

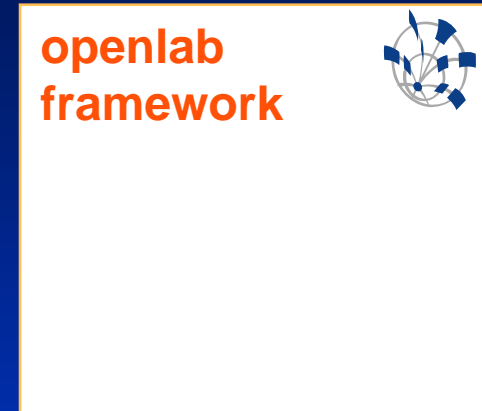
The CERN openlab for DataGrid Applications

A Practical Channel for Collaboration

François Fluckiger

What is the openlab?

- A **framework** for “R&D” in collaboration with Industry



- **Partner** commitments

- 3 years

- Contributions may be a mix of

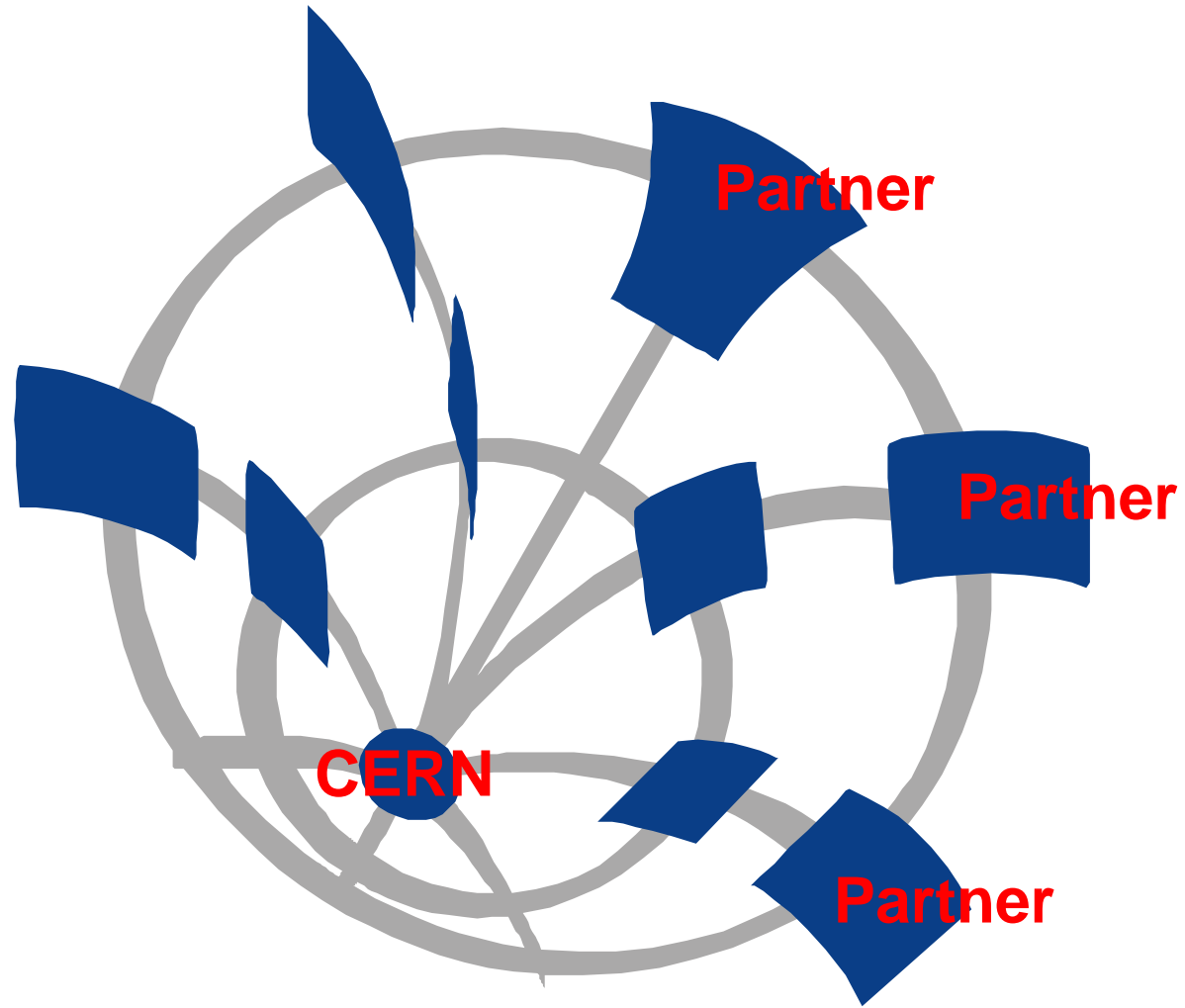
- In kind (HW, SW, services, ...)
- In cash (in general for fellows)

