



# JBoss Application Server 7 Code Metrics

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# JBoss Application Server 7

# JBoss AS7

Standalone / Domain

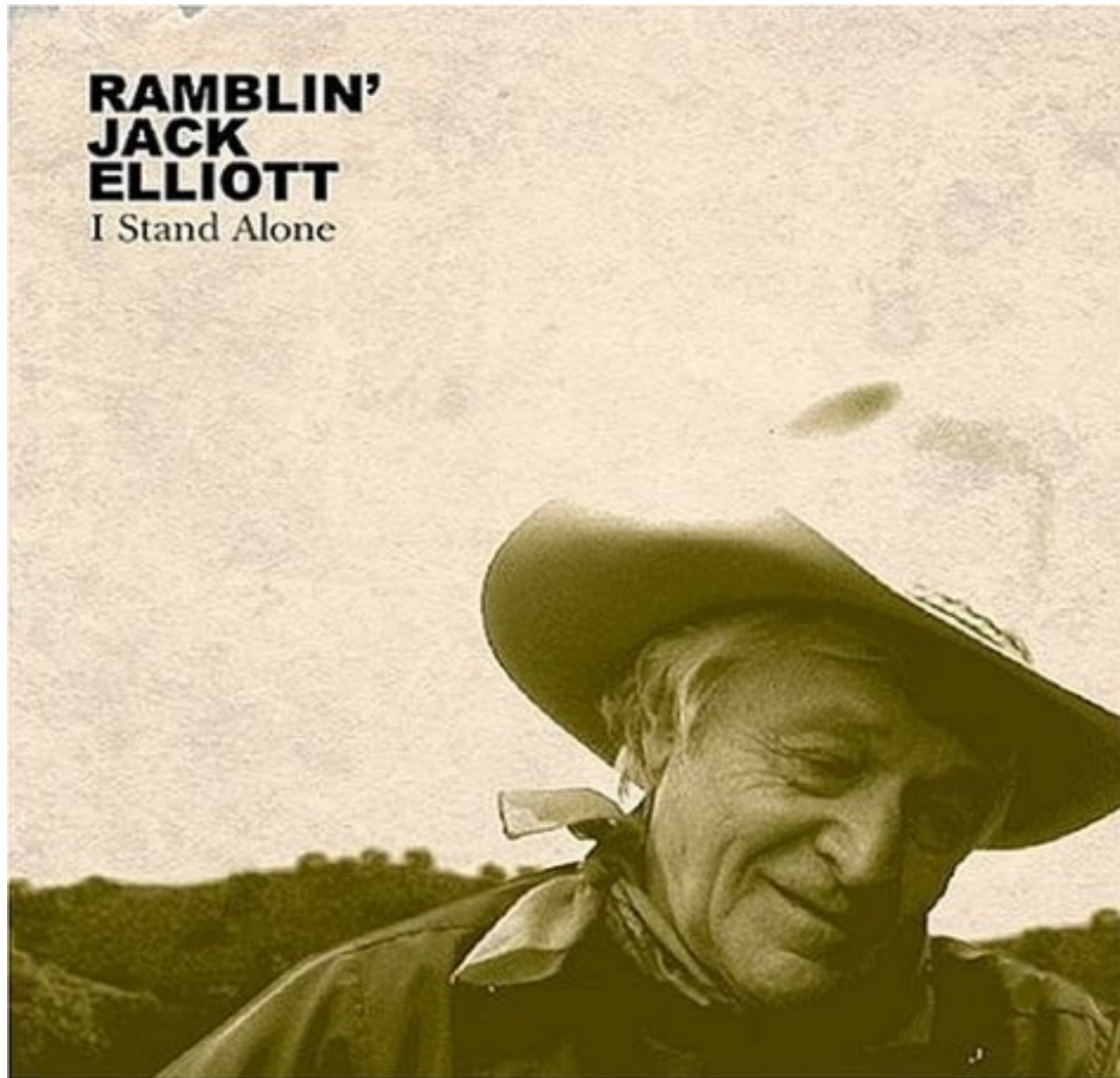
Management / CLI

Startup

Technologies



# JBoss AS7 - Standalone



Traditional Model



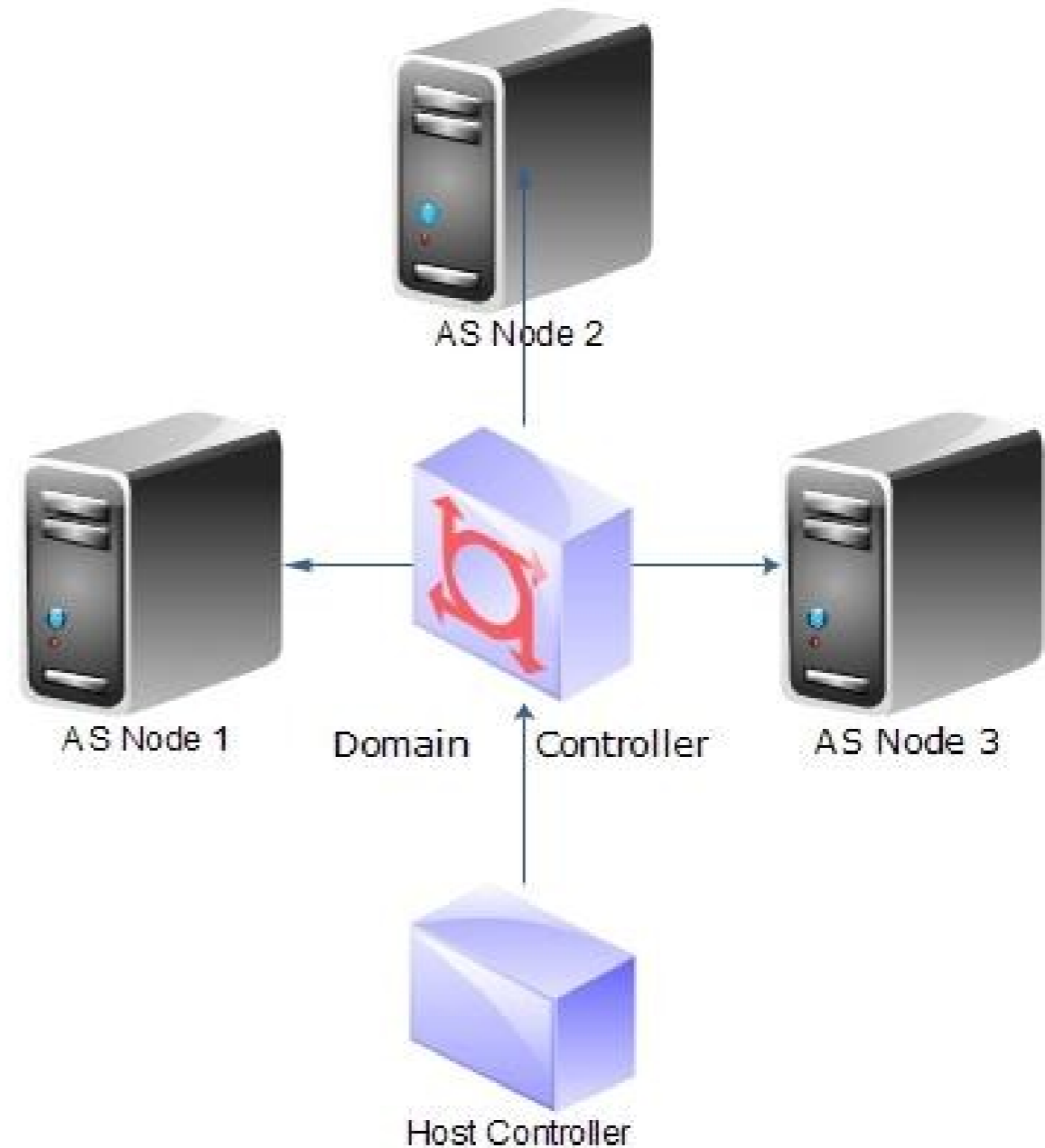
