

# The Grinder Change Log

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## 1 The Grinder 3.11

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### Released 2012-10-20

Upgrade the packaged version of Jython to Jython 2.5.3, including the Jython standard library. Remove the support for the traditional Jython instrumenter.

Fix bug #220 - Memory leak in MarkerFactory. Thanks to Fei for the report.

Fix bug #221 - "time to establish connection" for re-used connection. The HTTP plugin host resolution and connection establishment times are now only recorded when a new connection is established; for tests that re-use connections, these values will be zero.

The summary statistics average these values over the number of established connections, not all tests. A "New connections" statistic is available in the data log. Thanks to Teresa Plumari for the report.

The worker process summary statistics table now prints 0/0 as a '-' character, rather than the previous behaviour of using a NaN unicode character. Thanks to Travis Bear for the feedback.

Fix bug #223 - relative grinder.script path not resolved correctly when using the REST API. Thanks to Kevin Laurier for the report.

Implement feature request #104 - latest Statistics from REST API. Thanks to Marc Holden for the request and the implementation.

Fix bug #222 - Script directory should be added to the python path. This matches the behaviour of the Python interpreter. Thanks to Poornima Mallur for the report.

Implement feature request #100 - grinder.jvm.classpath should allow relative paths. The grinder.jvm.classpath property is now evaluated based on the worker process working directory, not the agent directory. Thanks to Horace for the request.

Fix bug #217 - wrong selection of agent JAR in command line. Thanks to Arne for the report.

Fix bug #224 - HTTPS and follow redirects. Thanks to Gerald Boersma for the report.

Fix bug #218, #219 - Accept cookies where the domain is set to the request-host and incorrectly has a leading dot. This is contrary to RFC 2965, but matches the behaviour of popular browsers. Thanks to Greg Merrill, and an anonymous reporter.

Fix bug #215 - Log script initialisation errors to the process log file as well as the terminal. Thanks to Ouray Viney for the report.

## 2 Sourceforge upgrade

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The Grinder now uses the new Sourceforge tooling. The existing bugs and feature requests have been migrated to the new tracker tool and have been assigned new numbers. The links using the old numbers in the version of this file at <http://grinder.sourceforge.net/development/changes.html> will redirect to the new tracker items.

## 3 The Grinder 3.10

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### Released 2012-06-24

Implement feature request 3526344 - the Console Service provides a RESTful API for automating The Grinder.

## 4 The Grinder 3.9.1

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### Released 2012-05-11

Fix bug 3517593 - Recording Jython script with 3.9 produced an invalid script. Thanks to greghmerrill and John Felten for the beta testing and report.

Fix bug 3525156 - Better exception handling of invalid header arrays passed to HTTPRequest. Thanks to Ouray Viney for the report.

Fix bug 3521073 - CLOSE\_WAIT sockets on agent kill. Dead connections should now be cleaned up after 30 seconds. Thanks to Tumri for the report.

## 5 The Grinder 3.9

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### Released 2012-04-05

Fix bug 3511553 - TCP proxy recorded scripts do not extract headers correctly, leaving a syntactically incorrect script. Thanks to Bill Smith for testing the fix, and correcting the Clojure script generation.

Fix bug 3511035 - 3.8 bundles additional, older version of xmlbeans.

Fix bug 3511536 - Generated Clojure script uses logger API incorrectly. Thanks to Chris Bolton for the report. I also disabled the "offline debug" macros by default.

Fix bug 3512095 - proxy-generated XML gives each attribute a new namespace. Thanks to Bill Smith for the report.

## 6 The Grinder 3.8

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### Released 2012-03-25

Fix bug 3471476 - Null Pointer Exception in the TCPProxy when making multiple connections through a chained HTTPS proxy. Thanks to Tadge for the report and testing.

Fix bug 3484390 - FireFox 10 and HTTPS triggers a NullPointerException. Thanks to Ouray Viney for the report and testing.

Fix bug 3431287 and bug 3489034 - Ignore HttpOnly attributes in the middle of cookies. Thanks to Alex Crane and Jeremy for the reports.

TCPProxy HTTP recording: improve the extraction of common headers to reduce the number of common header sets.

Re-implement TCPProxy support for the HTTPPlugin.initialTest property.

The TCPProxy supports the recording of additional HTTP headers.

Fix bug 3475516 - the TCPProxy now records Faces-Request header for JSF 2.0 AJAX requests. Thanks to Diego Vicentini for the report.

Fix bug 3505114 - userLong4 custom statistic value was overridden by the test time. Thanks to Fei for the report.

Fix bug 3505060 - TCPProxy fails to handle concurrent HTTPS requests. Thanks to Anders Storsveen for the report, and contributing part of the fix.

Three fixes to the Clojure script generation from Bill Smith. Fixes: quoting of tokens; call to httpUtilities methods; single line comments.

## 7 The Grinder 3.7.1

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### Released 2012-01-28

Fix bug 3479712 - Data log is not flushed on exit. Thanks to Andreas for the report.

## 8 The Grinder 3.7

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### Released 2012-01-15

Changes that may be incompatible with existing scripts:

Implement feature request 3418525 - Switch to a standard logging framework. The `net.grinder.common.Logger/FilenameFactory` API has been removed in favor of SLF4J. Output and error messages are logged to a single log file. The log file and the data log file are managed by Logback.

The Grinder requires Java SE 6 ("Java 6") or later. Java SE 5 is no longer supported.

Other changes:

The Java instrumenter supports selective instrumentation of a target object through an overloaded version of `Test.record()`. The full `HttpRequest` interface can be used with DCR instrumentation without requiring a replacement for the traditional instrumenter's `__target__`.

Fix bug 3006631 - Null pointer exception when posting multipart form data. Thanks to Edwin Clubb for the report, and to Ouray Viney for testing the fix.

Fix bug 3431764 - DCR instrumentation fails with Java 7. Thanks to Gary Mulder for the report.

Fix bug 3133650 - Relative classpath issues when using the console. The agent process translates relative paths in the classpath to the different working directory when workers are launched with scripts distributed by the console. Thanks to Jared C for the report.

The Grinder is built using Apache Maven.

Tentative fix for bug 3459637 - AWT-EventQueue NullPointerException. Thanks to Richard Lynch for the report.

Fix bug 3464547 - DCR instrumentation of unbound PyMethods doesn't work.

Fix bug 3464533 - DCR instrumentation of bound PyMethods doesn't work.

The `TCPProxy` can be called with `"-http clojure"` to generate a Clojure script.

The `TCPProxy` can be called with `"-http jython"` to generate a Jython script that uses the new (DCR) instrumentation. DCR instrumentation will be enabled by default in the next release of The Grinder.

## 9 The Grinder 3.6

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### Released 2011-10-10

The script engine API has been improved so that adding support for other languages is straightforward.

Clojure is supported as an alternative test script language.

Fulfil feature request 1849150 - Synchronisation points. Thanks to Aditya for the request.

Fix bug 3406177 - DCR instrumented objects are not garbage collected. Thanks to Gary Mulder for the report and diagnostics.

Fix bug 3413171 - TCPProxy broken in The Grinder 3.5. Thanks to Lonnie Choset for the report.

Fix bug 3411728 - helloworld.py doesn't work with DCR instrumentation. Thanks to Jeff Vincent for the report.

Fulfill feature request 3389028 - XSLTHelper API to control indent. Thanks to Jean-Francois Poilpret for the request.

## 10 The Grinder 3.5

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### Released 2011-08-22

Fix bug 3008924 - Jython 2.5, assertion error if script has `__del__` method. Thank to Thomas Falkenberg for the report.

Fix bug 2988755 - NPE in `JythonScriptExecutionException.tracebackToMessage()`. Thanks to Brian Runck for the report.

Fix bug 2952023 - `Cookie.parse` should recognise "httponly" (lower case). Thanks to amachang for the report and the patch.

Fix bug 3092275 - Incorrect TPS totals in output log. Thanks to Travis Bear for the report.

Fix bug 3132643 - No statistics to report. This occurred if a clock went backwards in time during a test, and prevented the test from ever executing successfully again. Thanks to Wallander for the report.

Fix bug 3132940 - Incorrect connect/DNS times when connect timeout set. This was due to an error in the fix for 3132940. Thanks to Jagdish A for the report, and to Wallander for testing.

Work around Jython issue 1894900. If the default Jython jar is used and it looks like the Jython cachedir has not been configured, then create a cache directory in lib.

Fulfil feature request 3324241 - Upgrade to PicoContainer 2.13.6. Thanks to Alexis Bezverkhyy the request.

Fix bug 3287570 - Memory leak in DCR instrumentation if same target was recorded multiple times using the same Test. Thanks to John (crystalstone) for the report.

Support Jython 2.5.2.

Fix bug 2992248 - DCR instrumentation of Java methods. Instrumentation of Java methods from Jython scripts has been improved. Multiple references from a script to an instrumented method work as expected. Invoking a script instrumented method from Java works. Thanks to Kevin Connaughton for the report.

