Technologies des réseaux et NTICs

"Collaborative tools and work environment"

featuring and using the Access Grid® technology

26-27 juin 2008

Organisation : Aristote groupe Gus'G

Coordination scientifique :

- ***Thomas D. Uram (Argonne USA) ;***
- ***Jean-Michel Batto (INRA) ;***
- ***Gérard Guillerm(École Polytechnique) ;***
- ***Marcolino Pires (GIP-RENATER) ;***
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Chapitre 1

Programme des journées

1.1 Introduction

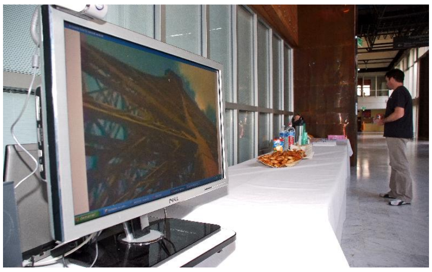
Ce séminaire est organisé par le Groupe de travail Gus'G -Groupe des Utilisateurs de Grilles- de l'association Aristote.

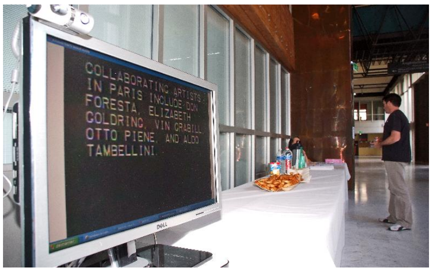
Les activités du groupe Gus'G de l'association Aristote sont axées «transferts de technologies». dans ce cadre, nous organisons fin Juin ce séminaire pour présenter et aussi débattre des solutions de travail collaboratif. L'idée est née d'une rencontre avec une équipe de l'INRA qui utilise «au quotidien» dans le cadre d'une collaboration avec un laboratoire aux États-Unis le système **Access Grid**® développé à l' Argonne National Laboratories. Avec le soutien technique de la société DELL , nous allons utiliser ce système pour retransmettre le séminaire et permettre des interventions à distance. Le chef de ce projet à Argonne, Thomas D. Uram sera présent. L'idée est de présenter aussi d'autres projets et techniques utilisables au quotidien -ou dans un futur proche- avec un grand large spectre d'usages et de retours d'expériences.

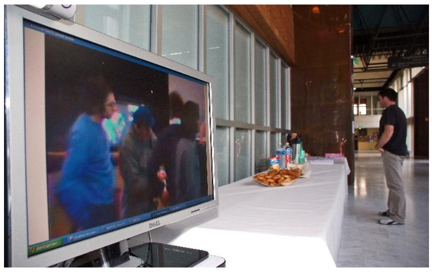
é

1.2 Programme

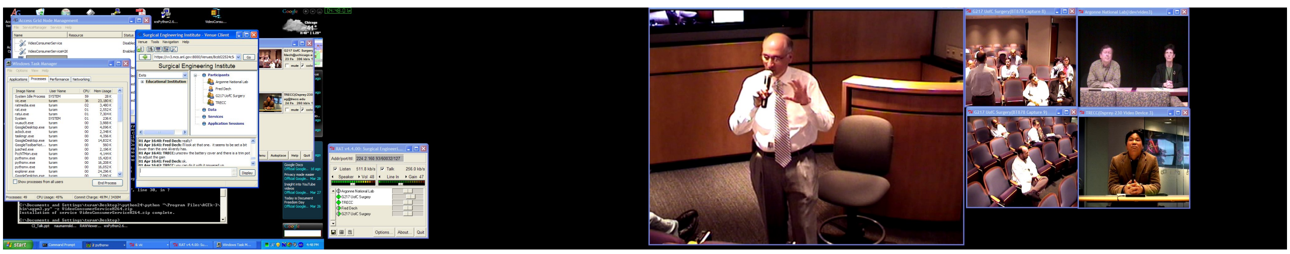
26 juin		
9h30-11h00	**Thomas D. Uram** Argonne	Présentation de la technologie AccessGrid - fondements d'AccessGrid ; - l'outil AccessGrid.
11h00-11h30	*Pause café*	
11h30-11h45	**Jason Bell** Central Queensland Univ.	**Intervention depuis l'Australie** The Global Quality Assurance Program for AccessGrid
11h45-12h30	**Thomas D. Uram** Argonne	Intégrer de nouveaux services dans AccesGrid
12h30-14h00	*Repas* (salle «aquarium»)	
14h00-14h45	**Georges Dumont** IRISA	Le Projet Part@ge
14h45-15h30	**Don Foresta** MARCEL	Le réseau MARCEL
15h30-16h00	*Pause*	
16h00-16h45	**Christian Collette** Orange Labs	La suite collaborative "Multimedia Conference" proposée par Orange Business Services
16h45-17h30 (annulée)	**Yvon Gardan, Frédéric Danesi** MICADO/DINCCS	Espaces collaboratifs : utilisation asynchrone et synchrone et illustration sur des projets collaboratifs avec des PME.







27 juin		
9h00-9h30	*Accueil-café*	
9h30-9h45	**Christoph Willing** University of Queensland	**Intervention depuis l'Australie** AccessGrid for the OptIPortal
9h45-10h30	**Isabelle Demeure** ENST	Projet Transhumance
10h30-11h00	**Christophe Mouton** EDF R&D	Portail de visualisation scientifique parallèle distante. Projet Carriocas
11h00-11h30	*Pause café*	
11h30-11h45	**JongWon Kim** Gwangju Institute of Science and Technology	**Intervention depuis la Corée** AccessGrid Smart Meeting Space
11h45-12h30	**François Codelfy** FT R&D	Projet Digitable
12h30-14h00	*Repas* (salle «aquarium»)	
14h00-14h30	**Franck Monin** DCI/NAVFCO Défense Conseil International branche Navfco	Naval Education Training System, problématique et solution
14h30-15h15	**Vincent Puig** IRI Centre Georges Pompidou	Lignes de temps
15h15-15h45	**Jean-Michel Batto** INRA Jouy-en Josas	AccessGrid en situation réelle guide de survie pour les non-informaticiens
15h45-16h30		Questions-Table ronde avec les intervenants



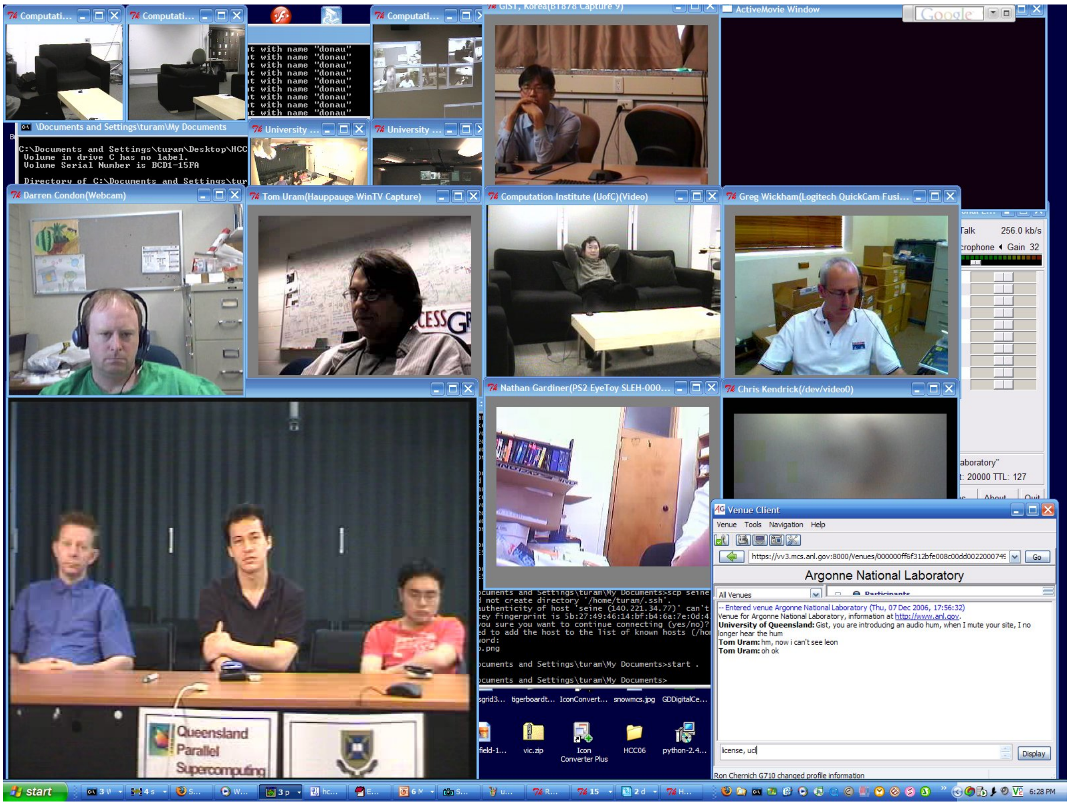
Chapitre 2

Présentations

2.1 Présentation de la technologie AccessGrid®

Thomas D. Uram (Futures Laboratory, Mathematics and Computer Science Division, Argonne National Laboratory, USA)

The Access Grid® is an ensemble of resources including multimedia large-format displays, presentation and interactive environments, and interfaces to Grid middleware and to visualization environments. These resources are used to support group-to-group interactions across the Grid.
`http://www.accessgrid.org`



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U.S. Department of Energy

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Office of Science

A U.S. Department of Energy laboratory managed by UChicago Argonne, LLC

Access Grid Collaboration Toolkit

ACCESS GRID®

Workshop on Collaborative Tools and Work Environment

Ecole Polytechnique

June 2008

Thomas D. Uram

turam@mcs.anl.gov

Goals

- Model remote collocation
  - Provide immersive conferencing environment
  - Give users a sense of presence with remote participants
  - Reduce the impact of the conferencing environment
- Support collaborative work
  - Minimize changes to the user's familiar working environment
  - Support cooperative use of domain-specific applications
  - Enable integration of alternate media
  - Allow integration of domain-specific devices
- Scalable solution
  - Support collaboration between groups of participants at each site
  - Support participation from a laptop or desktop
- Secure
  - Support confidentiality of collaboration content
  - Restrict access to select participants