# JBoss AS7 - Domain

Common management  
policy

DomainController

Host Controller

Full lifecycle support

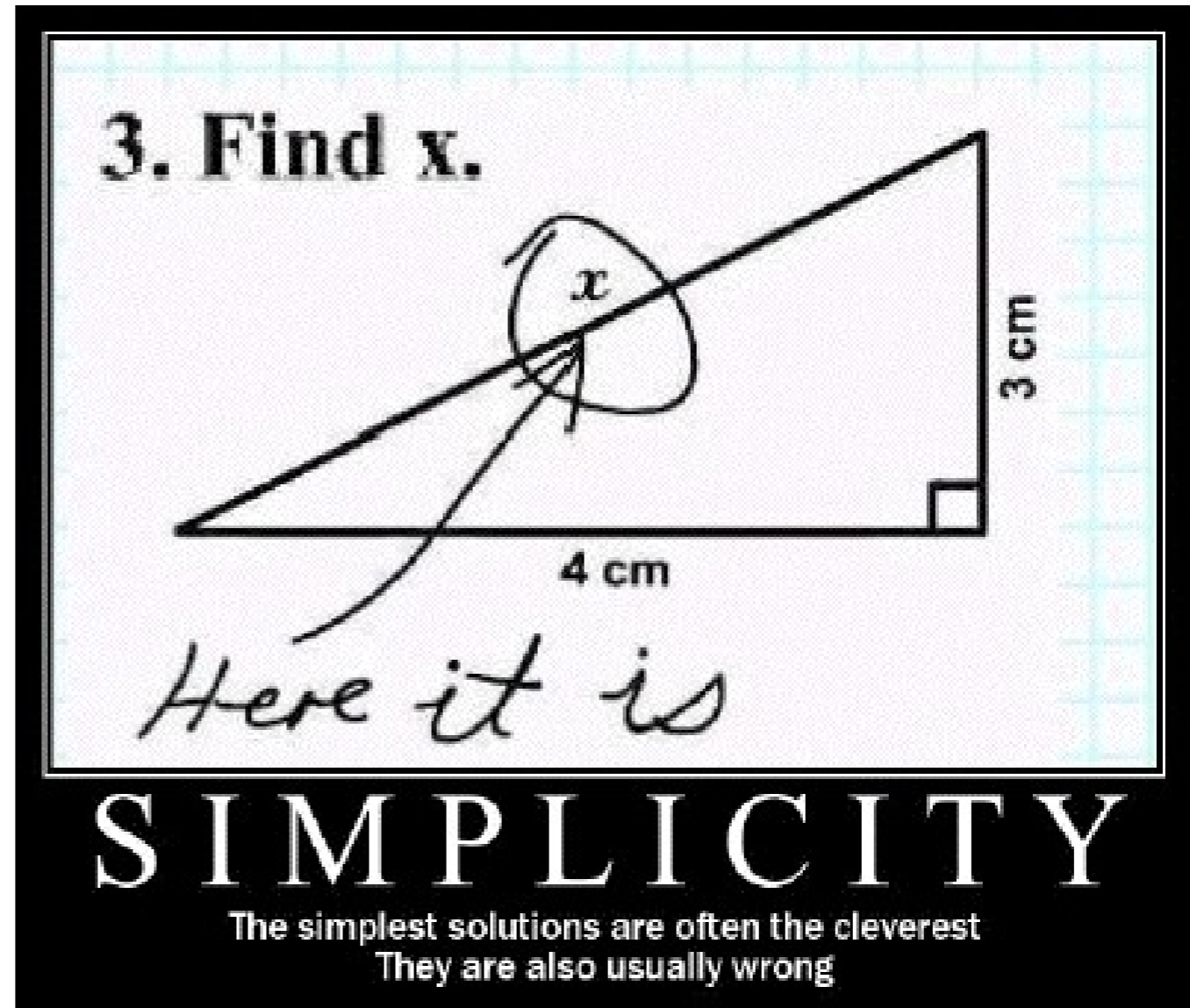


# JBoss AS7 - Management

Profiles

Interfaces

Groups



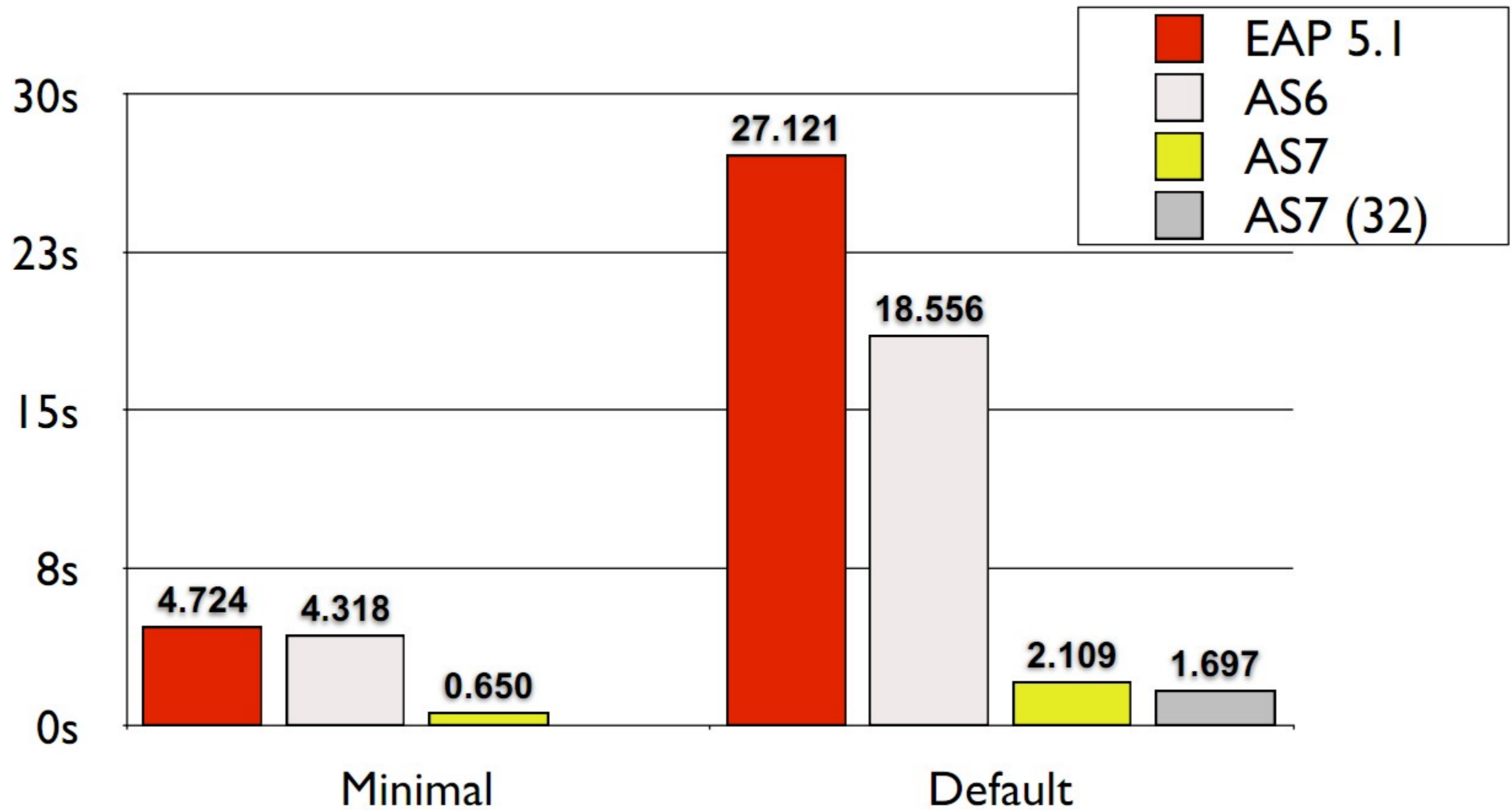
# JBoss AS7 - CLI

```
socket-binding
[localhost:9999 standard-sockets] cd socket-binding=

socket-binding=http
socket-binding=https
socket-binding=jmx-connector-registry
socket-binding=jmx-connector-server
socket-binding=jndi
socket-binding=messaging
socket-binding=messaging-throughput
socket-binding=osgi-http
socket-binding=remoting
socket-binding=txn-recovery-environment
socket-binding=txn-socket-process-id
socket-binding=txn-status-manager
[localhost:9999 standard-sockets] cd socket-binding=jndi
[localhost:9999 jndi] :read-resource
{
  "outcome" => "success",
  "result" => {
    "name" => "jndi",
    "interface" => undefined,
    "port" => 1099,
    "fixed-port" => undefined,
    "multicast-address" => undefined,
    "multicast-port" => undefined
  },
  "compensating-operation" => undefined
}
[localhost:9999 jndi] █
```



