

CERN: The Future of Information Technology
27th May 2004
PPARC Industry KITE Club, CERN Technology Transfer
QEII Conference Centre, Westminster
And simultaneously with First Tuesday @ CERN (with First Tuesday Geneva)
CERN Main Amphitheatre, Geneva

Abstracts of Talks

Dr. Hans Hoffmann

(Speaking at UK event only)

Title of Talk:

Why CERN provides a unique IT challenge for industry - from the Web to the Grid

Abstract:

In the wake of the previous Large Electron Positron (LEP) programme, the WWW was invented at CERN, promoted initially in the Particle Physics community, presenting today new utilities such as Web-services or new challenges such as turning the Web into the ultimate repository of openly accessible human knowledge.

Now CERN leads the world-wide community of Particle Physicists towards the next major step, the Large Hadron Collider (LHC). In its experiments tens of Petabytes of data will be created, requiring novel approaches to data acquisition, world-wide data analysis (grids), "commodity component" computer centres, new quality of service networking and world-wide community software.

Further points will be: Concurrent Engineering (EDMS), Administrative Data Services (AIS) and the CERN Document Server (CDS)

Fabien Collin

Title of Talk:

CERN as a source of business for the ICT industry

Abstract:

In this short talk, Fabien will briefly describe Elonex activities in the scientific market, the collaboration between Elonex and CERN and how both parties benefit from this collaboration.

Patrick Chevaux

Title of Talk:

The CERN Openlab from the perspective of a high-tech SME

Abstract:

Voltaire is a high tech startup that recognised early on that supercomputers don't need to be expensive. A paradigm shift based on very high performance interconnects, particularly the newly- created InfiniBand standard, allows supercomputers to be built by clustering tens or hundreds (or more) of inexpensive off-the-shelf "PC-type" components. While being a young company, Voltaire has quickly been recognized as a leader in the HPC interconnect market. Advances in the supercomputing technology and architecture happen in few places around the globe, CERN and its partner research institutions is certainly the most visible, and Voltaire wants to be on the leading edge of these developments. Voltaire engineers are high tech hardware and software visionaries who find it exciting to deal with problems of such complexity and magnitude.

Dr. Francois Fluckiger

Title of Talk:

Technology Partnering and Software Licensing: the practical channels of CERN's IT Department

Abstract:

The mission of the IT department at CERN is to support physics computing as well as general informatics services for the entire laboratory. The activities of the department focus on fast changing Information and Communications Technologies, which often require that the necessary developments are conducted in collaboration with external partners. As a result, the main channels for Technology Transfer in the department are collaborations and partnering with external organisations – as exemplified with the CERN Openlab - rather than the more classical patenting approach. The other main channel for Technology Transfer is the transfer of software technologies via collaboration agreements or, more frequently, via open source mechanisms.

Dr. John Manley

Title of Talk:

The CERN Openlab from the perspective of a major IT company

Abstract:

HP believes that an understanding of the requirements and demands of mainstream computer systems in three to five years is achieved by engaging with those who have apparently unreasonable, or even extreme requirements today; CERN is a such a partner.

HP has collaborated with CERN for twenty years, understanding firsthand their needs and working together to create solutions. Successful engagements can lead, and have led, to new technologies for HP. The journey spans network and systems management to the Grid Openlab and the LCG.

James Purvis

Title of Talk:

Tools for e-business: opportunities at CERN

Abstract:

CERN owns a mature e-business system that provides solutions for a wide variety of business problems. This presentation will distinguish between e-business & e-commerce solutions and detail the software which has been developed at CERN. The technology has evolved from mainframes through to client/server and onto the web receiving recognition as an industry blueprint for e-business architectures. The system is powerful, scalable and portable. In times of shrinking resources where focus is on increasing efficiency, the benefits of e-business systems are high on the wish list of many of today's senior managers. Technology transfer opportunities for such a system are potentially very attractive.

Monica Marinucci Lopez

(Speaking at the Geneva event only)

Title of Talk:

Grid Computing, Oracle and CERN

Abstract:

The collaboration between CERN and ORACLE started in 1982. Since then, the relationship evolved with the needs of the Laboratory and the new technologies offered by ORACLE. Today, more than ever, the collaboration is close and fruitful for both parties. The goal of this presentation is to explore in some detail this model of collaboration and its benefits, with a particular attention to the new GRID technologies.

Prof. Ari-Pekka Hameri

(Speaking at Geneva event only)

Title of Talk:

Supplier benefits from CERN collaborations

Abstract:

We surveyed the technological learning and innovation benefits derived from CERN's technology intensive procurement activity during the period 1997-2001. The base population of our study consisted of 629 companies out of 6809 companies during the same period, representing 1197 MCHF in procurement. The main findings from the study can be summarized as follows: the various learning and innovation benefits (e.g. technological learning, organizational capability development, market learning) tend to occur together. Regardless of the relationship quality, virtually all suppliers derived significant marketing reference benefits from CERN. Many corollary benefits are associated with the procurement activity: as many as 38% of the respondents developed new products or services as a direct result of the supplier project; 13% started new R&D units; 14% started new business units; 17% opened a new market; 42 % increased their international exposure; and 44% indicated significant technological learning. The impact for CERN itself is also significant, as technologically demanding projects were associated with a high level of knowledge acquisition and motivation among CERN staff. The presentation outlines the sample, results and recommendations of the study.