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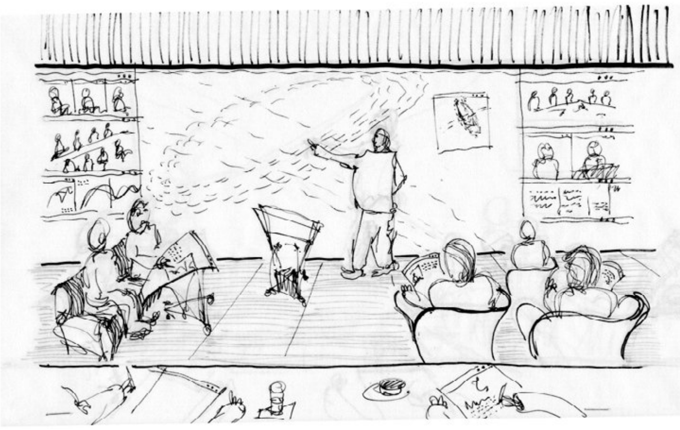
Goals in Sketch



Solution

- Rich media environment
  - Multiple cameras capture all participants at a site
  - Large, projected video displays of remote participants at a comfortable size
  - Hands-free, quality audio supports a natural speaking interaction
  - Instant messaging for sharing of text-based content (meeting details, web addresses, scientific data)
- Persistent, virtual meeting space
  - Users interact in virtual conference rooms, or *venues*
  - Data and application state reside in venues and persist between meetings
  - Venues can be dedicated to a particular collaboration or meeting series

- Secure
  - Optionally require identification with X.509 certificates
  - Venue access controlled by administrator
  - Private audio and video channels
- Extensible
  - Software designed to provide reusable components (collaboration middleware)
  - Services-based model allows pluggability

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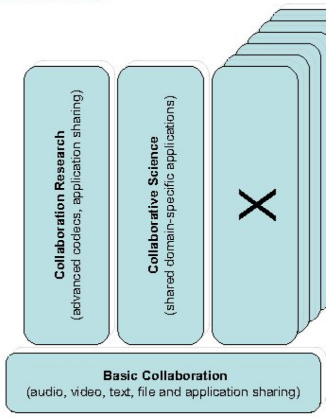
Solution in Reality

Conceptual Architecture of the Access Grid

- Basic Collaboration Platform
  - Provides essential components for collaboration
  - Provides foundation for investigating more interesting collaborative interactions
- Collaborative Science
  - Scientific tools augmented for shared use
- Collaboration Research
  - Environment for trials in varying media codecs
  - Data and application sharing at a distance
- Other work that relies on collaborative infrastructure (distance learning, archaeology, chemistry, medicine,…)



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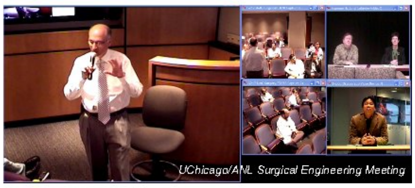
Virtual Venues

- Employs a spatial metaphor
  - Remote sites enter a virtual meeting room, or *Virtual Venue*
  - One "enters" a Venue as one would enter a physical room
- Enter the Room, see and hear the other people in the room, and the contents of the room
  - Participants
  - Data
  - Services
  - Applications



- Venues are interconnected in meaningful ways
  - Imagine a Physics Venue linked to Venues for HEP, Astrophysics, …

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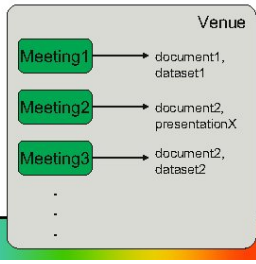
Venue Persistence

- Venues can be purpose built, meaning they're a resource dedicated to a particular collaboration
  - Argonnne hosts institution-specific Venues on its VenueServer
  - Get a Venue for your institution by mailing ag-info@mcs.anl.gov
- Groups meet in their Venue, share/present/develop their data through the Venue
- Build up a shared historical reference for the activities of the group
- Dynamically publish documents to other group resources



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Hardware

- Desktop Installation
  - Webcam
  - Microphone headset or USB echo-cancelling microphone

Desktop installation

- Room Installation (now often just 2 PCs, but)
  - PC driving projectors, sending and receiving audio
  - PC capturing and sending video
  - Microphones
  - Cameras
  - Projectors
  - Echo cancellation hardware

Room installation

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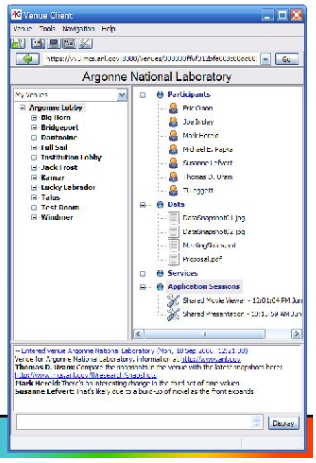
Software

- Venue Server
  - Provides persistent, virtual meeting rooms
  - Users share audio and video with other users in the room
  - Venues provide shared data storage, shared application sessions, network service references, and text chat
- Venue Client
  - View of venue contents
    - Participants, Data, Services, Applications
  - Control of audio and video
    - Across multiple machines
  - Scalable from laptop to conference room
  - Initiate file transfers to/from venue storage
  - Join shared application sessions
    - Shared Presentation
    - Shared Web Browser
  - Integrated instant messaging



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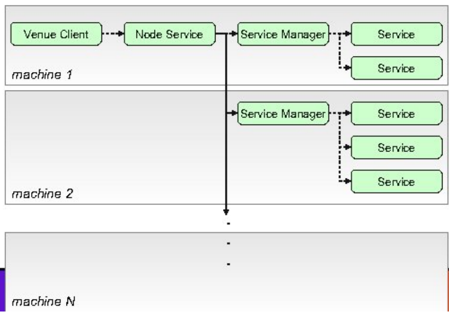
Venue Client Architecture

- Venue Client integrates with client-side infrastructure to support multiple machines
- Multiple machines are needed for sending/receiving audio and video, while scaling up to large numbers of participants and CPU-intensive codecs
- NodeService aggregates ServiceManagers from local machines, using them to start services remotely, usually for audio and video



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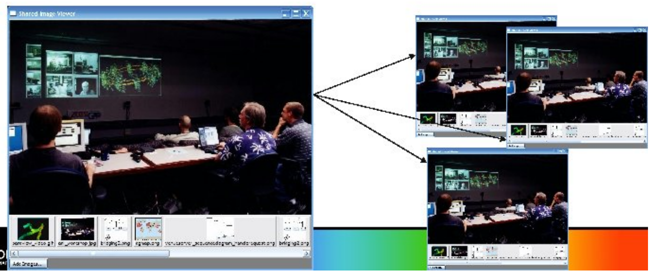
Shared Applications

- User interacts with application in the usual manner
- Application state (files, application settings) is shared with remote collaborators
- Interactions (changes to application state) are distributed to remote collaborators
- All participants have a coherent view of the application



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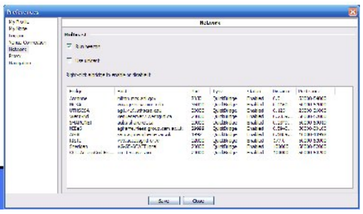
Integrated Bridging Support

- Multicast, used for audio and video exchange, remains a challenge for new and established sites
- New bridging support aimed at providing reliable, ubiquitous multicast repair
- Bridges join a dynamic network of bridges
- Clients query the network of bridges and access them according to network proximity and user preferences
- Venue Client displays bridge host and port information to aid in configuration of firewall



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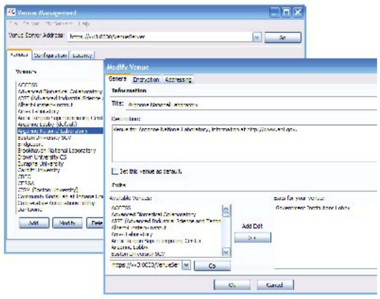
Venue Server and Venue Management

- Venue Server included in every installation
- Venue Management client simplifies control of Venue Server
  - Configure Server
    - *Add, Modify, Delete Venues*
    - *Media addressing range*
    - *Encryption defaults*
    - *Authorization*
  - Configure Venues
    - *Static or dynamic media addressing*
    - *Encryption keys*
    - *Topology*
    - *Authorization*



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Technology Overview

- Remote Calls: SOAP/WSDL
  - ZSI (Zolera SOAP Infrastructure)
    - *Under active development*
    - *Stressing interoperability with other SOAP implementations by adhering to standards (e.g. BP 1.0)*
    - *Provides WSDL for Access Grid services, simplifying development of client software for other languages (has been done for PHP, Java, C/gSOAP)*
- Data Transfer: FTP
  - Pure Python implementation
- Text Messaging: Jabber/XMPP
  - Bajjer from LBNL
- Data Serialization: XML
  - Easy interoperability target for cross-language development
- Scheduling: RSS
  - "Meeting schedules" published as RSS feeds
  - Also viewable in third-party RSS readers
- Security: SSL
  - M2Crypto/OpenSSL

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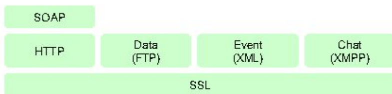
Secure

- Integrated PKI support
- X.509 Certificate Management software included
- Certificate-based access control
- Private control and data
  - SOAP calls over SSL
  - FTP control and data over SSL
  - Jabber over SSL
  - Application event distribution over SSL
- Audio/video encrypted with AES



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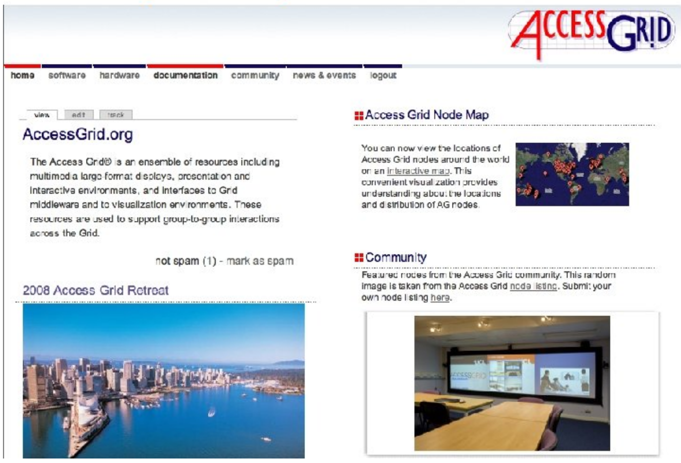
Community-driven Project Portal



Worldwide Use of Access Grid

- Registered Nodes: 235 nodes, 25 countries
  - Include your node in the listings (www.accessgrid.org/nodes)
  - Include a picture to appear on the front page of AccessGrid.org
- AccessGrid.org
  - Community portal including hardware reference, etc.
  - Content developed by community; please contribute.

