



Eclipse Virgo

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Agenda

- OSGi basics
- Virgo and Gemini at Eclipse
- A tour of Virgo
- Current status
- How can I get started?

OSGi basics

It's bundles all the way down

- OSGi is a *Module System*

A Bundle = a Jar file = a single module (approx)

The *Bundle Manifest* defines the imports/
exports

- Many adopters including a lot of Eclipse projects
- Defined by the OSGi Alliance



Services

- A Bundle can export and consume services
This happens dynamically at runtime
- A service is a Java Object with some properties
- Managed by a Service Registry
(the Whiteboard pattern)

Virgo and Gemini

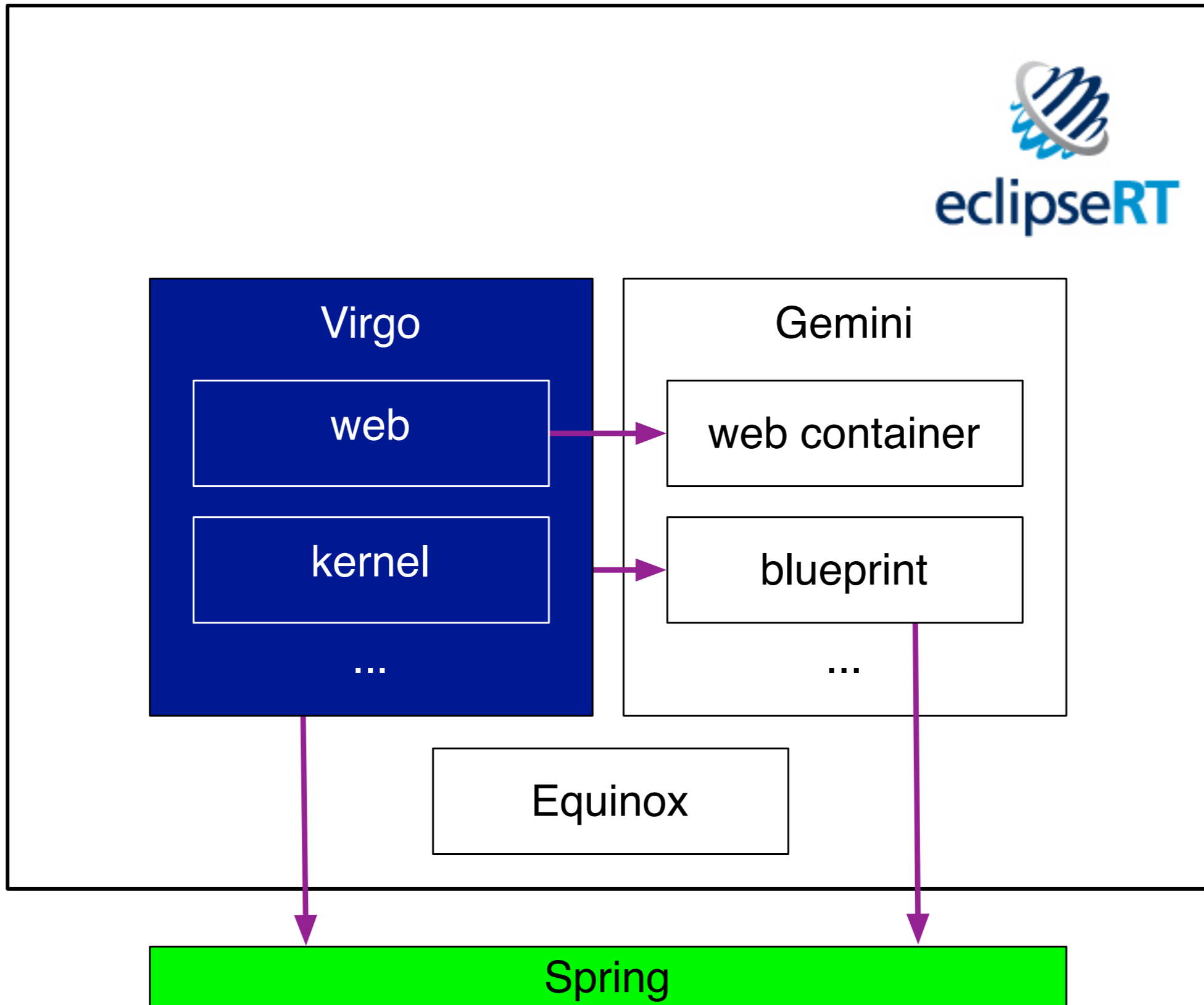
What is Virgo?

- “Dynamic Enterprise Application Platform”
- Based on SpringSource dm Server 2.0
 - Not to be confused with Spring DM
- Objectives:
 - Better OSGi platform
 - Migration of Java EE apps
 - Modular and extensible

What is Gemini?

- “Enterprise Modules Project”
- A collection of OSGi spec implementations
- Aims to provide a single authoritative collection
- Main contributors are SpringSource and Oracle
- Virgo uses Gemini:
web and blueprint support

