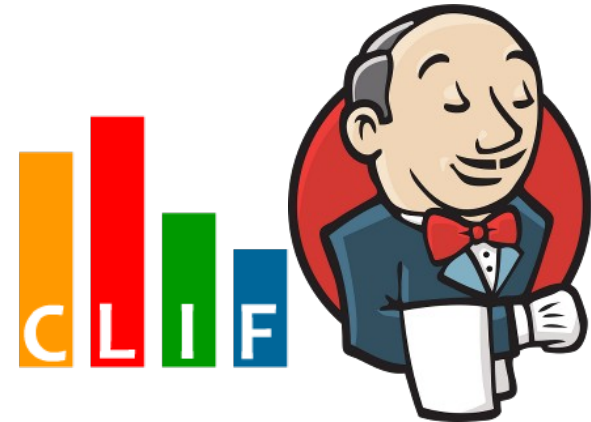


# CLIF meets Jenkins

Performance testing  
in continuous integration,  
and more...

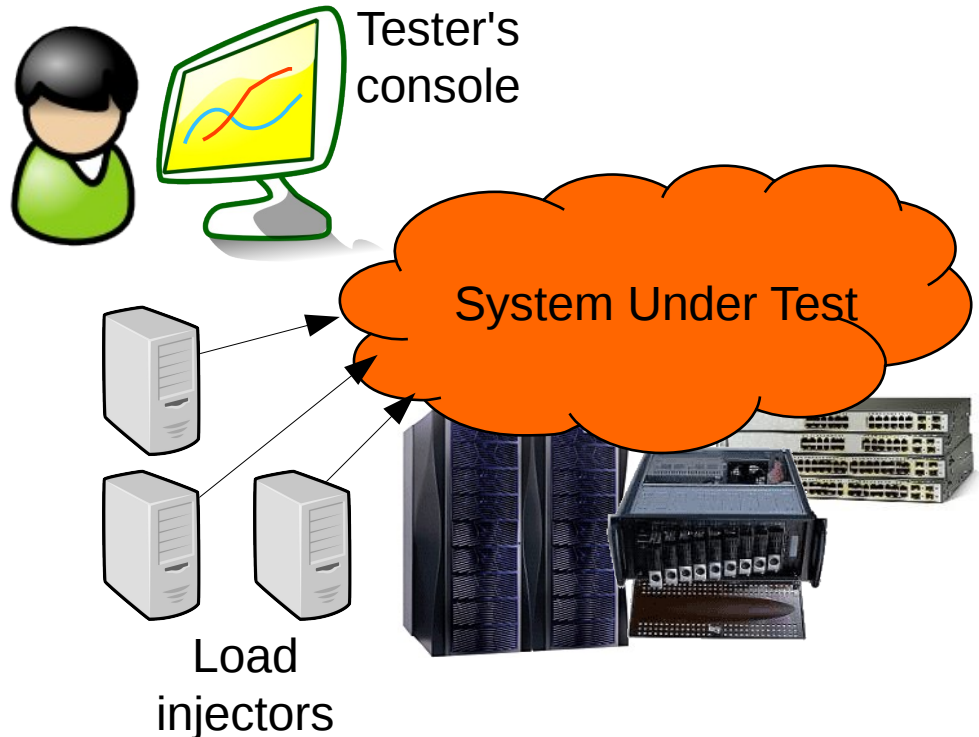


## Bruno Dillenseger - Orange Labs

CLIF is OW2's load testing framework project, featuring outstanding adaptation capabilities. Among its possible integrations (such as Eclipse or Maven), this presentation focuses on CLIF's plug-in for the Jenkins Continuous Integration Server. This integration may be seen as a simple web-based user interface for running performance tests, enabling automatic testing and reporting. Beyond continuous integration, applications include monitoring applications quality of service in complex network topologies.