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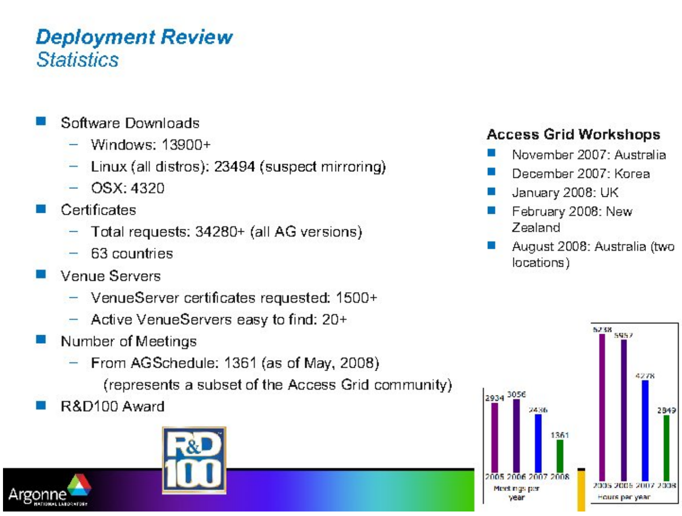
Deployment Review
Statistics
Software Downloads
– Windows: 13900+
– Linux (all distros): 23494 (suspect mirroring)
– OSX: 4320
Certificates
– Total requests: 34280+ (all AG versions)
– 63 countries
Venue Servers
– VenueServer certificates requested: 1500+
– Active VenueServers easy to find: 20+
Number of Meetings
– From AGSchedule: 1361 (as of May, 2008)
(represents a subset of the Access Grid community)
R&D100 Award
Access Grid Workshops
November 2007: Australia
December 2007: Korea
January 2008: UK
February 2008: New Zealand
August 2008: Australia (two locations)
Meetings per year
Hours per year
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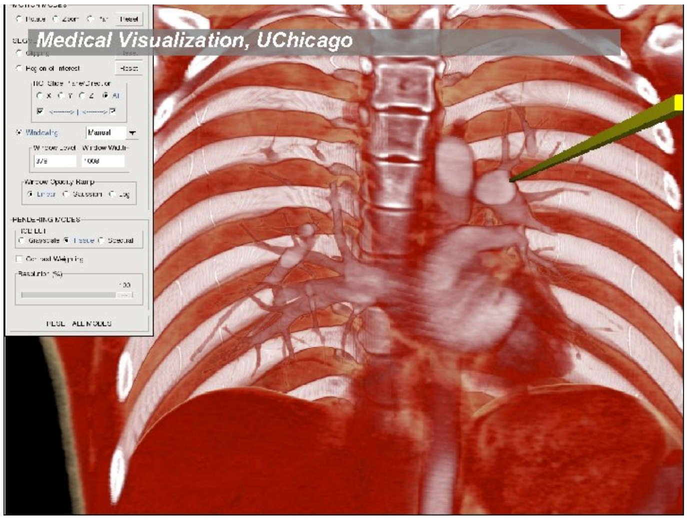
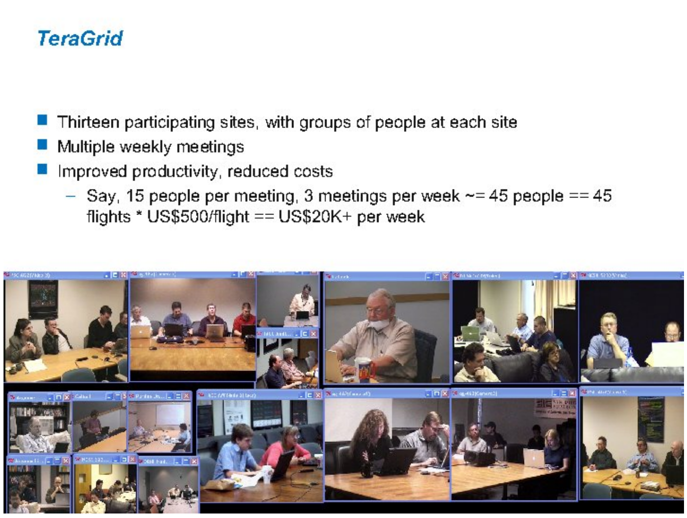
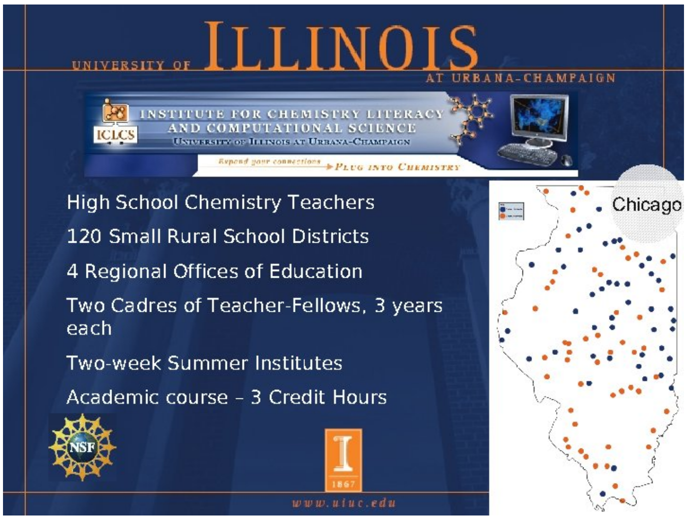
Use Examples
Medical Visualization
Shared GIS
Fusion Collaboratory
Remote Surgical Instruction
TeraGrid


Fusion Collaboratory


Medical Visualization, UChicago


Remote Surgical Instruction
EWHA MEDICAL CENTER


TeraGrid
Thirteen participating sites, with groups of people at each site
Multiple weekly meetings
Improved productivity, reduced costs
– Say, 15 people per meeting, 3 meetings per week ~= 45 people == 45 flights * US$500/flight == US$20K+ per week



The Access Grid Toolkit

- Service-oriented development toolkit
  - AG applications (Venue, Shared Application, Service Manager, etc.) expose a remote call interface
  - Toolkit includes classes for developing clients to call AG applications
  - Example Python code to list clients in a Venue:

```
import sys
from AccessGrid.interfaces.Venue_client import VenueIW
venue = VenueIW(sys.argv[1])
clients = venue.GetState().clients
for c in clients:
    print c.name
```

- Shared Applications
  - Used to build collaborative applications, or to make existing applications collaborative
  - Includes Venue-resident Shared Application component
  - Includes Shared Application client class
    - *Access to Venue data storage (late joiner support)*
    - *Shared Application state*
    - *Integrated Event Client for distributing application events*
- Node Services
  - Used for integrating alternate client-side applications (for example, new video or audio tools)
  - Services are executed and controlled via a well-defined interface
  - Service-based plug-in model

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Community Development

- Quality Assurance Program, ARCS (Jason Bell will discuss today)
- Portal Access Grid, University of Manchester, JSR168-compliant VenueClient portlet
- VPCScreen, Australian National University, Arbitrary resolution screen streaming
- AGVCR, Indiana University, Recording and playback of audio and video of an Access Grid meeting
- TigerboardAG, Louisiana State University, Shared whiteboard software that supports shared viewing and markup of images and documents, and integrates with "smart" whiteboards; targeted at medical community
- Chromium Integration, Argonne National Laboratory, Integration of control and display of visualizations back-ended by a cluster
- Access Grid-to-Go, Electronic Visualization Laboratory, UIC, Access Grid conferencing with handhelds
- AGSchedule, NCSA, Web-based scheduling of Access Grid meetings
- UltraGrid, Gharai/Perkins, Uncompressed HD video transmission (1-1.5Gbps)
- AGJuggler, Purdue University, Integration of virtual reality software with the Access Grid
- Positional audio support, Boston University, Spatialization of audio based on video window position on screen
- Video Presence, ANU (Australia), Next-generation video display application
- RCbridge media transport, ANU, Unicast audio/video transport with support for video stream selection
- AGDeviceControl, ANU, Network control of arbitrary devices
- Media Lecture Board, UQueensland (Australia), Integration of shared whiteboard application
- SharedDesktop, WestGrid (Canada), Simple, interactive sharing of desktop in Access Grid meetings
- SharedVizServer, WestGrid, Integration of high-end visualization servers with the Access Grid
- Venue Customizer, WestGrid/Simon Fraser Univ., Simplified user control of audio/video bandwidth and quality
- AGConnector, KISTI/GIST (Korea), Unicast audio/video transport
- HD/DV Video, KISTI/GIST, Integration of HD and DV video tools, targeted at surgical teaching environments
- MPEG4/h264 Video, NCHC (Taiwan),Support for high quality video codecs to improve immersiveness
- Multicast Application Sharing Tool, Reading University (UK),Streams portion of screen to remote users
- Hierarchical data storage support, HPC Europa (EU project)

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Community Development: DV support

- Extend current video tool with DV and HD support
- Many uses for higher quality video (medical instruction, emergency situations, visualization)
- www.vislab.uq.edu.au/research/accessgrid/software/advideo

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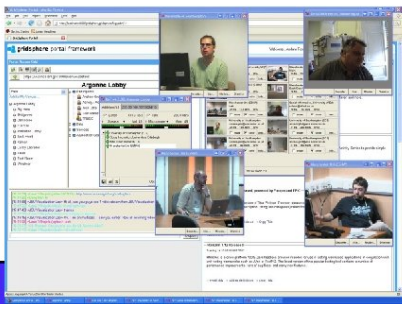
Community Development: Portal Access Grid

