



# Integrated Infrastructure for Software Development

The success of a scientific experiment relies more and more on sound computing practices, notably in the development of scientific software.

The ISSS project within INFN aims at providing a one-stop shop for software developers, especially members of small- and medium-size experiments, where they can find state-of-the-art tools and services that help them deliver code of increasing quality at reduced costs and on time.

The tools and services are well integrated among them. In particular the authentication is based on the INFN-wide Authentication and Authorization Infrastructure.

## Version Control System

Store safely a software code base.  
Allow parallel development by multiple people.

SUBVERSION already available, git or mercurial on the way

Support also for third-party hosted solutions, such as

GitHub

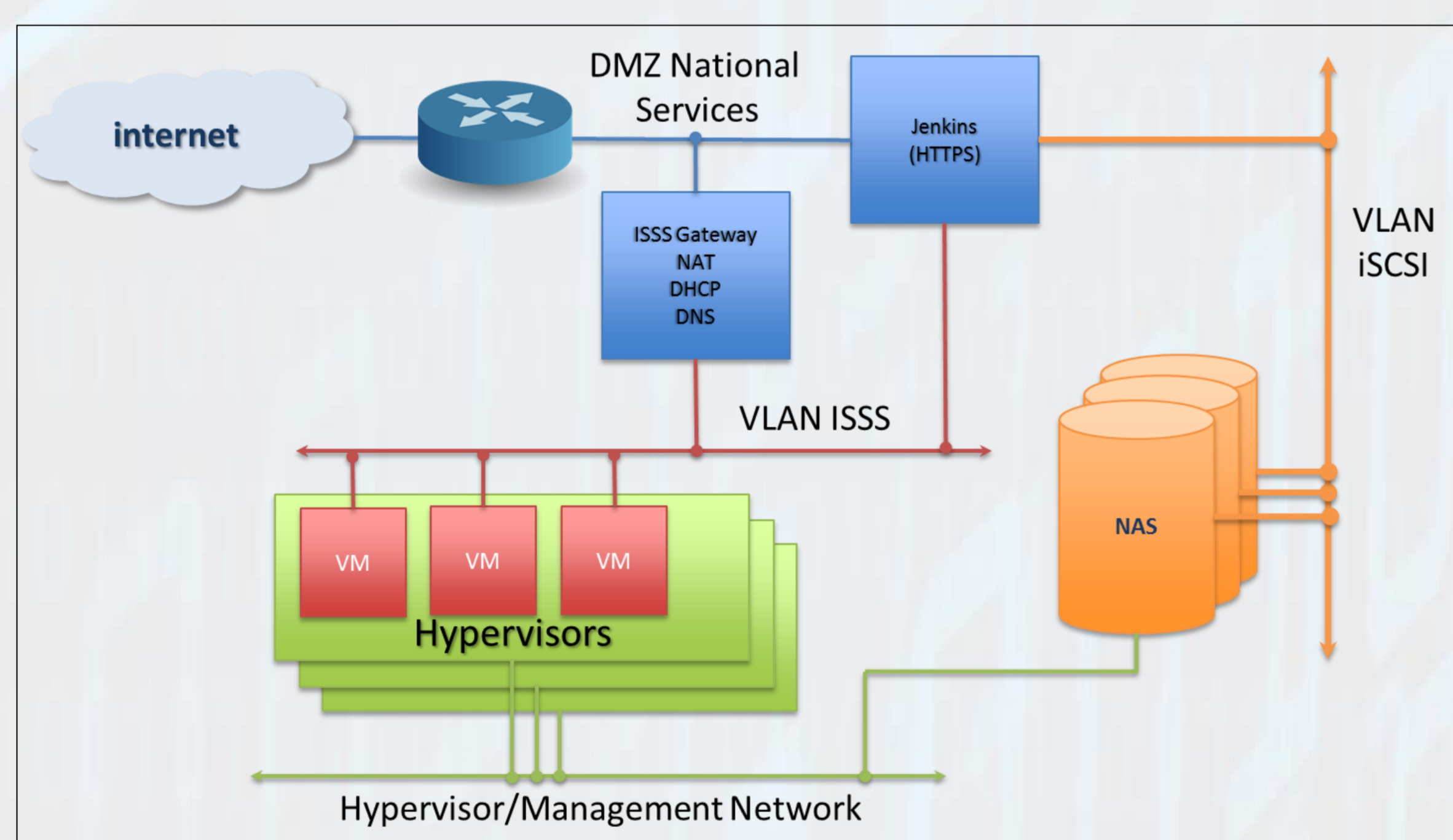
Bitbucket

## Virtualization Infrastructure

Provisioning of several Operating Systems: different flavours of Linux and MS Windows, 32- and 64-bit architectures.

On-demand instantiation of stateless and stateful VMs.

Abstraction of the underlying infrastructure via EC2 or  $\delta$ -Cloud interfaces.



