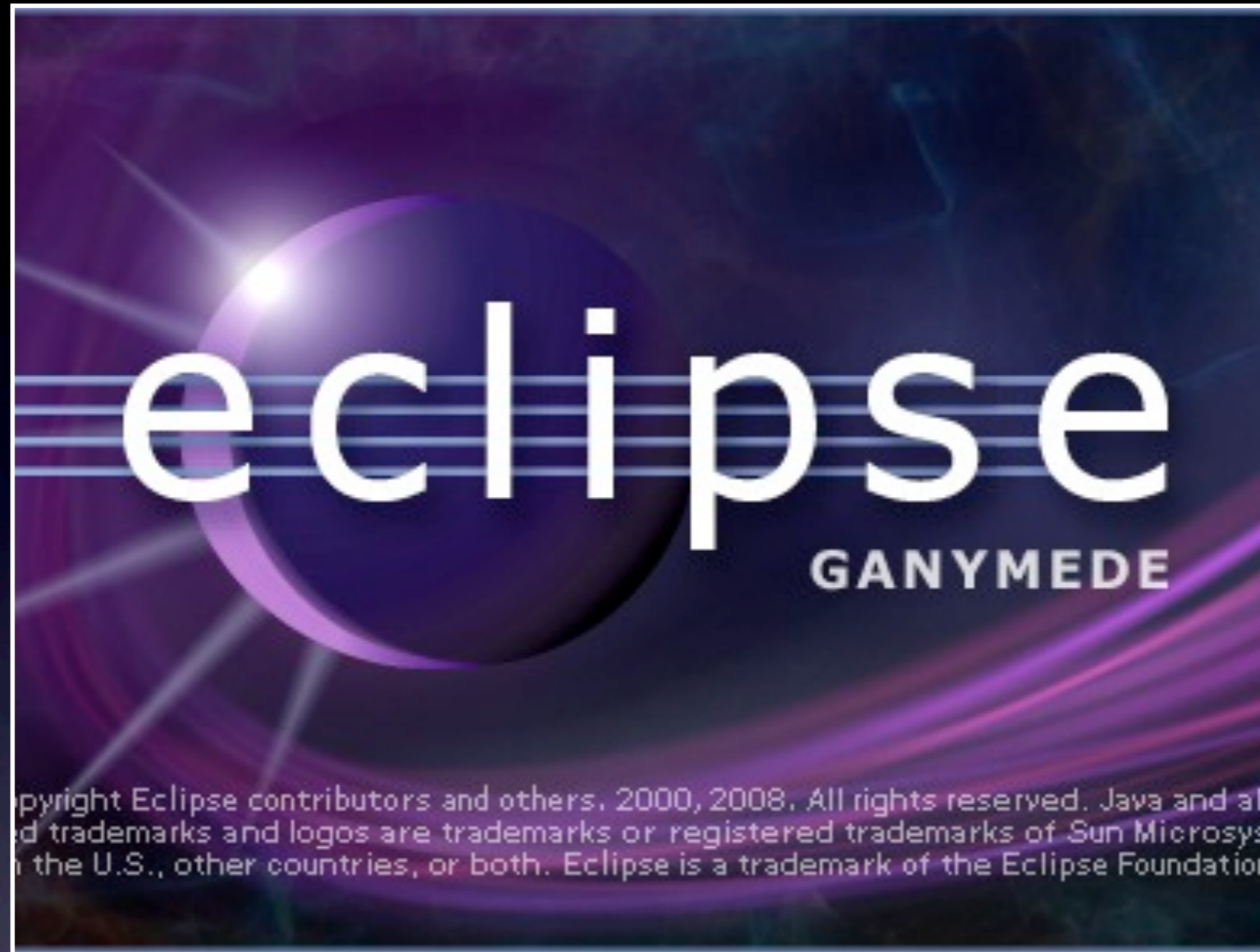


# Provisioning and managing embedded systems

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CEO EclipseSource

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Eclipse as you now it



# Eclipse is

- a Java IDE
- modular
- extensible
- a platform for tools
- a platform for modeling
- and more things you probably don't care about

# Trends in Eclipse

- Eclipse proves the power of componentization
- Componentization naturally spreads
- More components → more management
- Management is hard

Model your world



## [Eclipse Galileo release train now arriving at gate 3.5](#)

ZDNet - [Ed Burnette](#) - 6 hours ago

Every year, though, **Eclipse** continues to defy that expectation by re

Today, the **Eclipse** Galileo release train ...