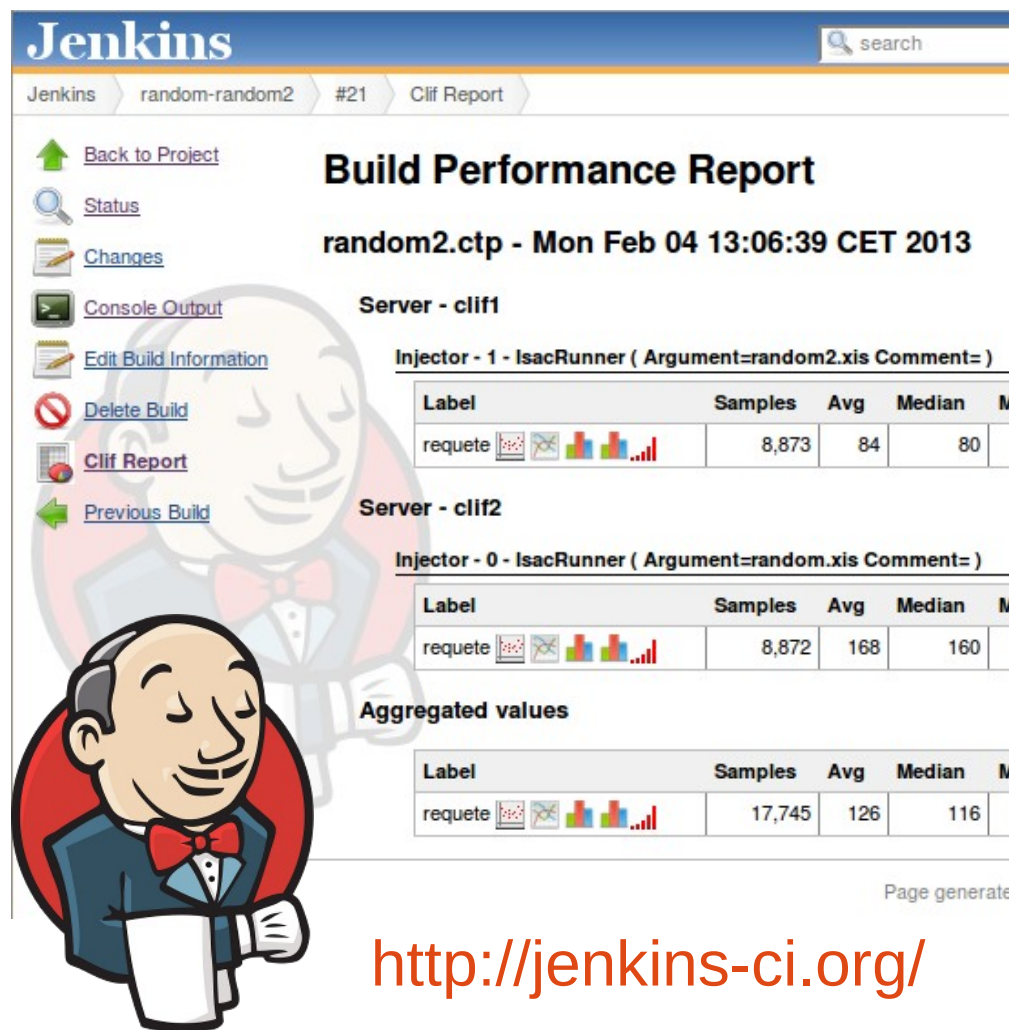
# CLIF: OW2's load testing framework

- generic/extensible  
IP, VoIP, database, mobile networks, custom protocols...
- flexible  
Eclipse, Java Swing, command line, Maven, Jenkins
- advanced
  - Millions of virtual users
  - 1000+ distributed load injectors
  - continuous research transfer
- mature
  - 10 years feedback