- JSR168-compliant VenueClient
- Uses Java WebStart to deliver tools (and updates to tools)
- Third-party VenueClient!
- www.rcs.manchester.ac.uk/research/PAG



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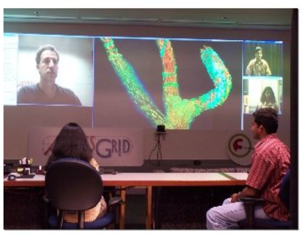
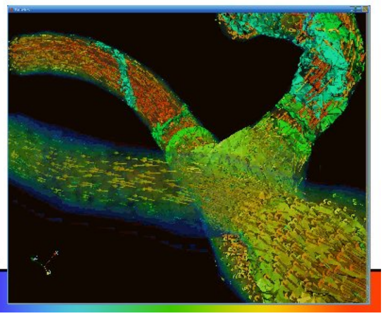
Collaborative Visualization

- ParaView user runs the application in typical fashion
- Remote clients receive video stream of ParaView render area
- Video stream can be displayed with Access Grid 3.1
- Uses AG bridging support





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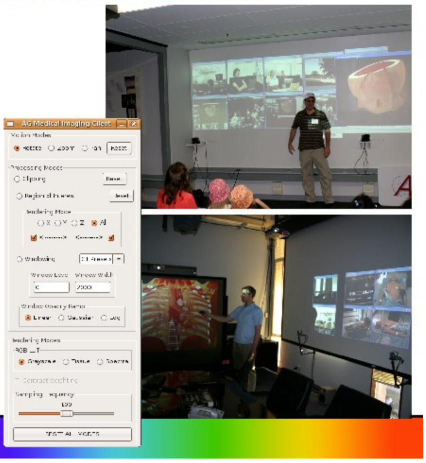
Collaborative Cluster-based Volume Visualization

NIH-funded effort focused on developing a technical framework based on the Access Grid, to be used to overcome the inefficiencies and dangers associated with the place-dynamic collaborative workplace that biomedicine has become.

- Fully integrated application
  - *Shared user interface*
  - *Single remote backend*
- Each cluster node renders and streams a portion of the visualization
- Custom client assembles streams into a unified view
- Interactions with client control further rendering on cluster



Development Potential

- Improve user experience
  - Users must interact with many hard and soft interfaces (e.g., hardware: computers, projectors, cameras; software: VenueClient, vic, rat)
    - *Could be significantly simplified*
- Exploit potential for building collaborative applications
  - Toolkit includes primitives for building collaborative applications (keyword/value data storage, event distribution service, centralized file storage)
  - Integration with user working environment
  - Area has been insufficiently explored
- Reliable media exchange
  - Intelligently adapt to changes in network, with minimal disruption to user
    - *Specific problems include Multicast islands, unidirectional multicast*
  - Assisted firewall traversal
  - NAT configuration (UPnP, NAT-PMP)

Development Potential

- Expand quality/bandwidth choices while preserving scalability
  - Integrate existing high definition and digital video tools
    - iHDTV, UltraGrid, 4K, others
  - Improve robustness of higher quality audio transmission in RAT
    - Facilitates use of Access Grid for remote music instruction
  - Build network-resident transforms to connect users with varying media configurations
    - Use a distributed services model, similar to AG bridging
    - Format transcoding; bandwidth limiting; source mixing; etc.
- Alternative infrastructure
  - VenueServer as Apache module
  - Platform-native Venue Clients (C#/Windows, Cocoa/OSX)
  - Kiosk front-end for deployment to public spaces
- Web Integration
  - As more people store more information on the web, integration of these facilities into the AG becomes more useful
    - *Query state from AG Venues for presentation to web*
    - *Web-based Access Grid client, using commodity embedded media players and formats*
    - *Web-based front-ends to AG Venue Server to facilitate data/interaction exchange*
    - *Extend web server currently embedded in AG Venue Server*

Suggested Future Direction: Science + Instruments

Suggested Future Direction: Science + Compute

- Scientists increasingly rely on compute resources in their work
- Use compute resources in a collaborative manner, to peruse data or plan for future job submissions
- Venue can provide scope for compute and data resources available to the members of a collaboration
- Obvious target for interactive HPC, such as cluster-based visualization

Events

- AG Retreat
  - 2008 AG Retreat (May 28-30)
    - *Simon Fraser University, Vancouver, Canada*
    - *Presentations available online*
  - Past Retreats also available online
- Monthly Townhall Meetings
  - First Tuesday of each month, 10am central
  - Subsequent Thursday of each month, 6pm central
- Weekly Test Meetings
  - US: Every Thursday, 10am central
  - Australia: Every Monday, 11am

Project Overview
Key differentiators

- **Collaboration, not just videoconferencing**
  - The Access Grid provides a collaborative environment, where participants can do more than just see and talk with each other; participants have much richer interactions using the Access Grid, such as seamlessly sharing files, text chat, and applications.
- **Scalable**
  - The Access Grid software can be used with multiple computers to equip room-based installations as shown in the images above. It works equally well on a single computer with a microphone headset and webcam, significantly lowering the barrier to entry.
- **Commodity Hardware Based**
  - While commercial conferencing solutions typically require expensive, proprietary hardware, the Access Grid **runs on commodity hardware**, often already available within organizations, and widely available with competitive pricing.
- **Secure**
  - All control and data channels in the Access Grid are secured using OpenSSL, a recognized industry standard for secure network connectivity. Media channels can also be optionally encrypted using modern cryptographic standards.
- **Web Services Enabled**
  - Web services are the core communications mechanism between components of the Access Grid software. The use of Web services allows interoperability with other standards-compliant Web services implementations for the development of new functionality by third parties. The Access Grid is one of the first large, wide-area applications to use Web services.
- **Open Source**
  - The Access Grid is an **open source solution** that enables organizations to customize the software to their environment, as many have done

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Why I think it's interesting

- Free audio/video conferencing for individuals and *groups*
  - Versus 100K+ purchase and 10K+ maintenance costs for less functionality
- Commodity hardware
  - Use your existing desktop/laptop computers
- Flattens the research playing field for small institutions
  - Scientific collaboration
    - *Single researchers from rural institutions can join groups of collaborators at big-city institutions*
    - *Facilitates development of custom, domain-specific collaborative applications*
  - Computer science research
    - *One individual with, say, expertise in streaming media can move a whole community forward*
- Platform for collaboration research
  - Enable scientific collaboration while furthering research in Internet collaboration
  - Extensible

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Acknowledgements

- Access Grid Team at Argonne National Laboratory and The University of Chicago
- Department of Energy
- National Science Foundation
- Microsoft Research
- FusionGrid

- The Access Grid community

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... for a brighter future

Building Collaborative Applications with the Access Grid

ACCESS GRID®

Workshop on Collaborative Tools and Work Environment
Ecole Polytechnique
Paris
June 2008

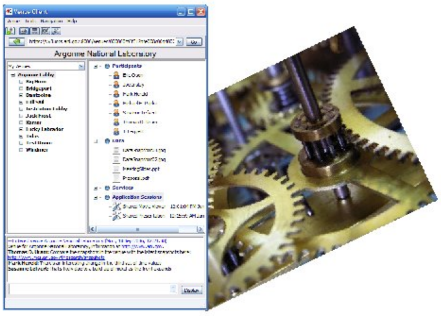
Thomas D. Uram
turam@mcs.anl.gov

U.S. Department of Energy
UChicago Argonne LLC
Office of Science

A U.S. Department of Energy laboratory managed by UChicago Argonne, LLC

The Toolkit Inside

- Access Grid is user software *and* a toolkit for building collaborative applications

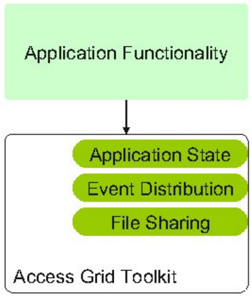


Typical Collaborative Application development

- In addition to building the core application, collaborative applications must also consider several other factors
  - Shared application state
  - Application state changes (event distribution)
  - Shared file storage
  - Real-time (or near real-time) interaction
- Building these components into every application is burdensome, and has limited applicability

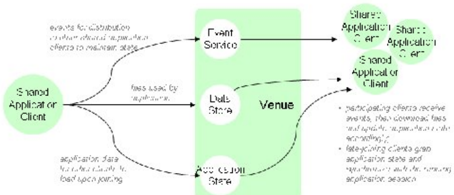
Value of Access Grid as collaborative middleware

- Provides several components key to building collaborative applications
  - Shared Application State
    - *Keyword-value based*
  - Event Distribution Service
    - *Opaque payloads*
    - *Emphasizes performance*
  - Shared File Storage
- Cross-platform
- Open source, open license
- Built on standard Internet technologies
  - SOAP/WSDL
  - SSL
  - FTPS
  - Jabber/XMPP
  - XML
- Interoperable
  - Clients written in Java, PHP, C (gSOAP)



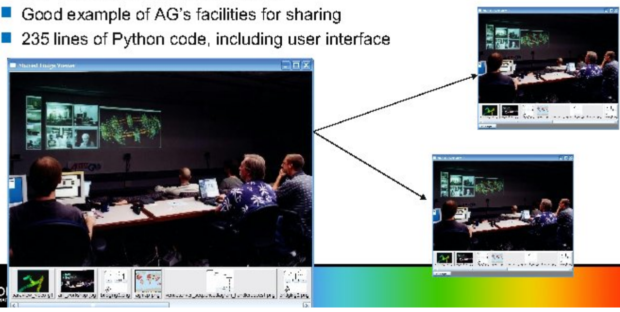
Shared Applications

- Used to build collaborative applications, or to make existing applications collaborative
- Includes Venue-resident Shared Application component
- Includes Shared Application client class
  - Access to Venue file storage
  - Shared Application state (late joiner support)
  - Integrated Event Client for distributing application events



Shared Image Viewer

- Coordinated image library exploration
- Transparently upload images when browsed
- Distributed control lets one person drive all others
- Applicable way beyond just images
- Good example of AG's facilities for sharing
- 235 lines of Python code, including user interface



