The Laser MegaJoule ICCS Integration Platform (PFI)



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The Control System Integration Strategy

- The CS Architecture
- The CS Integration Strategy
- Tests on the Integration Platform : the various steps

The Control System Integration Platform

- Integration Platform Building
- Integration Platform Tools



Contracts management

High level supervisory perimeter



Software Interfaces to be qualified by CEA



The LMJ ICCS is distributed over the 4 main LMJ Systems :

Laser Subsystems Experiment Subsystems

Control Command Subsystems Building and Utilities Subsystems

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3 steps for the integration of the control system

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 - With real equipment (Representativeness)
 - With simulators (CS Robustness)

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• Step 2 : Integration Platform tests (PFI)

- Global tests for N3-N2 supervisory
- Global tests for all subsystems control systems :

between each other and with N3-N2 supervisory

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• Step 3 : Functional integration (Integration Room)

- Contractor tests for each subsystem
- Global tests with the N2-N3 supervisory





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In LMJ







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Strategy for the Integration and Commissioning



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Strategy for the Integration and Commissioning









Step 2 : The Integration PlatForm





Step 2 : The Integration PlatForm



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Step 2 : The Integration PlatForm



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Control system integration platform building

The integration platform building is located in the LASERIS industrial park close to CEA-CESTA and the LMJ facility

LASERIS 1 - Parc Scientifique et Technologique - Le Barp

0,5 miles

tegration

M

Control system integration platform : the building construction











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Control system integration platform building





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Control system integration platform building



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Control system integration platform building



Control system integration platform building



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Specific Tools:

The Integration Platform "Core" :

The Antivirus Tool (called SAS)

- The Software Configurations Management Tool (called OGEKI)
- The Test Campaign Management Tool (called PGT)
- The Bug Management Tool (called FFT)

The contractors simulators hardware platform (called PHS)

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INTECRATOR OFFICE

Integration Platform – The Antivirus Tool

SAS functions

Receive the delivery kits (first part):

> check kits formats (.rar) and associated files

- > scan the kits (2 antivirus running on two computers)
- > create log files

> copy and sign the delivery kit on the hard disk data transfer
Update virus signatures every day

Erase each hard drive entering or exiting the PFI facility

The SAS is on the Internet Network

PFI Control Room

Integration Platform – The Software Configurations Management Tool

PH-Core

PEISerier



PITNEHION

PET COMPUTER ROOM

Yode scanner

OCER

OGEKI is the only access point of the PFI Network

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Integration Platform – The Test Campaigns Management Tool





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Integration Platform – The Bug Management Tool



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Integration Platform – The contractors' simulators hardware platform





We have received a first version of each laser control command subsystem (except PEPC –scheduled oct. 2013)

- We are currently integrating each subsystem, i.e. each interface is being tested
- We have delivered the first control command subsystem on the LMJ, i.e. laser diagnostics
- We are about to complete the first three shot sequences (end of 2013) that will be used to start the commissioning process of the control system in Feb. 2014