Virgo and EclipseRT

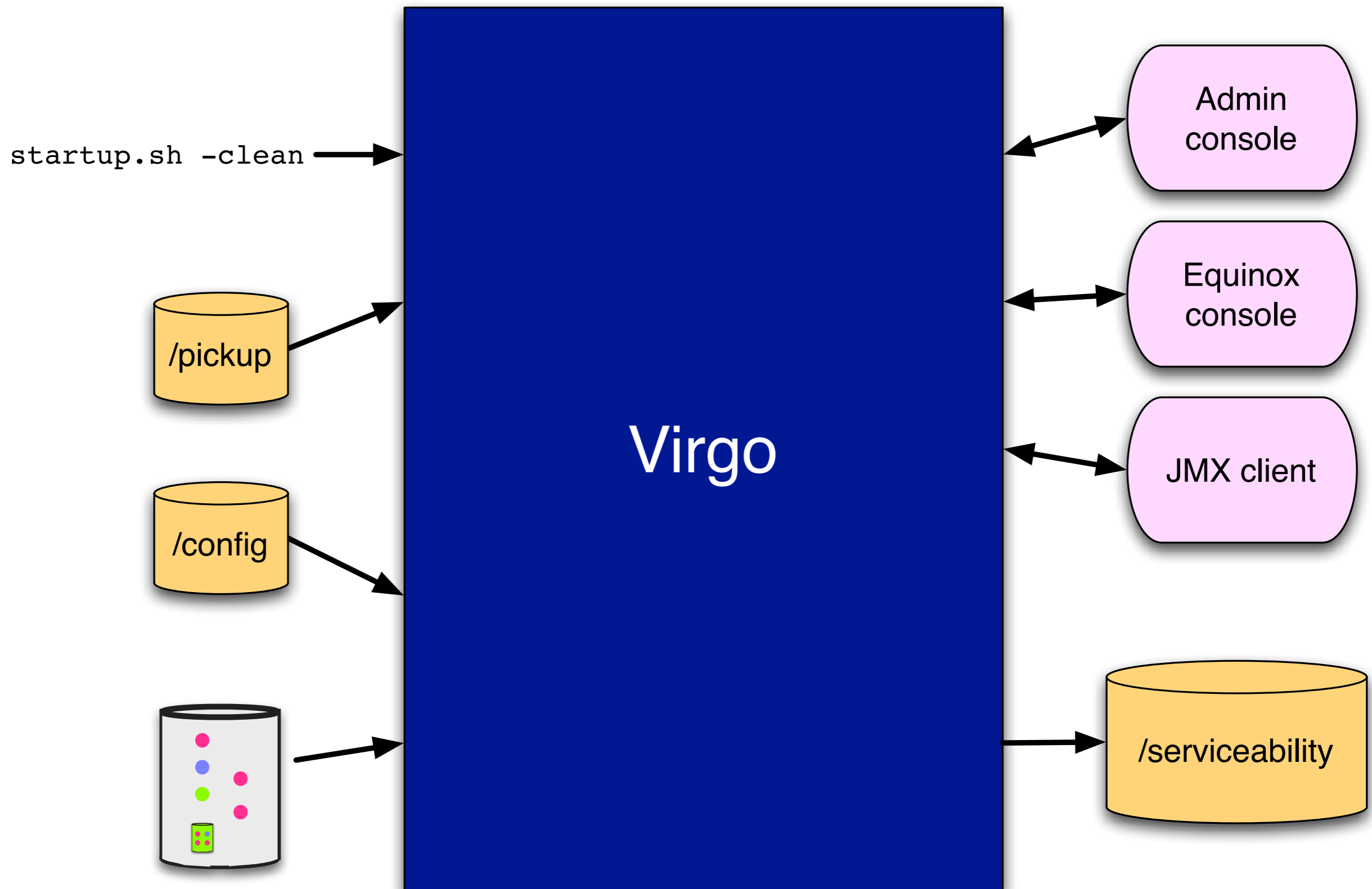


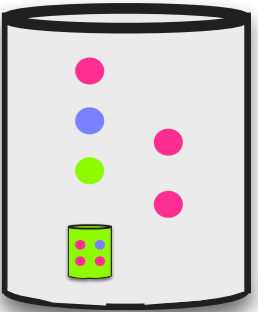
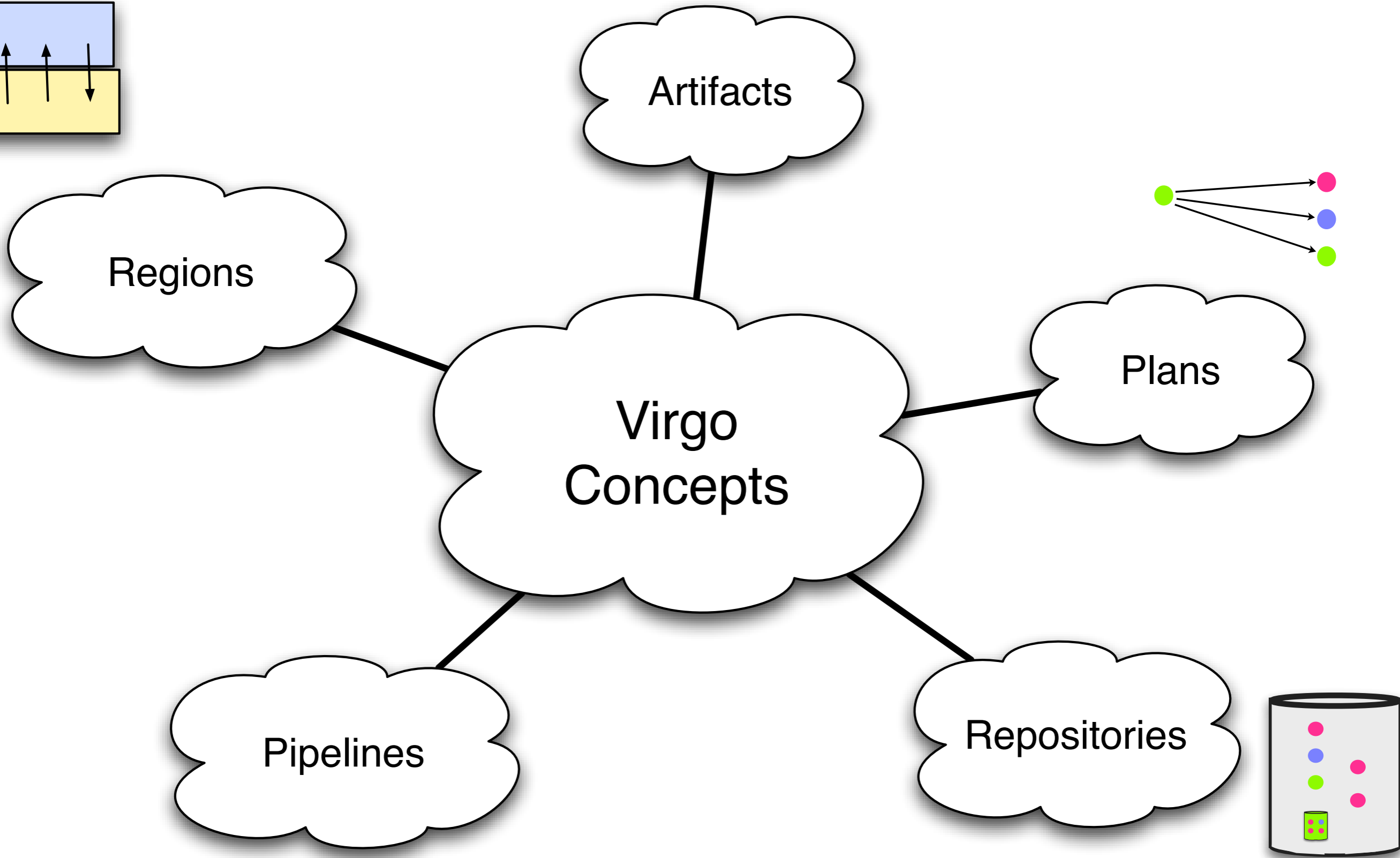
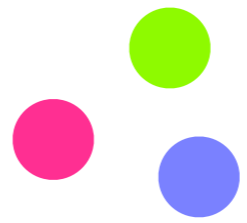
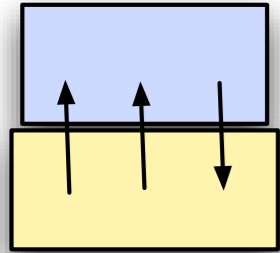
Problems Virgo Solves

