Towards A Common Build Infrastructure: Designing For Reusability

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Agenda

- History of EMFT / Modeling Project Builds

- Release engineering
  - Building
  - Testing
  - Publishing
History of EMFT / Modeling Project Builds

- Started with one build, OCL, Nov 2005
- By July 2006, there were 10 heterogeneous component builds
- Including GEF, there are now 20 with 10 more coming!
  - 3rd party jars (including Orbit)
  - As many as 12 upstream dependencies (Eclipse, EMF, UML2, OCL, GEF, GMF, ...)
  - JDK™ 1.4 / 5.0
Agenda

- History of EMFT / Modeling Project Builds

- Release engineering
  - Building
  - Testing
  - Publishing
Release engineering: Building

- Organize
- Templatize
- Centralize
Release engineering: Building :: Organize

- Organize releng code for simplicity & reuse

- Simplified operation – one web page which fires one shell script which sets up environment and launches Ant script
To run a build, please complete the following form and click the Build button. For help, click the [*] links below.

**Requires at least 2 SDKs: Eclipse, EMF,...**

### 1. Branch, Subproject & Type

- **Eclipse**
- **EMF, MQ, MT, VF**
- **Compare, Ecore Tools, MWE, Net1j**
- **OCL, UML2, UML2 Tools**
- **GEF, GMF, Orbit, WTP**
  - AND/OR -

**Dependency URLs**

- **Eclipse**
- **EMF, MQ, MT, VF**
- **Compare, Ecore Tools, MWE, Net1j**
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  - AND/OR -

**Build Alias**

- MS_34

**Mapfile & Tagging**

**Run Tests**

- JUnitTests

**Email?**

*Build*
Release engineering: Building :: Templatize

- Code duplication is bad, but not entirely avoidable
- Extract duplication and similarities into templates with TODO markers for where to insert differences
- Easier introduction of new components
Release engineering: Building :: Centralize

- Extract contents of components’ scripts into a single script
- Execute scripts with commandline parameters or user-initiated web selections parameters
- For repetitive steps (eg., weekly builds) use properties files to set per-project unique attributes and minimize script API
Release engineering: Testing

- Integrate
- Irritate?
- Investigate
Release engineering: Testing :: Integrate

- Integrate JUnit testing into all builds
- Integrate test status reporting into build download / status review webpage
- Integrate status reporting into email notification, with links to JUnits, log, details, and status
Release engineering: Testing :: Irritate?

- Publish all types of test results to encourage test-driven development
- Every bug fix should include a new JUnit test to both reproduce the problem and validate the fix
- Make test errors obvious on downloads webpage; make email notifications concise and immediate
Release engineering: Testing :: Investigate

- Logfile viewer for build and test logs to more easily find problems
- Test results page (replacement for default)
Downloads

Component selection

Component: OCL

1.1.0 Integration Builds

- i200703011208 (Thu, 1 Mar 2007 -- 12:08 (-0500))
  - Success

1.1.0 Nightly Builds

- nosplash (Wed, 31 Jan 2007 -- 16:09 (-0500))
- noclean (Tue, 9 Jan 2007 -- 19:06 (-0500))
- 1.1.0M4redux (Tue, 9 Jan 2007 -- 18:25 (-0500))

Test Results for MDT OCL Build 1.1.0/N200701311609

For more information on this build, please go to this project’s download page.

- Console Logs
  - linux.gtk

JUnit Test Results

- org.eclipse.ocl.ecore.tests_linux_gtk
dnr
- org.eclipse.emf.ocl.tests_linux_gtk
dnr
- org.eclipse.ocl.uml.tests_linux_gtk
dnr

Compilation Errors

- org.eclipse.ocl.uml
  - 149 problems (149 warnings)
- org.eclipse.ocl.ecore
- org.eclipse.emf.ocl
  - 694 problems (694 warnings)
- org.eclipse.emf.ocl.examples.interpreter
- org.eclipse.ocl
  - 103 problems (103 warnings)
- org.eclipse.emf.ocl.examples
  - 6 problems (6 warnings)
Release engineering: Publishing

- Release
- Reuse
- Recycle
Release engineering: Publishing :: Release

- 4+ Zips per component
- JUnit test results
- Update Manager jars + shared site*.xml
- 1 RSS feed per component
- Ganymede Update Site Contributions (*.sc)
- News group and/or email notifications
Release engineering: Publishing :: Reuse

- Shared web UI calls shell script using one properties file per component for default settings, plus commandline options/overrides

