

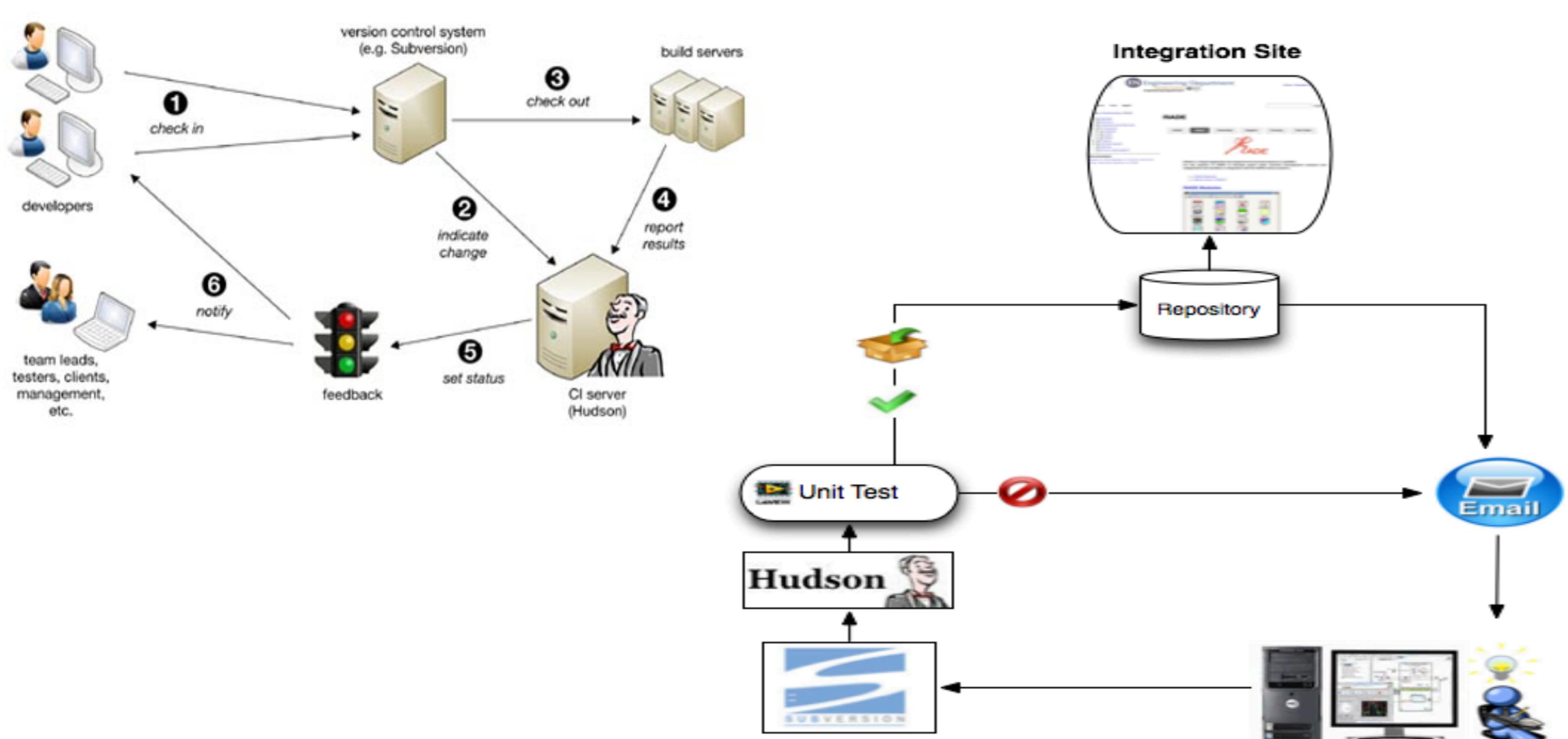
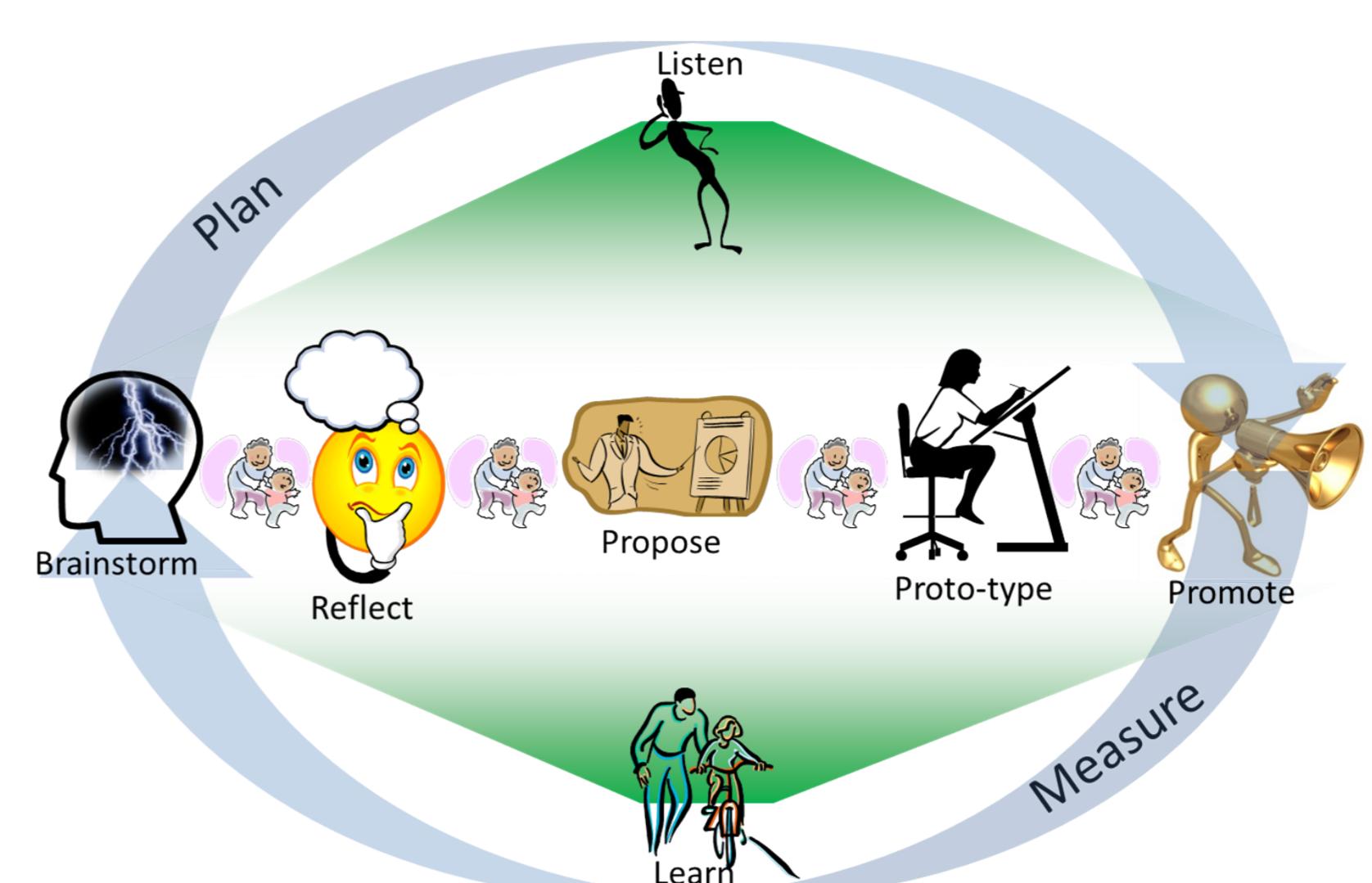
### ABSTRACT