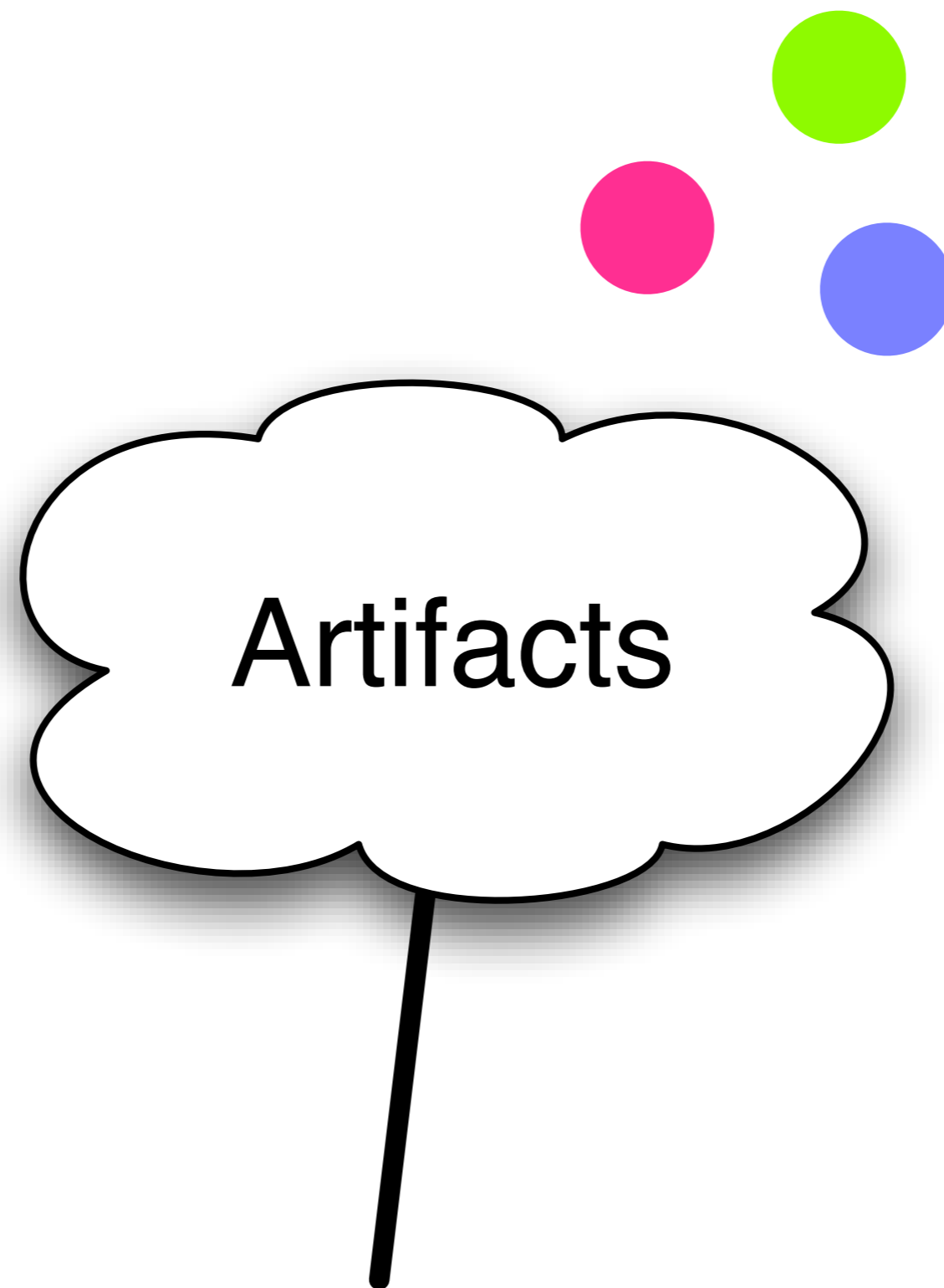
- Groups bundles into manageable units
- Enables the use of existing open source libraries
 - TCCL, LTW, implicit package use
- Provisions from repositories
- Extensive diagnostics
 - resolution failure, deadlock, delayed services

