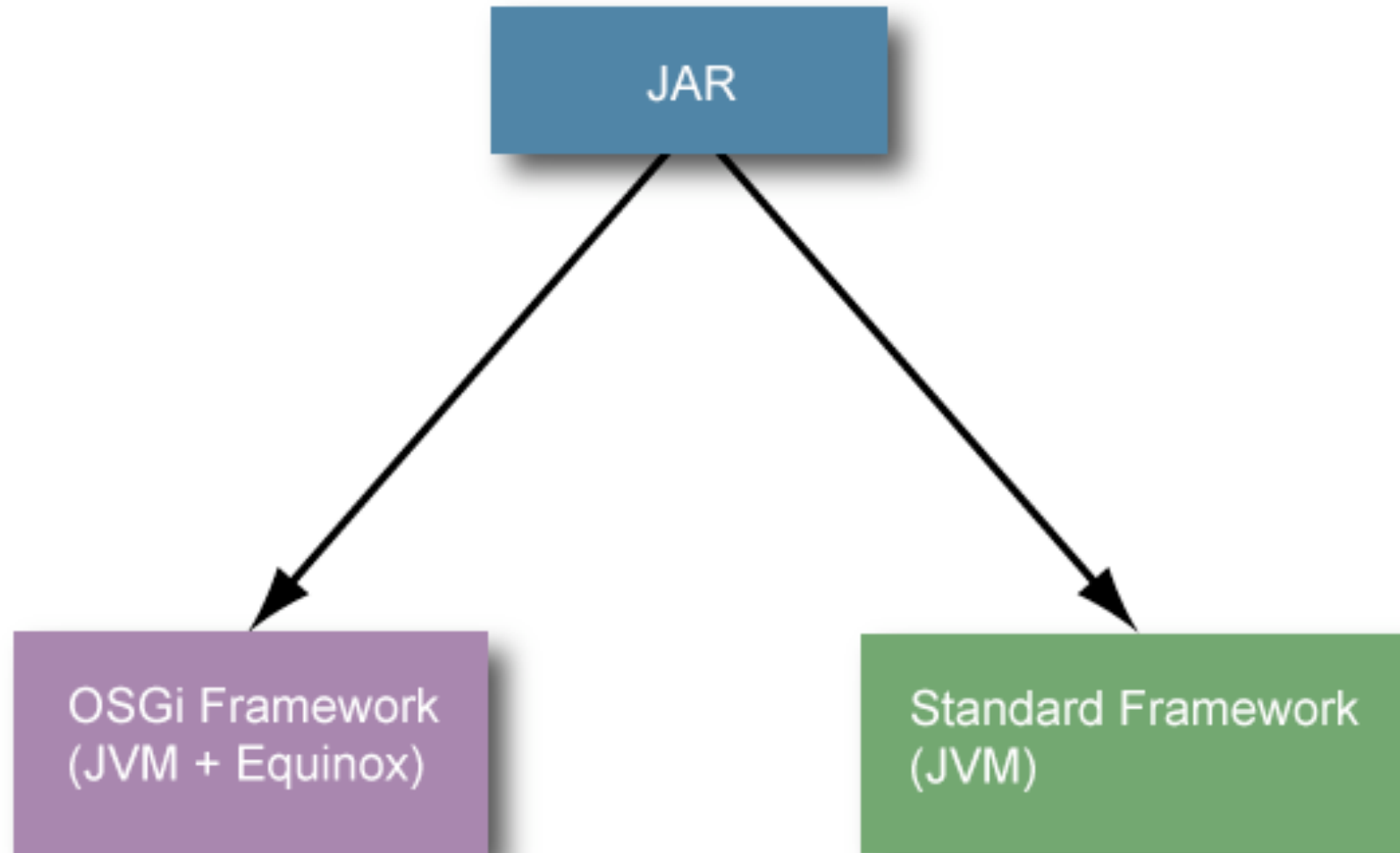
How many?