# JBoss AS7 - Startup



# AS7 - Technologies

Hibernate

Validator

Infinispan

MSC

Arquillian

RESTEasy

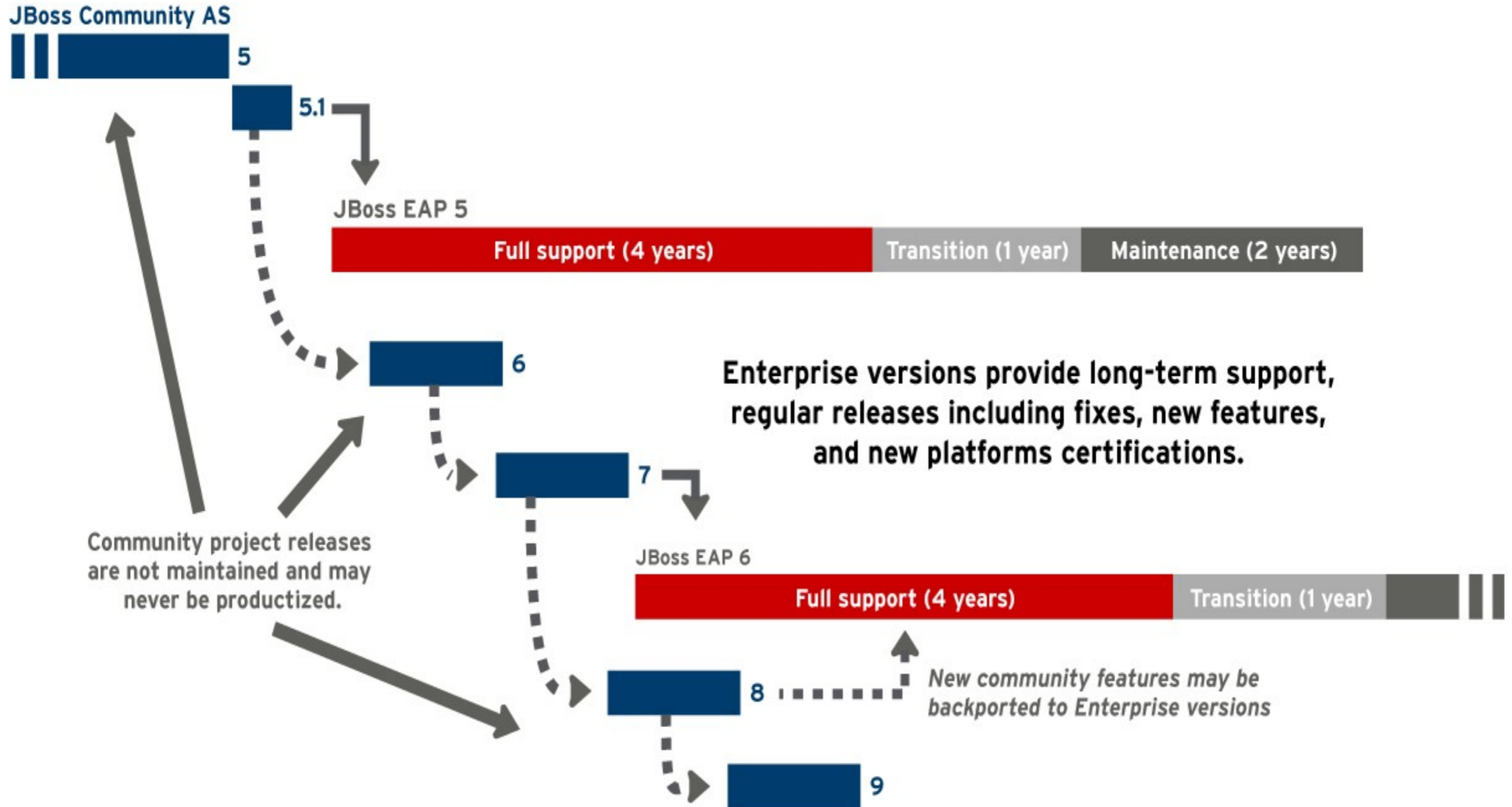
Weld

Apache CXF

HornetQ



# JBoss AS vs EAP



# Give it a try – easy ways to start

Download AS7 – [www.jboss.org/jbossas/](http://www.jboss.org/jbossas/)

Management CLI - <http://community.jboss.org/wiki/CommandLineInterface>

Arquillian - <http://www.jboss.org/arquillian>

Give Feedback – join the community!



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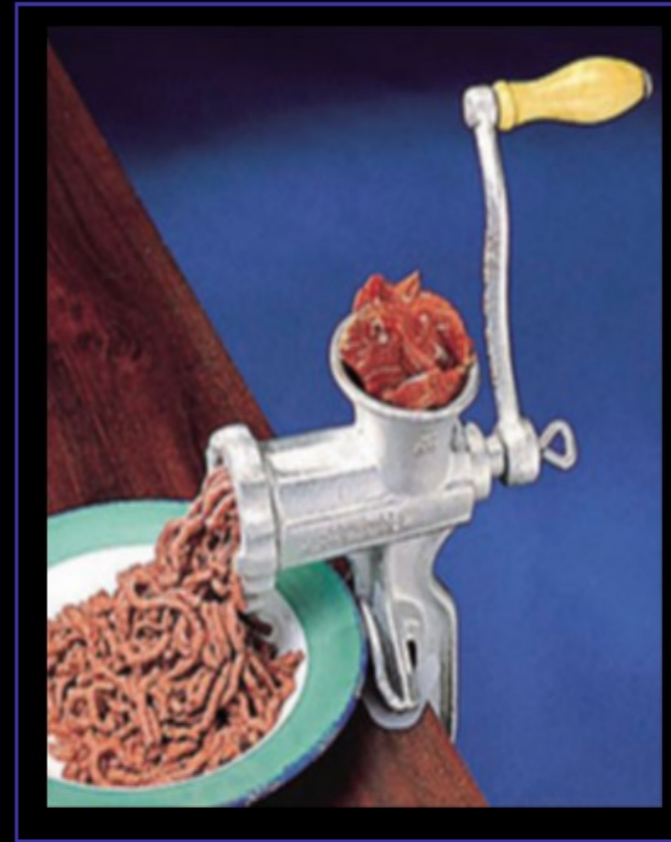
**Questions?**