CLIF <http://clif.ow2.org>

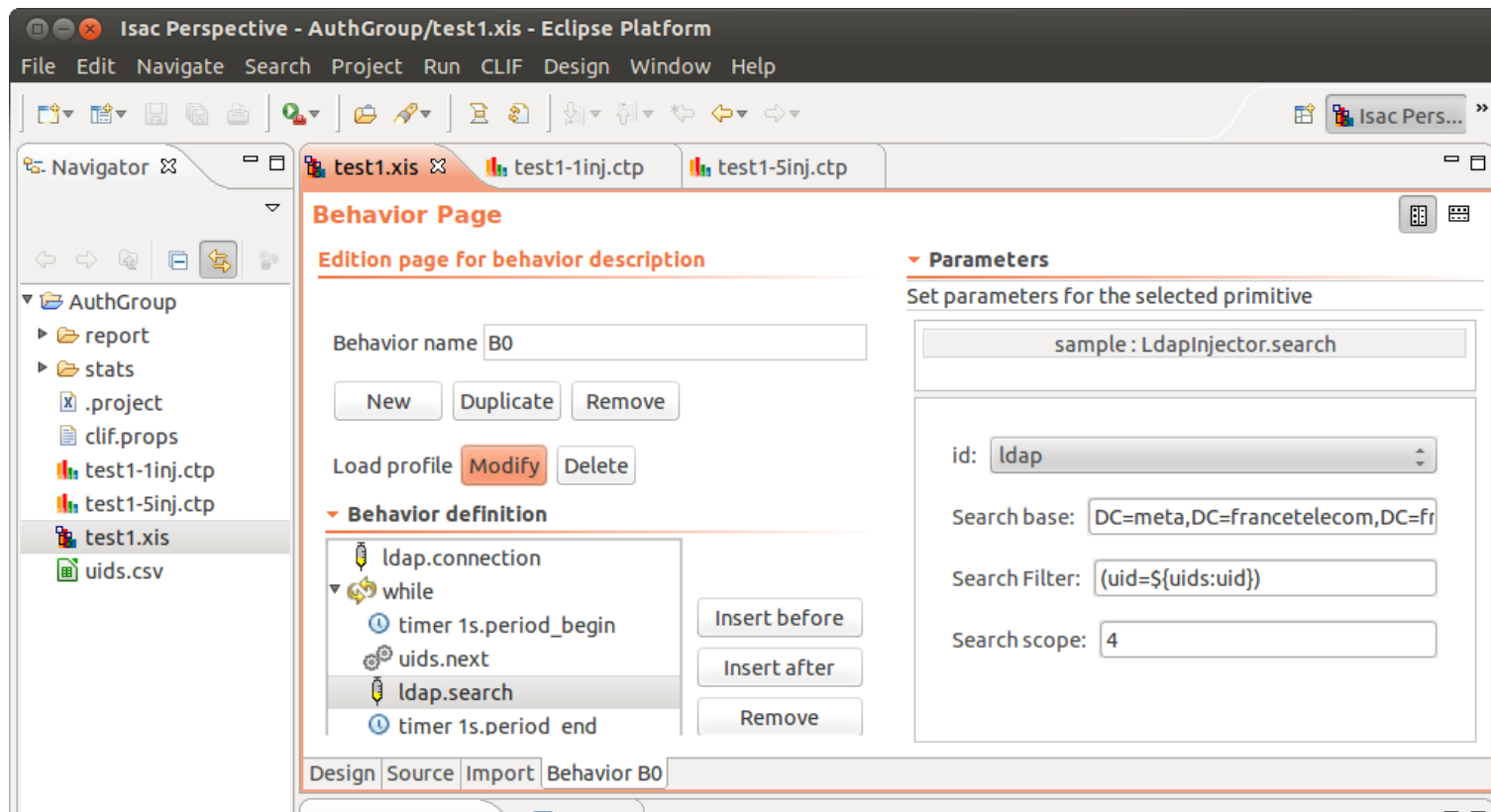
# Jenkins continuous integration



<http://jenkins-ci.org/>

- automated testing
- automated reporting
  - per-test report
  - trends through tests
- extensible by plug-ins
  - the CLIF plug-in brings load testing and performance monitoring capabilities

# Using CLIF with Jenkins (1)



- Define your CLIF test project (test plans and scenarios) with the usual Eclipse-based CLIF console
- Export as a .zip file

# Using CLIF with Jenkins (2)

The image displays two screenshots of the Jenkins web interface, illustrating the process of importing CLIF test plans.