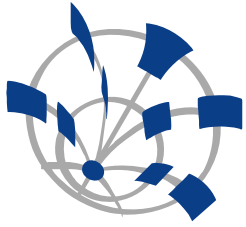
- **Contributor** commitments

- 1 year

- Lower level

The CERN openlab vision





Partners

IBM[®]

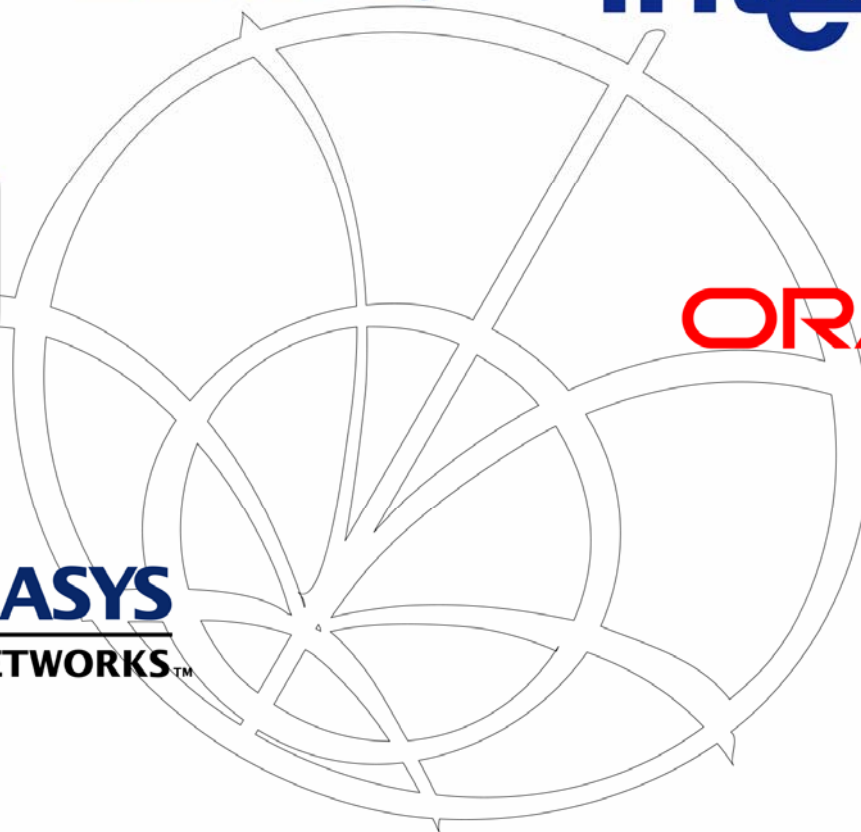
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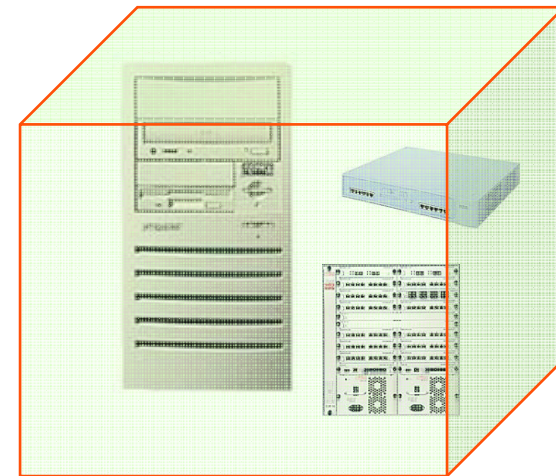
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What are we doing in the openlab?

- Evaluate and Integrate cutting edge solutions
- Current project: **opencluster**
 - IA-64 Compute farm (**Intel + HP**)
 - 10 Gb Ethernet (**Enterasys + Intel**)
 - Storage (**IBM**)
 - 10g servers (**Oracle**)
 - *Infiniband (Voltaire, contributor)*

openlab
framework



opencluster project

The CERN opencluster

Objectives

- Build an ultrahigh performance computer cluster
- Link it to the DataGrid and test its performance
- Evaluate potential of future commodity technology for LCG



What is new with the openlab?

- Is it really different from conventional
 - joint projects with industry?
 - field tests?