[Eclipse release train leaves the station, delivers Galileo](#) Ars Techn

[Eclipse Delivers Galileo Release Train](#) eWeek

[Eclipse worms into Apple Cocoa, iPhone](#) Register

[InternetNews.com](#) - [Visual Studio Magazine](#)

[all 34 news articles »](#) [!\[\]\(17413706fd4997a1a4bdf85c6864eee1\_img.jpg\) Email this story](#)

# Ganymede is now Galileo

We don't say model  
any more

# DSL



# Digital subscriber line?

For 2009, a new category of projects has coalesced under the name "Eclipse Runtime Technology". This includes Equinox (Eclipse's implementation of the OSGi standard), the Eclipse Communication Framework, Rich Ajax Platform, Riena (modular business application platform), Swordfish (SOA framework) and EclipseLink (persistence services).

Another major focus of the 2009 release is modeling tools. New innovation in Galileo include Xtext (for creation of domain specific languages) and Connected Data Objects (distributed shared models with transactions).

"The release train continues to be a great achievement of the Eclipse community," explained Mike Milinkovich, Executive Director of the Eclipse Foundation. "Galileo demonstrates that large distributed software development can be done on a predictable schedule. This predictability makes it possible for our user and adopter community to quickly adopt new releases from Eclipse."

# XText



# Domain specific language



You language designers  
get ready

It's simple

But - isn't this talk  
about provisioning?



Tool models have to  
match project models

Tools DSLs need to  
match project DSLs

# Manage tools



Even worse

Manage the combination  
of tools (versions) and  
projects (versions)

This is all about  
provisioning



p2 is not an Eclipse  
update mechanism

This is probably a small  
problem for you

# Decouple software from hardware



# Modularize software

# Manage software and configurations for devices

# Software is mostly viewed as a burden in embedded

but like it or not  
it is going to be one of the  
most important competitive  
differentiators in the near future



