

# *Hudson 3.0 Release Review*



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Communication Channel: Hudson Forum,  
Dev mailing list

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# ***Introduction***

- Hudson is a Continuous Integration (CI) Server tool used to automate your build, testing and deployment processes as part of an agile methodology
- Runs either as an application installed into any Java EE application server or standalone using it's own engine
- It is a well established OSS project with a large incumbent user base (30,000+ active servers)
  - Transitioning from java.net MIT licensed project
  - Large external plug-in ecosystem

# ***Features – The Transition to Eclipse***

- This release was all about cleaning up and updating the code-base of Hudson and ensuring Eclipse compatible IP.
  - Overall reduction in 3<sup>rd</sup> party JARs from 108 to 84
  - Upgrade of the majority of the remaining dependencies
  - Wholesale re-write of some areas to replace undesirable dependencies. e.g.
    - Replace Winstone with Jetty
    - Replace JFreeChart with Birt
  - Required significant re-engineering to support existing plugin community
  - Significantly more work done outside of the Eclipse codebase than inside in order to support this

# ***Features – Actual New Features for 3.0***

- Switchable update centers
  - Hudson is a key part of many organizations internal infrastructures. This feature allows IT control over the range of plug-ins available to Hudson administrators.
  - Improved plug-in management
    - New user interface to help administrators effectively manage and install the plug-ins available on a Hudson server
- BootStrap configuration
  - A rework of the self install process used by Hudson to allow configuration when the server is run for the first time. This also allows just-in-time loading of non-Eclipse components if required

# ***Non-Code Aspects***

- Documentation
  - Large portions of the old wiki have been migrated to Eclipsepedia
  - New free e-book on Hudson (The Hudson Book) produced for the project
- User community largely migrated to Eclipse infrastructure
  - Forum & mailing lists + Regular community meetings
- Plug-in projects still managed outside of Eclipse
  - Many updated for Eclipse Hudson compatibility
  - Both Hudson-ci and Eclipse

# *APIs*

- As a standalone server Hudson's primary APIs are in the form of it's own plug-in APIs used by plug-in writers and some automation APIs such as it's REST APIs.
  - Care has been taken to maintain compatibility of these APIs for these existing community users

# ***Architectural Issues***

- This release has required significant re-engineering of Hudson's Core to remove or abstract undesirable 3<sup>rd</sup> party library usage.
  - Overall this has been beneficial to the project and has thrown up areas of dubious existing design
- Provided the opportunity to de-duplicate library usage. Especially in areas such as logging
- New features such as the new BootStrapping feature provide more flexibility in the future whilst solving IP problems today

# ***Architecture - IP and Existing Plug-ins***

- Many plug-ins assume the presence of certain features (e.g. Groovy) in Hudson core, based on pre-Eclipse IP standards.
  - If we can't ship such a library in the distribution:
    - The feature is re-factored into an external (non Eclipse) plug-in
    - If needed Hudson core loads the feature on demand from plug-in site (non-Eclipse)
    - Bootstrap process allows this to be done as initial setup step
- Benefit:
  - Hudson core is now much smaller 63MB → 26MB



# ***Tool Usability***

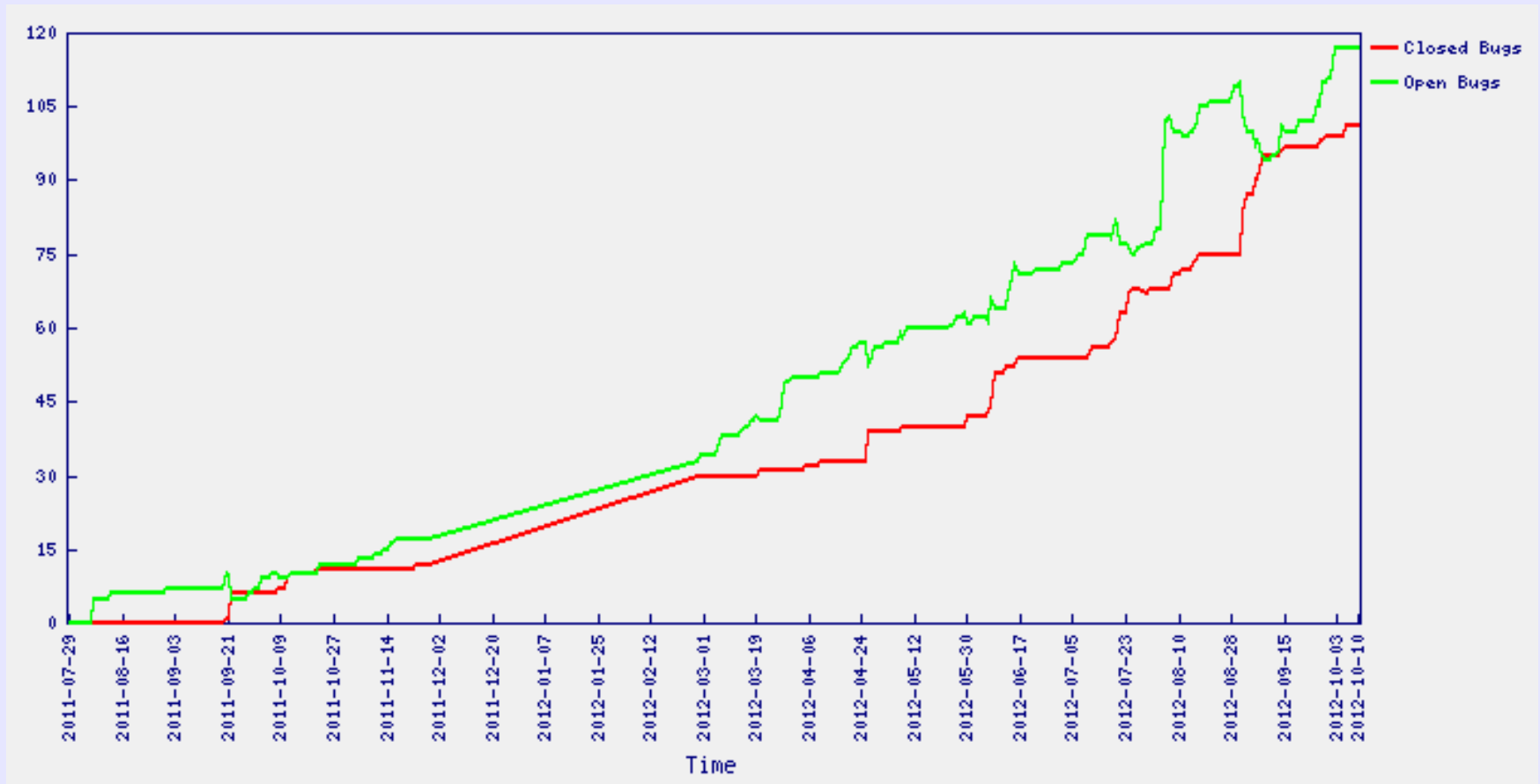
- Hudson is intrinsically about a quick to setup, simple to use facility that developers can install and be up and running in minutes to help automate their processes
  - Hudson 3.0 continues with this philosophy
  - Even the new bootstrap feature can be scripted for users needing to automate setup without manual intervention