# Code Metrics



**FRAGILE**



**REFACTOR**

New Look, Same Crap



# Survey



# Code Coverage

Is your code (method, class) exercised with tests

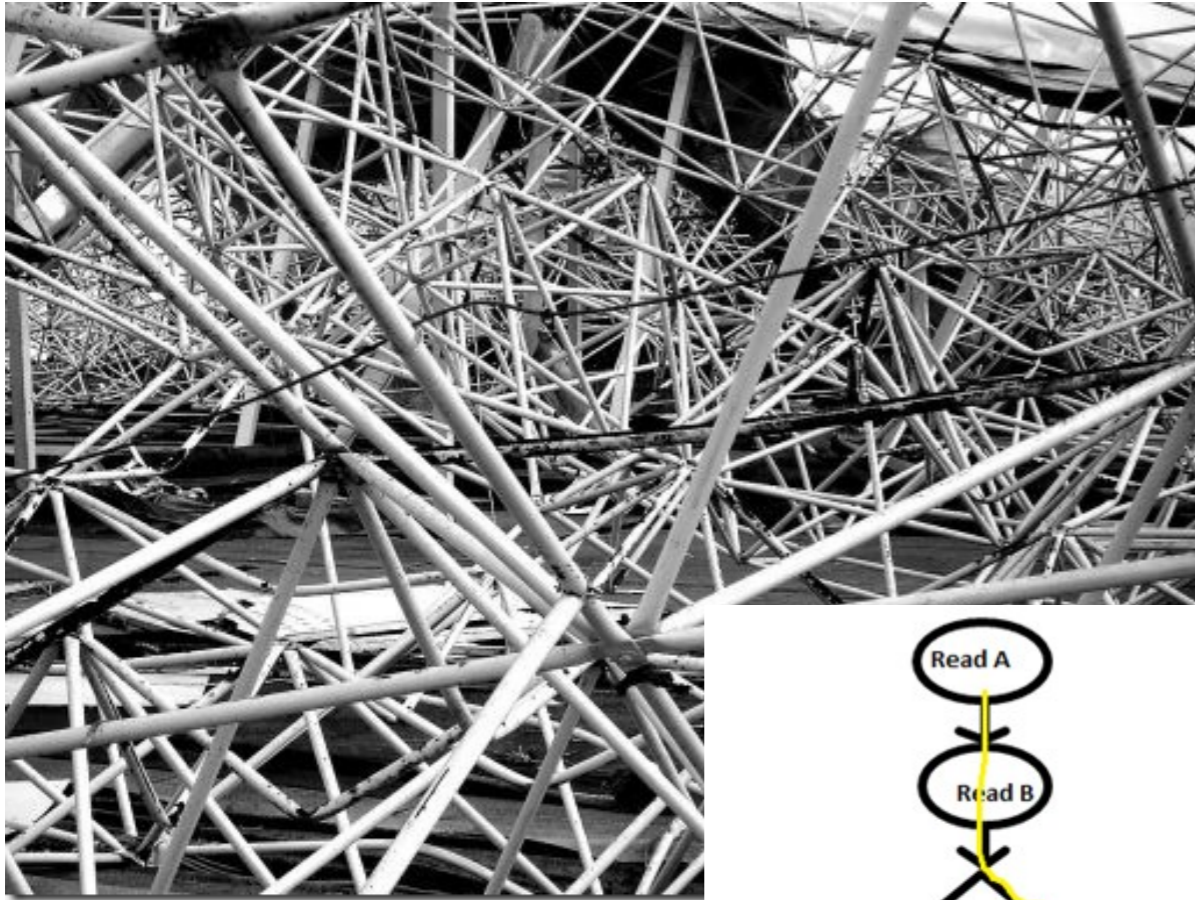
```
:      /**
:      * Sets the bank account's balance.
:      *
:      * @param float $balance
:      * @throws InvalidArgumentException
:      * @access public
:      */
:      public function setBalance($balance)
:      {
1 :          if ($balance >= 0) {
0 :              $this->balance = $balance;
0 :          } else {
1 :              throw new InvalidArgumentException;
:          }
0 :      }
```