by Karstenknuth at de.wikipedia



# Focus

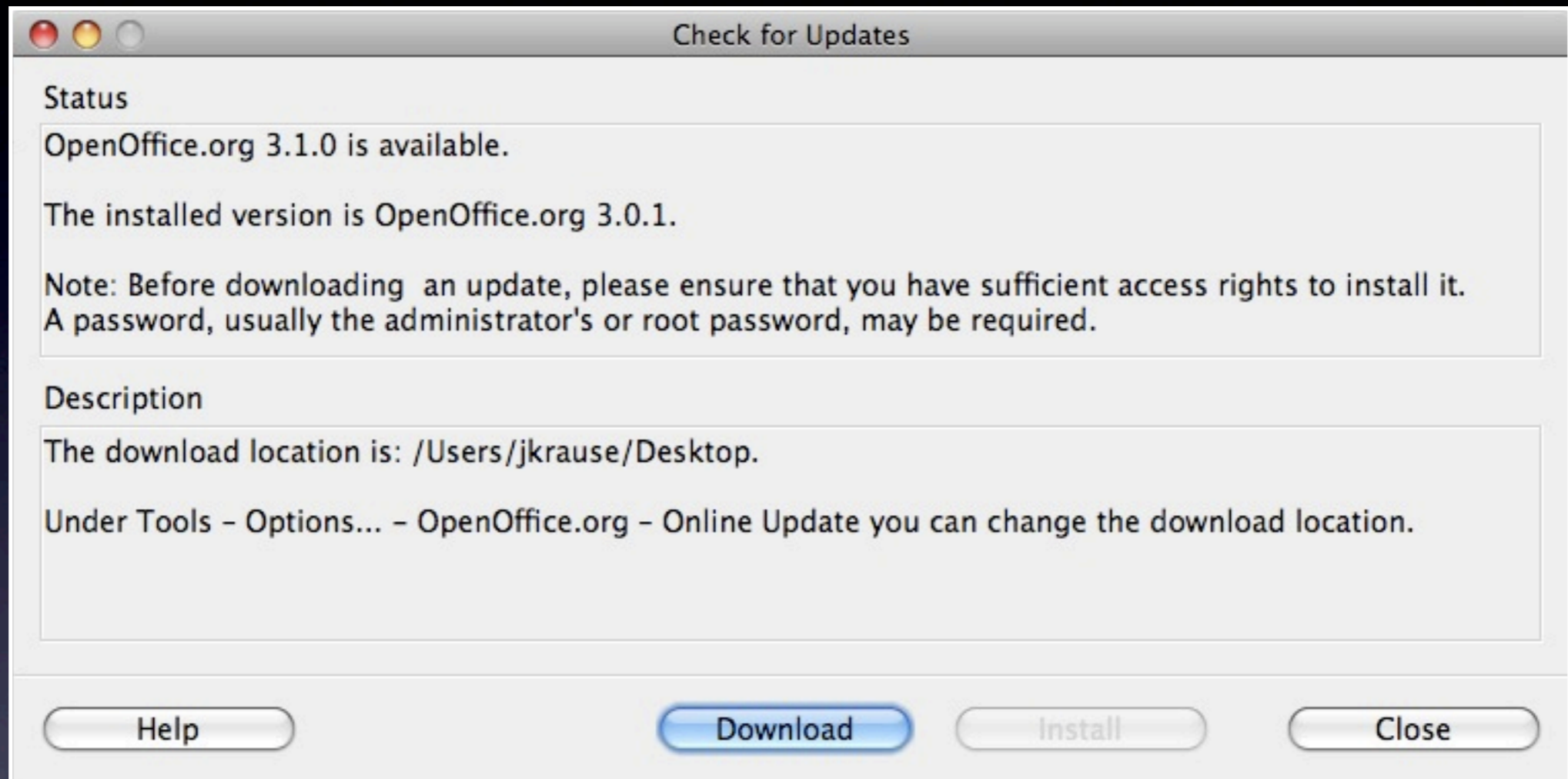
## A platform for provisioning

# Eclipse is

- A Java IDE
- ...
- A platform for provisioning

# Provisioning today





App style



Platform style





# OS Style



https://login.cas-pia.com/pia.html

CAS PIA

Angemeldet als: Jochen Krause, INNOOPRACT Informationssysteme

Heute ist Donnerstag, 26. Februar 2009. Ihr letzter Login war am 26.02.09 um 21:47:37 Uhr.

Systemnachrichten  
Es sind keine Systemnachrichten verfügbar.

Heutige Termine  
Sie haben heute keine Termine.

Anstehende Aufgaben  
Sie haben keine Aufgaben für die nächsten 7 Tage.

Unternehmensnachrichten

Suche

Schaltzentrale

Kontakte

E-Mails

Online-Suche

LEO delen

YellowMap-Suche

Land: Deutschland

Suchwort

PLZ und/oder Ort

Straße

Radius: 20 km

Tagesschau

Bremen überraschend im Achtfinals  
Telekom legt Festnetz und Mobilfunk

# Online

What are your options?

Ignore it




Fail

# Face the challenge

you need a platform

Copyright 2009 EclipseSource Inc. All rights reserved

 OOO\_3.1.0\_MacOSXIntel\_install\_en-US.dmg 166,6 MB

Replace is not update





## Incompatible Add-ons



The following add-ons are not compatible with this version of Firefox and have been disabled:

Google Toolbar for Firefox 3.1.20081010W  
IE Tab 1.5.20080823  
Linkification 1.3.5  
Mouseless Browsing 0.5.1  
Norton IPS 1.0

Firefox can check if there are compatible versions of these add-ons available.