Fix bug 2958145 - DCR instrumentation fails with `grinder.debug.singleprocess`.

## 11 The Grinder 3.4

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### Released 2010-04-07

Fix bug 2913297 - Memory leak in `SSLControlImplementation`. Thanks to Guido Serra for the report.

Fix bug 1619450 - HTTPClient.TestCookie.testParse unit test fails. Thanks to amachang for re-opening this bug and providing a patch.

Fix bug 2911790 - HTTP filter generates invalid code for Jython 2.5+. Thanks to the anonymous reporter.

Fix bug 2921612 - DCR instrumentation did not work with HTTPRequest. Thanks to Anil Jacob for the report.

Fulfil feature request 2914703 - Multipart form data support. Thanks to Hitoshi Amano for the request and the implementation.

Fix bug 2919190 - setTimeout method does not effect read timeouts. Thanks to Hitoshi Amano for the report and the fix.

Fulfil feature request 2923975 - added valuesFromHiddenInput() and valuesFromBodyURI() methods to HTTPUtilities. Thanks to Anil Jacob for the request.

Fulfil feature request 2841789 - added valueFromBodyInput() and valuesFromBodyInput() methods to HTTPUtilities. Thanks to Satheesh Babu Vattekkat for the request.

Fix bug 2816501 - Test numbers larger than 6 digits get truncated in out file. Thanks to Vivin Paliath for the report.

Fix bug 2501418 - Handle socket lingering properly. Thanks to Dawid Weiss for the report and suggested fixes.

Fix bug 2837600 - Content-type header written instead of Content-Type. Thanks to Guido Serra for the report.

Implement feature request 887214 - the console now optionally includes the totals line in saved results. Thanks to Karol Muszynski for prompting me to implement this.

Fix bug 2945358 - Fail gracefully if the agent jar file can't be found.

Fix bug 2947509 - Improve algorithm that finds agent jar.

Fix bug 2936167 - Script execution hangs when using Jython 2.5.1 and Windows. Thanks to Mark Cleveland, Dave Martin, and svalkanesko for their reports and assistance with the diagnosis.

Fix bug 2980291 - "Resolve host" time incorrect. The HTTP plug-in time To Resolve Host and Time To Establish Connection statistics no longer include the time taken for automatic redirects. Time To First Byte is still based on the time the HTTPRequest call was initiated. Thanks to Travis Bear for the report, and to Bryce Howard for the patch.

## 12 The Grinder 3.3

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### Released 2009-12-06

Changes that may be incompatible with existing scripts:

The Grinder now requires J2SE 5.0 ("Java 5"). J2SE 1.4 is no longer supported.

Fix bug 2315181 - Classpath of distributed jars. When distributing scripts from the console, the worker process working directory is now the root of the local cache directory. This allows scripts to refer to distributed resources using relative paths. Thanks to ujik for reporting this.

Other changes:

The TCPProxy now supports HTTPS proxies that use challenge/response authentication protocols such as NTLM and Negotiate. This will allow scripts to be recorded through such a proxy, but are no plans to add support for replaying scripts through the proxy. Thanks to Suvendu Kumar Mohapatra for extensive testing of candidate patches.

The stream support for HTTPRequest introduced in 3.2 has been enhanced to use the Content-Length header if provided. This allows the stream to be sent directly to the server without buffering, whether or not HTTP/1.1 chunking is available. Thanks to Walter Tuvell for the requirement and extensive testing.

Add HTTPRequest.getPluginProcessContext() so subclasses outside of the Java package can access the process context. This is useful when following the advice in the setReadResponseBody documentation. Thanks to Walter Tuvell for the requirement.

Updated Spanish translation from Antonio Manuel Muñoz Martin.

Updated Polish translation from from KARol Muszynski.

The Grinder now always uses the Java 5 System.nanoTime() method for timing. The grinder.useNanoTime property has been removed.

Fulfil feature request 1949447. A new, alternative instrumentation engine has been introduced. This allows new capabilities, including the ability to instrument code from within Java. The new instrumentation engine requires Java SE 6.

Fulfil feature request 2907553. The Grinder 3.3 supports Jython 2.5 and Jython 2.5.1. This support is based on the new instrumentation engine. The default, included version of Jython remains Jython 2.2.1. Thanks to Chris Cooper for the request.

Fix bug 2686259 - Java 1.5 compilation fails in Eclipse. Thanks to A Bagehot for the report.

## 13 The Grinder 3.2

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### Released 2009-02-14

Add net.grinder.ScriptContext startWorkerThread() and startWorkerThread(testRunner) methods which scripts can use to start additional worker threads.

Fulfil feature request 1694369 - Ability to stop worker threads from script. See the ScriptContext stopThisWorkerThread() and stopWorkerThread() methods.

Fix bug 2018168 - HTTP filter generates invalid Jython variable names.

Address bug 2058502 - Add example script showing how to ramp up threads. Thanks to Travis Bear for the prompt.

Fix bug 2092881 - Agents do not start first time after reset if console overrides consoleHost or consolePort properties. Thanks to HappySpaceInvader for the report.

Fix bug 2138601 - Moving table columns results in incorrect formatting. Thanks to Walter Tuvell for the report.

Fulfil feature request 2201502. Add stream based versions of POST, PUT, OPTIONS to HTTPRequest. This allows arbitrarily large amount of data can be sent without requiring a corresponding amount of memory. Thanks to Walter Tuvell for the suggestion.

Fix bug 1576609 - "Accept Cookie" rules too strict. I've relaxed the rules about what cookie domains are acceptable to The Grinder, better to align it with current browser implementations. Thanks to Bryan Cornies for the report.

Fix bug 1580340 - Can't invoke static methods through a wrapped Java class.

Fix bug 2314157 - Log4j classes reloaded by IsolatingClassLoader. This bug was really a feature request to allow specific classes to be shared when running with `grinder.debug.singleprocess=true`. This is important because GrinderStone uses the single process mode. Classes can now be share with the new `grinder.debug.singleprocess.sharedclasses` property. Thanks to Fei Fan for requesting this.

Dutch console translation from Marc Van Giel.

Fulfil feature request 2412104 - Support streaming HTTP responses. Thanks to Randy Shaffer for requesting this feature, and to Olivier Merlin for testing an initial patch.

Fulfil feature request 2298825 - Worker number which is reset for each test run. Added `ScriptContext.getFirstProcessNumber()` which a script can use with `getProcessNumber()` to calculate a zero based value for indexing into test data.

Fix bug 2412121 - Not compatible with servers that only provide SSLv3. I've altered the TCPProxy and the HTTPClient library so that the SSL sockets they create enable all the protocols and cipher suites supported by the underlying JVM. These can be overridden if necessary with the `https.cipherSuites` and `https.protocols` Java system properties. Thanks to Lorance Stinson for the report and for testing various candidate patches.

Fulfill feature request 1677083 - Agent should produce TPS when run without Console. Thanks to MattyM76 for requesting this feature.

## 14 The Grinder 3.1

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### Released 2008-07-07

The console now has a "-headless" option which causes it to start without the graphical user interface. This is useful when used with the console client API.

Add `ConsoleConnection.stopAgents()`, requested by Andreas Spall.

Refine console sampling model:

- Fix bug 1618759 - Console should not discard first sample.
- Count empty samples when deciding when to stop recording.
- Count empty samples when triggered and ignoring samples.
- Display sample data when triggered and ignoring samples.

Relative paths set for `grinder.script` are now resolved relative to the location of the properties file. This fixes two bugs. - Bug 1889281 - `grinder.script` relative path bug. Thanks to Ross Nicholson for the report, and the suggested fix. - Bug 1875880 - Script validation wrong for properties file in sub directory.

HTTP Digest Authentication example from Matt Moran.

German console translation updates from Matthias Dillier.

Italian console translation updates from Meo Bogliolo.

French console translation updates from Tagnon Soko.

Fulfil feature request 1891023 - Worker and Agent id's. The script context has new `getAgentNumber()` and `getProcessNumber()` methods. `getThreadID()` has been renamed to `getThreadNumber()` for consistency. Thanks to Ross Nicholson for requesting this feature.

Fix bug 1897988 - grinder.initialSleepTime issue. The initialSleepTime property was broken. Thanks to whoever reported this.

Fix bug 1893027 - ArrayIndexOutOfBoundsException in TCPProxy. Thanks to Brian Dols for reporting this.

Fix bug 1709285 - HTTP plug-in records wrong times with grinder.useNanoTime=true. Thanks to liaoya for the report.

Fulfil feature request 1902280 - Use absolute start times in the data log. This allows the logs from different workers to be merged, so long as their machine clocks are synchronised. Thanks to Olivier Merlin for requesting this feature.

Fix bug 1549708 - HTTPRequest.setDataFromFile() is not thread safe. The HTTPRequest methods that set defaults are now thread safe, and the Javadoc has been updated to warn that the default setters are not intended to be used by multiple worker threads. Thanks to Huifeng Shen for the report.