**Left Screenshot (Dashboard):**

- The **Import a Clif zip** button in the left sidebar is circled and labeled **1**.
- The table of jobs shows two entries: **AuthGroup-test1-1inj** and **AuthGroup-test1-5inj**, both circled and labeled **3**.

**Right Screenshot (Preview):**

- The **Preview** page shows the selected test plans: **AuthGroup/test1\_1inj.ctp** and **AuthGroup/test1\_5inj.ctp**, both checked and circled and labeled **2**.

Arrows indicate the flow from step 1 to step 2, and from step 2 to step 3.

Import the .zip file in Jenkins (steps 1, 2)

=> a Jenkins job is automatically created for each test plan (step 3)



# Using CLIF with Jenkins (3)

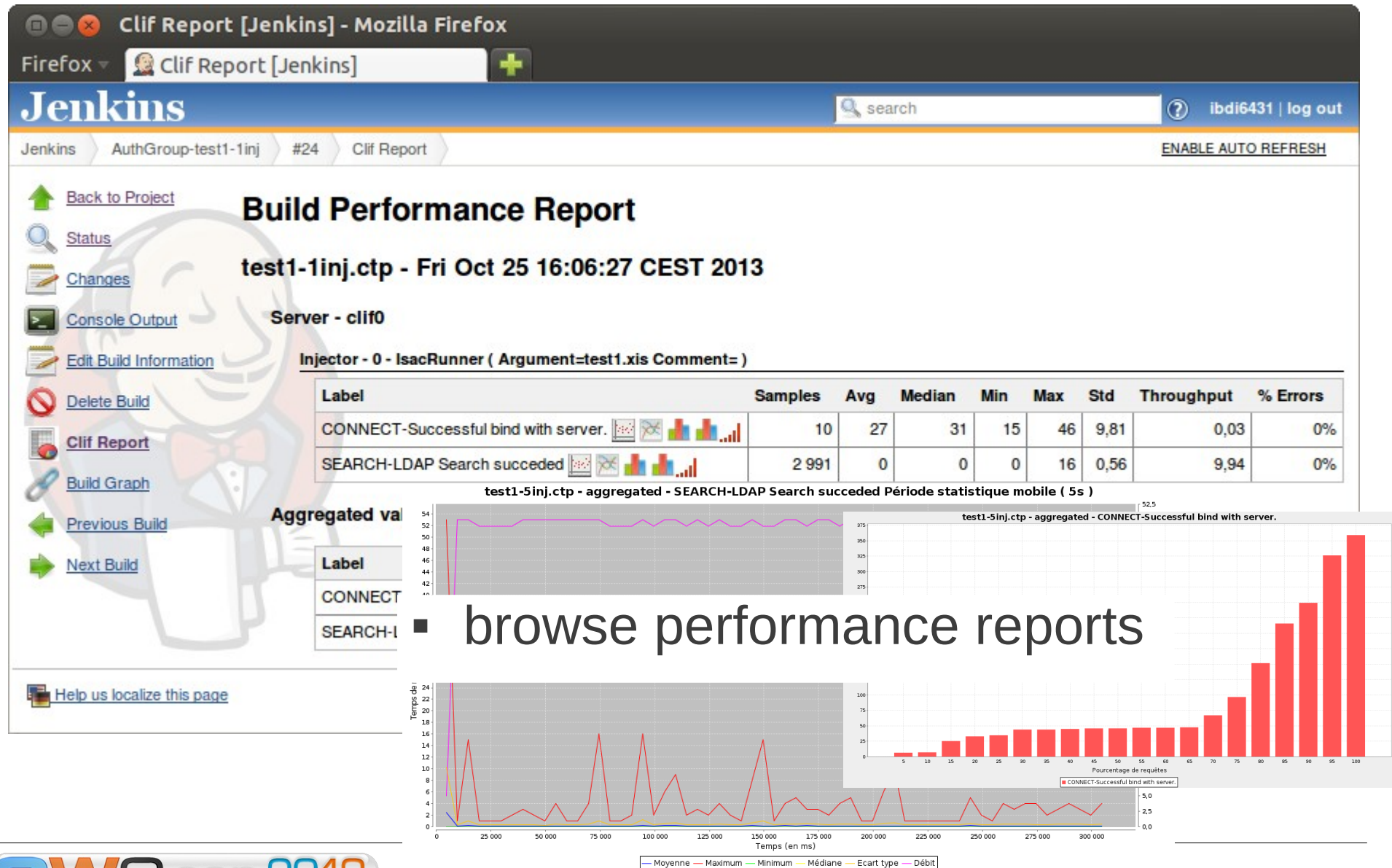
The image shows two browser windows from Mozilla Firefox. The left window, titled 'AuthGroup-test1-1inj [Jenkins]', displays the Jenkins project page for 'AuthGroup-test1-1inj'. It features a sidebar with links: 'Back to Dashboard', 'Status', 'Changes', 'Workspace', 'Build Now' (circled), 'Delete Project', 'Configure' (circled), and 'Clif performance Trend'. The main area shows 'Project AuthGroup' with a 'Workspace' link and 'Recent Changes'. A 'Build History' section at the bottom shows a list of builds, with the most recent build (#25) circled. The right window, titled 'AuthGroup-test1-1inj Config [Jenkins]', shows the 'configuration' page. It has a 'Build Triggers' section with three options: 'Build after other projects are built' (unchecked), 'Trigger builds remotely (e.g., from scripts)' (unchecked), and 'Build periodically' (checked). Below this is a 'Schedule' field containing '0 \* \* \* \*'. At the bottom are 'Save' and 'Apply' buttons. A large black arrow points from the 'Configure' link in the left window to the 'Build Triggers' section in the right window. A bracket on the right window groups the 'Build Triggers' and 'Schedule' fields.