Virgo Tour

Virgo Externals



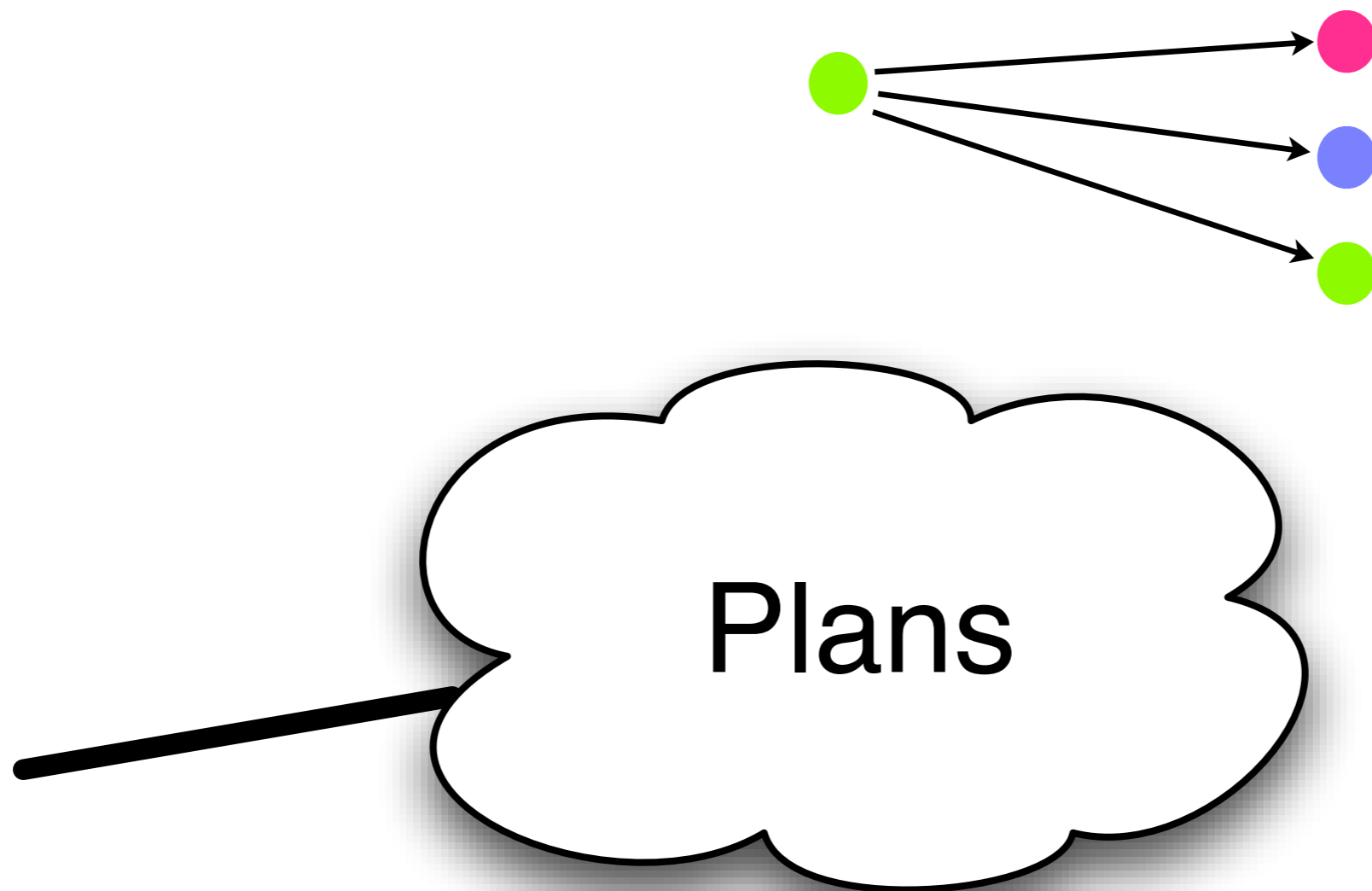




Artifacts

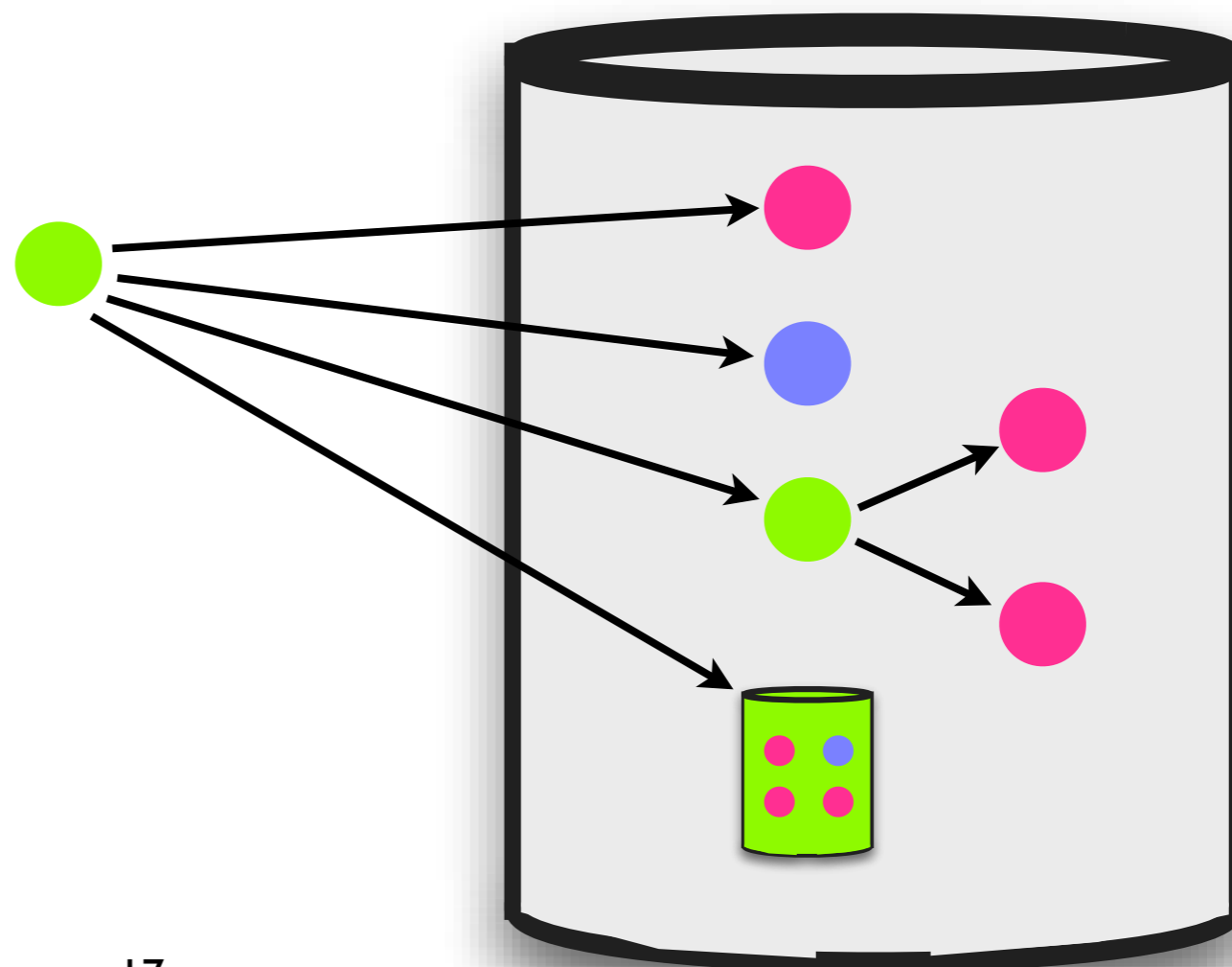
- Identified by type, name, version
- Types:
 - bundle - OSGi bundle
 - configuration - properties file
 - plan - list of artifacts
 - ...