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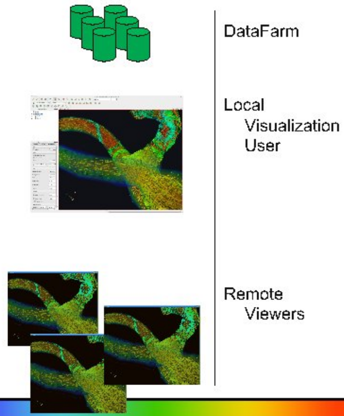
Shared Image Viewer
Some code review

```
# Register event callback with shared app client
self.sharedAppClient.RegisterEventCallback(self.LOAD_IMAGE,
   self.HandleLoadImageEvent)
.
.
.
#
# Event Channel callbacks
#
def HandleLoadImageEvent(self, event):
    filename = None
    if event.senderId != self.publicId:
        filename = event.GetData()
        self.DownloadAndOpenImage(filename)
```

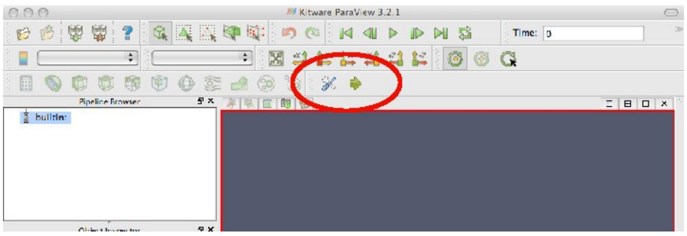
Collaborative Visualization with ParaView

- ParaView is a widely used, open source visualization application
  - Cluster-based rendering
  - Remote data server
- As visualization workflows often involve visualization experts and domain science experts, there's a strong use case for shared visualization
- As data sets increase in size, simplified views of data over limited network links are needed



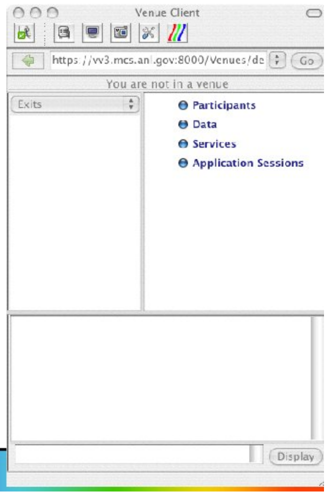
ParaView Streaming Plugin

- Plugin adds ability to stream ParaView render area at native resolution as video
  - Uses modified h.261 codec for arbitrarily sized video streams
  - Built on VPMedia library
- Brings ParaView streaming to users of stock ParaView executables
- ParaView loads plugin at startup, adding toolbar buttons for control
- Available for ParaView 3.2, all platforms



Venue Client Plugin

- AG Plugin launches ParaView, loads ParaView Streaming Plugin, and begins streaming ParaView to the current AG Venue
- Adds button to VenueClient toolbar
- Like normal video streams, can rely on AG integrated bridging facilities to overcome multicast challenges



- User joins Access Grid meeting
- Launches AGParaView plugin
- Plugin retrieves AG video address from Venue and launches ParaView, streaming rendered frames to the video destination address
- Remote collaborators see and discuss video of rendered frames

Calling Access Grid SOAP Services

- The Access Grid is built on web services, so most components are callable (VenueServer, Venue, VenueClient, NodeService, ServiceManager, Services)
- Example Python code to list clients in a Venue:

```
import sys
from AccessGrid.interfaces.Venue_client import VenueIW
venue = VenueIW(sys.argv[1])
clients = venue.GetState().clients
for c in clients:
    print c.name
```

- Published API available for web service components
  - www.accessgrid.org/files/developer/api/3.1

Node Services

- Node Services
  - Used for integrating alternate client-side applications (for example, new video or audio tools)
  - Services are executed and controlled via a well-defined interface
  - Service-based plug-in model
  - Have been used to add several new components to the AG
    - *HD/DV services*
    - *Captioning services*
    - *Screen streaming*

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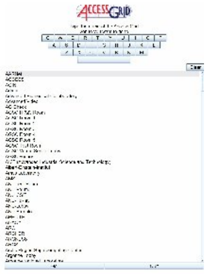
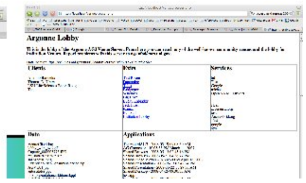
Hacking the core code



- Alternate Venue Clients
  - Venue Kiosk for public environments
  - Immersive Venue Clients
- Web Integration
  - Access AG Venues from the browser
  - Pull content from AG Venues
  - Lightweight interface for non-AG users or handhelds
- Using AG components in C/C++ code
- Using the AG Event Service standalone



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Support for developers

- Access Grid website
  - www.accessgrid.org
- Developer documentation (being built)
  - www.accessgrid.org/developer
- API documentation
  - www.accessgrid.org/files/developer/api/3.1
- Subversion
  - SVN repository
    www.ci.uchicago.edu/svn/accessgrid
  - TRAC repository browser
    www.ci.uchicago.edu/trac/accessgrid/browser
- Developers invited to weekly test meetings, monthly townhall meetings

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Acknowledgements

- Access Grid Team at Argonne National Laboratory and The University of Chicago
- Department of Energy
- National Science Foundation
- Microsoft Research
- FusionGrid

- The Access Grid community

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2.2 The Global Quality Assurance Program for AccessGrid

Jason Bell (Central Queensland University)

, intervention depuis l'Australie

With the Access Grid community growing and the Open Source software being deployed on a number of disparate systems, there is a global demand to employ a process to ensure that Access Grid sessions are of a high quality.

arcs
Australian Research Collaboration Service

The Global Quality Assurance Program

Jason Bell
jason.bell@arcs.org.au

Personal Information

- Collaboration Services – Australian Research Collaboration Service (ARCS)
- Research Systems Support Officer – Central Queensland University (Australia)
- Been using and building Access Grids for over 6 years
(started back in the old days where you fire up "vic" and "rat" manually)

Access Grid Flexibility

- An Access Grid Node can be implemented:
  - Room based configuration - multiple cameras, projectors, microphones
  - Portable configuration – laptop, USB Camera
  - Or something in-between
- An Access Grid can utilise different:
  - Computer hardware
  - Computing platforms
  - Audio visual equipment
- Access Grids have no real design limitation

No Set Standards

- Access Grid technology can be deployed on multiple platforms utilizing a multitude of commodity hardware and is practically unlimited in design.
- This flexibility means that there is no default standard or setup configuration to ensure a quality level is provided, particularly when connecting disparate equipment and operating systems.

Standards

- There's a real need to provide some standards/metrics so that users get a more consistent, high quality AG experience
- Knowing what is considered high quality is important!
- Knowing sites measure up to these standards is also essential
- This is why the Quality Assurance Program is so Critical!

Quality Assurance Process History

- Initially used the UK Access Grid Support Centre (AGSC) as the design foundation
- Initially developed as a QA process for Australian AG nodes, but interest caused me to make it more a global process
- Been developed and implemented for over two years, though success has been limited in number of nodes Quality Assured
  - Currently, there are 21 AG nodes Quality Assured!

Global Quality Assurance Program Overview

- The Quality Assurance process for Access Grids, which is globally applicable to all Access Grids and inSORS/IOCOM nodes, includes the following items:
  - Quality Assurance Test Protocol
    - Criteria for assessing quality, includes:
      - Audio Quality (echo, speech levels and general quality)
      - Video Quality (picture quality and camera positioning)
      - Networking (Multicast Beacon, NTP)
      - Shared Software and Applications (Shared Presentation, VenueVNC, Shared Desktop and others)
  - Database for recording Quality Assurance Results which is integrated into the Global Node Listing
  - Documentation
    - Ways to self assess and improve AG node

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QA Particulars

- Not based on any hardware
  - For example, it doesn't matter what type of microphones you use, as long as the audio sounds good
- Not based on any platform
  - It's important that you can join an AG session and use various shared applications.

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Regional Specifics

- Different Nations and Regions have different requirements (wants and needs)
- All require good Audio, Video and Network
- Shared Apps are generally regional specific. For example:
  - Australia: Shared Presentation & VenueVNC-Client
  - Canada: Shared Desktop
  - UK: IGpix
  - Germany: Shared Desktop & Shared PDF
  - Louisiana (State): TigerBoard
  - France: ????

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Advantages in involvement

- Increases the chance for future clients and networking opportunities
- Encouraging previously disgruntled clients back to using the technology
  - Not just AG clients, but Video Conferencing Clients in general
- Endorse cost saving measures, through the utilisation of a high quality communication tool.
  - Reduce Travel;
  - Reduce wasted time through failed or poor sessions;

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Risks for not being involved

- Resources wasted through underutilisation
- Left out of AG sessions due to having a poor AG node
- Unable to attract users, thereby reducing potential income or cost savings

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Don't be kept in the Dark!

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Why is it important?

- **Building an AG, and having it work, is only half the job completed. It is becoming ever so critical that the Access Grid works to a consistently high standard.**
  - People are happy to fund research projects, but not general running costs.
  - People will spend money on better computer hardware, but who generally considers funding better lighting?
- **Access Grid nodes are no longer simply research "toys", as many are becoming production nodes.**
- **People are looking towards using quality technology to reduce their Carbon footprint.**
- **Some people are looking at other Video Conferencing Technologies, due to experience with poor AG sessions.**
  - Interestingly, many of the other VC programs, are experiencing similar issues as many problems can be related to hardware and not the software.

