eclipse

Build Easier – The ECF way

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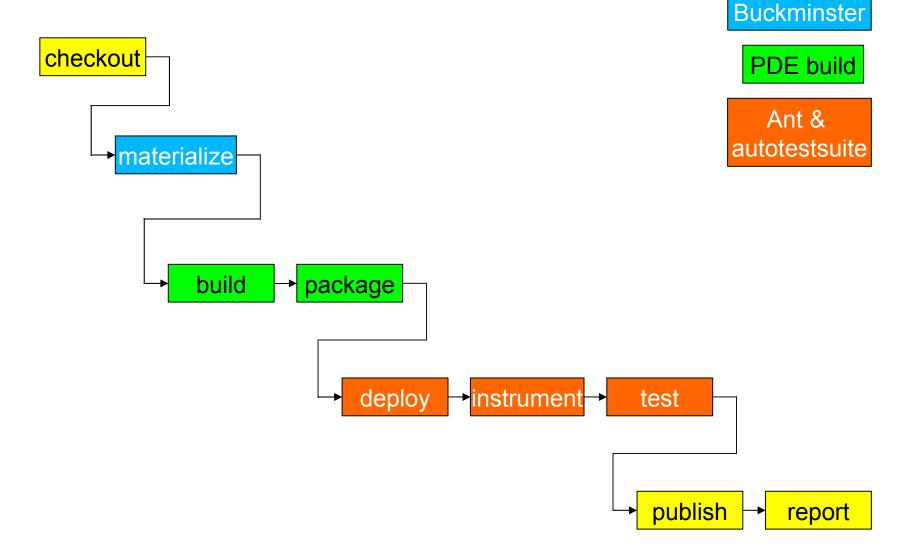http://www.eclipse.org/ecf

Roadmap

1. Goals

2. General overview

3. org.eclipse.ecf.releng.bm/

4. /opt/toolbox

5. Buckminster

6. Headless testing

7. Hudson as scheduler + reporting

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Goals

- Minimum custom scripting
  - No bash, tcl, whatever
  - ~500 lines of ANT
  - Platform independant

- No manual target platform management
  - Committers usually do not have access to build machine to add/remove from target
  - Different .target definitions?!
- Automated testing

- Reproducibility

- Low maintenance

- Version build system
  - Hudson's configuration in SCM too?

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General Overview

Hudson

Buckminster

PDE build

Ant & autotestsuite

checkout

materialize

build

package

deploy

instrument

test

publish

report

org.eclipse.ecf.releng.bm/

- build.xml [materialize, compile, test, clean, …]
  - delegates to Buckminster, PDE build, AutoTestSuite
  - sets useful defaults for a bunch of variables
- common.xml
  - should be merged with build.xml
- common.properties
  - pathes to build tools

- ecf.rmap
  - Buckminster's resource map
- o.e.e.sdk.cquery
  - Advisory node how to handle certain groups of bundles
- o.e.e.sdk.mspec
  - Materialize ECF's bundles into workspace
- o.e.e.tests.* equivalent (one per top level feature)

  - Generate cquery/mspec on the fly?

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/opt/toolbox

- Contains build tools like Java compilers, Ant-contrib, Emma, Buckminster…

- Does not contain build dependencies

- Old bits must never be deleted from /opt/toolbox
    - Ensure all builds are reproducible

- Linked to from org.eclipse.ecf.releng.bm/common.properties
    - Customize via
        - -DBUCKMINSTER_BUILDER_REV10382=/my/new/path/…
        - -DTOOLBOX=/new/path/to/toolbox
        - Environment variable TOOLBOX

- How to keep local toolbox copies consistent over time?
    - Ant target as part of org.eclipse.ecf.releng.bm/build.xml

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Buckminster

http://www.eclipse.org/buckminster/downloads.html

- Resolves feature/bundle dependencies against ecf.rmap
    - CVS, SVN, update sites, custom actors…

- Does not support „import-package" :-(
    - Either include/depend feature directly or use .cspex
        - org.eclipse.ecf.core-feature/buckminster.cspex

- Supports product/feature build and packaging
    - Not used by us, we use PDE build instead

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Headless testing

http://www.pluginbuilder.org/documentation/run-tests/

- Special IApplication which executes JUnit tests on classpath
  - based on a regexp: ^org\.eclipse\.ecf\.tests(\..+)?
- Writes regular JUnit XML output

- Supports UI tests via SWTBot

- Also comes as a LaunchConfig in Eclipse

- Just a single VM

- Testing not linked to Bugzilla

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Hudson as scheduler + reporting

https://ecf2.osuosl.org/hudson

- Polls CVS periodically for changes and kicks off a build

- Collects results afterwards
  - test results
  - coverage results
  - compiler warnings
  - send out reports via mail, irc, xmpp, twitter, calendar ….
  - …
  - tags CVS (or git?)
  - publishes zips/update sites

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Open items

- Conceptionally open
  - Source features/bundles
  - Signing
  - Feature restructuring
  - Git
  - Workflow linked with Bugzilla
  - Distributed testing

- Busy beaver
  - OSU builds (Skype 64bit issues with ecf2)
  - TweetHub
  - Different build types [release, nightly, stable, integration, …]

Random Links

- http://wiki.eclipse.org/Buckminster
- http://www.lemmster.de/blog/index.php/2009/02/04/188/
- http://wiki.eclipse.org/Building_an_RCP_application_with_hudson_(Buckminster)
- http://wiki.hudson-ci.org/display/HUDSON/Buckminster+PlugIn

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