< Back

Check Now

Don't Check

# Good advise - after the fact





Some people get it right



# Demo



# Remote Provisioning with p2 and EclipseSource

Jeff McAffer

Equinox & RT co-lead

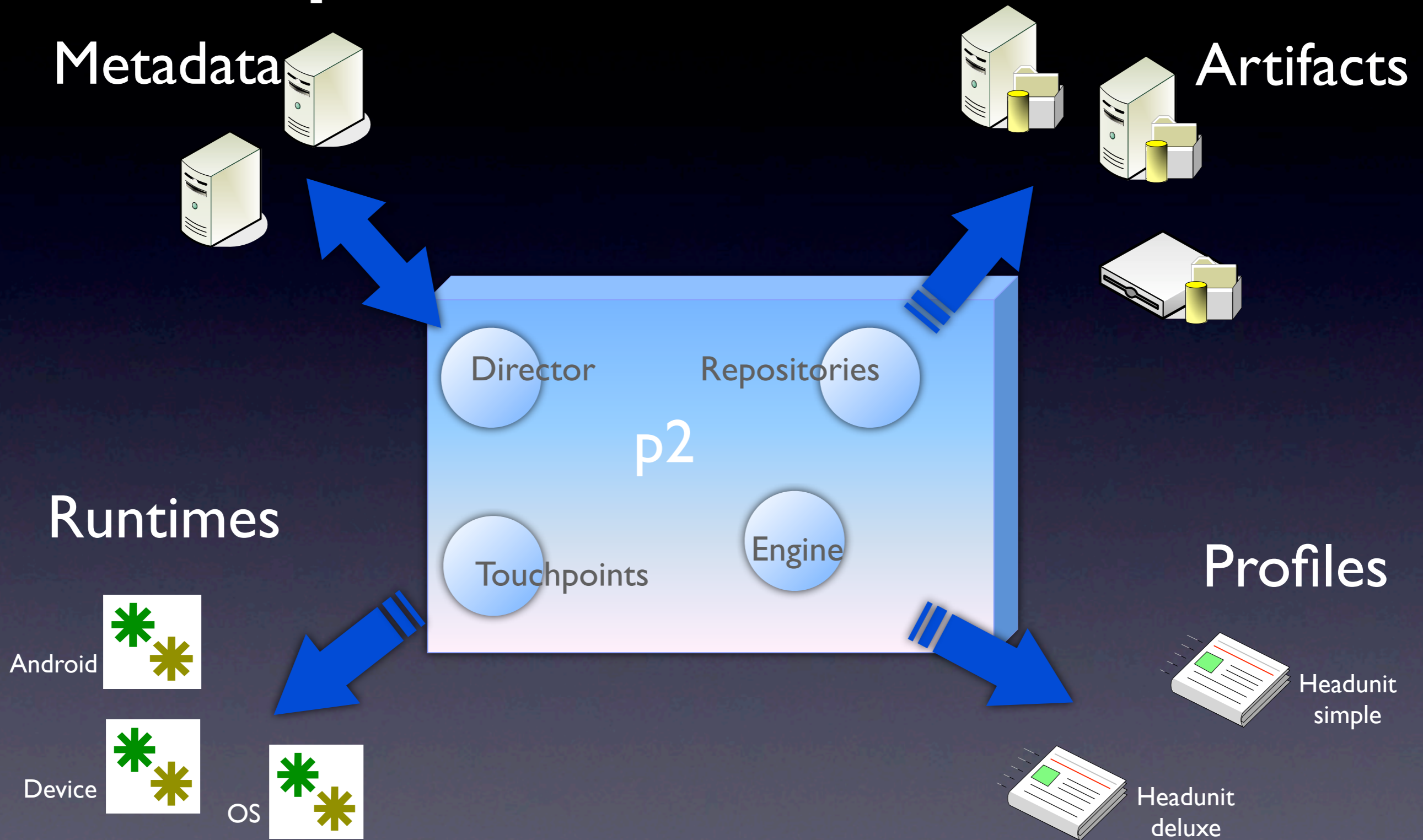
EclipseSource CTO