Fulfil feature request 1731843 - Ability to close explicitly the HTTP connection. Thanks to whoever requested this feature.

Fix bug 1913049 - dist build target fails due to syntax issues. Thanks to Travis Swicegood for the report.

Fix bug 1913056 - release fails on build of test-src. Thanks to Travis Swicegood for the report.

The file distribution now only updates out of date agents, and only sends the updated files.

Fulfil feature request 1723753 - Agent service needed. Agents can now be started in a "daemon" mode where they automatically reconnect to a console. Thanks to Travis Bear for the request, and to Pawel Lacinski for the initial implementation.

Fix bug 1926601 - Jython change breaks byte arrays in generated scripts. Thanks to Dhinakar K and O.A.Francis for reporting this.

Fix bug 1953141 - line feeds and other characters not correctly captured by HTTP TCPProxy filter. Thanks to Dhinakar K for reporting this.

The "Stop Processes" action has been removed from the tool bar since it is required only rarely.

## 15 The Grinder 3.0.1

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### Released 2008-07-07

Fix bug 1876273 - grinder.jar has incorrect manifest classpath.

## 16 The Grinder 3.0

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### Released 2008-01-20

The console now expects a properties file to be selected, rather than a script. The properties file determines the script to run through the grinder.script property. Other properties override the values in the agents' local grinder.properties file. This provides much better centralised control from the console.

Updates to the German console translation from Matthias Diller.

Fix bug 1808854 - Incorrect synchronisation in TestStatisticsMap. Thanks to Ishan Oshadi Jayawardene for the report.

Partially address feature request in bug 1688988 by translating InterruptedIOExceptions due to timeouts in HTTPClient code to a specific TimeoutException. Thanks to Andrew McGuigan for the report.

Fix bug 1700158 - ShutdownException thrown when using grinder.duration. Thanks to Caroline Rioux for the report.

Update the cookie.py example to show how to send a cookie, and to retrieve and modify the cookies for the current thread. Thanks to "tz" and Ying Moy for prompting me to do this.

Fix bug 1825639 - "Connection ... already opened" when recording HTTPS. Thanks to Peter Zadrozny and Brian Dols for the report.

Refine logging:

- The first error message is written to the terminal as well as the error log. This is handy for catching script typos.
- Don't word wrap log messages from the Agent.
- Don't truncate log lines to an arbitrary number of characters.

Fix bug 1831651 - Some parts of the distribution file filter should be fixed. Also, added ".svn" directories to the default filter - you will need to delete .grinder\_console from your home directory/profile to pick up this change. Thanks to Andrew Stephens for the report.

Fix TCPProxy filter bug which would cause some form data not to be identified and tokenised. Increase the size of form data that will be in-lined in the script. Thanks to Brian Dols for the prompt and testing.

Fix bug 1846218 - Delayed statistics are not flushed on next test.

Console script editor keyboard shortcut for "Save-File" (Ctrl-S).

The console allows files to be opened in a configurable external editor.

The console optionally automatically distributes changed files when processes are started.

The -httpplugin and -newhttpplugin TCPProxy filter options have been removed. They were deprecated in 3.0-beta29. The new -http filter should be used instead.

Upgrade embedded version of Jython from Jython 2.1 to Jython 2.2.1.

Fix bug 1874815 - '-' does not work in statistics expressions. Also, relax '+' and '\*' so they are defined for zero or one argument. Thanks to Heidi Thompson for the report.

## 17 The Grinder 3.0-beta33

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### Released 2007-03-17

Fulfil Feature Request 1524827 - Mnemonics needed. Requested by Travis Bear.

Fulfil Feature Request 1484448 - Console window size doesn't persist. Requested by Travis Bear.

Fulfil Feature Request 1185967 - Insert comments while capturing with the TCPProxy. Patch implemented by Venelin Mitov.

Really fix bug 1495428 - Plugin thread context not correctly registered for events. This bug prevented custom plugins from receiving thread lifecycle events but did not affect the HTTP plugin. Thanks to Klaus-Peter Berg for reporting that this was still broken.

Fix bug 1638659 - Deadlock in SleeperImplementation. Thanks to Bruce Adams for the report.

Change the console's monitoring of changes to files so that it no longer assumes system time matches the file system time. This should fix some subtle bugs, particularly for file systems on shared storage.

Fix bug 1639383 - Extra lines added to Content-Disposition. Previously, The Grinder relied on the script maintaining line endings for textual POST bodies, in particular multipart/form-data. This was brittle, text editors, email, and cross platform transfer frequently alters line endings; and I'm sure the Jython interpreter also takes a liberal approach where a file has mixed line endings. I've applied a simple escaping scheme to fix this. Thanks to Claes T Tenell for the report.

Fix bug 1228335 - File editing should consider end of line. The console editor now canonicalises line endings on input, and uses the host platform line ending on output.

Fix bug 1619450 - Unit test HTTPClient.TestCookie.testParse fails. Thanks to Bastiaan Bakker for the report.

Fulfil Feature Request 1510072 - Save absolute timestamp somewhere. Log both the current time zone and the start time in milliseconds since the Epoch in the output log. Requested by Vladimir Sitnikov.

Add process control methods to console API, and provide a factory for obtaining a ConsoleClient.

Tentative fix to bug 1677087. Thanks to Matt Moran for the report.

Remove all support for implicit 'grinder' script context object. It was deprecated in beta 15, and the implementation was broken.

New Chinese translation from Hugh Chen. If you use this, you'll also need to set up Java for Chinese fonts. The following blog entry may help: <http://blog.lizhao.net/2007/03/java-chinese-fonts-on-ubuntu.html>

## 18 The Grinder 3.0-beta32

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### Released 2006-12-15

Fix bug 1577573 - valueFromBodyURI() could be optimised. TCPProxy recorded scripts use this method, and its previous inefficiency caused beta 30 and beta 31 to be overly demanding of CPU and memory. Thanks to Andy Kim for the original bug report.

Fix bug 1579641 - Exceptions thrown by HTTPRequest.processResponse() were not logged correctly. Thanks to Richard Taylor for the report.

Fix bug 1585912 - jdbc.py incorrectly indented. Thanks to Coey (cminear at users.sourceforge.net) for the report.

Fix bug 1593169 - AssertionError thrown in instrumentation code. Thanks to Peter Wickersham and Matt Schlobohm for the report and analysis.

Added MQ library and example code from Phillip Mayhew to the contrib directory.

Fix bug 1592664 - InterruptedException when grinder.processes > 1. This is due to JRE badness that I've had to work around. Thanks to Stephane Nicoll and whoever opened the bug for the reports.

Fix bug 1604111 - Deadlock on shutdown (TCPProxy). Thanks to Graham Sweetland for his assistance in reproducing this problem.

Added an initial version of the console API. This API is under development and not stable. It will grow and change over the next few releases. Its not ready for mass consumption yet, but advanced users can check out the API (`net.grinder.console.client.ConsoleClient`).

## 19 The Grinder 3.0-beta31

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### Released 2006-12-04

Fix bug 1199086 - Distribution to multiple agents hangs. Thanks to `capwin@sourceforge.net` for analysing the problem.

Fix bug 1495428 - Plugin thread context not correctly registered for events.

Fix HTTPPlugin TCPProxy filter to remove extraneous quote from reference to POST data files. Thanks to Saurabh Sehgal for the report.

Fix bug 1525387 - Relax cookie parsing to cope with .NET nonsense. Requested and prototyped by John S. White.

Fulfil Feature Request 1482811 - slow socket connections. Requested by Travis Bear. See `HTTPPluginConnection.setBandwidthLimit()`. Travis and Leland Olney assisted in the testing and fixing of this feature.

Fix console bug where the Total line in statistics tables could be incorrectly rendered in red.

Fix bug 1525628 - Throw `NotWrappableTypeException` not `NullPointerException` on attempt to wrap a null object.

Fix bug 1527299 - `statistics.delayReports` doesn't work with nested tests. This required a significant change to the script statistics API. The script can now distinguish between the statistics for the current test (`statistics.forCurrentTest`), and the statistics for the last completed test (`statistics.forLastTest`). If there is a current test, it's statistics can be queried and modified. If there is a last reported test, it's statistics can be queried and can be modified if statistics reports are delayed.

The statistics for an erroneous test is now recorded in the data log, but not included in the aggregate statistics sent to the console and the summary table (only the number of errors is incremented). This makes the aggregate statistics averages correct, whilst still allowing the test time to be retrieved from the data log. (Previously, the test time was zeroed for erroneous tests, so both the data log and the aggregate statistics averages other than test time were incorrect).

Fix bug 1484703 - Total statistics wrong for composite tests. This was most apparent with the HTTP plugin - the total average test time also included the page tests so "double accounted" for the time of individual tests. The statistics display has now been changed so that the statistics for composite tests (tests which wrap calls of other tests) are no longer including in the totals.