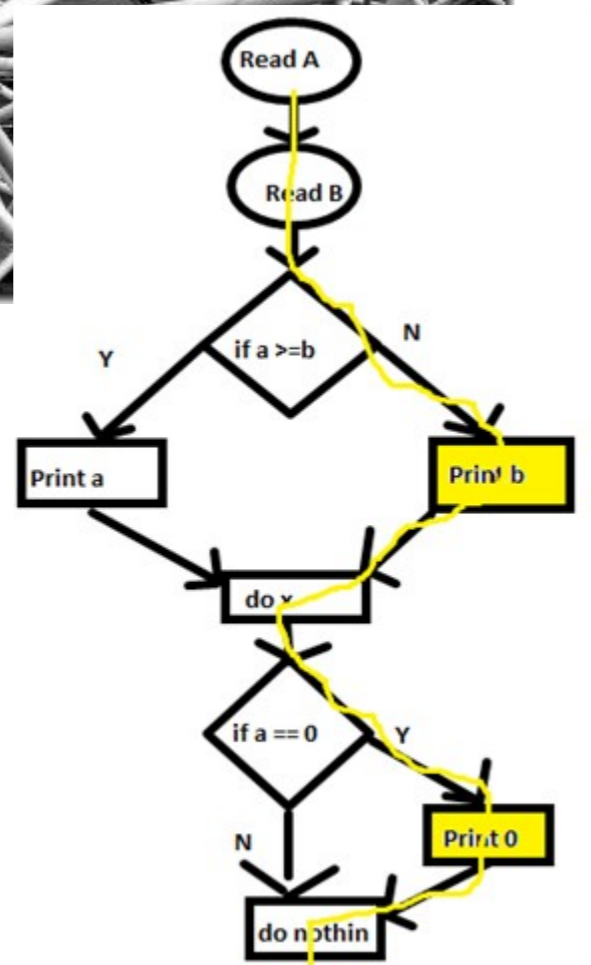
# Code Coverage



# Code Complexity / Cyclomatic Complexity



Number of independent paths through the code



# Code Complexity / Cyclomatic Complexity



# Cohesion

How focused our class is  
Single Responsibility  
LCOM



# Cohesion



# Afferent / Efferent Coupling



Number of objects / packages that depend on this package

Number of objects / packages that this object / package depends on



# Coupling



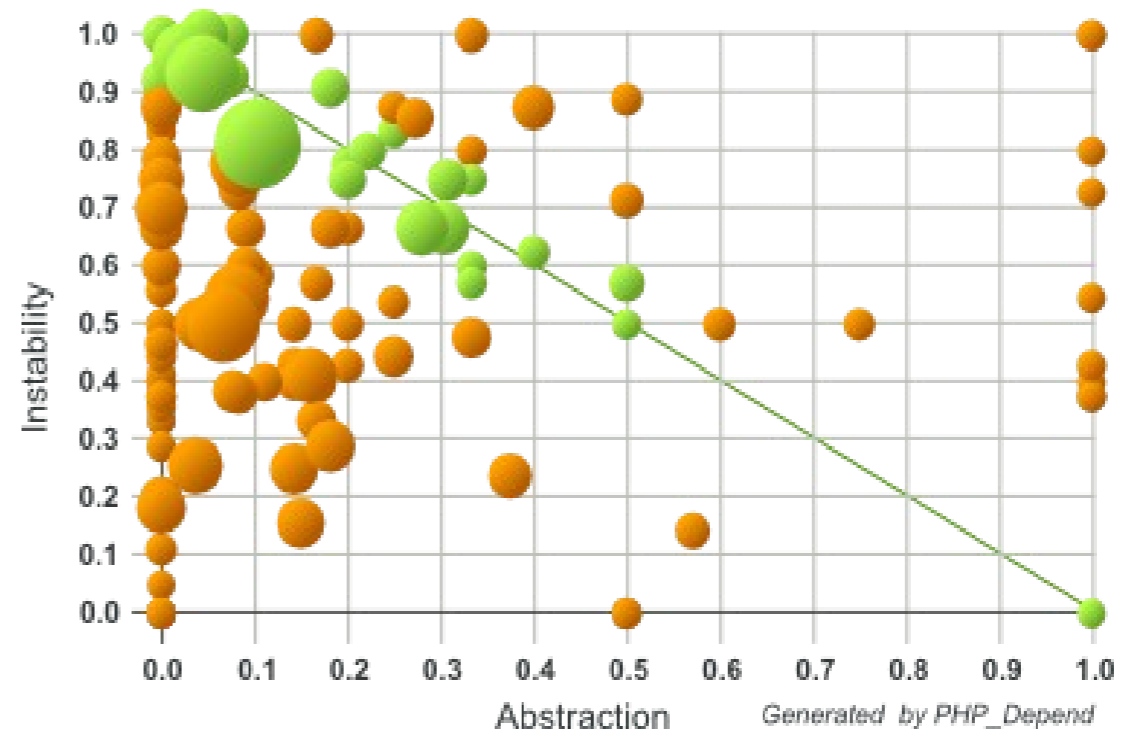
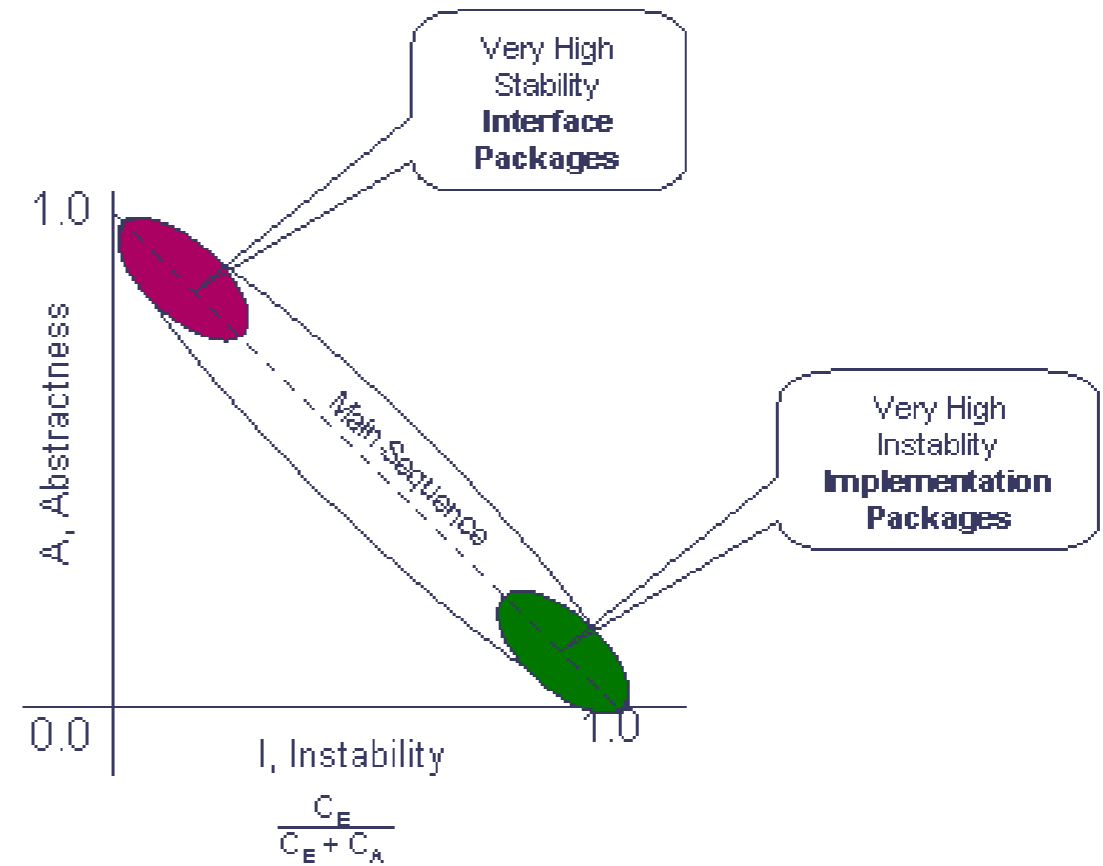
# Object Distance

Imagine ideal line  $y + x = 1$

Ratio of abstract classes

Ratio of efferent coupling to total coupling

The focus is on balance



# Object Distance



# Scenarios

	Code Coverage	Complexity	Object Distance	Coupling	Cohesion
Greenfield / Startup					
Prototype					
Legacy					



# Scenarios



# What we chatted about

Common code metrics

What these metrics look like

How to address

**TRENDS!**

Scenarios to consider



# Thanks! Questions?



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