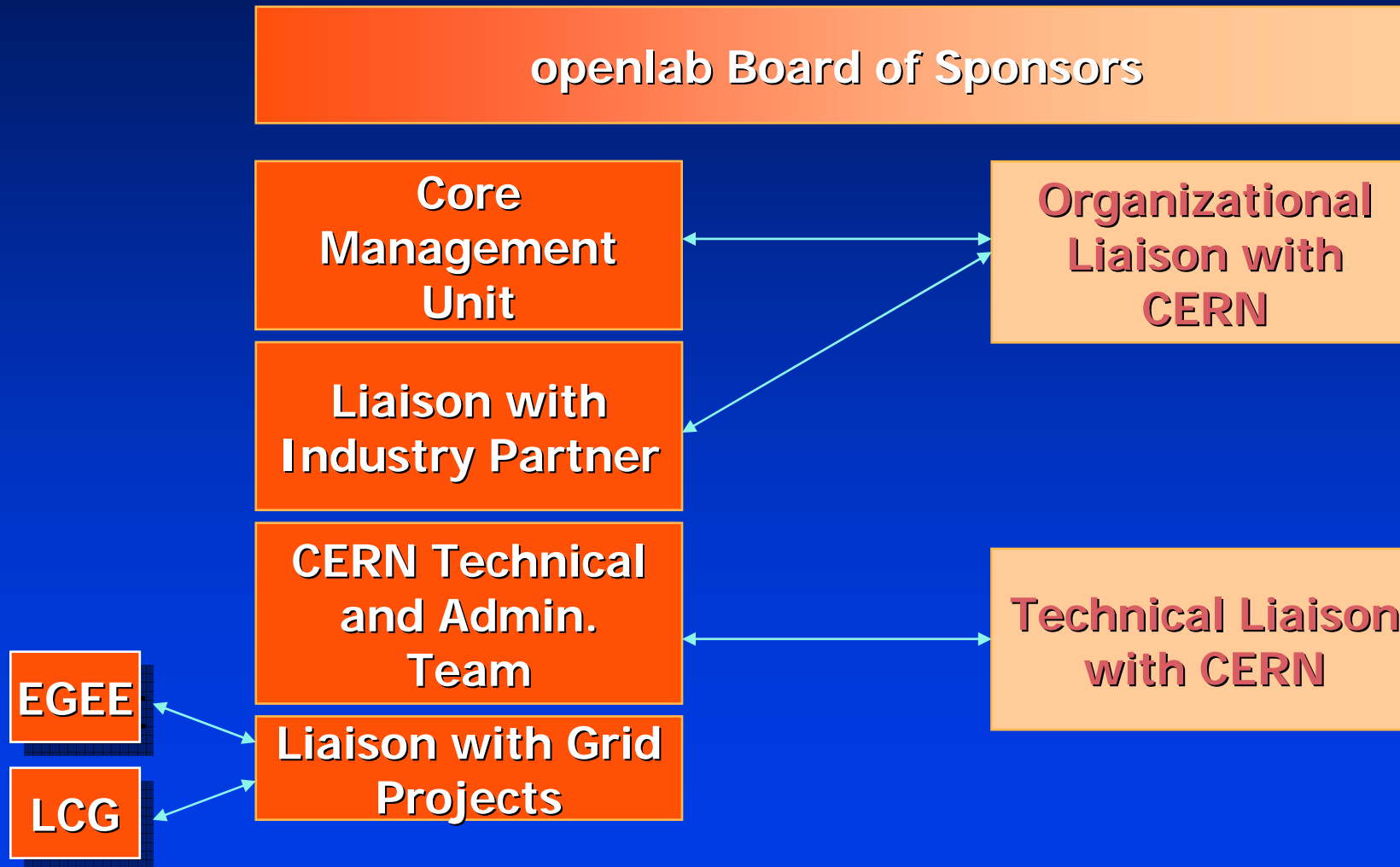
- openlab is **not** a collection of disjoint bi-lateral evaluations

- It implies
 - A common "agreement" framework
 - A common technical objective
 - An active **collaboration** between all parties

Management structures

CERN

Industry Partners



openlab integration

- **Efforts from increasing number of groups in IT department**
 - **openlab NOT an isolated R&D team**
 - **Technical people maintained in their natural environment**
 - **Provides better exposure of sponsor solutions**

- **Collaboration with Physics Department**

CERN openlab dissemination activities

- **Thematic workshops:** 2 days on technical focus area
- **First Tuesday events:** regional business community + webcast
- **VIP visits:** Contribute to promoting CERN's Grid activities
- **Grid café:** website, stand (Telecom 2003) and Microcosm exhibit



CERN openlab student program 2003

- **11 Students** from CH, DK, FI, NO, SE, UK, PO (BSc-MSc-PhD levels)
- **3 Projects** involving Athena, CMS and IT Division (EDG, LCG)
- **Co-funding** from participating institutions (and Nordic Grid Facility)
- **2 months at CERN** + company visits + pre- and post- visit projects