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Outcomes for the QA Process

- **The aim is to improve the general quality of the Access Grids. This in turn will hopefully:**
  - Improve the reliability of AG sessions
  - Improve overall AG experience (good video, audio)
  - Provide an indication of high quality AGs
  - Provide feedback to poor AG's where improvement is required (it's not about failing bad AG nodes)
- **Promote confidence when connecting to a new access grid node – if it has been Quality Assured, you know it should work and work well**

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Supporting Documentation

- **Global QA Program Information**
  http://www.accessgrid.org/qa-improve
- **Improving your AG in Preparation for a QA Test**
  http://www.accessgrid.org/qa-improve
- **QA Test Protocol**
  http://www.accessgrid.org/qa-protocol
- **Quality Assured Access Grids**
  http://www.accessgrid.org/nodes
- **QA Marking Template**
  http://www.accessgrid.org/qa-marking
- **QA Regional Contact List**
  http://www.accessgrid.org/qatesters

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Service Orientated Funding

- **Much more difficult to convince those who sponsor AG funding, to fund support rather than hardware!**
- **How much has the Access Grid saved in Travel Cost, or increase value and exposure to your researchers and colleagues?**
  - If you don't have an high quality AG node, how much are you missing out on?
- **Funding often relies on outcomes - having a node quality assured could be one such positive outcome.**

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Call for QA Tester

- **I would like to call for volunteers for Access Grid Quality Assurance testers for the region of France.**
- **If you would be interested in becoming a QA tester for your region, please let me know.**

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Acknowledgements

- **Global Quality Assurance Process**
  - University of Manchester (Access Grid Support Centre)
  - Thomas Uram (and the Access Grid team)
  - Douglas Kosovic and Chris Willing (UQ)
  - Darran Edmundson (ex ANU) and Rhys Hawkins (ANU)
  - Carlos Isaza (CQU)
- **And**

Australian Research Collaboration Service

Australian Government Department of Innovation Industry, Science and Research

An Australian Government Initiative National Collaborative Research Infrastructure Strategy

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Thankyou
Feel free to contact me via email at jason.bell@arcs.org.au or visit http://ag.cqu.edu.au/
Generally connected to the APAG Lobby (Jastest)
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2.3 Le Projet Part@ge

Georges Dumont (IRISA)

Le travail collaboratif revêt aujourd'hui une très grande diversité de réalités qui se concrétisent par des outils et applications dans certains domaines matures (édition textuelle) et des études et analyse dans des domaines plus prospectifs (conception 3D coopérative). La plate-forme Part@ge se propose de traiter le travail collaboratif sous l'angle de l'homme en interaction collaborative avec un environnement 3D.

Le coeur de la problématique que se propose d'étudier Part@ge, sur le thème de l'interaction collaborative en réalité virtuelle, se décline essentiellement en une analyse originale multicritère de ce sujet :

Les fonctions de la collaboration en environnement 3D : la réalité virtuelle, et l'interaction collaborative en particulier, participent au fait de proposer à des utilisateurs terminaux un ensemble d'outils autorisant la médiation de l'ordinateur et des environnements 3D dans l'optimisation des fonctions complexes qu'exploite l'industrie. Cette approche concerne tous les stades de la réalisation (voire du démantèlement ou du recyclage) d'un objet industriel, le besoin de communication et de partage de l'information 3D dans notre contexte (i.e. axé sur la maquette numérique). Que ce soit au moment de la conception (dans le bureau d'étude) jusqu'à la formation à la maintenance, la capacité à interagir à plusieurs sur un même objet, aussi bien en local qu'en distant représente un enjeu de plus en plus important.

Les infrastructures favorisant la collaboration : sur le thème de l'interaction 3D, les platesformes matérielles d'exécution sont extrêmement variées tant du point de vue des performances intrinsèques que sur le plan des usages. Ce projet s'intéressera à tous types de plates-formes du visiocube au PDA.

Les outils de diffusions du travail collaboratif 3D : afin de maximiser la diffusion des résultats issus de Part@ge et donc la visibilité du projet, plusieurs types de plates-formes logicielles sont visées (opensource, outil propriétaire, produit industriel).

Les problèmes scientifiques et techniques : le coeur de la plate-forme Part@ge est constitué de travaux dont la vocation est de lever des verrous scientifiques et techniques concernant l'interaction collaborative (cf. décomposition en sous-projets et lots).

Les quatre axes précédents créent une combinatoire très importante qu'il n'est pas possible d'aborder complètement dans le cadre de ce projet. Il est néanmoins dans les objectifs de Part@ge de définir les grandes lignes permettant d'englober cet espace de critères dans son ensemble. À ce titre, les sous-projets et les lots de Part@ge ont pour vocation de traiter transversalement ces grandes catégories de critères. De plus, l'analyse telle qu'elle sera produite par le croisement entre les besoins applicatifs des utilisateurs terminaux et les solutions technologiques innovantes issues des sous-projets devra conduire à proposer une typologie des contenus collaboratifs apportant une avance concurrentielle certaine pour les partenaires du projet.

La plate-forme Part@ge est elle-même multiforme et fondée sur plusieurs niveaux de complémentarité des différents partenaires : de l'équipement, des outils logiciels et du savoir-faire.

Part@ge

Projet Part@ge : Sh@re project
Interactive collaboration

images & réseaux

ANR

Part@ge-Sh@re - 2008/06/26

Outline of the presentation

- General presentation of the project
- Activities planning
- Part@ge's project organisation
- Some Results

Part@ge-Sh@re - 2008/06/26 2

General presentation of the project

Part@ge-Sh@re - 2008/06/26 3

Overview of Part@ge

- Context
  - RNTL Platform (National Research Agency)
  - Duration : 3 years (start : February 2007)
  - Main topic : Collaborative interaction
  - Virtual Reality : Context of Digital Mock-up
  - Global Budget : 6 M €
  - Grants : 2.7 M €
  - Partnership
    - ✓ Laboratories : INSA de Rennes, INRIA-Alcove, INRIA-I3D, CNRS-Labri, CNRS-LPM, Esiea
    - ✓ Technological Transfer Institutions: CEA-List, CLARTE
    - ✓ Companies : FT R&D, Renault, Thales,
    - ✓ SME : Haption, Virtools, Sogitec,
    - ✓ Open Users Group : EDF, SNCF, Barco,
- Integrated in the Competitiveness Cluster (Images and Networks)
  - Belong to the axe 7 dedicated to VR in Subtopic : Collaborative Systems
- The project is open to external partners (including foreign partners)

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Partnership

- Partners : 14

Partners from Industry	
FT R&D - Lannion	HAPTION - Laval
VIRTOOLS	SOGITEC
RENAULT	THALES

Partners for technology transfert	
CEA-LIST	CLARTE - Laval

Academic Partners	
INSA de Rennes	CNRS - Marseille
INRIA - Lille	CNRS - Bordeaux
INRIA - Grenoble	ESIEA - Laval

- An open Users group

Inergy - Laval	*SNCF*	*DCN - Lorient*
EDF - Clamart	*Barco*	*PCI/PSA - Le Rheu*

+ SCOS

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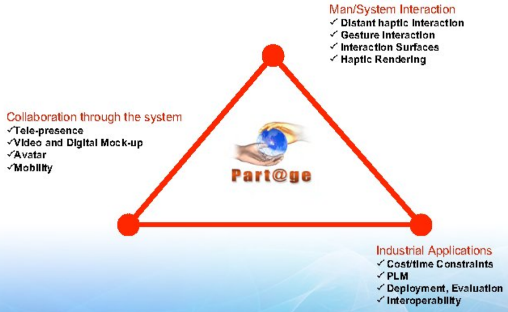
Part@ge topics



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Part@ge
Distributed Facilities
INRIA - Alcove
ESIA, CLARTE, HAPTION
FT R&D
CEA
Renault
Sogitec
Virtools
INSA
INRIA-I3D
CNRS-Labri
Méditerranée University
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Part@ge
Collaborative work
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8


Part@ge
Software Platforms
An industrial product: Virtools
http://www.virtools.com
VR Pack
Distribution/Collaboration features
A proprietary product: SPIN3D
3D Interface for collaborative work
Meeting room Metaphor
FT R&D, INRIA partnership
An Open Source tool: OpenMASK
http://www.openmask.org
Cooperative VR Platform
Simultaneous collaborative interactions
Presence and activity Metaphors
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Part@ge
Activities planning
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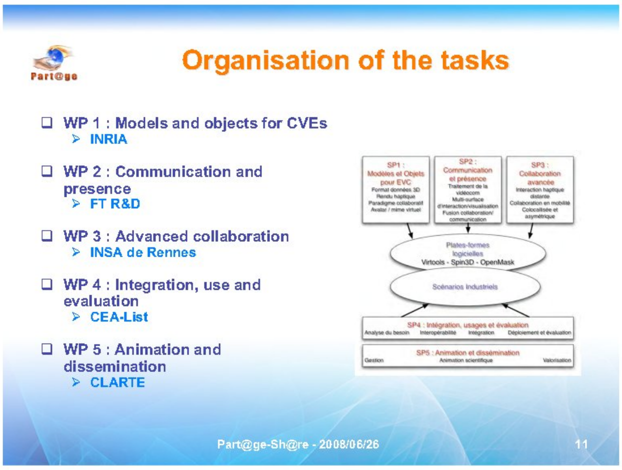
Part@ge
Organisation of the tasks
WP 1 : Models and objects for CVEs
INRIA
WP 2 : Communication and presence
FT R&D
WP 3 : Advanced collaboration
INSA de Rennes
WP 4 : Integration, use and evaluation
CEA-List
WP 5 : Animation and dissemination
CLARTE
Part@ge-Sh@re - 2008/06/26
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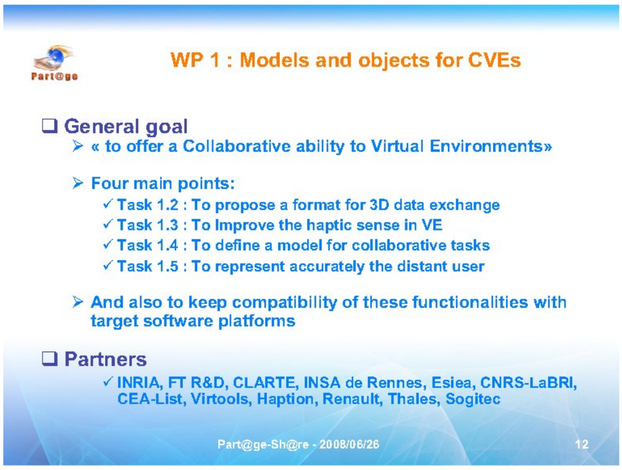
Part@ge
WP 1 : Models and objects for CVEs
General goal
« to offer a Collaborative ability to Virtual Environments»
Four main points:
Task 1.2 : To propose a format for 3D data exchange
Task 1.3 : To Improve the haptic sense in VE
Task 1.4 : To define a model for collaborative tasks
Task 1.5 : To represent accurately the distant user
And also to keep compatibility of these functionalities with target software platforms
Partners
INRIA, FT R&D, CLARTE, INSA de Rennes, Esiea, CNRS-LaBRI, CEA-List, Virtools, Haption, Renault, Thales, Sogitec
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WP 2 : Communication and presence