## 20 The Grinder 3.0-beta30

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### Released 2006-12-04

Fix HTTPPlugin TCPProxy filter so that scripts send the real token name back to the server, not the token id. Thanks to `VmasterZen` for reporting this.

Changes to the script statistics API:

Scripts now refer to statistics by name rather than indices. This means they don't need to use `StatisticsIndexMap`. This addresses an issue with scripts being unable to access `StatisticsIndexMap` - thanks to Stefan Grinsted for the report.

The `ScriptContext` `registerSummaryStatisticsView()` and `registerDetailStatisticsView()` methods have been replaced with `Statistics.registerSummaryExpression()` and `Statistics.registerDataLogExpression()`. The new methods use expression strings, rather than requiring the use of `StatisticsView` and `ExpressionView` objects.

The scripts no longer need objects from the `net.grinder.statistics` package; consequently that package has been removed from the statistics API.

Fix scripts statistics so the query methods work outside of an open test dispatch context; they return values for the last test reported by the worker thread. This was broken by the support for nested tests introduced in the last beta.

The `grinder.recordTime` property has been replaced by a new `grinder.reportTimesToConsole` property. Test times are now always recorded in the worker process data log, irrespective of the value of `grinder.reportTimesToConsole`.

## 21 The Grinder 3.0-beta29

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### Released 2006-04-23

Nested Tests are supported. That is, you can now use a Test to instrument script code that calls things wrapped by other Tests.

A `__target__` field has been added to test proxy wrappers, allowing convenient access to the wrapped object.

New implementation of the `HTTPPlugin` `TCPProxy` filter. Key new features over the previous filter (which is deprecated):

- Records to a single script.
- Basic Authorization is recorded.
- Modular implementation based on an XSLT style sheet.
- Requests are grouped together into pages, using simple rules that guess the resources belonging to a page based on the resource type. Pages are instrumented as separate tests.
- Name value tokens are identified in URL path parameters and query strings and mapped to script variables. Most session tokens that encoded in URLs or present in hidden form fields will now be handled automatically.

Several changes to the script API, including: `net.grinder.plugin.http.HTTPRequest`:

- Removed `addHeader()`, `deleteHeader()`
- Header arrays passed to GET, POST, etc. are now merged with the default values held by the `HTTPRequest`. Previously they setting an array on the request overrode all the default values.

`net.grinder.plugininterface.PluginThreadContext`:

- `getStartTime()`, `startTimedSection()`, `stopTimedSection()` have been replaced with `pauseClock()`, `resumeClock()` to support nested tests. (Since now there can be multiple active dispatch contexts).

`net.grinder.script.Statistics`:

- Query methods now return meaningful results within wrapped code.

- Added `getStatisticsIndexMap`. Thanks to Beecher Greenman for reporting this omission.

`net.grinder.plugin.http.HTTPUtilities`

- New class. This has methods that HTTP scripts might find useful.

The HTTPClient Authorization module is no longer enabled by default because it prevents raw Authorization headers being sent through. The module also slows things down as HTTPClient must parse responses for challenges. Advanced users who still wish to use the HTTPClient Authorization module can enable it with the new `HTTPPluginConnection.setUseAuthorizationModule()` method. The following convenience wrappers around the HTTPClient API were also removed: `addBasicAuthorization()`, `removeBasicAuthorization()`, `addDigestAuthorization()`, `removeDigestAuthorization()`.

The worker process to console communication has been made more efficient, and a race condition which caused "Ignoring unknown test" messages has been removed. Thanks to Dhinakar K for the report.

The Grinder can now optionally use `J2SE 5 System.nanoTime()` which might give more precision on some platforms. Times are still reported in milliseconds. See the `grinder.useNanoTime` property. Thanks to Tom Barnes for requesting this feature.

Fix console file scanning to used the same filtering as the file distributon. Thanks to whoever reported this. (Bug 1447361).

The HTTP proxy code in the TCPProxy has been improved; this should address problems seen when chaining TCPProxy's together as HTTPS proxies. Thanks to Justin Nowell for prompting me to look at this.

## 22 Grinder 3.0-beta28

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### Released 2005-12-22

Updates to the Italian translation from Meo Bogliolo.

Refactoring of statistics package API. This may affect existing custom plugins. See `PluginProcessContext.getStatistics`.

New Russian translation from Konstantin Ignatyev.

Fix the TCPProxy port forwarding mode to correctly generate https URLs. (Bug 1324640).

Fix the exception logging to include Jython stack traces. Simplify the exception log formatting.

Java methods can now be wrapped. The resulting object should be invoked Python style, i.e. non-static methods must be supplied with a 'self' instance as the first argument.

New `grinder.debug.singleprocess` property. If set to true, the agent process spawns engines in threads rather than processes, using special classloaders to isolate the engines. This allows the engine to be easily run in a debugger. This is primarily a tool for debugging The Grinder engine, but it might also be useful to advanced users.

More relaxed handling of invalid dates in Cookies. Requested by Martin Wagner.

Nicer output for `ConnectExceptions` and `UnknownHost` exceptions. (Bug 927828).

Handle Cookies with empty expires attribute. (Bug 982834).

Added a pop-up menu to the editor file tree.

Support Jython 2.2a1. Simply add the Jython 2.2a1 jython.jar to the start of your class path. Thanks to Martin Wagner for prompting me to do this.

The documentation is now distributed in a separate zip file.

## **23 Grinder 3.0-beta27**

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### **Released 2005-09-26**

The TCPProxy is now relaxed about empty query strings. Thanks to John Sinclair for the suggestion.

Updates to the Spanish translation from Jose Antonio Zapata.

New Polish translation from KArol Muszynski.

New Italian translation from Meo Bogliolo.

The documentation sources are now hosted on SourceForge CVS, and are no longer part of the source distribution. See [http://sourceforge.net/cvs/?group\\_id=18598](http://sourceforge.net/cvs/?group_id=18598).

Modify HTTPClient code so that HTTPResponse.getText() works with more content types. (Bug 1297821).

Fix out of date documentation references to getIndexForLong (it has been renamed to getLongIndex). Thanks to Dietrich Bollmann for the report.

## **24 Grinder 3.0-beta26**

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### **Released 2005-05-18**

The Grinder now requires J2SE 1.4.

The console now displays agent process status.

Fix the TCPProxy to cope correctly with 8 bit strings in all locales (Bug 1167731).

Thanks to Anton Malykh for the report.

Fix a bug where system properties specified on the command line were incorrectly quoted when building the worker process command line. Thanks to Dietrich Bollmann for the report.

Be more strict about matching line endings in the HTTP TCPProxy filters. Previously there was a platform specific bug. Thanks to Alex Bolgarov for the report.

Change to the script API: getGrinderID() has been renamed getProcessName().

Correct SSL documentation - The Grinder does not support the javax.net.ssl.\* system properties.

Fix to the JMS receiver example from Dietrich Bollmann: use a queue to pass state between threads in a thread safe way.

Make the TCPProxy HTTP engine more resilient to connections being dropped. Thanks to Jon Weygandt for the suggestion.

## **25 Grinder 3.0-beta25**

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### **Released 2005-03-22**

The statistics engine has been enhanced to report the standard deviation of the test times. This addresses Feature Request 1029224. The change requires some changes to the statistics API - the `timedTests` and `timedTestTime` long statistics have been replaced with a single `timedTests` long sample statistic; there is currently no way for a script to directly set, or query, `timedTests`.

Latest updates from Bertrand Ave for the new HTTP Plugin TCPProxy filter. Addresses RFE 1041267, bug 1164319.

Change the HTTPPlugin TCPProxy filters so that they no longer interpret ';' as a query string separator. Thanks to Nichole Holthoefer for the problem report.

Fix a bug where the engine would incorrectly override the plugin if the plugin had marked a test as an error.

Correct a few typos. Thanks to Henry Chan for pointing them out.

Fix a bug so that Test invocation works from from `__init__` or `__del__`. Thanks to Bertrand Ave for the bug report.

Most source files have been converted to use the Unix line endings. This is better supported by the Eclipse CVS module and Cygwin tools.

## 26 Grinder 3.0-beta24

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### Released 2005-02-07

The TCPProxy now returns HTML error messages to the browser where it can.

When used in the default HTTP proxy mode, the TCPProxy always listens as an HTTPS proxy as well. The TCPProxy `-ssl` option now only applies to port forwarding mode.

Fix a bug where the TCPProxy could raise an `ArrayIndexOutOfBoundsException`. Thanks to Alan Droege for the report.

Historically The Grinder has used the terms "transaction" and "test" synonymously - this is inconsistent and confusing. "Test" is now used consistently everywhere.

Fix a bug with the new HTTP instrumentation. The statistics were incorrectly calculated when more than one `HttpRequest` was wrapped in a given Test. Thanks to Bernd Pressler and Sebastien Lemeunier for reporting the problem.

