Agenda

• What is OSGi & OSGi basics
• Gemini & Virgo at Eclipse
• A tour of Virgo
• Current Status
• How can I get started?
Bundles Bundles Bundles Bundles

• OSGi is a Module System
• Many adopters including a lot of Eclipse projects
• Defined by the OSGi Alliance
• A Bundle, a Jar file, a single module
• The Bundle Manifest defines the imports/export
Services

• A Bundle can export and consume services
• This happens dynamically at runtime
• Managed by a Service Registry
• A service is a Java Object with some properties
• The Whiteboard pattern
What is Virgo?

• “Dynamic Enterprise Application Platform”
• Based on SpringSource dm Server 2.0
• Objectives:
  • Better OSGi platform
  • Servlets & 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
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 and EclipseRT

Virgo

web

kernel

...

Gemini

web container

blueprint

...

Equinox

Spring
Artifacts
Artifacts

• Identified by type, name, version

• Types:
  • bundle - OSGi bundle
  • configuration - properties file
  • plan - list of artifacts
  • par – container 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

install
  transform → quasiresolve
  quasiresolve → commit

resolve

20
Regions

User Region

Kernel Region

packages

services

services
How can I get started?
Getting Started

• Tech Demo later today (5)
• Pre-req: Java 6
• Download & 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
Roles

- Casual user
- Expert user
- Contributor
- Committer
Committer Skills

• Know or willing to learn:
  • Clean architecture & code
  • Unit and Integration testing
  • Concurrency
  • (Deep) OSGi understanding
  • git, ant, ivy, etc.
Work Areas

• Developer docs & wiki
• Jetty adapter
• Regions and nested frameworks
• p2 integration
• More server types
Current Status

• Adding the last code into Eclipse GIT
• IP scrutiny progressing well
• Most repos can be checked out and built
• Virgo Nightly Builds available
• Baseline release is coming soon
Further Information

- [http://www.eclipse.org/virgo](http://www.eclipse.org/virgo)
- [#VirgoRT](https://twitter.com/VirgoRT)
- Download dm Server 2.0.2 and try it out
- [http://www.springsource.org/dmsserver](http://www.springsource.org/dmsserver)