1A

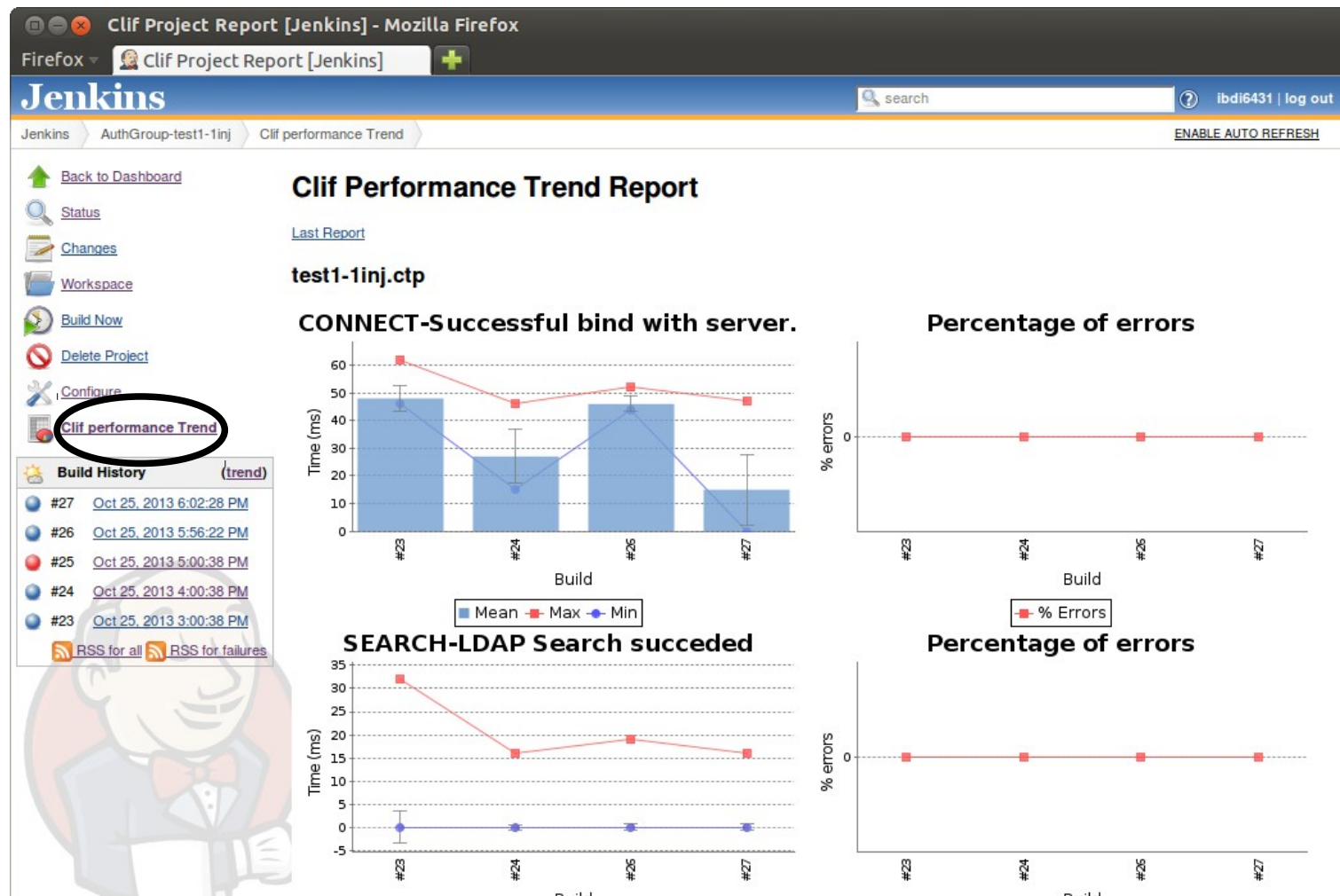
1B

- Run a test: manually (1A) or automatically (1B)
- Wait for test termination (2)

# Using CLIF with Jenkins (4)



# Using CLIF with Jenkins (5)



- observe performance trend through test runs



# Using CLIF with Jenkins (6)

AuthGroup-test1-1inj workspace : /report/test1-1inj.ctp\_2013-10-25\_18h03m22/

Firefox AuthGroup-test1-1inj workspa...

## Jenkins

search ibdi6431 | log out

Jenkins AuthGroup-test1-1inj ENABLE AUTO REFRESH

Back to Dashboard

Status

Changes

Workspace

Build Now

Delete Project

Configure

Clif performance Trend

Build History (trend)

- #27 Oct 25, 2013 6:02:28 PM
- #26 Oct 25, 2013 5:56:22 PM
- #25 Oct 25, 2013 5:00:38 PM
- #24 Oct 25, 2013 4:00:38 PM
- #23 Oct 25, 2013 3:00:38 PM

RSS for all RSS for failures

Help us localize this page

Page generated: Oct 25, 2013 6:15:35 PM Jenkins ver. 1.509.3

report / test1-1inj.ctp 2013-10-25 18h03m22 / 0 /

action	152,28 KB	view
action.classname	36 B	view
lifecycle	124 B	view
lifecycle.classname	39 B	view
server.prop	7.01 KB	view

(all files in zip)

