Infrastructure in support of software development projects

Francesco Giacomini – CNAF
(on behalf of the ISSS project)

HPC@CNAF – 24 June 2014

Outline

- Motivation and objectives

- Functions

- Available tools

Main goal

- Provide a one-stop shop for software developers, especially members of small- and medium-size experiments, where they can find an **infrastructure** that could help them deliver software of increasing **quality** at reduced **costs** and on time.

- Done within the context of the ISSS project
  - **I**nfrastruttura di **S**upporto allo **S**viluppo **S**oftware
  - Infrastructure in Support of Software Development
  - Aim at community building
    - "by developers for developers"

Some keywords

- What do we mean by **infrastructure**?
  - integrated set of tools
  - shared knowledge
- What do we mean by **quality**?
  - Correctness, reliability, efficiency, security, maitainability, …
- What do we mean by **cost**?
  - Time spent in development, testing, bug fixing, support, …
  - Runtime inefficiencies
  - Electric power consumption
  - Time wasted by users due to the incorrect behavior of the software
  - …

Functions

- The infrastructure should ideally address the following functions:
  - project management
  - collaborative tools
  - version control
  - availability of development platforms
  - continuous integration
  - quality assurance
  - software profiling and optimization
  - knowledge sharing and training
  - technology tracking
  - ...

Available tools

- Project management
  - Jira available on issues.infn.it and soon on opensource-jira.infn.it
    - depending if your software is open-source or not
- Version control
  - subversion available on code.infn.it
  - git soon available on opensource-stash.infn.it
    - if your software is open-source
  - consider also hosted solutions like github and bitbucket
- Continuous integration
  - Jenkins available on ci.infn.it
- Quality assurance
  - dynamic and static analysis tools can be run in jenkins jobs
  - C++Test and JTest integrated soon
- XMPP (chat) server available on xmpp.infn.it
- When applicable, authentication is based on the INFN AAI

More information

- Project proposal

  - http://bitly.com/MvJwx5

- web2.infn.it/isss

  - under construction