Collaborative Tools Track

Summary

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Collaborative Tools Track

- 2 talk Sessions + 1 poster session
  - 11 Talks
  - 8 posters

- Topics
  - Video and audio meeting tools
  - Interdisciplinary collaboration
  - Improved CERN services
  - "extra dimensions"
  - ... and some others

- I noted some negative progress as I put the summary together
  - .ppt -> .pptx
  - You cant 'nick your colleagues slides so easily now
Video and Audio meeting tools
Steve Goldfarb (U of Michigan)

Summary of Collaborative tools and the LHC

- LCG RTAG 12 Findings
  - Usage & Needs Greatly Increasing, But...
  - No Central, Coordinated Project for the LHC
  - Conference Rooms Out-Dated, Not Enough
  - Phone Service Limited Hours, Not Integrated with Video Conferencing
  - No Uniform Recommendations for Remote Participant
  - Limited Lecture Archival Capabilities

- Creation of RCTF (Remote Collaboration Task Force)
  - Resources from Atlas and CMS + staff from cern
  - Significant upgrades to video meeting (ESNet and EVO)
  - Automated phone conferencing
Shaping the Future of Collaboration in Global Science Projects

A Conference Sponsored by
Workshop on Advanced Collaborative Environments
and
CERN Large Hadron Collider Users

Conference Goals
Shaping Collaboration 2006 will bring together members of the user community of the CERN Large Hadron Collider with researchers and practitioners in the area of advanced collaborative tools. This three day conference will focus on ways these communities can work together to advance research in collaboration while meeting the needs of global science projects.

Session Topics
- The Human Component of Collaboration
- Views from the LHC
- The Impact of Geography
- Collaborative Tools and Developing Countries
- Collaborative Tools, Education and Training
- A Vision for the Future
- Funding Models and Strategies for Collaborative Tool Support in Scientific Projects
- Frontiers in Collaborative Tool Research (WACE 2006)

Organizing Committee
- R. Eisberg (DESY)
- P. Gauvez (CMS, Caltech)
Video Conferencing improvements: ECS and EVO:

Video Conference Systems (cont.)
- **ECS (ESNet Collaboration Services) [input from Bill Johnston, Sheila Cisko]**
  - Hardware Upgrade to 3 Codians with Video & Web Conferencing
    - 120 Ports (40 Ports per MCU), 384k Access for ISDN Systems
    - Access to Audio through Codian ISDN Gateway
    - Content (H.239) Viewing and Markup via the Web
    - Web Chat for those without Traditional Video Conferencing System
    - Access to Global Dialing Scheme (GDS) via Radvision Gatekeeper
  - Outsource of Maintenance & Operations
    - Savings Expected to Finance Upgrades in 2008 (East Coast Facility)
    - Real-Time Conference Support Available for a Fee
Phillipe Galvez (Caltech)

EVO - daughter of VRVS

- EVO
  - EVO = Enabling Virtual Organisations
  - Much more resilient to equipment and network change
  - EVO creates dynamic overlay network which adapts transparently to the user
  - JRAT / ViVEO
  - Meeting recording and playback
  - File exchange
  - Private sidebar meetings

Cures MacOS "underwater" problem
Koala in Meeting Interface

- Participants of the current meeting
- Control Audio, Video and Whiteboard
- Exchange/Share files
- Open/Close Recorder & Playback
Meeting Player

Playback a full EVO meeting from your local disk.

- The playback could be:
  - Local *(for your eyes only)*
  - Broadcasted
- Possible to PAUSE the playback

- You can go to the previous/next pre-recorded marks

- Possible to play:
  - Audio
  - Video
  - Whiteboard
  - Chat
  - Participants
Douglas Smith (SLAC)

Hypernews - bigger and better

- Used extensively
  - BaBar
  - CERN experiments (particularly ATLAS)
  - Open source project
- Lots of improvements
  - Attachment support
  - SPAM control
  - ....
- Will be supported well into LHC
Jeremy Herr (U of Michigan)