# ***End-of-Life***

- No significant features are being EOled in this release.
  - Existing 1.n and 2.n users will be encouraged to upgrade to 3.0 as soon as possible though

# Bugzilla

- Bug trend in 3.0 – last quarter



# Bugzilla

- Resolved Bug matrix

Severity	Priority				
		P1	P2	P3	Total
	blocker	.	<u>1</u>	<u>6</u>	<u>7</u>
	critical	.	<u>2</u>	<u>7</u>	<u>9</u>
	major	<u>1</u>	.	<u>15</u>	<u>16</u>
	normal	.	.	<u>75</u>	<u>75</u>
	minor	.	.	<u>3</u>	<u>3</u>
	trivial	.	.	<u>1</u>	<u>1</u>
	enhancement	.	.	<u>4</u>	<u>4</u>
Total	<u>1</u>	<u>3</u>	<u>111</u>	<u>115</u>	

# Bugzilla

- Remaining open Issues in 3.0
  - Priority 3 bugs only

Severity	Priority		
		P2	P3
			Total
	blocker	.	<u>2</u>
	critical	.	<u>8</u>
	major	.	<u>16</u>
	normal	.	<u>46</u>
	minor	.	<u>9</u>
	trivial	.	<u>1</u>
enhancement	<u>2</u>	<u>45</u>	<u>47</u>
Total	<u>2</u>	<u>127</u>	<u>129</u>

# ***Standards***

- Hudson requires Java 6 or above
- Hudson requires an application server supporting Servlet 2.0 or above

## ***UI Usability***

- As a web application Hudson has a different set of UI standards from the Eclipse IDE. We have maintained compatibility with the existing Hudson 2.n UI
- The Hudson UI is localized and we provide a facility for community driven localization within the product

# ***Schedule***

- Hudson 3.0 has been through a series of milestone and Release Candidate cycles
  - More than anticipated, mainly due to fallout of rejected CQs (e.g. Groovy). Re-architecture and complex dependency trees
  - 5 Milestone releases
  - 5 Release candidates
- These have all been largely regular at 5-6 week intervals with a full testing cycle at each juncture



# ***Communities***

- Continuation of existing (merged) user community  
Java.net + Eclipse
  - Bi-weekly open community meetings
  - Mail-lists and Eclipse forums
- The Hudson Blog and Twitter feed
- Hudson-ci.org gateway as well as the Eclipse site
- Events
  - Sessions at EclipseCon, JavaOne and DOAG
  - Hudson Hands on labs at JavaOne

# ***IP Log***

- The project leadership verifies that the Eclipse IP policies and procedures have been followed.
- IP Log Location:
  - [http://www.eclipse.org/projects/ip\\_log.php?projectid=technology.hudson](http://www.eclipse.org/projects/ip_log.php?projectid=technology.hudson)
- A detailed breakdown of libraries can also be found in the Hudson Wiki:
  - [http://wiki.eclipse.org/Hudson-ci/development/third\\_party\\_libraries/3.0.0](http://wiki.eclipse.org/Hudson-ci/development/third_party_libraries/3.0.0)

# ***Credits and Kudos***

Many thanks to the following community members who have contributed in one way or another to the Hudson 3.0 project

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And everyone at the Eclipse Foundation who helped us!