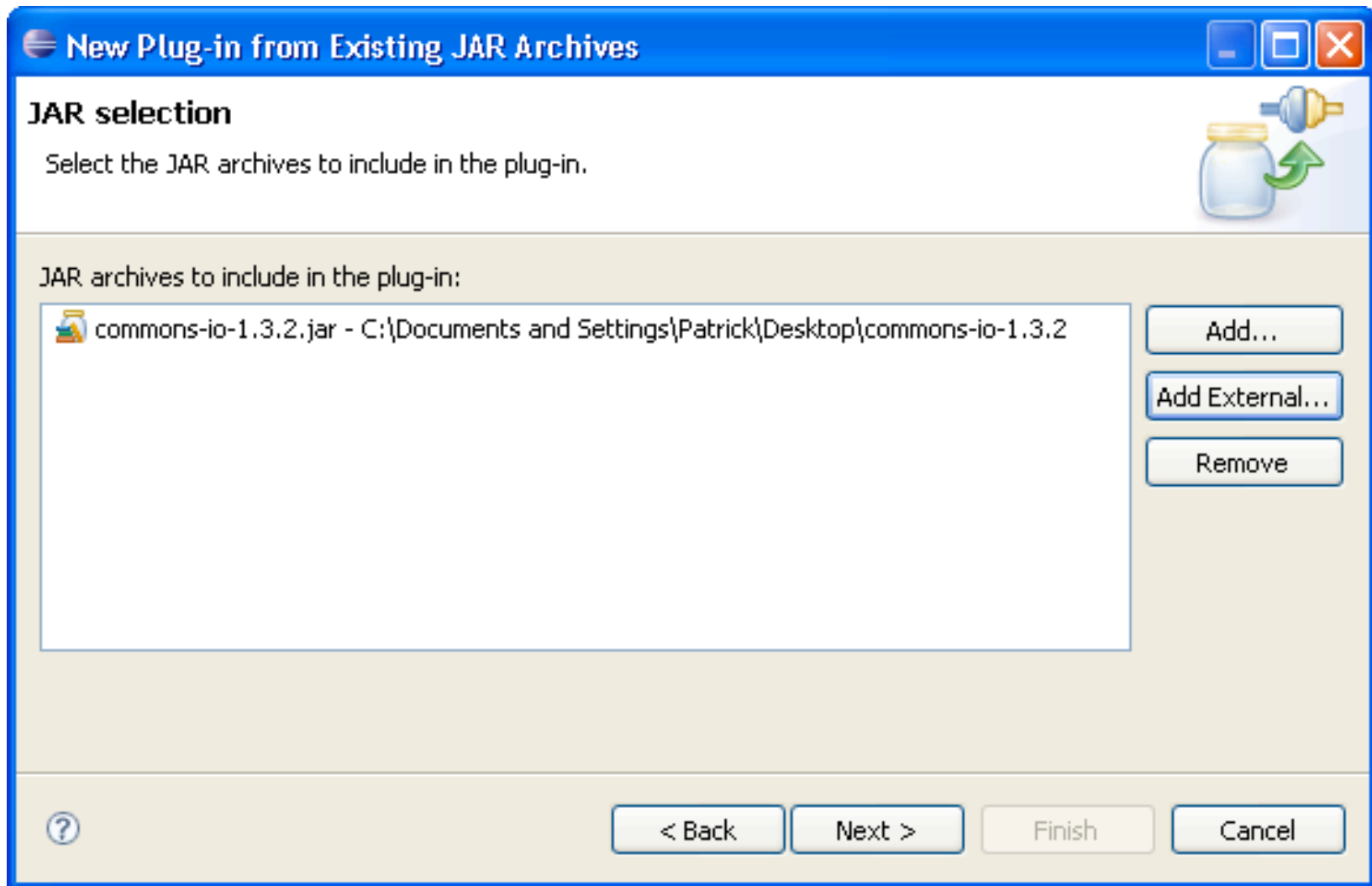
The background of the image is a close-up, high-contrast photograph of flames. The fire is bright orange and yellow, with dark, swirling patterns of smoke and ash visible within the fire itself. The flames are rising and flickering, creating a sense of intense heat and movement. The overall effect is dramatic and fiery.

```
java -classpath
com.ibm.icu.source_3.6.1.v20070417;com.ibm.icu_3.6.1.v20070417.jar;com.jcraft.jsch_0.1.31.jar;
avax.servlet.jsp.source_2.0.0.v200706191603;javax.servlet.jsp_2.0.0.v200706191603.jar;javax.servl
et.source_2.4.0.v200706111738;javax.servlet_2.4.0.v200706111738.jar;org.apache.ant.source_1.7.
0.v200706080842;org.apache.ant_1.7.0.v200706080842;org.apache.commons.el.source_1.0.0.v20
0706111724;org.apache.commons.el_1.0.0.v200706111724.jar;org.apache.commons.logging.sourc
e_1.0.4.v200706111724;org.apache.commons.logging_1.0.4.v200706111724.jar;org.apache.jasper.
source_5.5.17.v200706111724;org.apache.jasper_5.5.17.v200706111724.jar;org.apache.lucene.an
alysis.source_1.9.1.v200706181610;org.apache.lucene.analysis_1.9.1.v200706181610.jar;org.apac
he.lucene.source_1.9.1.v200706111724;org.apache.lucene_1.9.1.v200706111724.jar;org.apache.x
erces_2.8.0.v200705301630.jar;org.apache.xml.resolver_1.1.0.v200705310020.jar;org.eclipse.ant.c
ore_3.1.200.v20070522.jar;org.eclipse.ant.ui_3.2.100.v20070511.jar;org.eclipse.compare_3.3.0.I20
070606.jar;org.eclipse.core.boot_3.1.100.v20060603.jar;org.eclipse.core.commands_3.3.0.I200706
05-0010.jar;org.eclipse.core.contenttype_3.2.100.v20070319.
jar;org.eclipse.core.databinding.beans_1.0.0.I20070606-
0010.jar;org.eclipse.core.databinding_1.0.0.I20070606-
0010.jar;org.eclipse.core.expressions_3.3.0.v20070606-
0010.jar;org.eclipse.core.filebuffers_3.3.0.v20070606-
0010.jar;org.eclipse.core.filesystem.macosx_1.0.0.v20060603.jar;org.eclipse.core.filesystem_1.1.0.v
20070606.jar;org.eclipse.core.jobs_3.3.0.v20070423.jar;org.eclipse.core.net_1.0.0.I20070531.jar;or
g.eclipse.core.resources.compatibility_3.2.100.v20070502.jar;org.eclipse.core.resources_3.3.0.v200
70604.jar;org.eclipse.core.runtime.compatibility.auth_3.2.100.v20070502.jar;org.eclipse.core.runtim
e.compatibility.registry_3.2.100.v20070316;org.eclipse.core.runtime.compatibility_3.1.200.v2007050
2.jar;org.eclipse.core.runtime_3.3.100.v20070530.jar;org.eclipse.core.variables_3.2.0.v20070426.jar
;org.eclipse.cvs_1.0.0.v20070606.jar;org.eclipse.debug.core_3.3.0.v20070607-
1800.jar;org.eclipse.debug.ui_3.3.0.v20070607-
1800.jar;org.eclipse.draw2d_3.2.100.v20070529.jar;org.eclipse.emf.common.ui_2.3.0.v2007062620
00.jar;org.eclipse.emf.common_2.3.0.v200706262000.jar;org.eclipse.emf.ecore.change.edit_2.3.0.v
```