p2 does NOT mean  
running Java(tm) on the  
client

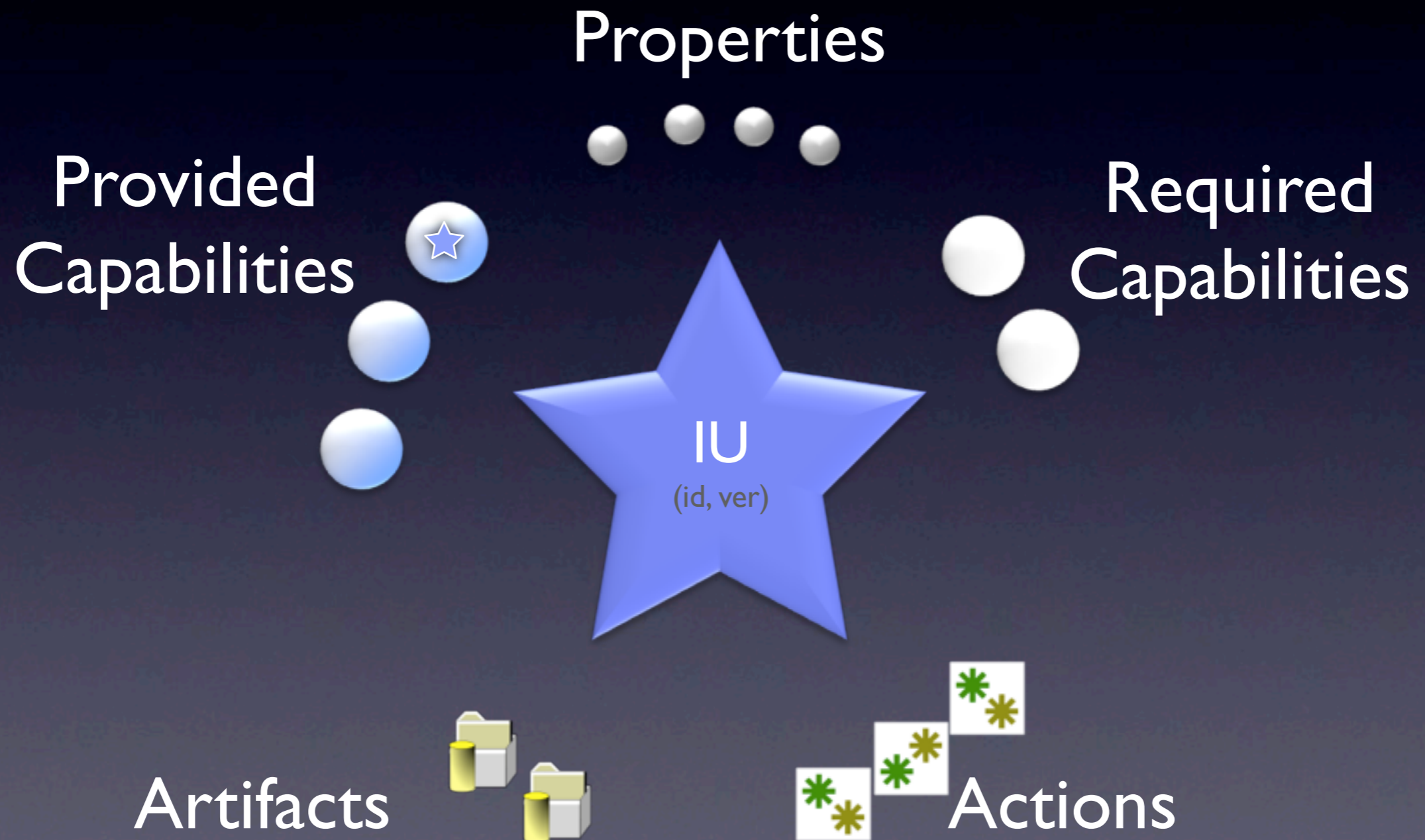
but it comes in handy  
on the server



# p2 Architecture

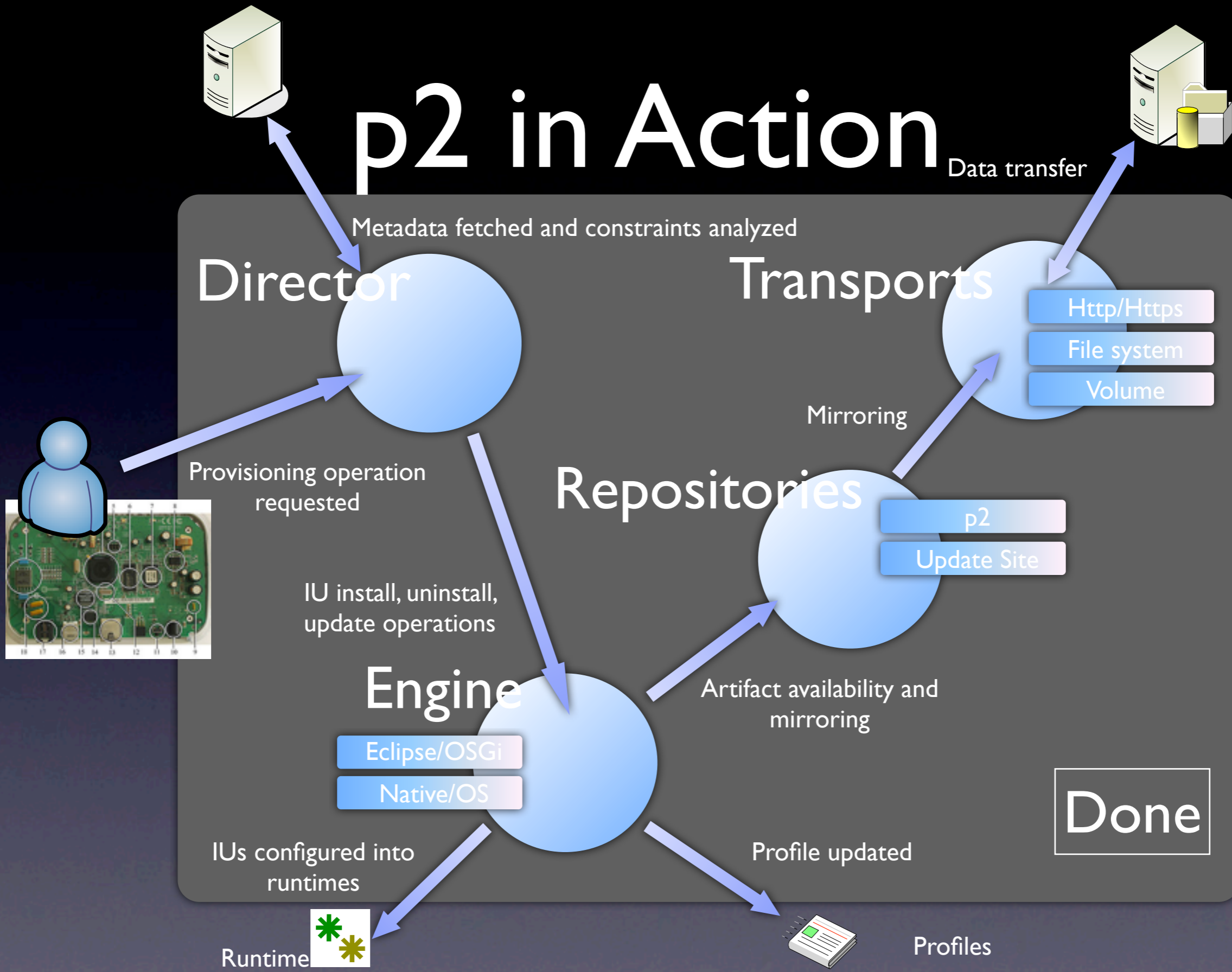


# Defining contracts



# p2 in Action

Data transfer