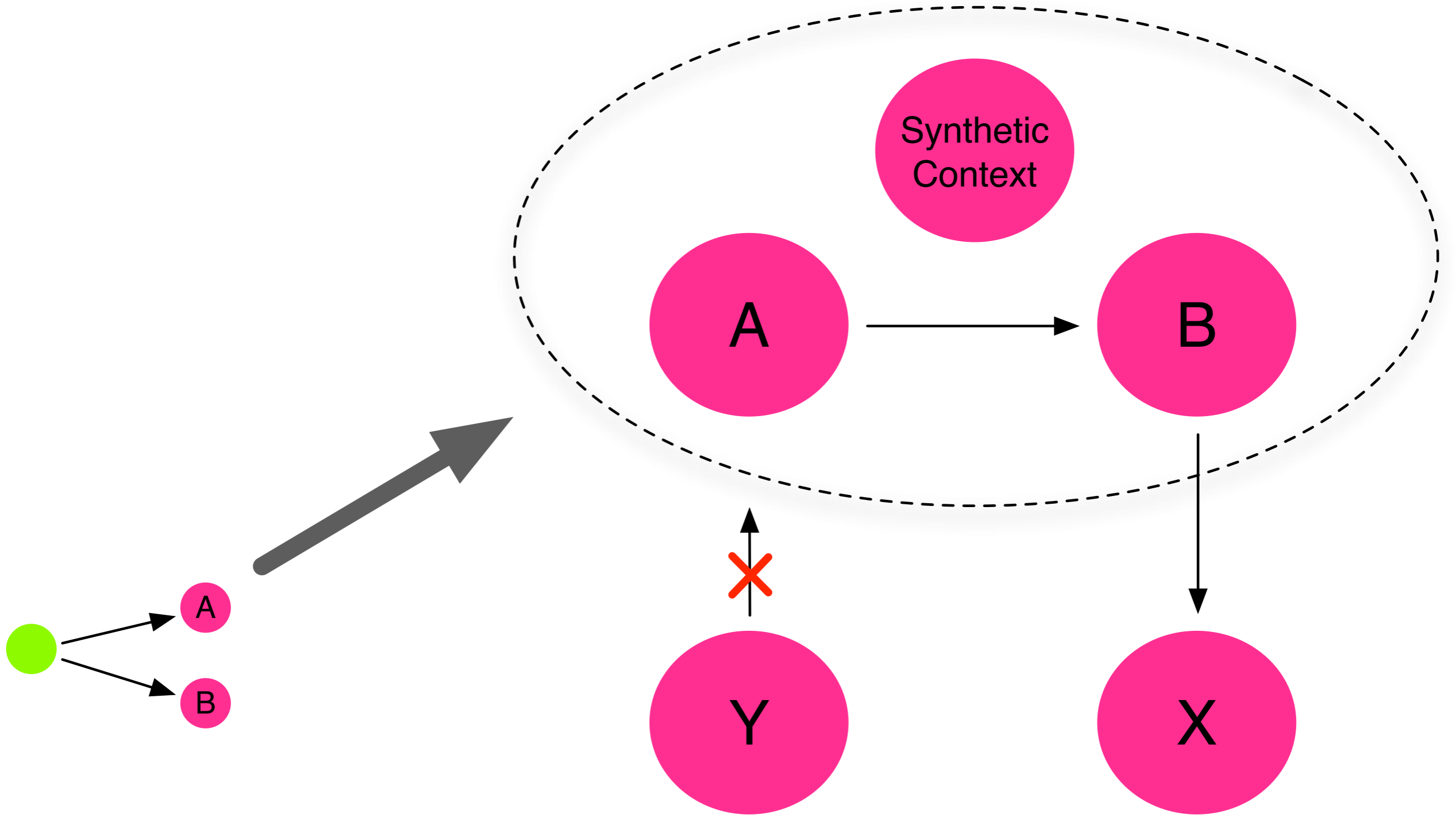


Plans

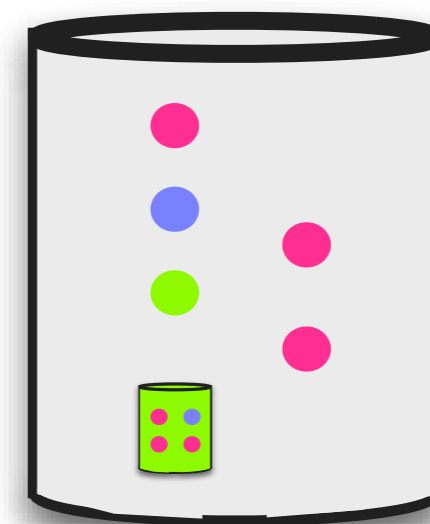
- XML
- List artifacts by type, name, version range
- Scoping
- Atomicity
- PARs
 - Contain artifacts
 - Scoped, atomic