**oVirt** manages the virtualization infrastructure (high availability, VM instantiation, VM templates, VM deployment, web portal).

**FreeNAS** manages all the storage resiliently.

**pfSense** manages the internal network (NAT, DHCP, DNS, NTP).

**$\delta$ -Cloud** provides an abstract interface to the infrastructure.

## Project Tracking

Support for large and complex development projects involving many users, covering many aspects of a software project lifecycle, including:

- Interaction with users for requirements and support
- Organization of issues, tasks and activities
- Integration with code repositories
- Reporting

## Continuous Integration

Periodically or triggered by a VCS commit, the software is

**Integrated** - All code changes up until that point are checked-out

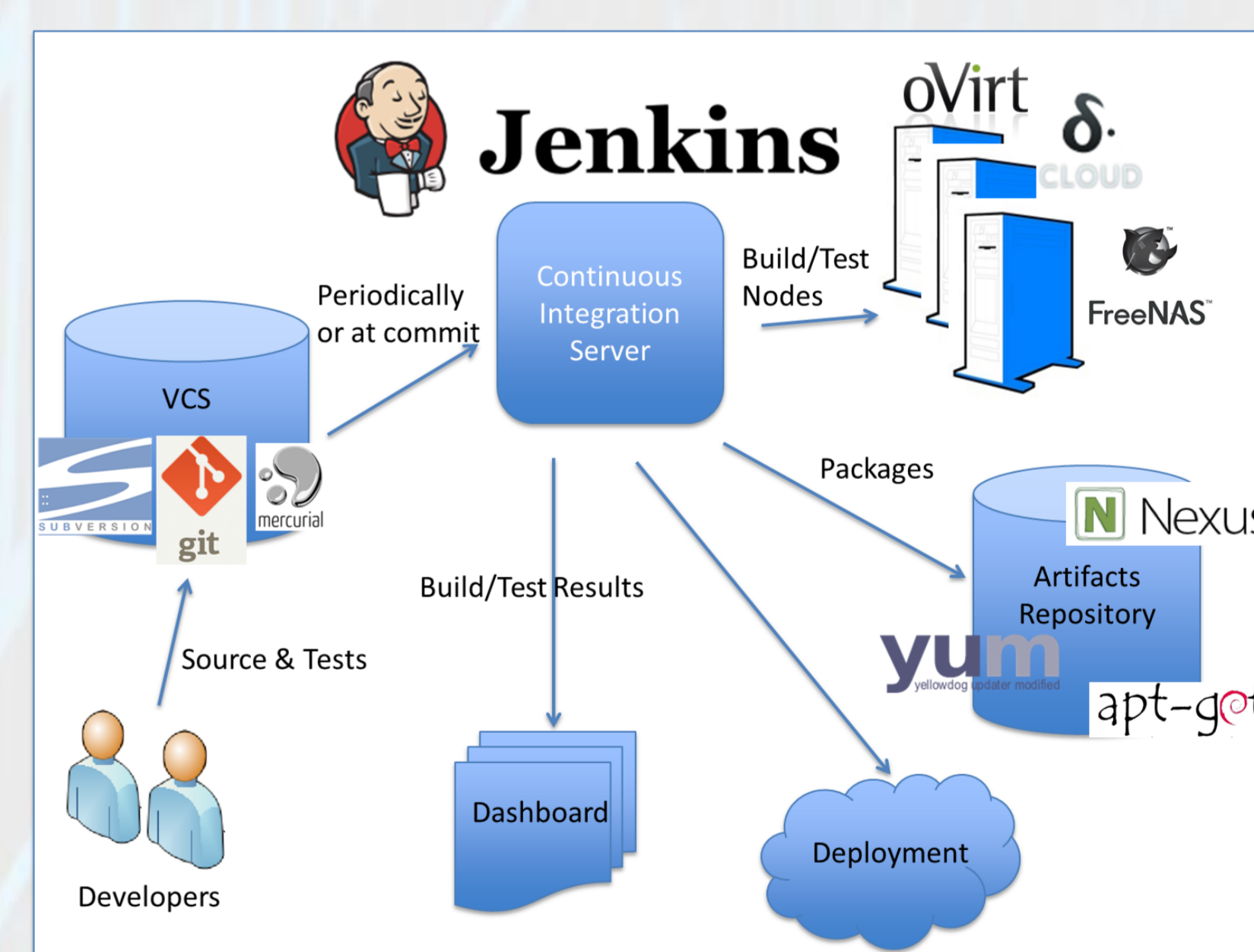
**Built** - On multiple platforms/architectures

**Packaged** - Java artifacts, rpm, deb

**Tested** - Tests (unit, regression, deployment, ...) are automatically run

**Archived** - For version traceability and wider distribution

**Deployed** - Installed on a system accessible by developers



## Next Steps

Under evaluation:

- **SVN and Git Web Interfaces** based on viewvc and gerrit
- **Chat rooms**
- **Q&A Forums** based on Question2Answer
- **Virtual Desktops**

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