In the accelerator domain there is a need of integrating and creating control applications in an easy and yet structured way. The LabVIEW-RADE framework provides the essential integration of these applications into the CERN controls infrastructure. Building and distributing these core libraries for multiple platforms, e.g. Windows, Linux and OS X, and for different versions of LabVIEW, is a time consuming task that consist of repetitive and cumbersome work. All libraries have to be tested, commissioned and validated. Preparing one package for each variation takes almost a week to complete. With the introduction of Subversion version control (SVN) and Hudson extensive continuous integration server (HCI) the process is now fully automated and a new distribution for all platforms is available within the hour.

### DEVELOPMENT METHODS

Through agile methods, tasks and projects are split into smaller increments that require minimal planning. Every iteration involves a small cross-functional team working on all disciplines: planning, requirement analysis, design, coding, unit testing and acceptance testing. At the end of the iteration, the product or result is demonstrated to the stakeholders, minimizing risks and giving room for fast changes and adaptations.

### The Generic Agile Concept



### CONTINUOUS INTEGRATION PRINCIPLES

CI is a software engineering practice where small or isolated changes are immediately tested and reported on when they are added to a larger code base. Therefore if a defect is introduced in the code base, it can be identified and corrected without delay. In addition CI software tools can be used to automate testing and to automatically generate documentation. When used properly, continuous integration provides constant feedback on the status of the software and its defects are detected early on in development. In addition and as side benefit the defects are typically smaller, less complex and easier to solve.

### TOOLS SELECTION

The CI engine has to:

- Be compatible with the existing SVN repository
- Be able to execute any programming language or script
- Run on all our main operating systems (Linux, Windows and OS X),
- Report any issue(s) encountered automatically.
- Be easy to maintain
- Have a plugin based and flexible pool of tools available

Name	Platform	SVN SCM support	Mail Support	Other Builders
Bamboo	Servlet	Yes	Yes	cmd line, Bash
Hudson	Servlet Container	Yes	Yes	Most scripting tools
CControl	Cross Platform	Yes	Yes	catch-all 'exec'
Continuum	JDK	Yes	Yes	.....

Hudson						
All		Web	Job	JavaBuildfile	Linux RADE build	Mac RADE installer
S	W	Job	JavaBuildfile	Linux RADE build	Mac RADE installer	Windows RADE build
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