The distribution control in the console is now enabled only if the agent file caches might be out of date. This acts as a visual indication that the files need to be distributed. Added warning dialog about attempting to start the processes without distributing files.

The process controls in the console are now enabled only if an agent is connected. Added warning dialog about attempting to start the processes with unsaved buffers.

## 27 Grinder 3.0-beta23

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### Released 2004-11-21

Scripts can now control the SSL context used by each worker thread. This can be used to vary the client certificate based on the thread. Thanks to Ryan Whitaker and William Babilon for requesting this.

Enhancement from Slavik Gnatenko that allows the `grinder.threads`, `grinder.reportToConsole.interval`, and `grinder.duration` properties to be overridden in scripts initialisation section.

Fix TCPProxy to make it more relaxed about 8 bit characters in HTTP URLs. Thanks to Thomas Böhne for reporting problems.

Fix another bug in HTTPClient related to responses with a Content-Length of 0. Thanks to John Lee for the report.

German console translation updates from Marc Born and Andreas Schmidt.

French console translation updates from Bertrand Ave.

New documentation built with Apache Forrest.

Additional HTTP instrumentation from Calumn Fitzgerald. This adds new statistics measuring time to resolve host names (DNS), time to establish the connection, and time to first byte.

XML-RPC example from Sebastián Fontana.

## 28 Grinder 3.0-beta22

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### Released 2004-07-06

Major work on console editing and script distribution features. These are undocumented, but now quite usable. See TODO for details of the enhancements to be done in the additional releases before The Grinder 3.0 is promoted out of beta.

Fix bug in HTTPPlugin. Now The Grinder doesn't automatically follow redirects by default.

Fix bug in new HTTPPlugin filter which caused an exception when attempting to record POSTs that have query strings.

Fix bug in HTTPPlugin. Can now handle responses with a Content-Length of 0.

The TCPProxy now uses a built-in default key store if none is specified.

## 29 Grinder 3.0-beta21

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### Released 2004-03-28

New process ramp-up feature from Bertrand Ave and Phil Aston. New properties: grinder.initialProcesses, grinder.processIncrement, and grinder.processIncrementInterval. (Whilst this new feature is useful, process ramp-up and other scheduling will eventually be implemented by the console.)

## 30 Grinder 3.0-beta20

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### Released 2004-03-13

Fix bug 912050 - gr3-b19 doesn't playback recorded URL params. Fix bug 911966 - gr3-b19 doesn't playback User-Agent: header. Thanks to Koen Debruyckere for the timely reports.

Simplify HTTPRequest API slightly by removing some redundant overloaded methods and ordering parameters for consistently.

Other fixes to HTTPRequest:

- DELETE() mistakenly invoked a Trace() method.
- GET() and OPTIONS() could pass header values to query strings.

The PluginRegistry class that a plugin must use has been moved to the plugininterface package.

### 31 Grinder 3.0-beta19

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#### Released 2004-03-06

Removed redundant getLogger() and getFilenameFactory() from PluginProcessContext and PluginThreadContext. Plug-ins can get these services from the script context object and share them with worker threads.

The PluginRegistry.register() method now takes an instance of GrinderPlugin, rather than a class that implements GrinderPlugin, and no longer returns a PluginProcessContext.

Fix bug 820481 - StringIndexOutOfBoundsException when logging. Thanks to Dragos Cernahoschi and Gordon Reid for reports.

Fix bug 805013 - mean time is not correct. Thanks to all who reported this, and to Jan Wilmaers and Bart Bauwens for their investigation and analysis.

HTTP response errors statistic from John Stanford White.

Added a processResponse method to HTTPRequest so that scripts subclasses can process responses.

The console can now be set to start as soon as the first worker process starts its threads. ("Ignore 0 samples").

### 32 Grinder 3.0-beta18

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#### Released 2004-02-01

Fix console column header resizing by working around Java bug 4760433.

Fix the TCPProxy SSL support that I inadvertently broke in beta 17.

Allow the console Look and Feel to be changed.

HTTPPlugin updates from Bertrand:

- Provide access to HTTPClient content and transfer decoding support.
- Minor updates to HTTPPluginTCPProxyFilter2.

Remove the Sniffer web app.

Fail hard if script attempts to register detail statistics view from worker thread.

Support scripts that sleep outside of worker threads.

Allow table cells to be copied to clipboard and (with J2SE 1.4 and later) copy dragged.

### 33 Grinder 3.0-beta17

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#### Released 2004-01-18

Fix bug 872546 - using HTTPPlugin with no console hangs the worker processes. The change involves explicitly calling InetAddress.getLocalHost() up front, indicating that the underlying cause is a very strange JVM issue.

Fix bug 876097 - ClonePyInstance not included in grinder.jar. Thanks to Karl Wyer for the report.

Fix implicit grinder object deprecation message. Thanks to Christian Sell for the report.

Minor updates and fixes to the HTTPPluginTCPProxyFilters from Bertrand Ave.

Fix bug 868587 - The HTTP plugin now uses a new SSL session for each thread and for each run. This corresponds to the orthodox grinder model of one run corresponding to one user browser session. Previously SSL sessions were pooled across threads, leading to unrealistic results when using The Grinder to drive a cluster of servers through SSL session-aware load balancers. More SSL sessions will be created, so expect high CPU load on both client and server, and average times for first contact with an HTTPS server within a test run to be significantly higher. Thanks to Joshua Reedy for prompting me to do this, and for testing the change.

Example of how to use The Grinder with HTTPUnit from Tony Lodge.

Email script example from Tom Pittard.

Implement HTTPPluginConnection.removeBasicAuthorization() and HTTPPluginConnection.removeDigestAuthorization(). The parameters to this method, and semantics of the corresponding add methods, have been changed to match HTTPClient. The clearAll methods have been removed from the API.

Add addValue() methods to the script Statistics API.

The HTTP plugin now records the length of responses and reports mean response length and response bytes per second to the console. Thanks to John Stafford White for prompting me to do this. I've altered the console tables to word wrap the column labels so that more columns can be displayed neatly. This only appears to size correctly with J2SE 1.3, and even then not every time. J2SE 1.4 only shows the first line. I hope to have this swinging nicely by the next beta.

Spanish translation updates from Jose Antonio Zapata Rey.

## **34 Grinder 3.0-beta16**

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### **Released 2004-01-02**

Multicast is no longer used for distributing console messages signals.

Multicast has been a frequent source of newbie problems, and has also made The Grinder unreasonably hard to use with some corporate network configurations. Console messages are now sent over TCP connections to the agent processes, which fan-out the signals to their worker processes. The processing is multi-threaded and asynchronous and I expect it to scale well.

**IMPORTANT:** The communication properties have changed. The following properties can be set in grinder.properties:

grinder.consoleHost (previously grinder.consoleAddress) grinder.consolePort  
grinder.useConsole (previously grinder.receiveConsoleSignals / grinder.reportToConsole)

The grinder.grinderAddress and grinder.grinderPort properties have been removed. Corresponding changes have been made to the console options dialog.

## **35 Grinder 3.0-beta15**

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### **Released 2003-12-13**

The use of the implicit 'grinder' script context object is deprecated. You should explicitly "from net.grinder.Grinder import grinder" in your scripts to ensure they remain compatible with future releases.

Fix bug 810532 - problems invoking methods. You can now wrap Jython objects that are subclassed from Java objects. Thanks to Karl Wyer for the report, and also to John Stanford White for requesting this.

HTTPPluginTCPProxyFilter now records the User-Agent header. Thanks to Danny Faught for pointing out the opportunity.

Fix bug 852217 - sample interval jumps after I set it. Thanks to Danny Faught for the report.

Fix/enhance the TCPProxy's support for chained HTTPS proxies. This should now work with a wider range of proxies.

Improved console error handling.

Fix bug 852298 - null pointer exception when multicast fails. Thanks to Danny Faught for the report.

Remove support for grinder.appendLog, I suspect it was rarely used. Add new feature which keeps archives of old logs, see grinder.numberOfOldLogs. This should be much more useful when resetting processes with the console.

Add a confirm dialog to "Stop Processes" as its probably not what the user wants to do.

Bertrand Ave has added support for regular expressions to his new HTTPPluginTCPProxyFilter (see notes below). The implementation now has its own response filter; use the TCPProxy "-newhttpplugin" as a short cut. An example properties file can be found in contrib/httpplugin.

## 36 Grinder 3.0-beta14

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### Released 2003-11-29

Hack HTTPClient to provide a tentative fix to the "premature EOF" problem. This widely reported problem occurs when a server times out and closes a connection, after which writes to the connection silently fail and we don't learn about the problem until we read from the connection.

Clean up the Jython interpreter correctly so that scripts can use exit functions. (See the standard Python atexit module).

Guarantee that the TestRunner \_\_del\_\_ call is called on shutdown so that scripts can use it to tidy up per-thread state. Thanks to Stefano Santoro for inspiration.

