



Wireless Software and Hardware platforms for Flexible and Unified radio and network control

Project Deliverable D5.3

First experimentation toolset

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Abstract:

This deliverable describes the first release of new and extended experimentation tools on the WiSHFUL portal, together with the supporting documentation. For every tool, a short description is given, followed by guidelines how the tool can be accessed.

Keywords:

Fed4FIRE compliance, Experimentation tools, jFed, OMF6, OML, Ansible, WTA GitHub

First experimentation toolset

The following tools are available as part of the first experimentation toolset. This list is also available on the WiSHFUL portal [1]. Sample configuration files for all these tools can be found in the ExperimentationTools repository on the WirelessTestbedsAcademy GitHub [2].

Name	Function	URL
jFed	Resource provisioning and management	http://jfed.iminds.be/
OMF6	Uniform Experiment Control	https://omf.mytestbed.net/
OML	Uniform Measurement framework	https://oml.mytestbed.net/
Ansible	IT automation tool for installation of software	http://www.ansible.com/

1. jFed

- Tool name: jFed
- Download: <http://jfed.iminds.be/>
- Documentation: <http://doc.ilabt.iminds.be/jfed-documentation/>
- Short description: jFed is a Java-based framework for testbed federation. The jFed Experimenter GUI and CLI allow end-users to provision and manage experiments. It is compliant with the SFA protocol used in the Fed4FIRE project.
- Supported WiSHFUL testbeds: w-iLab.t, TWIST, Portable testbed

2. OMF6

- Tool name: cOntrol and Management Framework version 6
- Download: <http://mytestbed.net/doc/omf/file.INSTALLATION.html>
- Documentation: <https://omf.mytestbed.net/projects/omf6/wiki/Wiki>
- Short description: OMF is a control, measurement and management framework for experimental platforms. The OMF Experiment Description Language (OEDL) allows users to define their experiments in a uniform way so that they can easily be mapped onto other testbeds. It is compliant with the FRCP protocol used in the Fed4FIRE project.
- Supported WiSHFUL testbeds: w-iLab.t, ORBIT, Portable testbed

3. OML

- Tool name: OML – Measurement Library
- Download: <https://oml.mytestbed.net/projects/oml/wiki/Installation>
- Documentation: https://oml.mytestbed.net/projects/oml/wiki/OML_Overview
- Short description: OML is an instrumentation tool that allows application writers to define customisable measurement points (MP) inside new or pre-existing applications. Experimenters running the applications can then direct the measurement streams (MS) from these MPs to remote collection points, for storage in measurement databases. It is compliant with the OMSP protocol used in the Fed4FIRE project.
- Supported WiSHFUL testbeds: w-iLab.t, ORBIT, Portable testbed

4. Ansible

- Tool name: Ansible
- Download: http://docs.ansible.com/ansible/intro_installation.html
- Documentation: <http://docs.ansible.com/index.html>
- Short description: Ansible is a simple IT automation engine that automates cloud provisioning, configuration management, application deployment, intra-service

orchestration, and many other IT needs. It is used as a helper tool to install some of the tools listed above. It can be loosely coupled with the jFed tool to automate the installation process of experimentation tools (e.g. OMF6, OML, or other custom tools).

- Supported WiSHFUL testbeds: w-iLab.t, ORBIT, TWIST, Portable testbed

References

- [1] WiSHFUL portal, <http://www.wishful-project.eu/>
- [2] WTA GitHub, <https://github.com/WirelessTestbedsAcademy/ExperimentationTools>