- Update Manager jars are generated from SDK zip contents

- Online javadoc is generated from .doc plugin contents, with string substitution to resolve cross-project links (eg., to help.eclipse.org)
[promote] Started 14:18:28. Executing with the following options:
- sub uml2
  [loading ./promoteToEclipse.uml2.properties]
- cvsbranch HEAD
- branch 2.2.0
- buildID i200803011358
- announce
- coordsite ganymede
- email codeslave@ca.ibm.com

[promote] [14:18:29] Create target drop folder

…

[coordsite] [14:29:08] Ganymede Update Site
[coordsite] [14:29:11] Searching for features: org.eclipse.uml2 2.2.0.v200703011358

[promote] Temporary files purged

[announce] Announce new build in newsgroup (eclipse.modeling.mdt.uml2) ...
200 utils.eclipse.org InterNetNews NNRP server 381 PASS required
281 Ok
340 Ok, recommended ID <es79ic$o4l$1@utils>
240 Article posted <es79ic$o4l$1@utils.eclipse> 205.
[announce] done.
Release engineering: Publishing :: Recycle

- Binary-compatible build rename script
  - Rename zips/jars/md5s
  - Change strings in text files

- RSS feed is used as input to Release Notes database
  - Files changed per bug, by author, by date range, by component
  - Bugs fixed per build, per component, per CVS branch

- Bugzilla update script
  - Update Bugzilla by closing bugs fixed per release
Teneo HEAD

→ I200702130950
  → 🟢 172278 Add support for emf 2.3

→ I200702051530 (4 bugs fixed)
  → 🟢 172756 Remove following behavior: eattribute with name id is automatically assumed to be the id-attribute when there is no id annotation on another eattribute
  → 🟢 172755 Also created join tables should use entity name (with prefix) in case of qualifying naming strategy
  → 🟢 172671 Teneo creates invalid Hibernate mapping file when overriding table names with single_table inheritance scheme
  → 🟢 172645 NullPointerException when referencing (getting name of) Entity in dynamic EMF model

→ I200702010934 (4 bugs fixed)
  → 🟢 172462 In case of nsprefix qualification of entity name set correct tablename and set auto-import=false
  → 🟢 171035 performance fall of HibernatePersistableEList
  → 🟢 170221 Add test case(s) for Inheritance variant TABLE_PER_CLASS
  → 🟢 170217 Teneo: JPA tablegenerator should also be supported on efeature level.
Search

file: org.eclipse.mdt/ days: 14 author: cdamus

Project: -- Select a project --

Previous 1 2

→ [174623] TypeUtil.java (HEAD 1.14 > 1.13) 2007-02-23 22:05:59
cdamus
  → [174623] cdamus - Wrong Namespace URI for OCL annotations
cdamus
  → [172782] cdamus - TypeUtil.getOperations may ignore additionalOperations

→ [172782] CompatibilityEnvironment.java (HEAD 1.3 > 1.2) 2007-02-23 22:05:59
cdamus
  → [174623] cdamus - Wrong Namespace URI for OCL annotations
cdamus
  → [172782] cdamus - TypeUtil.getOperations may ignore additionalOperations

→ [174623] CompatibilityEnvironment.java (HEAD 1.3 > 1.2) 2007-02-23 22:05:59
cdamus
  → [174623] cdamus - Wrong Namespace URI for OCL annotations
cdamus
  → [172782] cdamus - TypeUtil.getOperations may ignore additionalOperations

→ ocl.map (HEAD 1.94 > 1.93) 2007-02-22 16:26:27
cdamus
  → Release fixes to feature.xml plug-in dependencies

→ [175136] feature.xml (HEAD 1.17 > 1.16) 2007-02-22 16:15:51
cdamus
  → [175136] cdamus - org.eclipse.emf.ocl feature missing plug-in dependencies

→ [175136] feature.xml (HEAD 1.16 > 1.15) 2007-02-22 16:15:51
cdamus
  → [175136] cdamus - org.eclipse.emf.ocl feature missing plug-in dependencies

→ [175136] MANIFEST.MF (HEAD 1.10 > 1.9) 2007-02-22 16:15:50
cdamus
  → [175136] cdamus - org.eclipse.emf.ocl feature missing plug-in dependencies
Resources


EMFT, MDT Websites:
- http://www.eclipse.org/modeling/emft/
- http://www.eclipse.org/modeling/mdt/
  - Downloads, Release Notes, Search CVS

Useful Eclipse Wiki Docs:
- http://wiki.eclipse.org/Modeling_Project_Releng
- http://wiki.eclipse.org/Search_CVS
- http://wiki.eclipse.org/Category:Releng
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