Dual use

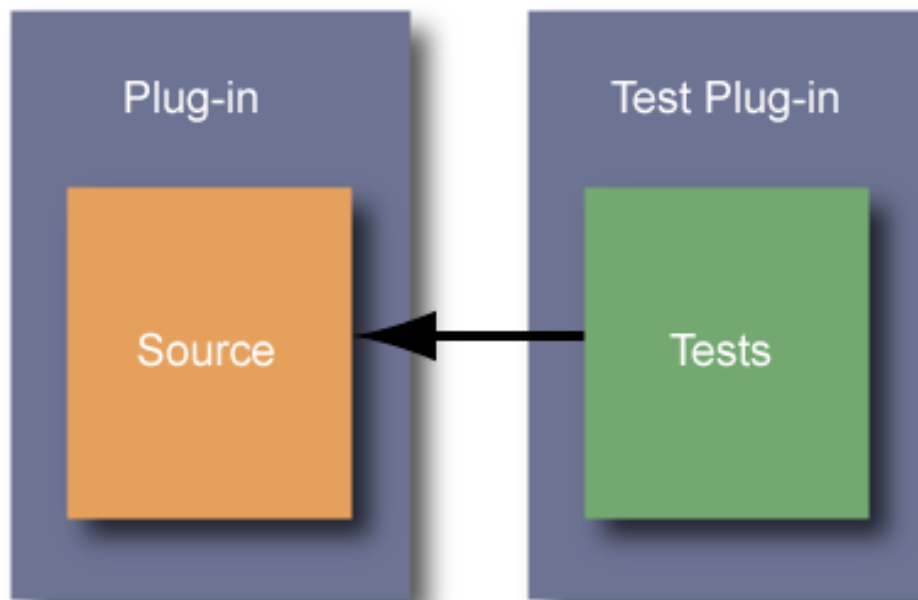


Third party code

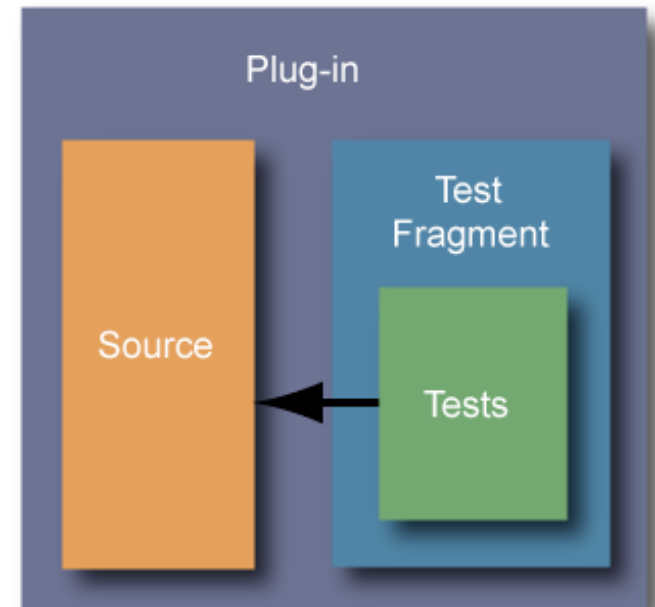


Testing

Separate plug-in



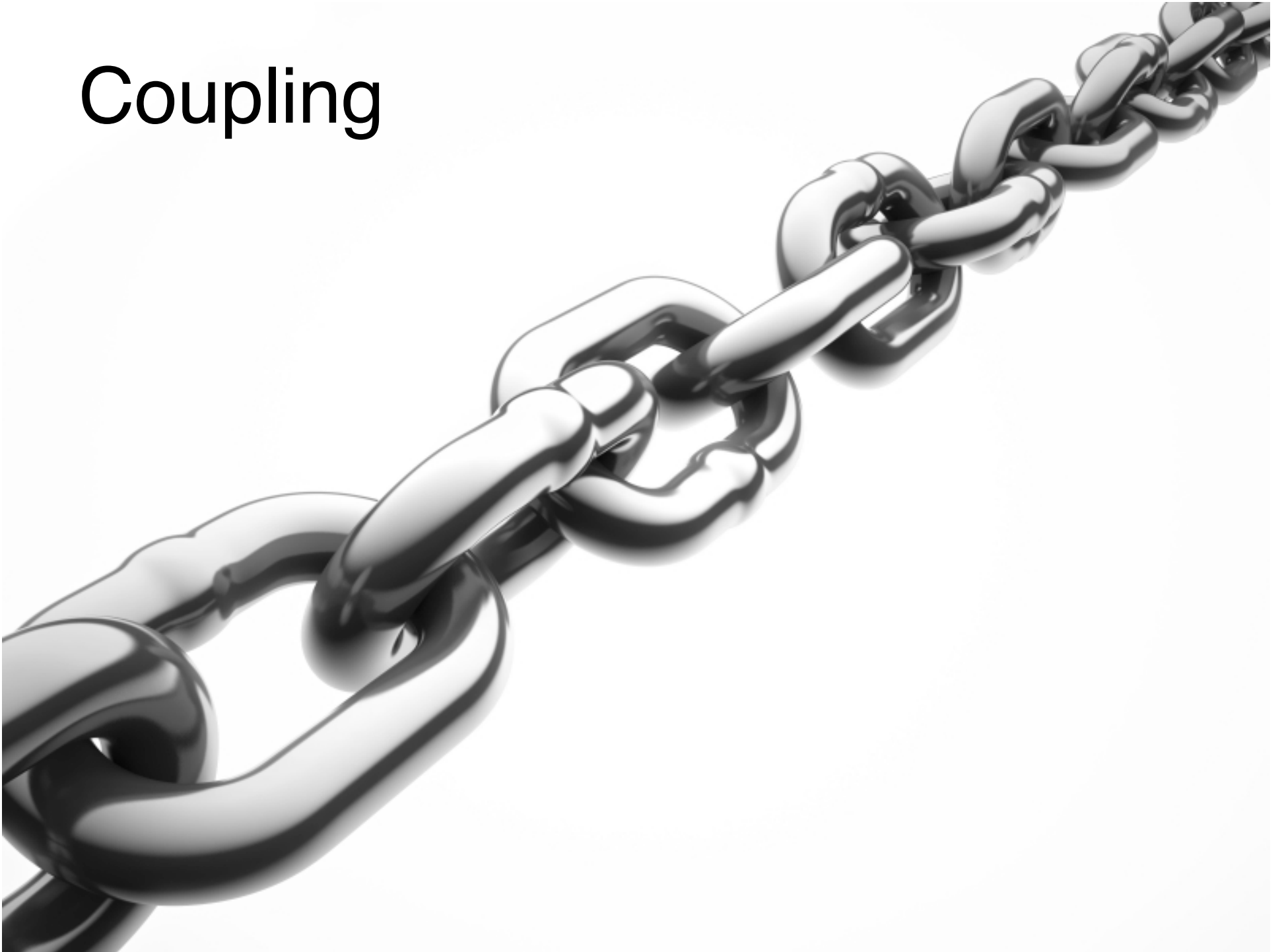
Fragment



Dependencies



Coupling



com.bigbank.stocktracker

Dependencies

Required Plug-ins

Specify the list of plug-ins required for the operation of this plug-in.

org.eclipse.ui

org.eclipse.core.runtime

Add...