Add a new HTTPPluginTCPProxyFilter from Bertrand Ave. This is currently undocumented and should be considered beta, but is more feature rich than the default HTTPPluginTCPProxyFilter. Over time it is likely to become the default HTTPPlugin filter. If you'd like to try it out, you'll need to start the TCPProxy with "-requestFilter net.grinder.plugin.http.HTTPPluginTCPProxyFilter2 -responseFilter net.grinder.plugin.http.HTTPPluginTCPProxyResponseFilter". You'll also need the WebUtils Python module that can be found in contrib/httpplugin.

Fix bug 850939 - dead link in documentation. Thanks to Danny Faught for the report.

## 37 Grinder 3.0-beta13

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### Released 2003-11-23

Fix bug 847571 - console does not display image icons. Thanks to Stefano Santoro for the report.

## 38 Grinder 3.0-beta12

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### Released 2003-11-22

Updates to the TCPProxy from Bertrand Ave:

- Added a "-console" switch. When used, the TCPProxy creates a simple Swing dialog that allows it to be cleanly interrupted.
- Added a "-properties" switch to pass System properties to filter implementations. Removed the HTTPPluginTCPProxyFilter's "-initialTest" option in favour of this more general mechanism.
- Added a shutdown hook to increase chance of clean shutdown.

Fix TCPProxy so that it supports HTTP/1.1 from the browser when acting as an HTTP Proxy. Recording of cross-site links should now work. Thanks to Jimmy Wang for the report.

Remove the -proxy option from the TCPProxy. The TCPProxy now listens as an HTTP proxy by default unless either -remoteHost or -remotePort is specified.

Add a new -httpproxy option to the TCPProxy. This option specifies that output should be directed through another HTTP/HTTPS proxy; this may help you reach the Internet. There is also a -httpsproxy option which allows you to have a different HTTPS proxy. These options are not supported in port forwarding mode.

The TCPProxy now supports chains of filters. Some may find "-httpPlugin -requestFilter ECHO -responseFilter ECHO" useful.

The TCPProxy now displays key store configuration when starting in SSL mode. Support for setting the key store using system properties has been removed.

Optimise TCPProxy SSL initialisation for speed rather than cryptographic strength. Do not rely on the TCPProxy to provide strong security.

Change the TCPProxy -timeout option so the TCPProxy will not exit if there are active connections.

Fix a TCPProxy HTTPS proxy bug that caused SSLHandshakeExceptions when used with Internet Explorer 6.0.

Enhancement from Richard Perks that allows scripts to specify the local interface to use for HTTP connections. See HTTPPluginConnection.setLocalAddress().

HTTP Plugin enhancement: If the User-Agent header is specified, don't append the HTTPClient version string.

Fix bug 836028 - incorrect platform specific separator for classpath. Thanks to Stefano Santoro for the report.

## 39 Grinder 3.0-beta11

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### Released 2003-10-08

Updates to the French console translation from Bertrand Ave.

German console translation from Huibert Alblas.

"grinder." properties specified on the agent command line are now passed through to worker processes. The original motivation for this was to allow the log directory to be set based on the system date.

HTTPPlugin enhancements:

- Script API to set whether an exception should be thrown when establishing an HTTPS connection if the server's certificate doesn't match the host name. The default behaviour has been changed to disable this check.

Fix bug 804272 - console results table column order varies according to how classes are packaged. Thanks to Karl Wyer for the report.

Updated TCPProxy documentation.

If console cannot be contacted, don't expect console signals.

The 'grinder' context object can now be explicitly imported from `net.grinder.Grinder.grinder`. It is good practice to add an explicit import to the top of your scripts so that they can be called as Python modules from other scripts.

Fix bug so that TestRunners are now initialised using their worker thread.

New property, `grinder.duration`, from Kalyanaraman Venkatasubramaniy. This property allows an overall time limit to be set for worker processes.

Be more aggressive about interrupting workers. Thanks to Venkat for the idea and original implementation.

Incorporated feature matrix into documentation. Thanks to Edwin DeSouza for his help with this.

## 40 Grinder 3.0-beta10

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### Released 2003-07-06

Fix saving of console data. (Bug 749461).

## 41 Grinder 3.0-beta9

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### Released 2003-06-01

Incorporate HTTPClient HTTPS patch into main distribution. The Grinder now *requires* the JSSE, so you must install it if you are using a version of the J2SE earlier than 1.4.

Fix use of J2SE 1.4.1 Color constants. Should compile with J2SE 1.3.1 again. Thanks to Kumar Mettu for the report.

Minor fixes to how the HTTP Plugin TCPProxy filter parses content length.

Minor fidling with timing.

Tutorial from Richard Perks.

Incorporate the jEdit Syntax package which will be used for development of a console script editor. The basics of the editor are there, but will not be functional until I've reworked the communications layer to allow the script to be distributed.

The HTTP plugin now records the HTTP response status code to the data log for HTTPRequests that are wrapped in Tests. If multiple HTTPRequests are wrapped in a Test, the status code of the last response is recorded. Thanks to Carlos Franco for the idea.

Incorporate patch from Bill Schnellinger: Fix HTTPPluginTCPProxyFilter so that large data uploads (>1K) are stored in separate data files rather than inlined in the script. This should fix bug 702022.

Fulfil Feature Request 732676 raised by Bertrand Ave by adding a "milliseconds since start" column to the data file.

French console translation from Bertrand Ave.

Example script that interprets an grinder.properties HTTP test script for The Grinder 2.

## **42 Grinder 3.0-beta8**

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### **Released 2003-04-05**

Fix a bug in the TCPProxy which prevented the recording of 8-bit POST data. Thanks to Joakim Suarez for the report.

The TCPProxy now copes with query strings and form data that are not name value pairs. Thanks to Ryan Balsam for the report.

Tentative fix to bug 690639. (TCPProxy recorded HTTP script refers to header array before declaration.)

Documentation updates. Correct JMS example scripts.

Spruce up console UI.

Allow the console to be optionally reset with the worker processes. (Feature request 686632).

## **43 Grinder 3.0-beta7**

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### **Released 2003-03-01**

Fix synchronisation of the console new tests event which was causing null pointer exceptions.

Fix synchronisation of TestStatisticsMap that caused potential data loss and worker process stack traces.

Fix handling of thread shutdown exceptions. Threads again now respond correctly to shutdown/reset requests.

Improve console handling of large numbers of tests.

## **44 Grinder 3.0-beta6**

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### **Released 2003-02-15**

Enhanced statistics API for scripts.

Documentation.

Source code clean up.

## 45 Grinder 3.0-beta5

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### Released 2003-02-09

Expose script and document API to allow scripts to work with custom statistics.

Rationalise the plugin API so that PluginProcessContext and PluginThreadContext no longer extend Logger and FilenameFactory.

Add JMS examples.

Improve cleaning up of child processes when the agent is killed.

Some script documentation.

## 46 Grinder 3.0-beta4

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### Released 2003-02-02

Correct implementation to read grinder.consolePort rather than grinder.console.consolePort. Thanks to Dave Tazzell for the report.

Replace mandatory properties with reasonable defaults.

Fix HTTPPlugin static initialisation order so that script settings are not overridden by default initialisation. Thanks to Mark Wilson and Brett Schmoll for reports.

Script API to provide access to The Grinder build version - net.grinder.common.GrinderBuild.

Script API to provide access to the HTTPClient connection context for a thread - net.grinder.plugin.http.HTTPPluginControl.getHTTPClientContext().

Script API to provide access to grinder.properties values - net.grinder.script.ScriptContext.getProperties(). Thanks to Dave Tazzell for feature request 672691.

## 47 Grinder 3.0-beta3

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### Released 2002-12-02

Fix bug in wrapping code that broke the hello-world examples. Thanks to Simon Cousins for finding this.

## 48 Grinder 3.0-beta2

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### Released 2002-11-24

Improved exception handling and logging. Any exception thrown by a wrapped test is recorded as an "error", if the script doesn't catch the exception the run is aborted.

Jython instances can now be Test.wrap()'d.

First cut of HTTPPlugin TCPProxy filter.

HTTPRequest API now has overloaded GET and HEAD methods that take a query string NVPair[[]].

## 49 Grinder 3.0-beta1

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### Released 2002-11-03

Fix bug 608392 - console data file field separator conflicts with localised decimal points. Fields are now tab separated. Thanks to Martin Vilcans for the report.

Fix bug 631144 - worker processes sometimes fail to launch on real operating systems. Thanks to Martin Voss for the report.

## 50 Grinder 3.0-beta0

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### Released 2002-11-03

Jython meets The Grinder and the magic starts to happen.

## 51 Grinder 2.8.6

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Fix bug 608392 - console data file field separator conflicts with localised decimal points. Fields are now tab separated. Thanks to Martin Vilcans for the report.

Fix bug 631144 - worker processes sometimes fail to launch on real operating systems. Thanks to Martin Voss for the report.