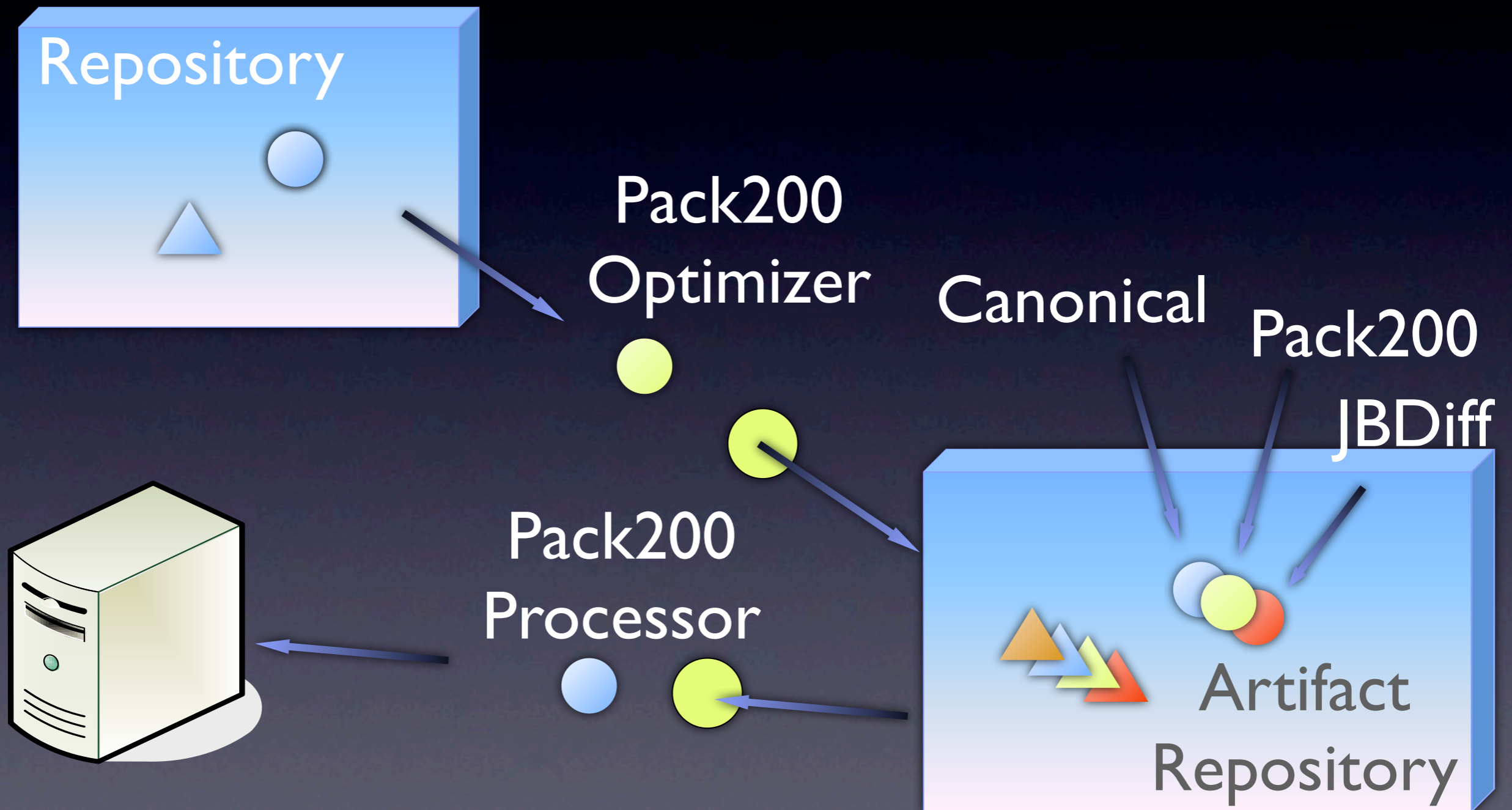
# Satisfiability

is the problem of determining  
if the variables of a given  
Boolean formula can be  
assigned in such a way as to  
make the formula evaluate to  
**TRUE**

# SAT-based resolution

- The installation problem is NP-complete
  - Map dependencies to boolean formula
  - Use SAT4J
    - If there is no solution it will tell us
    - If there is a solution we will get an optimal one

# Optimizing and Processing Artifacts





p2 is a platform

Thank you