- General goal
  - « To offer a communication channel between people either in distant collaboration or in collocated collaboration»
- Study of the solutions favouring presence:
  - Task 2.2 : Video for communication
  - Task 2.3 : Interaction and visualisation on different display/interfaces
  - Task 2.4 : Merging of collaboration and communication channels
- Partners
  - FT R&D, INSA de Rennes, CLARTE, Esiea, INRIA, LaBRI, LPM, CEA-List, Virtools, Renault, Thales, Sogitec

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WP 3 : Advanced collaboration

- General goal
  - « To introduce new concepts for collaboration (exploratory context) »
- New technologies acting on collaboration :
  - Task 3.2 : Distant haptic interaction
  - Task 3.3 : Mobile collaboration
  - Task 3.4 : From local colocated collaboration to distant asymmetric collaboration
  - Task 3.5 : Multimodality for cooperation
- Partners
  - INSA de Rennes, FT R&D, CLARTE, Esiea, INRIA, LaBRI, LPM, CEA-List, Virtools, Haption, Renault, Thales, Sogitec

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WP 4 : Integration, use and evaluation

- General goal
  - To improve ergonomics during collaborative work with digital mock-ups (scenario Renault)
  - To use simultaneously an immersive RV system (haptic, 3D sound, physical simulation, motion capture) and a videoconference system able to render accurately the attitude of the distant people
- User centred approach (not technology centred)
  - Task 4.2 : Needs analysis (CEA/LIST)
  - Task 4.3 : Interoperability (INSA)
  - Task 4.4 : Integration (CEA-LIST)
  - Task 4.5 : Deployment and evaluation (CEA/LIST)
- Partners
  - INSA, CEA-LIST, Renault

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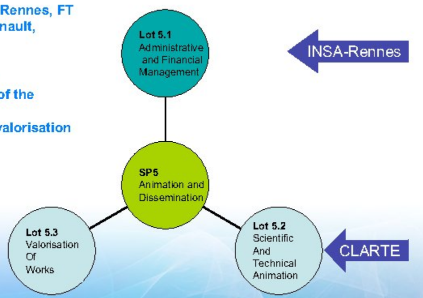
WP 5 : Animation and dissemination

- Partners
  - CLARTE, INSA-Rennes, FT R&D, INRIA, Renault, SOGITEC
- General goals
  - Animation task
  - Dissemination of the knowledge
  - Definition of a valorisation strategy



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Links SCOS / Part@ge

- Collaboration axis
  - Data exchange format (X3D related to Task 1.2 de Part@ge)
    - ✓ More easy collaboration
    - ✓ Neutral format
    - ✓ Extension of the norm X3D (EDF member of X3D consortium)
  - Use of common software
    - ✓ OpenMASK
  - Common use cases
    - ✓ WP4 of Part@ge
  - Visualisation devices
    - ✓ WP2 of Part@ge
- Practical aspects
  - SCOS in Part@ge: EDF is invited to Wgroup presentation
  - http://www.oscos.org
  - Joint demonstration for SCOS kick-off meeting

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Part@ge's project organisation

Part@ge-Sh@re - 2008/06/26 18

Internal structures of Part@ge

- Head/coordinator of the project
- Executive comity
  - People in charge of each of the 5 WP
    - Meetings :
      - At least four times a year
      - As soon as it seems necessary : due to important points
      - Meeting by phone
      - Meeting reports available on the shared website
    - Prerogative
      - To prepare the General Assemblies
      - To coordinateand animate the project
      - To manage the administrative part
- General Assembly (Strategy and Decision)
  - 1 member representing each partner
    - Meeting once a year
    - Opening to new members
    - Definition of the planning

Part@ge-Sh@re - 2008/06/26 19

Until now

- Meetings of the executive comity
  - INSA de Rennes, CEA LIST, INRIA, FT R&D, CLARTE
  - Nine meetings in one year
    - 2007 january 17, 2007 february 12, 2007 march 14, 2007 may 9, 2007 june 28
    - 2007 july 5, 2007 september 11, 2008 january 9, 2008 february 20
- Plenary meetings : 6
  - Kick-off meeting 26 january 2007 (GE+Wgroups)
  - Presentations by the Working Groups : 27-28 february 2007 (GT)
  - General Assembly and Presentation of the Working Groups :
    - 2007 may 22-23
    - 2007 september 20-21
    - 2008 january 23
    - 2008 april 2

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Stakes for Part@ge

- Anticipation of an emerging market
- Creation of services based on the use of the platform
- Affirmation d'une dynamique locale ouverte nationalement
- World Impact
  - Due to Companies associated to the project
  - Due to scientific visibility of the laboratories
- Dissemination
  - Closely related to higher formation (schools and universities)
  - Open-Source diffusion of the software
  - Organisation of Part@ge days : linked to
    - NOE/INTUITION
    - PERF-RV2 ANR project
  - Participation to workshops and conferences
  - Web Site : www.rntl-partage.org
  - Formation and information for Small and Medium-sized companies
  - Stimulation of start-ups
  - Open User Club

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Part@ge Expected Results

- New Scientific Results
  - Publications, workshops and seminars, PhD thesis
- Development of collaborative prototypes
  - Solution to real industrial problems
  - Innovative products:
    - Virtools,
    - FT R&D,
    - Haption,
    - Sogitec
- Contribution to normalisation
  - Data exchange and 3D representation
- Open-Source Diffusion
- Deployment and Evaluation
  - Renault wants to use the results abroad

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Part@ge user's club

- Opening rules linked to the RNTL/ANR platform definition
- 2 different status:
  - New partner
    - Validation by GE and ANR
    - Signature of the project's agreement
    - No financial resources
    - Semi-annual reporting and member of the GE
  - Associated member:
    - Validation by GE and ANR
    - Signature of a NDA
    - No financial resources
    - No reporting and not member of the GE
- How to suscribe : http://www.rntl-partage.org
- Two meetings of the user's club : 2007 june, 2008 april
- Providers of needs and of scenarios

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Some results

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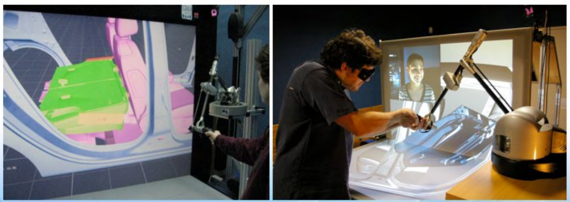
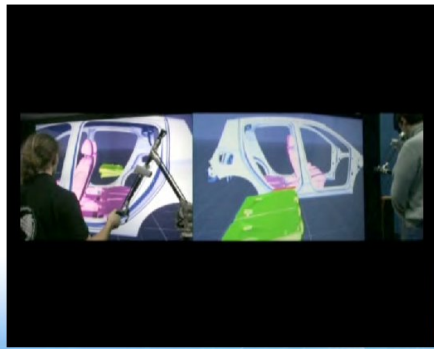
Demonstration 1

- Collaborative Task between two users with stereoscopic video and haptic feedback
  - CEA-List, Orange Labs, Renault and CLARTE

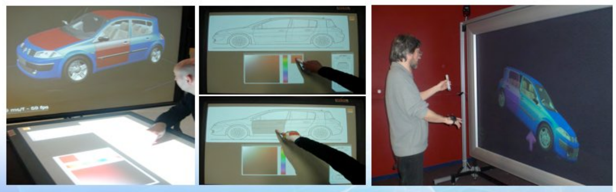


Collaborative Task



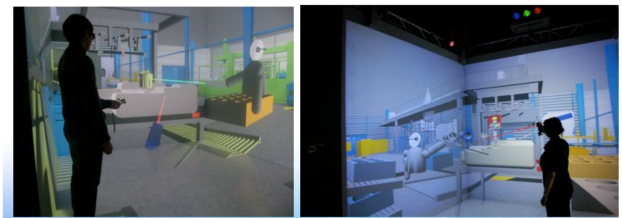
Demonstration 2

- Repartition of collaboration on different devices
  - INRIA Alcove, Orange Labs, ESIEA et LABRI



Demonstration 3

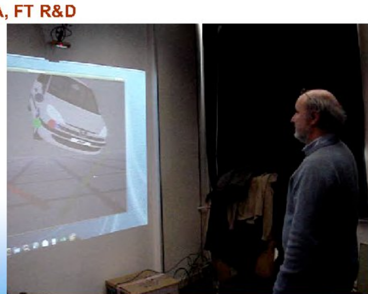
- Collaboration task between distant users in immersive workspace
  - CLARTE et ISM - CRVM

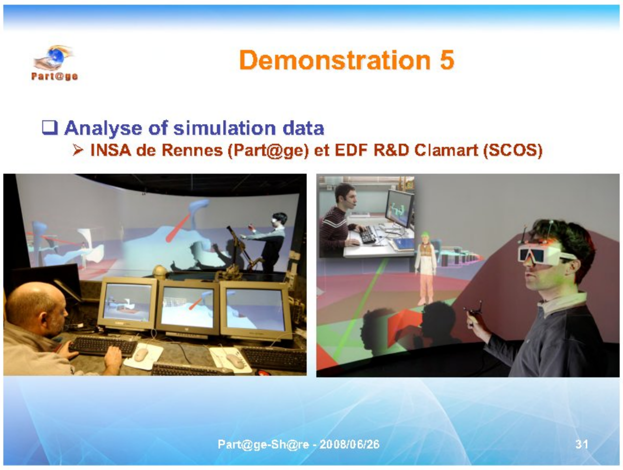


Collaboration between distant users

Demonstration 4

- Multimodal Interaction
  - INSA, FT R&D




Part@ge
Demonstration 5
Analyse of simulation data
INSA de Rennes (Part@ge) et EDF R&D Clamart (SCOS)
Part@ge-Sh@re - 2008/06/26
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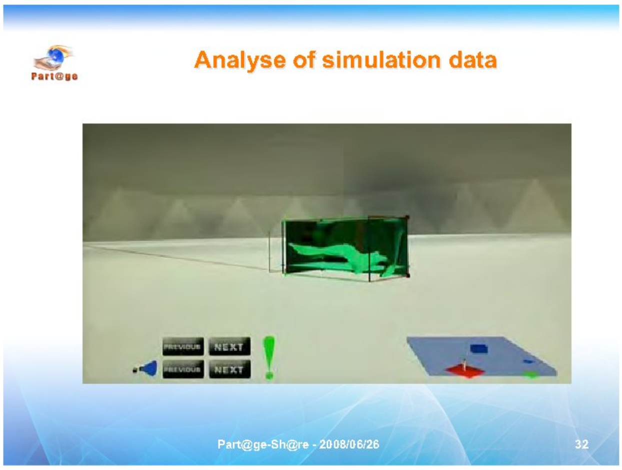
Part@ge
Analyse of simulation data
PREVIOUS
NEXT
PREVIOUS
NEXT
Part@ge-Sh@re - 2008/06/26
32