## 52 Grinder 2.8.5

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### Released 2002-10-27

Fix TCPSniffer bug for non-proxy, non-ssl startup.

## 53 Grinder 2.8.4

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### Released 2002-10-08

Unified HTTP/HTTPS proxy.

Allow spaces in grinder.properties file names and host names.

Documentation on The Grinder vs LoadRunner courtesy of Tom Braverman.

Spanish translation of the console from Jose Antonio Zapata Rey.

## 54 Grinder 2.8.3

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### Released 2002-05-26

String beans can now implement an interface that allows them to access the HTTPClient HTTPResponse object. This means that StringBeans can perform assertions on the HTTP response, and snarf data from that response for use in subsequent requests.

The HTTP plugin is now relaxed when it finds a partial string bean tag, it just outputs the literal text. This allows string bean tags to be used within XML POST data.

Fix sleepTimeVariation documentation. Thanks to Mika Laitio for the report.

Allow query strings to be passed with POSTs. Thanks to Kjetil JD for the fix.

The TCP Sniffer parameters for passing keystore information have changed, see doc/TCPSniffer.txt.

I've removed the TCP Sniffer URL rewriting filter; use -proxy instead.

All of the TCP Sniffer engines have been reworked. This SSL proxy engine is more efficient when making multiple requests. The TCP Sniffer -proxy mode can now be used with any filter. The TCP Sniffer should no longer spin CPU when idle.

Reworked HttpPluginSnifferFilter:

- Outputs a full usable test script.
- Copes with POST data split across TCP packets.
- Fixed bug where POST with multiple lines was read incorrectly, this required moving to Jakarta ORO because Jakarta Regexp bombed with a trivial regexp.
- Removed multipart form handling.
- Records 401 (authentication) exchanges.

(A note is necessary on the multipart form handling. The more I looked at the existing support in the sniffer, the more dubious it looked. Here's what the HTTP specification says on the subject:

"In general, HTTP treats a multipart message-body no differently than any other media type: strictly as payload. The one exception is the "multipart/byteranges" type ..."

This means that the sniffer should just chuck the data directly into the POST file, which is what it now does. And no Cynthia, we do not support multipart/byteranges.)

Support for disabling persistent connections with the HTTPClient plugin courtesy of Todd Wasson.

Other miscellaneous fixes and documentation.

## 55 Grinder 2.8.2

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### Released 2002-01-06

The Grinder is now released under a BSD style license.

New UI showing worker process status from Dirk Feufel.

Fix console communication bug where socket reader threads would sleep each time a dead socket handle was polled.

Fix SocketPlugin bug where multiple request files were incorrectly handled. Thanks to Hussein Badakhchani for the report.

## 56 Grinder 2.8.1

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### Released 2001-10-13

Communication from the worker processes to the Console now uses a unicast TCP connection. Multicast has been used here since the beginning (it was cheap and cheerful to implement) but caused several problems:

- Under heavy load, multicast packets are lost.
- I've had a report of multicast packets being duplicated.

Clearly neither of these are good for statistics reporting. Signals from the Console to the worker processes still use multicast.

**IMPORTANT:** The communication properties have changed, you must set the following in grinder.properties:

grinder.consoleAddress (Address of machine running Console) grinder.consolePort  
grinder.grinderAddress (Multicast address) grinder.grinderPort

[grinder.consoleAddress is a new property. grinder.multicastAddress and grinder.multicastPort have been renamed to grinder.grinderAddress and grinder.grinderPort.]

You should make the corresponding changes in the Console options dialog. Please refer to the README file for more details.

Fix the data file title line.

Reinstate the hack to prevent the HTTPClient from sending HTTP trailers. Say - DHTTPClient.disableTrailers=true in your grinder.jvm.arguments.

## 57 Grinder 2.8

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### Released 2001-10-13

New heavy iron statistics engine. Allows plugins to dynamically add new statistics and derived statistic views.

As an example, I've used the new statistic engine to implement an additional "mean time to first byte" for the HttpURLConnection implementation of the HTTPPlugin. This replaces the old "timeIncludesTransaction" parameter. Support for HTTPClient is more involved and is slated for a future release.

Console "about" dialog.

## 58 Grinder 2.7.2

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### Released 2001-10-12

Console enhancements:

- Console no longer reads grinder.properties:
- New options dialog to set communication details.
- Console responds dynamically new tests registered by Grinder processes.
- Can no longer set ignore samples to 0, doing this used to cause incorrect triggering.
- Colour coded state label.

Miscellaneous engine enhancements:

- Sleeping processes can now be interrupted by the Console, so they respond more quickly.
- Logging tweaks.
- Add dropped message detection to the communications.

HTTPPlugin enhancements:

- Filenames of result pages now contain test description.

More changes to the plugin API:

- A better fix for non-contiguous test numbers that doesn't pollute the Test interface.
- Coalesce processID and hostID into a single grinderID.
- Much repackaging and rationalisation. Plugins should only need to use the "common" and "plugininterface" packages.

## 59 Grinder 2.7.1

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### Released 2001-09-22

Fix bug with non-contiguous test numbers.

Fix basic authentication bug.

## 60 Grinder 2.7

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### Released 2001-09-22

Console enhancements:

- All text is now read from Console.properties (think I18N).
- Highlight errors labels if errors > 0.
- Table view now has average TPS and peak TPS.
- Removed individual sample TPS labels.
- New last sample statistics tab.

Remove distinction between "abortions" and "errors" from the recorded statistics. All tests now result in a "successful transaction" or an "error".

Removed deprecated BookHttpPlugin example. Use StringBeans instead.

Minor changes to the plugin interface.

New HTTP plugin sniffer filter option, -initialTest.

HTTPPlugin enhancements

- Can now send arbitrary headers. Note, the specific If-Modified-Since property has been removed, use the arbitrary header support. The TCPSniffer filter has been updated accordingly.
- Most request strings, including the arbitrary header values, are now affected by the String Bean, see doc/HTTPPlugin.txt.
- HTTPClient is now the default implementation. The timeIncludesTransaction parameter (which is ignored by the HTTPClient implementation) now defaults to true. HttpURLConnection support is deprecated and will be removed in a future release. See doc/HTTPPlugin.txt for more information, including notes on HTTPS support.

Features from Kalle Burbeck:

- HTTP plugin sniffer filter now has limited support for multipart forms.
- HTTP plugin sniffer filter now generates test descriptions.

Features from Paddy Spencer:

- New "Sniff 'n' Grind" webapp (the management take no responsibility for Paddy's sense of humour).
- Reworked HTTP proxy, added new HTTPS proxy
- TCPSniffer changes: -timeout to set the proxy to timeout; -localSSLPort for use with the HTTPS proxy; -localHost for use with multiple local IP addresses; doesn't barf if you set remote host/port with proxy;

## 61 Grinder 2.6.5

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### Released 2001-07-27

New tabbed Console layout.

Arm/stop is now a single Console control.

New "reset" Console control. This allows you to start a single Grinder process per machine and control the whole show from the Console.

New Console control for the number of significant figures to display.

You can now save data from console.

HTTPClientHandler now supports multiple servers.

Graph colour is now based on response time.

Documentation fixes.

## 62 Grinder 2.6.4

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### Released 2001-07-09

Fix -colour.

Fix distribution: add HTTPClient classes to grinder.jar.

Patch HTTP to fix handling of query strings.

Fix: don't throw NPE when using HTTPClient to retrieve zero length body response.

Make the console "ignore samples" and "collect samples" controls text fields rather than sliders - allows big numbers for power users.

Hack a switch onto HTTPClient to disable the use of trailer-related headers, and use it in HTTPClientHandler. Better for the less well-travelled server implementations.

Extra documentation. The changes to doc/Timing.txt are particular worth a scan.

## 63 Grinder 2.6.3

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### Released 2001-06-29

New socket plugin from David Freels.

Console summary table now uses a JTable.

Fix to recording of short response times from Mikael Suokas.

Thread safety fix from Mikael Suokas.

Fix basic authentication property names. Thanks to Andrew Sliwowski for reporting this.

Added new file doc/Problems.txt to hold wisdom from Mikael Suokas. Split the documentation of the plugins and the TCPSniffer into separate files.

The HTTP plugin now has experimental support for Ronald Tschal<sup>1</sup>'s excellent HTTPClient library instead of HttpURLConnection. HTTPClient has many more features than HttpURLConnection, see [http://www.innovation.ch/java/HTTPClient/urlcon\\_vs\\_httpclient.html](http://www.innovation.ch/java/HTTPClient/urlcon_vs_httpclient.html) for a comparison. I hope to lever features such as proxy support, connection timeouts and persistent cookies into future versions of The Grinder. Unfortunately experimentation shows HTTPClient sometimes does not perform well in a

multithreaded environment. I'm guessing this should be straightforward to fix. See the file doc/HTTPPlugin.txt for details on how to turn on the HTTPClient support.