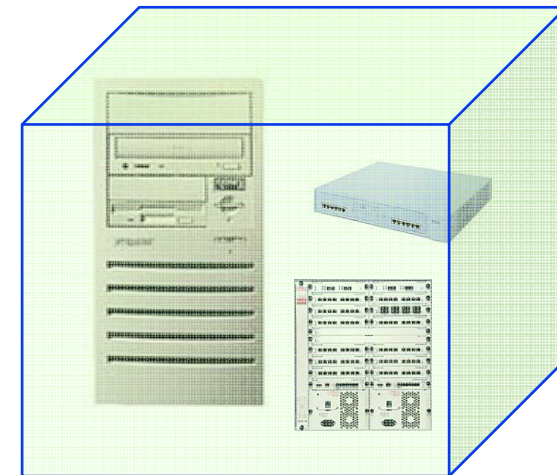


Framework and Project

openlab:

- an agreement *framework* to host *projects*
- Current project: *opencluster*

openlab
framework

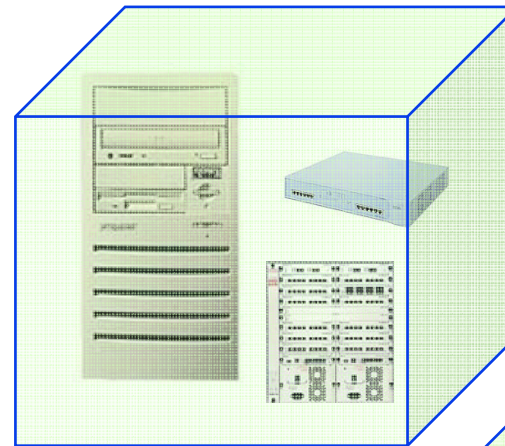


opencluster project

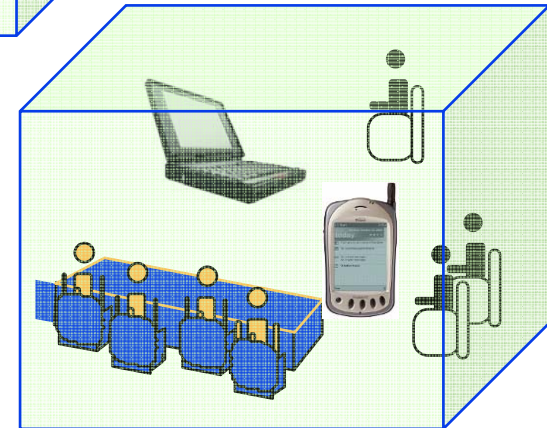
HPCN-centric project

New project under discussion

“opengroup”



opencluster
project



opengroup
project

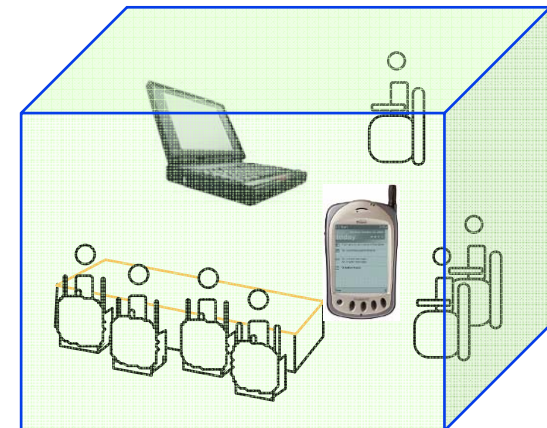


opengroup project

Object

- Evaluate advanced technologies and devices for **collaborative activities**

openlab framework



opengroup
project

User-centric
project

opengroup project

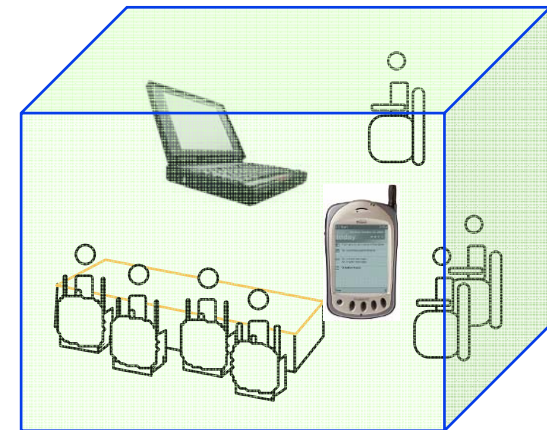
Which collaborative *activity*?

- *Working* (CSCW) (initial focus)
- *Learning* (CSCL)

Other key functionality

- *Presence* and *mobility*

openlab framework



opengroup
project

User-centric
project

Why we need work in the field

- Collaborative tools **off-the shelf** for years
- **Unused** except in close circles
- Need to turn them into **Universal services** as are Web or mail

Some base tools

- People Unified location
- Desktop services integration
 - Email, phone, instant messaging, shared applications
- Unified messaging
 - Email, (video)phone calls integration
- Internet video/telephony
- Sharing services
 - Shared applications
 - Shared workspace / whiteboard
 - Shared calendars, action lists