Remove

Up

Down

Properties...

Total: 2

Imported Packages

Specify packages on which this plug-in depends without explicitly identifying their originating plug-in.

Add...

Remove

Properties...

Total: 0

Automated Management of Dependencies

Dependency Analysis

Overview

Dependencies

Runtime

Extensions

Extension Points

Build

MANIFEST.MF

build.properties

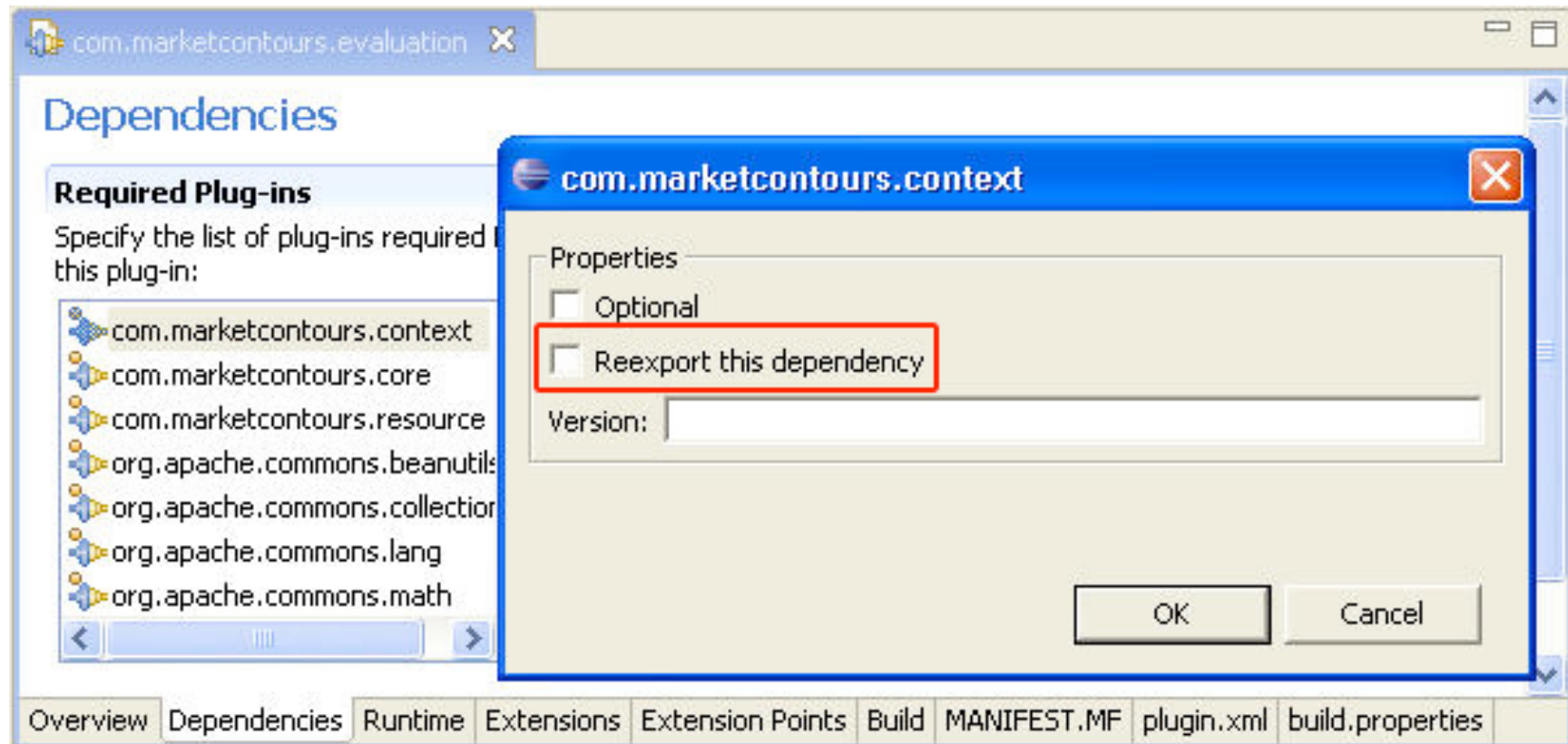
UI



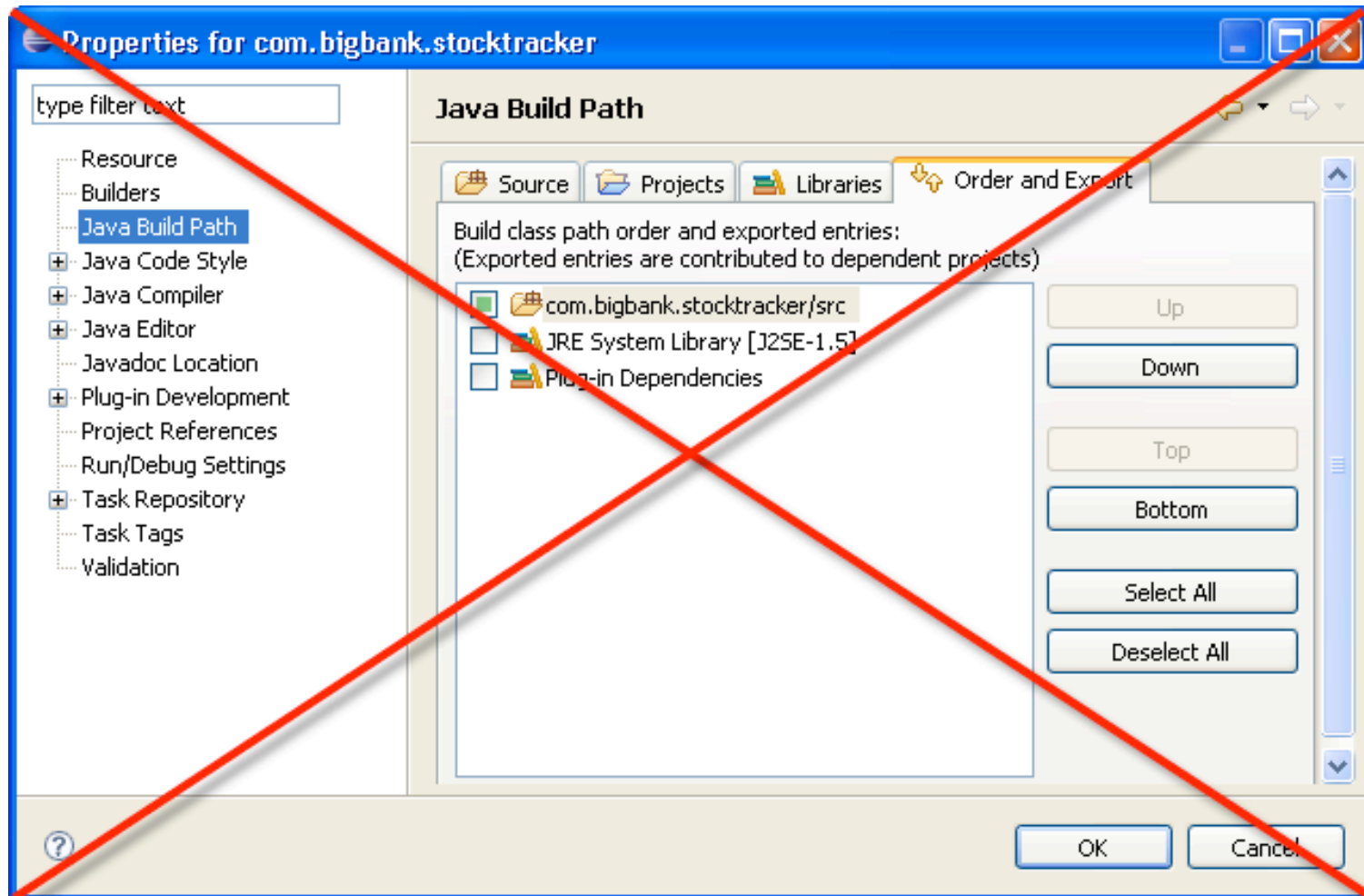
Non-UI



Reexporting



Java Build Path



Target platforms

Default Configuration

Your plug-ins