- get raw measurements for custom analysis

# Allocating distributed load injectors

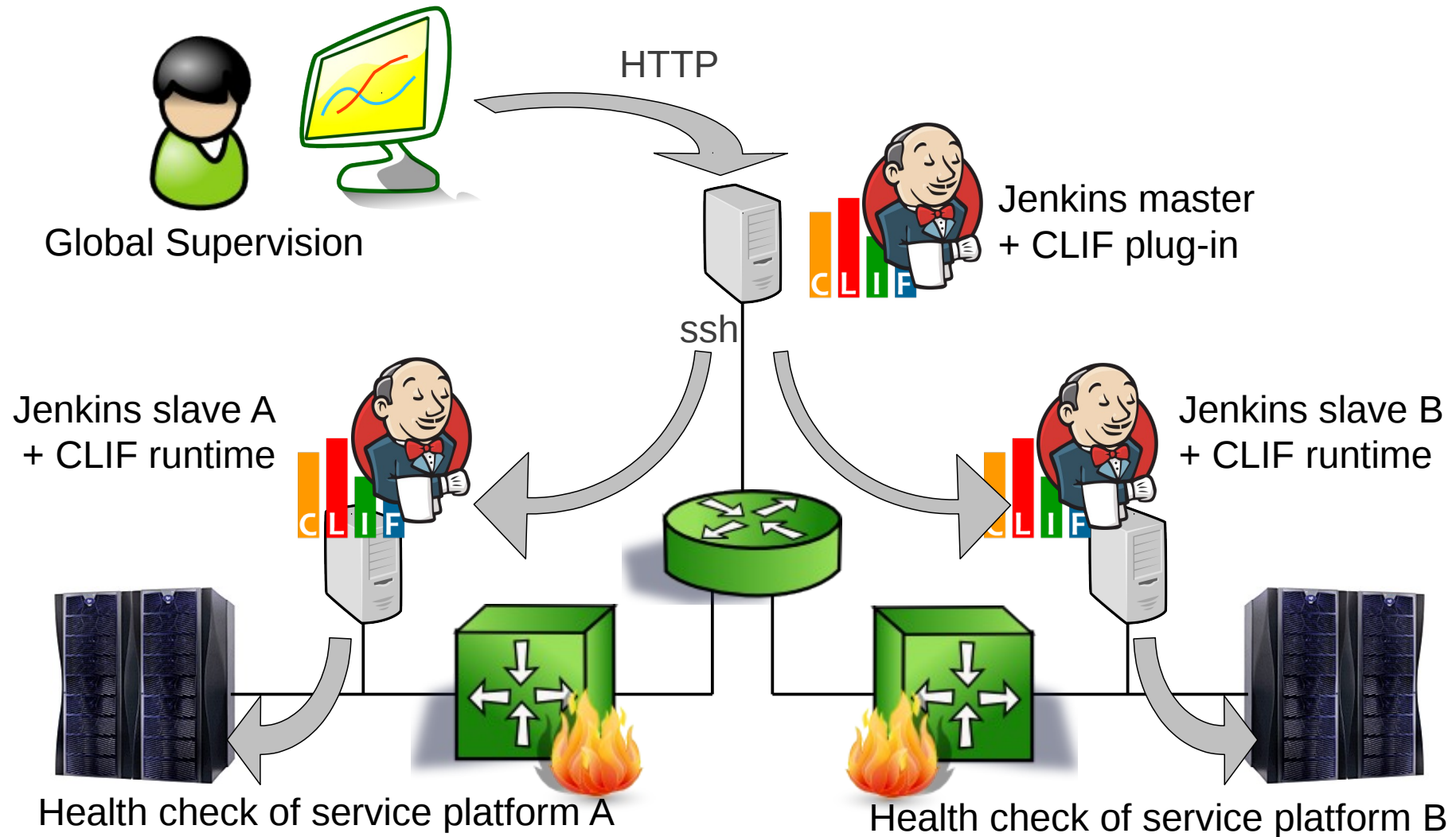
Remote CLIF load injection servers may be:

- manually launched
- allocated from a community cloud
- allocated on a IaaS cloud...
- ...possibly along with the tested application

## references

- *Using Community Clouds for Load Testing: the ProActive CLIF solution.*  
OW2Con '12 (Special Prize from OW2's Technical Committee)
- Load testing in continuous integration on a PaaS:  
see OpenCloudware project  
<http://www.opencloudware.org>
- *Self-scalable Benchmarking as a Service with Automatic Saturation Detection.*  
Middleware Conference 2013  
(cooperation with LIG)

# Using Jenkins' distributed mode for complex network topologies



# Conclusion

- CLIF is mature, stable but lively
- The Jenkins integration brings:
  - a friendly web-based GUI for running CLIF tests
  - automated test runs and advanced reports
  - a suitable tool for monitoring platforms' quality of service
- On-going activities
  - CLIF as a Service with multi-cloud load injection (OpenCloudware)
  - Friendly User Test of load injection on users' desktops at Orange Labs
  - cooperation with the ProActive team for advanced networking
  - mavenization of code base to be completed





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