Scoping

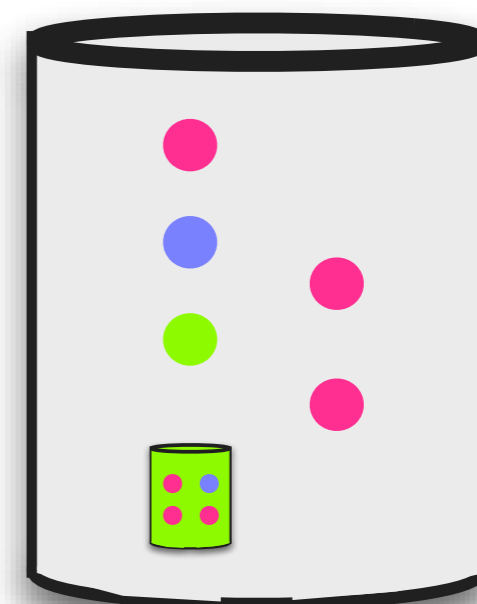


Repositories

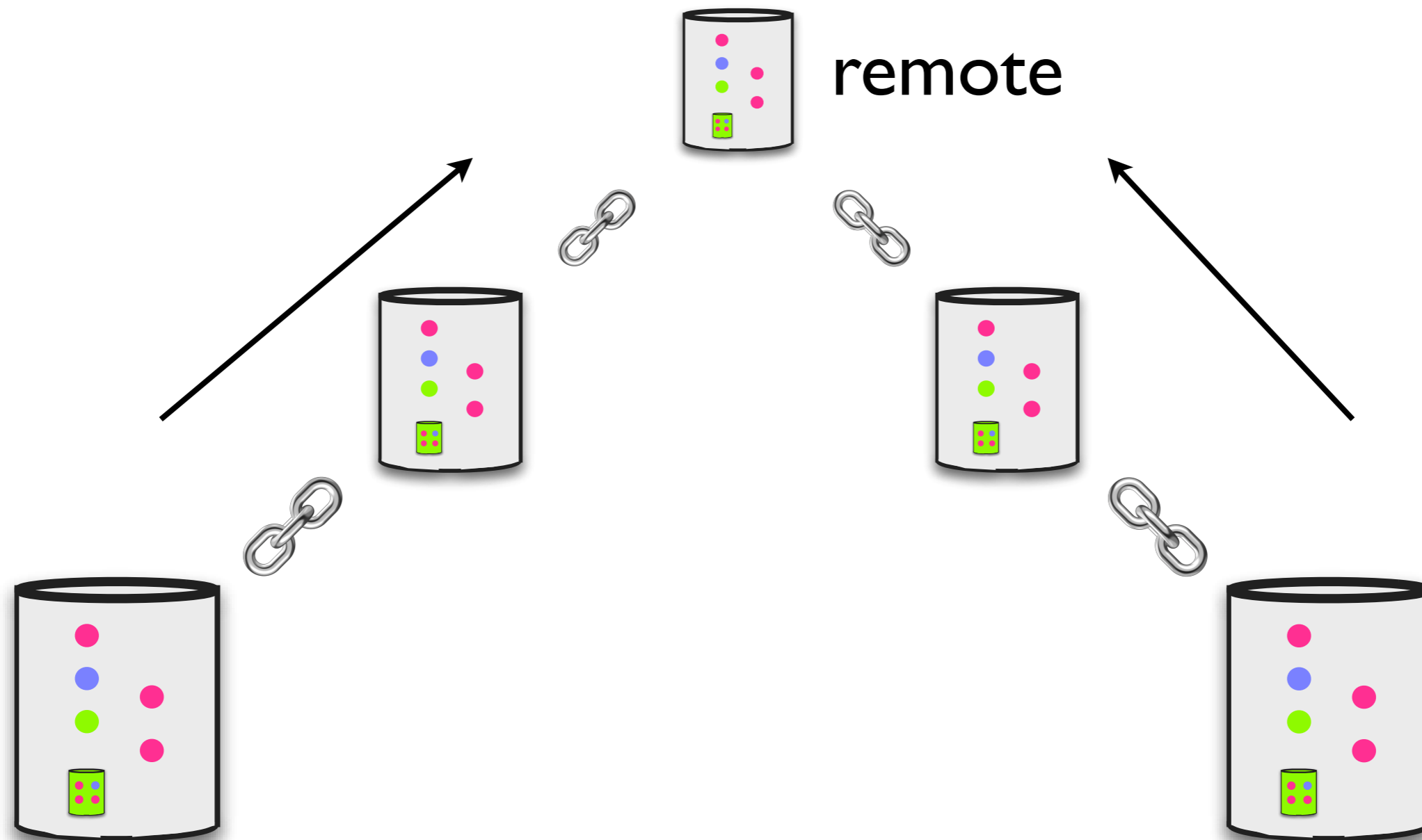


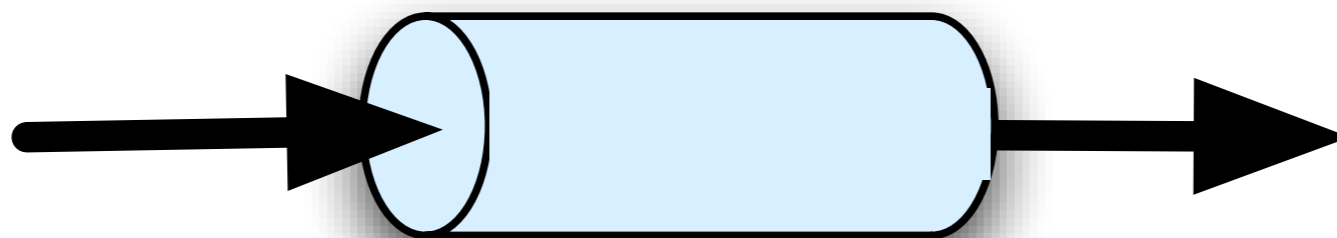
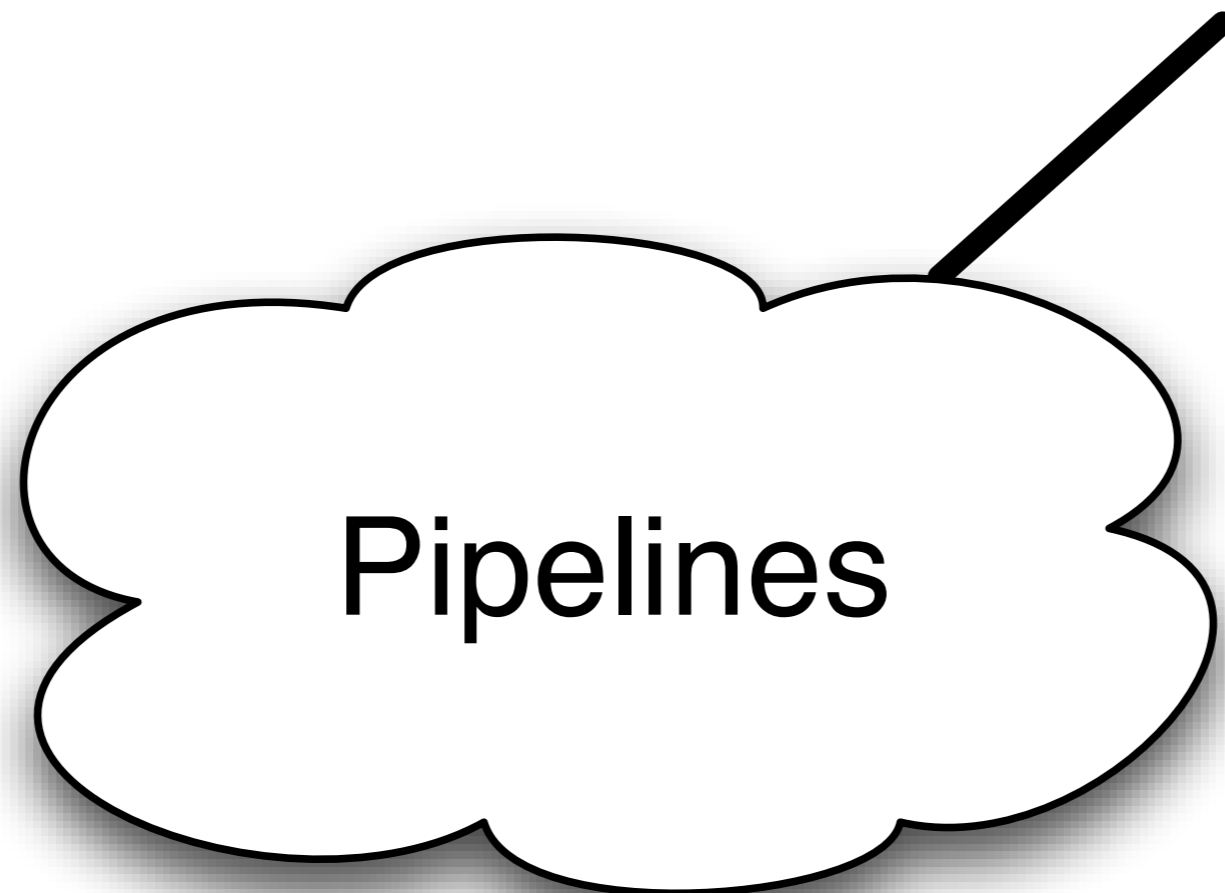
Repositories

- Artifacts indexed by type, name, version
- Supports queries e.g. by version range
- Repository types:
 - External
 - Watched
 - Remote
- Repositories may be chained

