



Open Research Webinars

Open Collaboration in European Research Projects

Performance Testing with OW2 CLIF in Year 2023: A Guided Tour



Bruno Dillenseger, Orange Innovation

Presented by:

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OW2

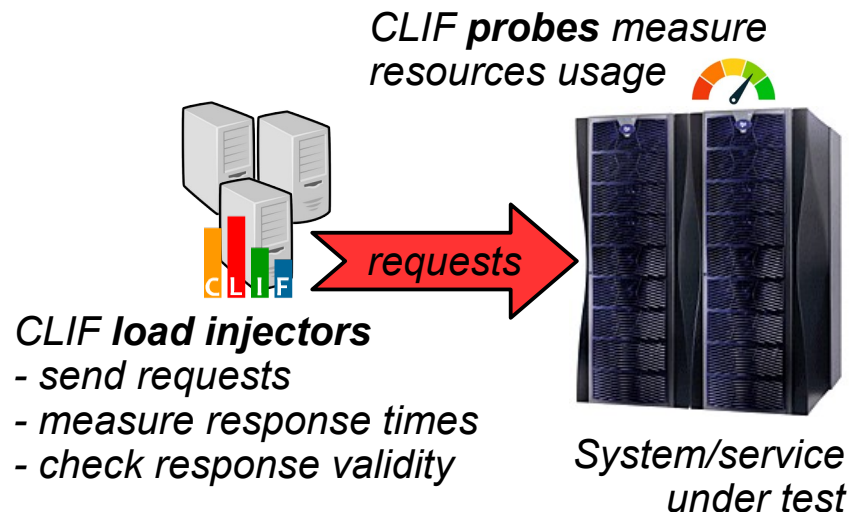
CLIF is a Load Injection framework

CLIF is OW2's performance/load testing tools suite:

- large-scale **distributed** load injection
- **arbitrary number** of virtual users
- **high-level description** of virtual users behavior
- load injectors for a **variety of protocols**
- **probes** to monitor resources usage
- **extensions** in Java (network protocols, data set providers, probes)
- also used for **integration testing** and live **monitoring**



<https://clif.ow2.io/>



CLIF grew through years of open research

- CLIF was born open source in year 2003 in the ObjectWeb community
 - open research on performance benchmarking between Orange (France Télécom) and INRIA
- CLIF development has always been associated to research topics
 - Orange internal research
 - French collaborative projects

- *component-based software engineering*
 - use and contributions to ObjectWeb Fractal component model
- *autonomic computing*
 - self-driven load test campaigns
 - automated performance optimization campaigns
- *cloud computing*
 - performance tests in continuous integration with fully automated deployment
 - multi-cloud test deployment



CLIF "legacy" toolbox

→ clif-server

- Core runtime with command-line interface for deploying and executing distributed CLIF test plans (load injectors and probes)
- Java library and companion scripts for Windows, MacOSX, Linux

→ clif-eclipse-console

- full-fledged CLIF GUI including advanced scenario editor and CLIF extensions development environment
- Eclipse RCP runtime

→ clif-swing-gui

- clif-server enhanced with GUI for test execution and test results analysis

→ clif-selfbench

- clif-server enhanced with labs on self-regulated load injection and "autonomous benchmarking" features

→ clif-docker

- clif-server container available from Docker Hub

ProActive CLIF toolbox

→ clif-proactive

- clif-server based on OW2 ProActive distributed execution middleware for enhanced network features
- Java library and companion scripts for Windows, MacOSX, Linux

→ clif-web-ui

- web user interface based on ProActive CLIF
- on-line scenario and test plan edition with wizards
- on-line test execution and monitoring

CLIF Web UI - Mozilla Firefox

localhost:8090/clifwebui

Connected as: anonymousUser Logout

calcudp1.ctp Properties YAML Access test Download file Save

Test ended successfully

Restart Collect Close

Generate global statistical report

Time elapsed: 60 s

Mean response time	247
Min response time	37
Max response time	1439
Requests throughput	18 /s
Errors rate	0%
Errors throughput	0 /s
Number of errors	57
Number of requests	1159

Test completed

Other tools and utilities

→ CLIF plugin for Jenkins

- automated performance test runs
- automated performance reporting
- automated performance trends reporting
- alerting based on test results

→ robot-clif

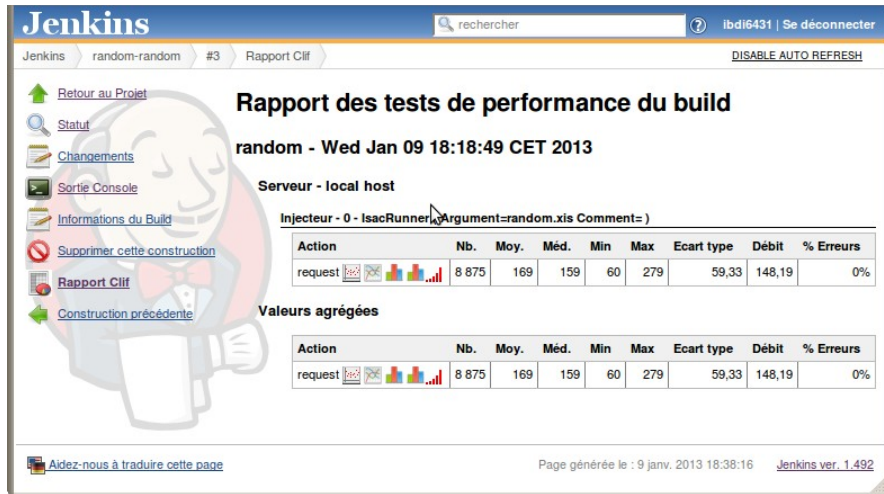
- integrates CLIF tests to a Robot Framework test suite
- test validation based on performance metrics

→ Ansible

- role for automated remote installation of CLIF

→ bash scripts utilities

- start/stop of local or remote CLIF servers
- results analysis and alerting
- test plans and scenarios generation



Time for demo!

Performance testing with CLIF web UI

All about CLIF

- Open source...
 - LGPL v2/v3 license
 - no freemium model
 - no paying license
 - no paying documentation
 - every bit of CLIF is free and free
- Contributors welcome!
 - CLIF web-UI (Java Spring Boot, Thyme Leaf)
 - Eclipse console (Eclipse upgrade)
- Any Question?
 - clif@ow2.org
 - bruno.dillenseger@orange.com



<https://clif.ow2.io/>
<https://gitlab.ow2.org/clif>