Eclipse SDK

normal /eclipse directory

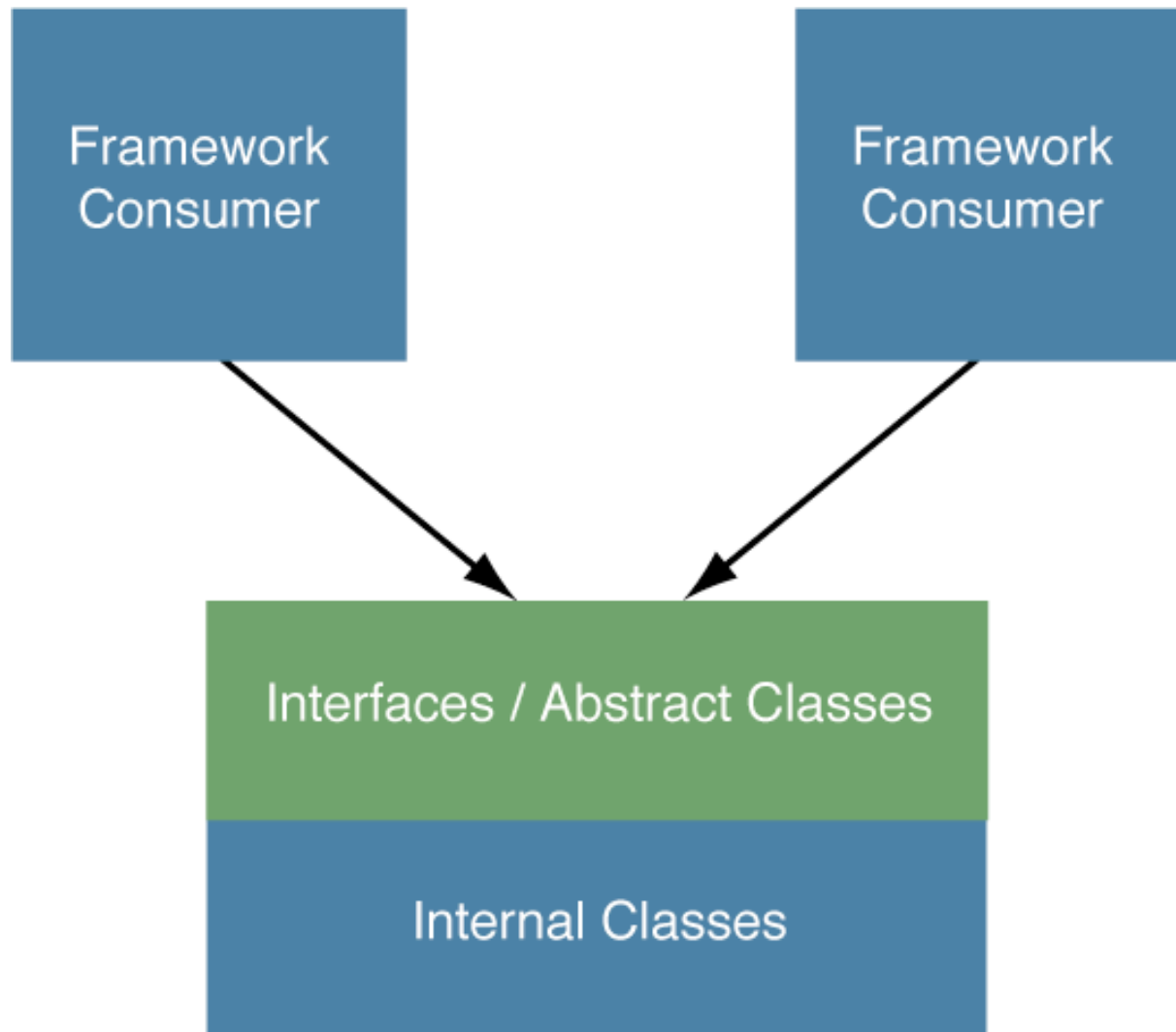
Custom Configuration

Your plug-ins

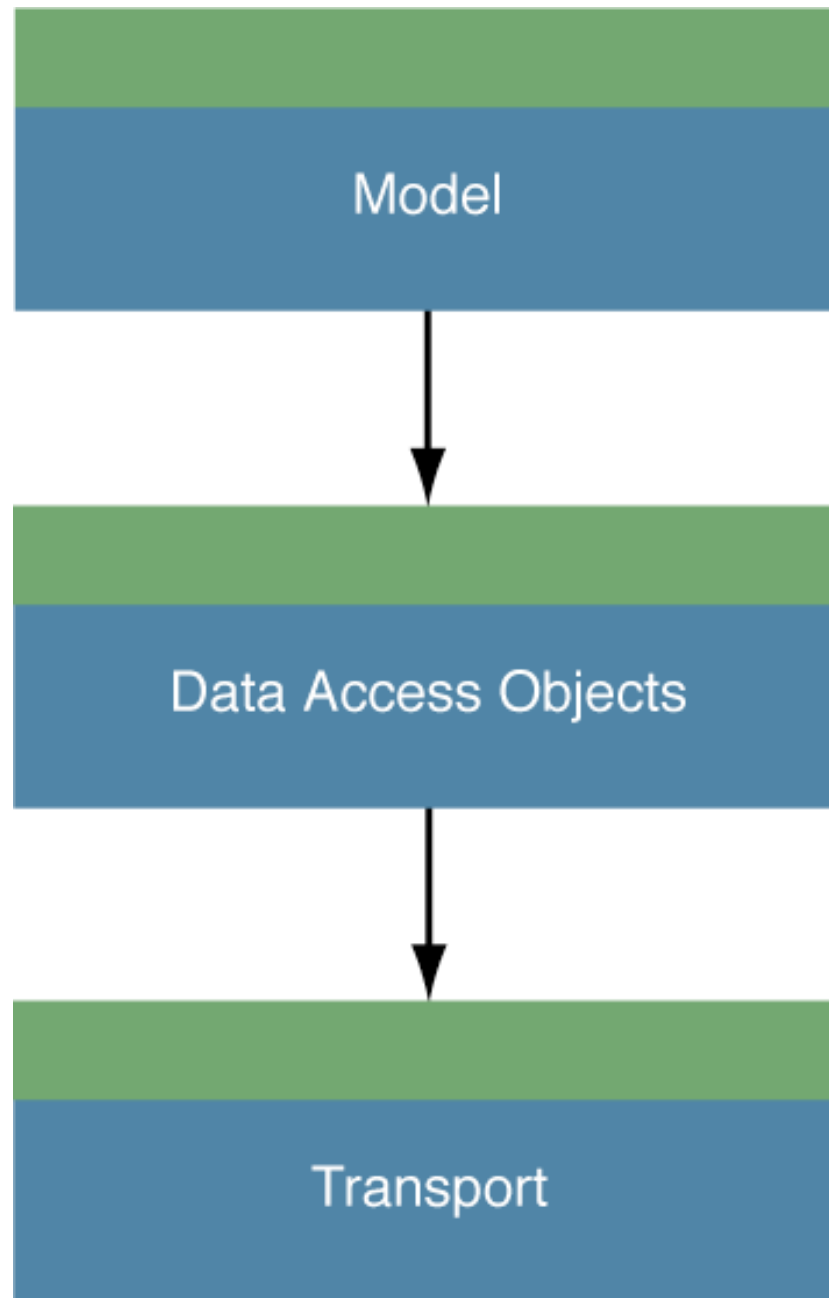
RCP SDK

custom /target directory

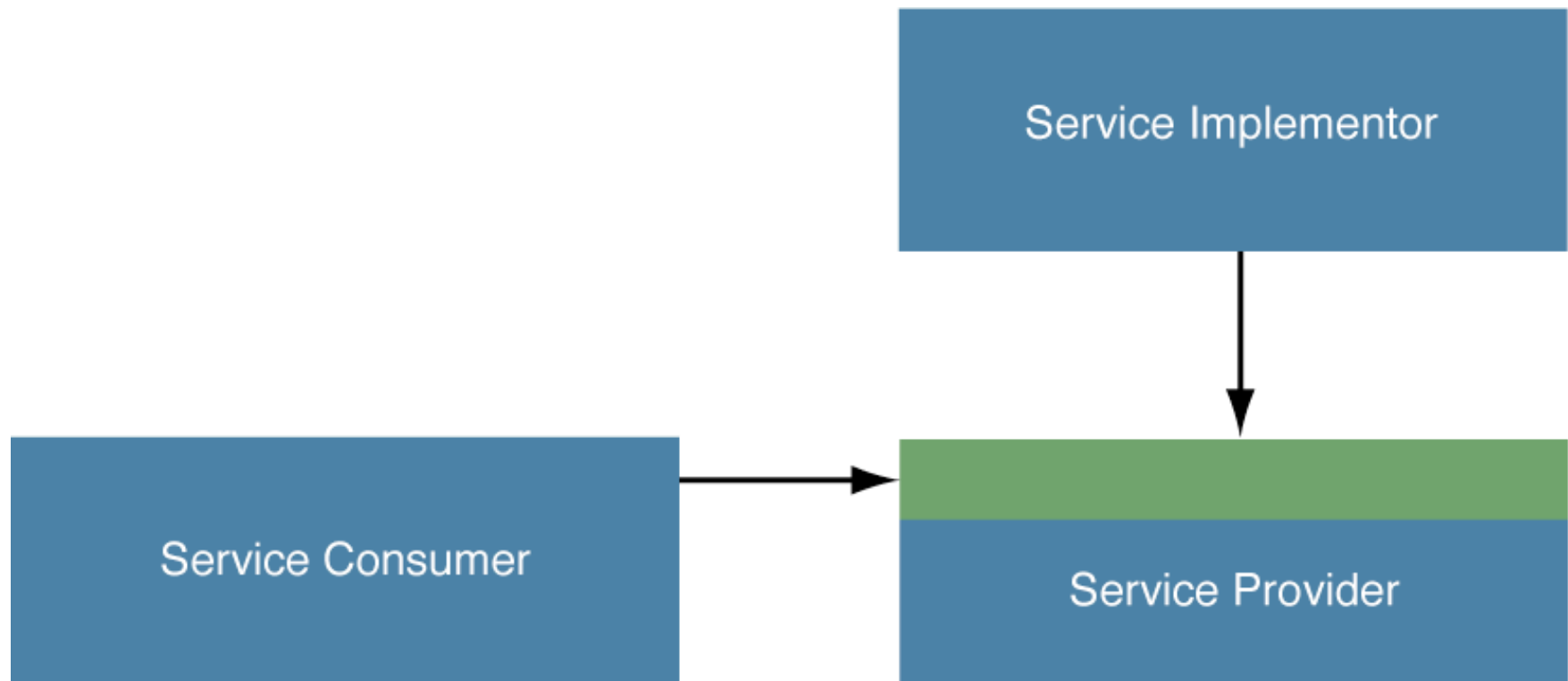
Framework



Layers



Service provider