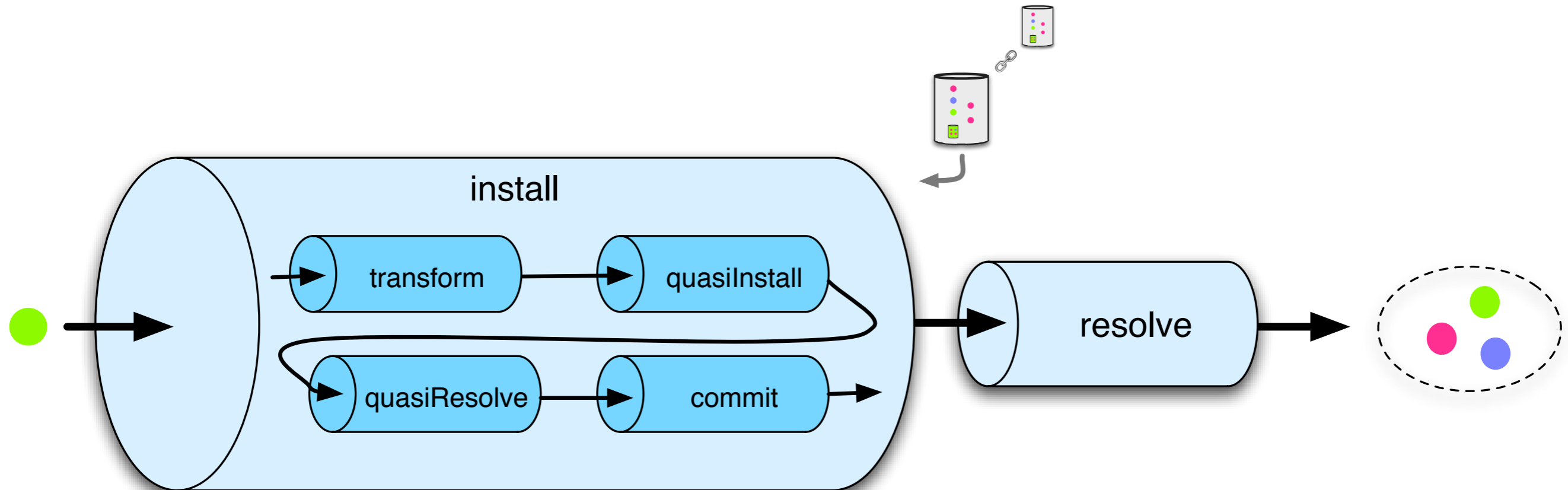


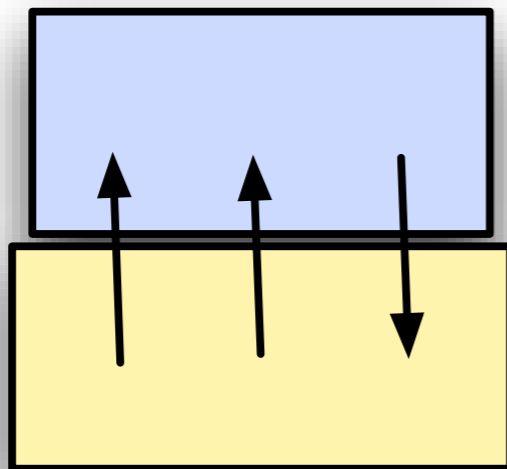
Repository Chaining





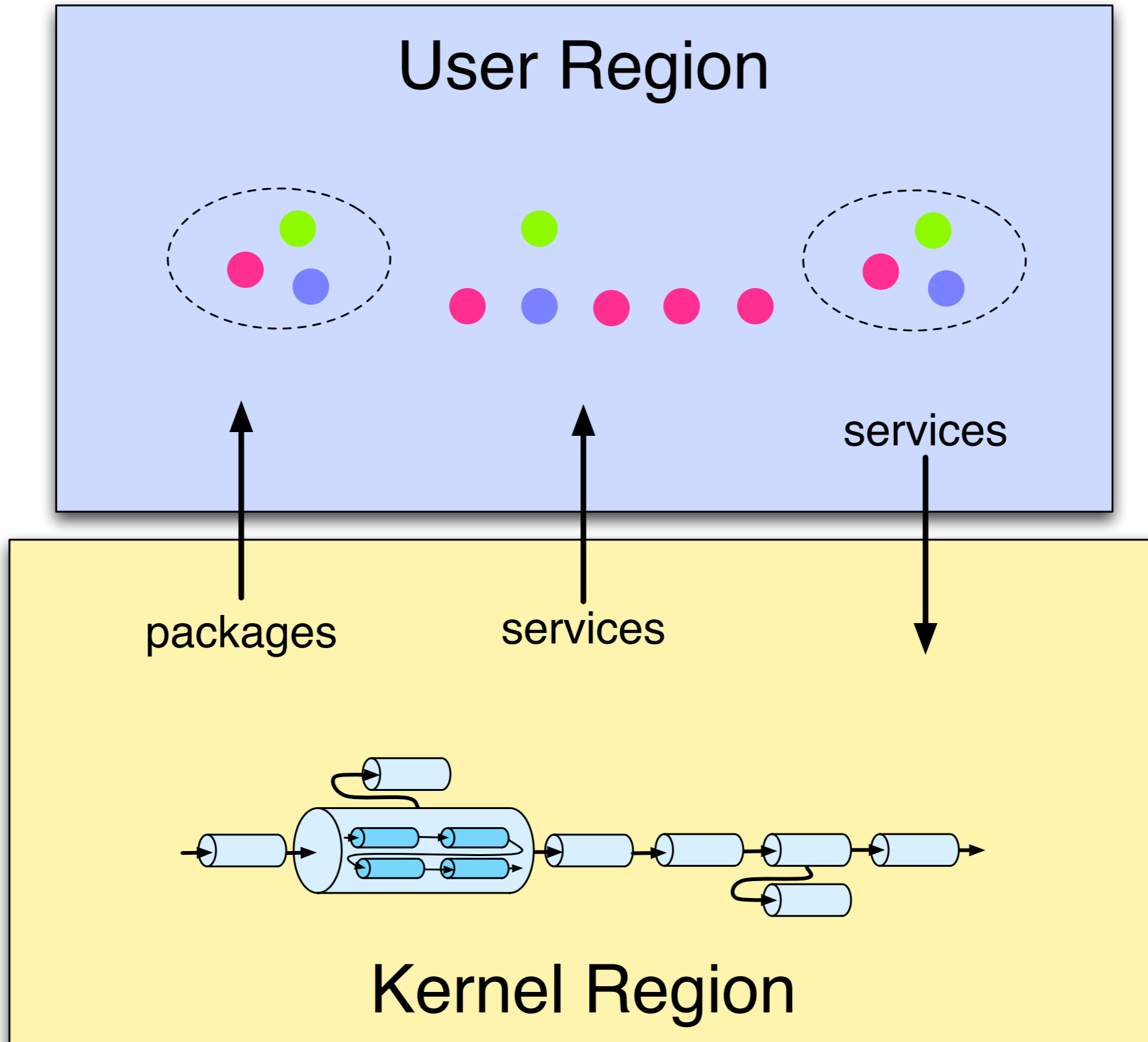
Pipelines





Regions

Regions



Current Status

Virgo Runtime

- All code now in Eclipse GIT
- Milestones shipping regularly
- IP in the last stages
- All repositories can be checked out and built (except SVTs – to follow)
- Virgo Nightly Builds available
- Baseline release in early 4Q 2010

Eclipse Tooling

- SpringSource Tool Suite supports Virgo servers
 - STS 2.3.2
 - <http://www.springsource.com/products/sts>
 - plus nightly build of dm Server Tools
 - <http://www.springsource.com/snapshot/e3.5>
 - (or .../milestone/e3.5)
- Including support for plans

How can I get started?

Getting Started

- Pre-req: Java 6
- Download and unzip
- bin/startup.sh or bin\startup.bat
- drop WAR files or bundles into *pickup* dir

...then what?

- Read documentation

User Guide

Programmer Guide

“Getting Started” Guide

- Join the community

<http://wiki.eclipse.org/Virgo/Community>

Roles

- Casual user
- Expert user
- Contributor
- Committer

Committer Skills

- Know or willing to learn:
 - Clean architecture & code
 - Unit and integration testing
 - Concurrency
 - (Deep) OSGi
 - git, ant, ivy, etc.

Work Areas

- Developer docs & wiki
- Jetty support
- p2 integration
- More server types
 - Integration, batch, ECF, ...

Further Information

- <http://www.eclipse.org/virgo>
- <http://wiki.eclipse.org/Virgo/Community>
- #VirgoRT 
- Download Virgo milestone and try it out
<http://www.eclipse.org/virgo/download>