Lecture & Video meeting

Archives
Lecture Objects

- Originally proposed by our team in 2000 at an international conference
- A standardized data object containing metadata, timing, high-res media
- Designed for
  - Longevity
  - Sharing among multiple institutions
  - Flexibility in viewing formats
MScribe – Lecture recording Robot
Interdisciplinary collaboration with medical sciences
Richard McClatchey (UWE-Bristol)

Health e-Child project

- **Three Paediatric Diseases**
  - Heart diseases *(Right Ventricular Overload, Cardiomyopathy)*
  - Inflammatory diseases *(Juvenile Idiopathic Arthritis)*
  - Brain tumours *(Gliomas)*

- **Many Clinical Departments**
  - Cardiology
  - Rheumatology
  - (Neuro-)Oncology
  - Radiology
  - Lab (Genetics, Proteomics)
  - Administration, IT

- **Main Modalities / Data Sources**
  - Imaging *(MR, US/echocardiography, CT, x-ray)*
  - Clinical *(Patient information, Lab results etc)*
  - Genetics & Proteomics
A Geographically Distributed Environment

Clinical Site

R&D Site
The Health-e-Child Access Point

One Access Point

Health-e-Child

EGEE gLite

HeC Gateway

HeC DBMS

Storage

HeC Scheduling

Job Managnt

Info System

Monitoring

Computation Unit

Data Unit

200GB

50GB

1TB

Security & Registration
Geant4 simulation of radiotherapy

Leipzig applicator

Relatively “fast” simulation
~ 7 CPU hours on an “average” PC to produce meaningful statistics for clinical studies

On the grid
64% runs terminated < 30 min
96% runs terminated < 40 min

Exp. data: F. Foppiano et al., IST Genova
Medical LINAC for IMRT

High demand of CPU resources for meaningful statistics
(e.g. for treatment planning verification)
≈ tens of CPU-days

Geant4 medical_linac Advanced Example

Geometry developed by M. Piergentili

Exp. data: F. Foppiano et al., IST Genova
Unique challenges

Staff are not exactly centred at the experiment (at least for half the year)

Needed "agile" methods

I challenge Harvey to get a wave down there !!!!
pDAQ System

Control  Readout
CERN Developments
Nicholas Robinson (CERN)

Managing an Institutional Repository with CDS Invenio

- 1,000,000 records
- 10,000 unique searches per day
- Powerful in house designed search engine
- Customisable for different types of entry
- Customisable approval workflows
High Energy Particle Accelerators

WARNING: The use of video requires prior authorization from CERN.

Films about the different particle accelerators in the US. Nuclear research in the US has developed into a broad and well-balanced program. Two of the accelerators, the proton synchrotron and the electron synchrotron, are particularly large and new. The electron synchrotron is shown in operation, focusing and accelerating protons. Other important installations are the Brookhaven National Laboratory, the Fermilab, and the Naval Research Laboratory.

Produced by: Audio Productions, Inc., New York
Director: Atomic Energy Commission

Keywords: acceleration, electron, positron, synchrotron, linear accelerator

Original Source: F004
Language: en
Source Medium: Betacam PAL (Mater)
Note: Original film: 16 mm, optical sound

Reference: CERN MOVIE 1960-005
- **Emmanuel Ormancey : Single Sign on (talk)**
  - Previously needed 6 credentials
  - Now down to 2
  - Lots of work behind scenes here

- **RSS Alerter (poster)**
  - New alert system based upon RSS feeds
  - Easy to subscribe to from all platforms
  - No excuse for not knowing that some service is going down
  - ...or the world cup football score..

- **Printing at CERN (poster)**
  - Much simplified backend print server architecture at CERN
  - As a user I was pleasantly surprised how easy printing has become
- **Video, Picture and Audio Archiving**
  - Automatic processing and archiving of huge resources
  - All available from web document server
Other contributions:

- Giulio Eulisse (Northeastern U) : Talk CMS WEBTOOLS
- Poster: GridPP Collaboration Website
- Poster: Aragats Data Acquisition System for distributed detectors
Norman Graf (SLAC)

*Extra Dimensions*

*Adding 3D and time to embedded pictures*

Adobe reader already supports this via standards (U3D)