Perspective



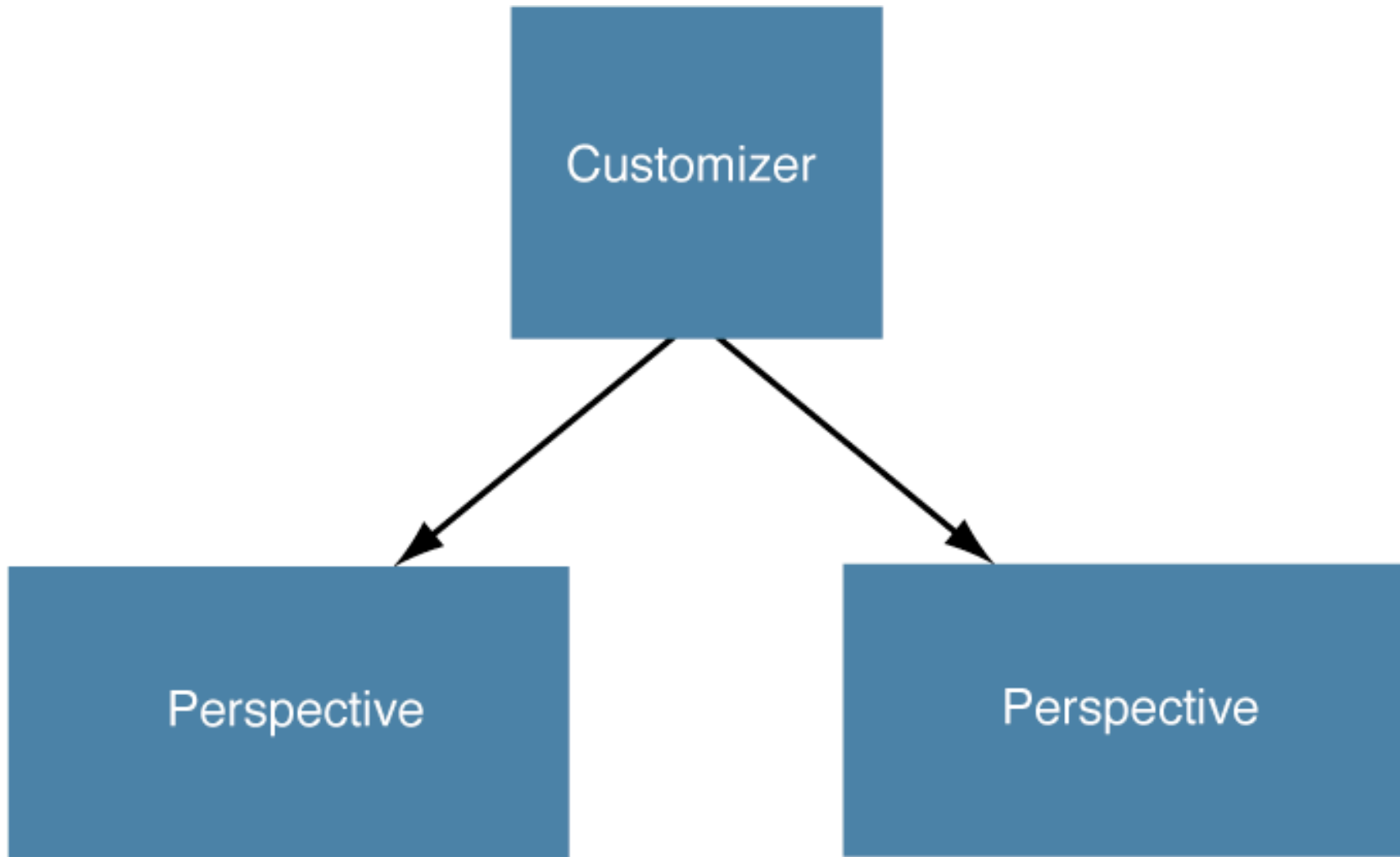
Perspective

Utility

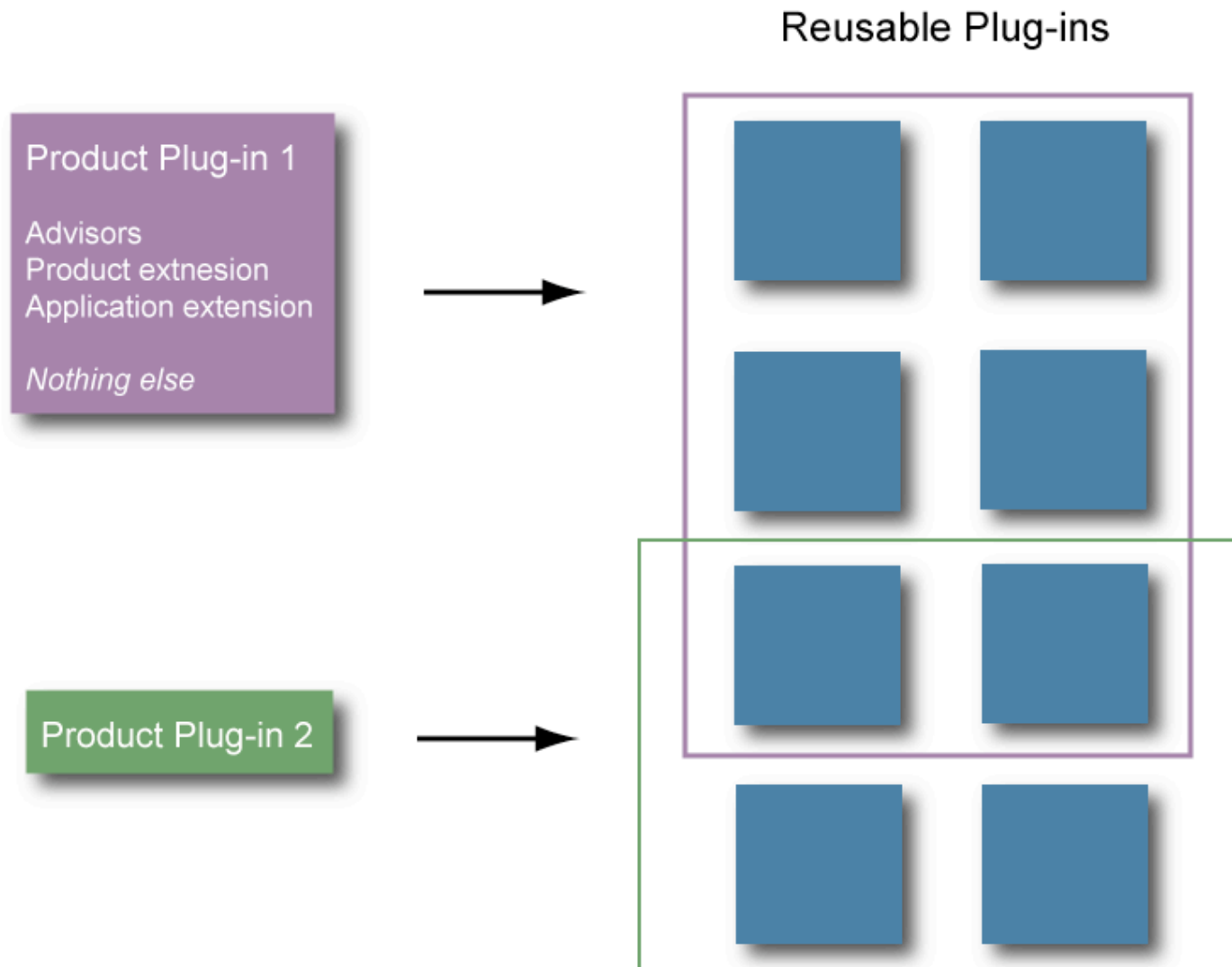


Utility

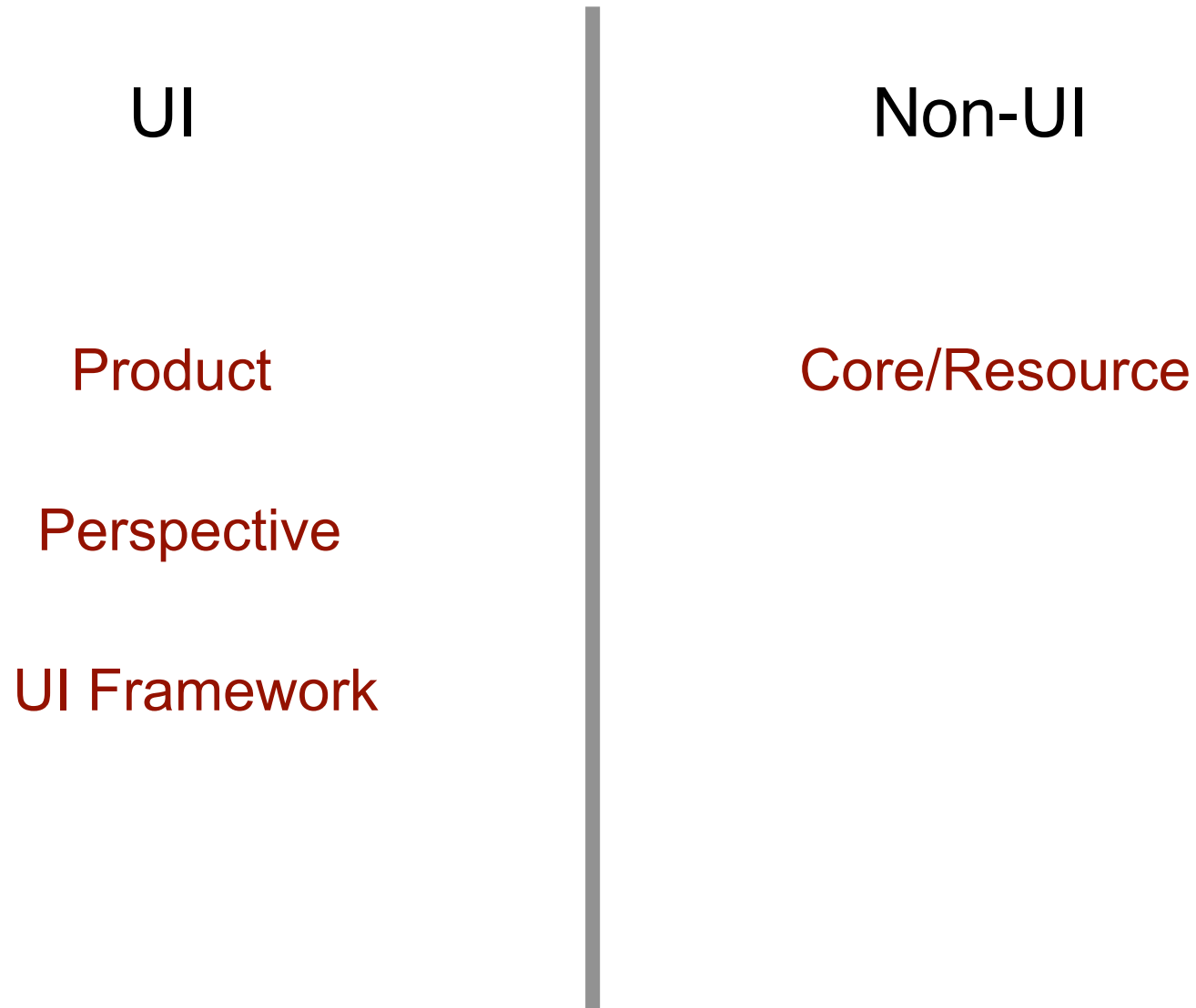
Customizer



Product



Sample architecture



What's the big idea?



More information

Check out my website:

www.rcpquickstart.com

Detailed notes for presentation at:

[www.rcpquickstart.com/training/presentations/
plug-in-best-practices-ew2008](http://www.rcpquickstart.com/training/presentations/plug-in-best-practices-ew2008)

Email me:

patrick@rcpquickstart.com