The TCPSniffer echo filter now reports connection open and close events.

The TCPSniffer now has a funky "-colour" option.

## 64 Grinder 2.6.2

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### Released 2001-05-25

Added support for HTTP basic authentication. You can now use two new HTTP plugin test parameters, basicAuthenticationUser and basicAuthenticationPassword, to specify the appropriate parameters for each request. See README for details.

New HTTP plugin parameter: timeIncludesTransaction. By default the time that the HTTP plugin reports is the time it takes for the remote server to accept the connection request. When using the times as an indicator of user experience, this is usually what you want. Sometimes however you are more interested in the time the entire HTTP transaction takes, including the time required to read the HTTP response over the network. If so, set this parameter to true.

Removed property grinder.thread.beginCycleSleepTime, as its redundant. (Use grinder.test0.sleepTime instead).

New property: grinder.thread.initialSleepTime. See README for details.

When the property grinder.recordTime is false, the time is no longer logged to the data file. (The prime purpose of recordTime is to control whether times are `_reported_` to the console, in fact times are always recorded. This is too subtle for some users ;- ) so I've made this change for an easy life).

Reworked the logging code. The visible change is improved logging of sub-process events to the controlling terminal.

Changed the sense of the "-norewriteURLs" TCPSniffer option to make it "-rewriteURLs". Rewriting is no longer the default behaviour.

## 65 Grinder 2.6.1

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### Released 2001-04-22

Various tweaks to the timing code. The response times reported by your test scripts will almost certainly be smaller and more correct with this version. See doc/Timing.txt for information.

New property: grinder.recordTime. See the file doc/Timing.txt for details.

New property: grinder.logProcessStreams. See README for details.

Handle multiple Set-Cookie headers, courtesy of Christian Nedregard.

## 66 Grinder 2.6

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### Released 2001-04-06

Console rework. Extra knobs and dials which allow the console to be set to capture a certain number of samples - see README for details. New average TPS reporting.

You can now use the Console to request that Grinder processes exit. **\*\* IMPORTANT\*\*** The property "grinder.waitForConsoleSignal" has been renamed to "grinder.receiveConsoleSignals".

Cool HttpPluginSnifferFilter enhancements from Dr Paddy Spencer that rewrite absolute URLs on the fly. This makes creating test scripts for sites that use absolute URL's much less painful. The solution includes a new way of running the sniffer by defining it as a proxy to the browser. Paddy promises to document all of this RSN.

Several bug fixes including:

- Don't spin uselessly when not reporting to the console.
- Don't broadcast needless cruft in the statistics report messages. (read: your network will no longer creak, this explains the need to up the buffer in 2.5).
- Log directory is no longer mandatory.

## 67 Grinder 2.5

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### Released 2001-03-26

The HTTP plugin now supports "string beans". These allow URL's and POST data to be easily parameterised.

I've up'ed the read buffer size to 64K to allow more test statistics to be sent in a single multicast message. If this is too low you'll get exceptions - either null pointer exceptions in the Receiver or "can't bind to socket" exceptions in the Sender code. If any one is still running into problems, please mail grinder-use@lists.sourceforge.net.

JRun friendly patch from Stuart Tily.

Better socket handling for TCPSniffer from Phillip Burgess.

## 68 Grinder 2.4

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### Released 2001-02-21

The console UI has been slightly tidied up. Graphs are now histograms.

The JUnit plugin should work again. It also has a new parameter (logStackTraces) and improved logging.

You can now specify an explicit properties file to both the Grinder and the Console as the first argument. For example:

```
java net.grinder.Grinder myproperties
```

Credit to Marc Stogner for this idea and initial implementaion.

(More version musings: The last version was `_meant_` to named be 2.4, not 2.3.2.

According to my schem, increments the third number is meant to be reserved for bug fix releases only. The new console funtionallity really deserves something more significant. Rather than rewriting history, I'm treating 2.3.2 as a "beta" of the console functionality, and upping the second number here.)

## 69 Grinder 2.3.2

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### Released 2001-02-16

A shiny new console, with true TPS measurement.

New communications layer.

## 70 Grinder 2.3.1

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### Released 2001-02-06

Even more bug fixes to the HTTP plugin. The cookie handling has been reworked to more accurately reflect RFC 2109. Multiple cookies should now work, with the exception that only one Set-Cookie header is recognised per request. This is a limitation of the `java.net.HttpURLConnection` class, which I will rant about at length to anyone who asks.

The HTTP plugin parameter `'grinder.plugin.parameter.keepSession'` has been renamed to `'grinder.plugin.parameter.useCookies'`.

The Grinder now has a logo, courtesy of Richard Wallace.

## 71 Grinder 2.3

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### Released 2001-01-31

A HTTP plugin bug fix release. See the ChangeLog for details.

## 72 Grinder 2.2

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### Released 2001-01-28

The promised JUnit plugin is here! See README for more information.

I've introduced the concept of a `TestSetPlugin` that defines the set of tests to perform. This is primarily to support the JUnit plugin.

Bug fix to `SSLSnifferEngine` from Paddy Spencer. (Your first name doesn't `_have_` to begin with 'P' to get into AUTHORS, but it helps :-)).

More tweaks to the logging and terminal output.

The Console `_should_` work again. Can't verify this as multicast is currently not working on my machine.

## 73 Grinder 2.1

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### Released 2001-01-23

The plugin interface now has a single `"doTest"` dispatch interface instead of using reflection. This simplifies the writing of generic plugins. The `"grinder.methods"` property has been removed. Instead tests are specified by a number of `"grinder.testX"` properties (where test is any number). See README for details.

[Support for testing classes using reflection will be provided by a JUnit plugin which will come in 2.2].

The `"initial sleep time"` has been removed, a `"begin cycle sleep time"` has been added in its place. Individual method sleep times can now be specified. All sleep times are now randomly varied according to a Normal distribution. See README for details.

The `HttpPlugin` now supports an `"ifModifiedSince"` parameter. This translates to the HTTP `"If-Modified-Since"` request header. This allows the grinder to simulate the mechanism browsers use to check for cached pages.

The `HttpPluginSnifferFilter` has been updated to record sleep times, `If-Modified-Since` headers, and reflect the property format changes.

The logging of the HTTP plugin has been improved.

The output and error log format is now more useful. There was no point in displaying the host and process for each line (each process gets its own output file). I've added the current cycle and test number instead.

I've removed the "simple" and "ejb" plugins as they are not useful in their own right and I got fed up of maintaining them. Both would be best addressed using the planned JUnit plugin. Examples will come with Grinder 2.2.

We have our first JUnit test case. We need more.

The `TCPSniffer` is now silent about `SocketExceptions`.

Renamed "GrinderContext" to more correct "PluginContext". Renamed "method" to "test" throughout.

## 74 Grinder 2.0

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### Released 2001-01-14

"Huh - what happened to the version numbers?": This release of the Grinder should be published on <http://developer.bea.com/> and its logically a "1.0" release. However, Paco's original was released as 1.6 and I don't want to confuse the public too much as to the latest and greatest.

New `TCPSniffer` - the `SnifferServlets` are dead! (Big thanks to Phil Dawes for the sweat behind this).

The HTTP plugin now automatically follows redirects only if you set the property `grinder.plugin.parameter.followRedirects=true`

See the README file for details.

The build auto-detects what modules to build by checking your classpath for classes the module depends on. You may have to unset your classpath if this doesn't do what you want. Currently the conditionally built modules are:

HTTP SSL plugin (Needs the JSSE) `TCPSniffer` SSL engine (Needs the JSSE)  
`TCPSniffer` HTTP plugin filter (Needs Apache Jakarta Regexp) WebLogic Server 5.1  
Trader EJB plugin (needs WLS Trader EJB)

Fixed a bug that caused the thread ID to be displayed incorrectly.

I've added a wrapper class for the Console to the `net.grinder` package. You should now use "java net.grinder.Console" instead of "java net.grinder.console.Console". All future "main" classes will belong to this package.

## 75 Grinder 0.9

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### Released 2000-12-20

I've finally got rid of `PropsLoader`. This entails a few changes to properties:

`grinder.jvm.path` - Specifies the java executable used for the child JVMs. Defaults to "java" so you do not need to specify this if your path is sensible.

grinder.jvm.classpath - Use to adjust the classpath used for the child VMs. Anything specified here will be prepended to the classpath used to start the grinder itself.

grinder.jvm.arguments - Additional arguments to child JVM's.

Additionally, grinder.properties does not have to be in your classpath anymore. (I know I said this before - I mean it this time).

PeterZ found the data file title line useful so I've reinstated it.

I'm now using Ant 1.2 as the build engine, and have decided to remove Ant from the distribution. See the build.xml file for more information.

## **76 Grinder 0.8**

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### **Released 2000-12-18**

HTTPS support from Phil Dawes.

HTTP 302/307 handling from Phil Dawes.