Part@ge
Conclusion
Part@ge is dedicated to "interactive collaboration"
WP 1 : Models and objects for CVEs
WP 2 : Communication and presence
WP 3 : Advanced collaboration
WP 4 : Integration, use and evaluation
WP 5 : Animation and dissemination
Part@ge is open for new partners
New users of the platform
New plain partners
New partners enter without grant
Part@ge is associated to other projects
Other ANR project with collaborative objectives (SCOS, SOLIPSIS)
Discussion on a new French-Spanish project
More info
www.rntl-partage.fr , www.rntl-partage.org
Part@ge-Sh@re - 2008/06/26
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Part@ge
Many thanks for your attention
Part@ge-Sh@re - 2008/06/26
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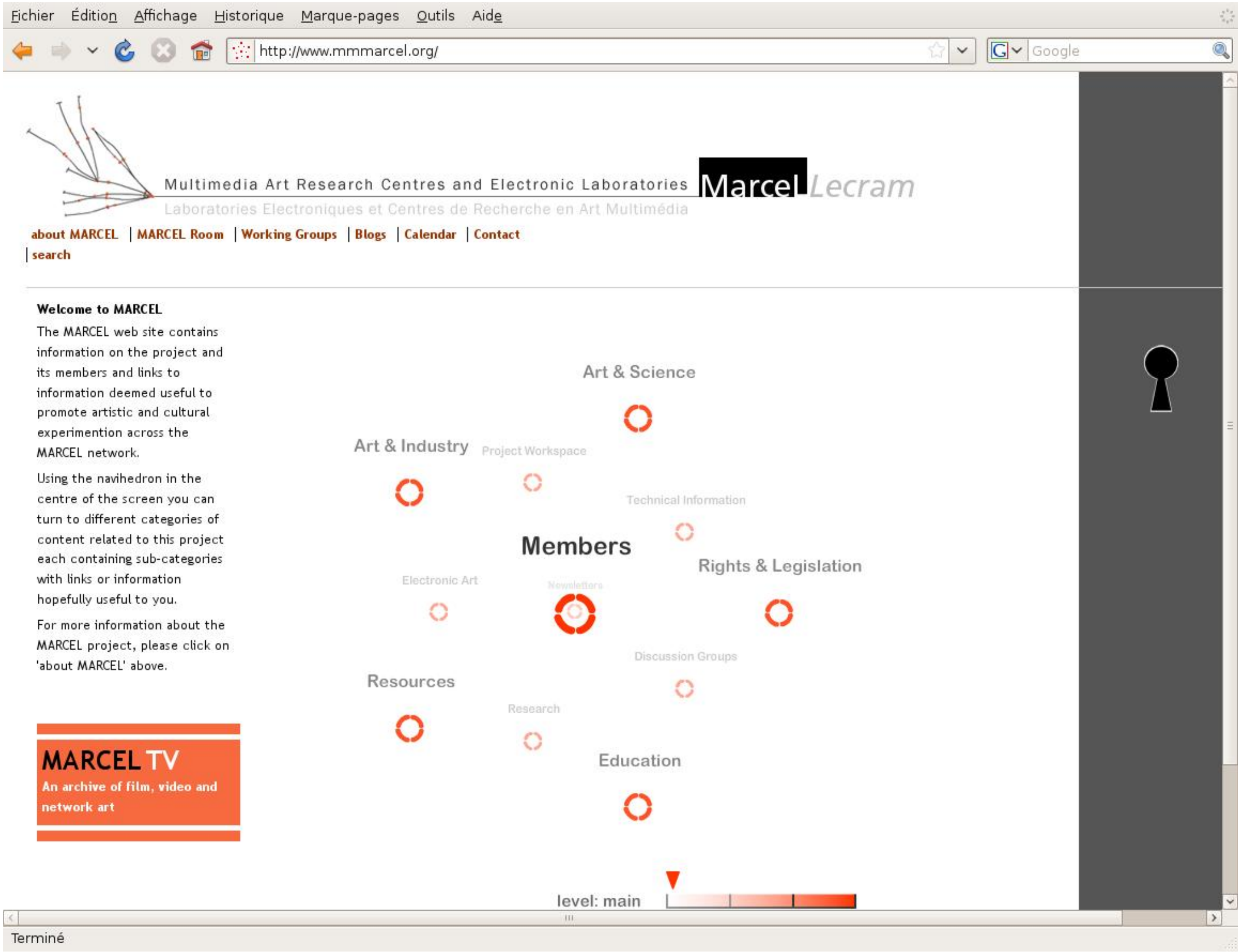
2.4 Réseau MARCEL

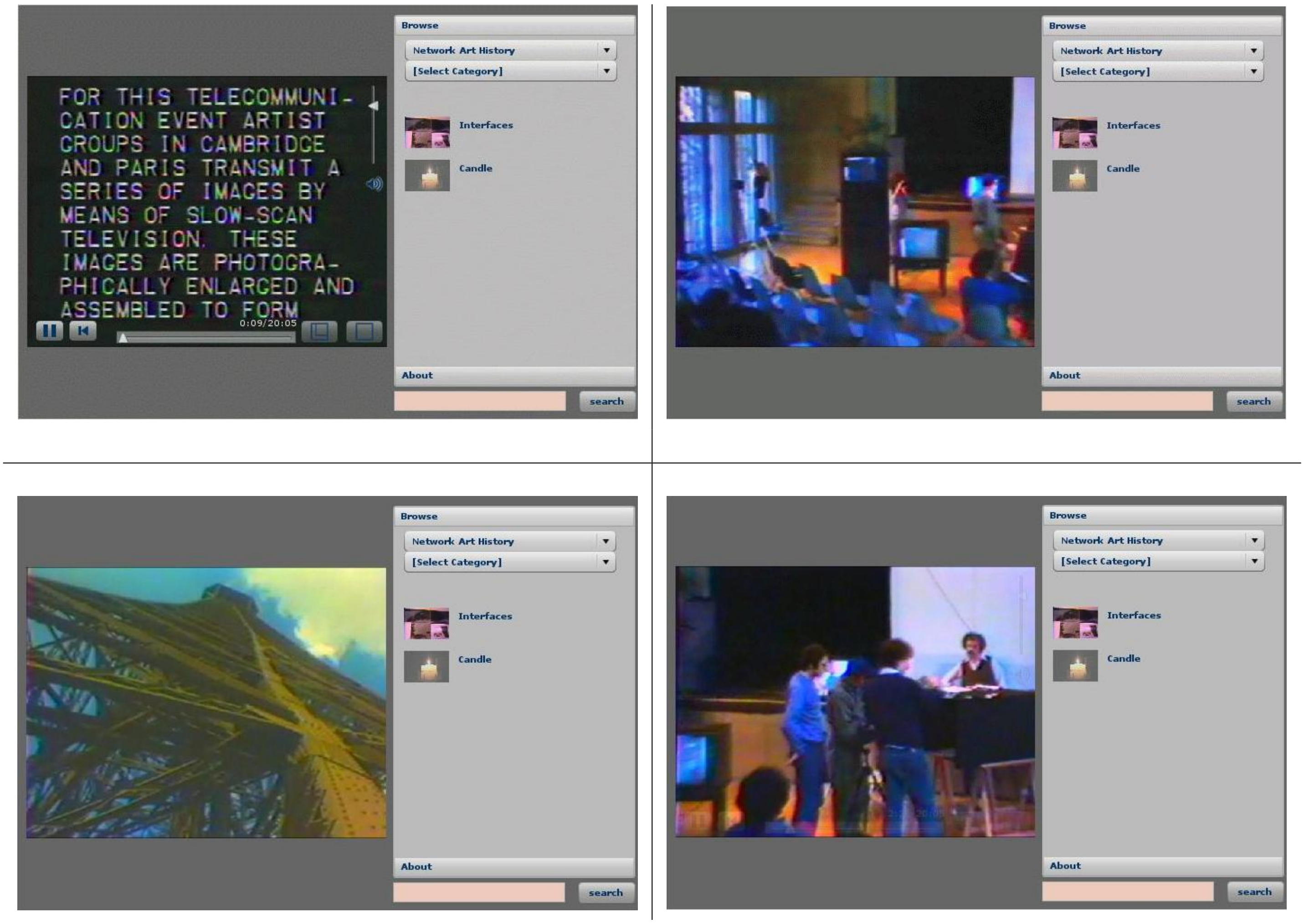
Don Foresta

«MARCEL est un réseau haut débit permanent et interactif, et un site web portail dédié à l'expérimentation artistique, pédagogique et culturelle, à l'échange art science, et à la collaboration art industrie.«

http://www.mmmarcel.org



Images tirées des archives de Marcel TV



2.5 La suite collaborative "Multimedia Conference" proposée par Orange Business Services

Christian Collette (Orange Labs)

L'offre "Multimedia Conference" est un service de Web conférence proposé par Orange Business Services. Ce service contribue au développement durable en évitant les déplacements et permet les réunions à distance en toute convivialité. Cette suite propose les services d'audioconférence associés au partage des applications logicielles du poste bureautique.

L'organisateur de la conférence multimédia dispose d'un compte qui lui donne la possibilité de programmer des réunions avec plusieurs participants. Il faut noter que Multimedia Conference permet de réunir plusieurs centaines de participants dans une même conférence. Les participants se connectent sur la Web conférence directement en un clic depuis un mail d'invitation envoyé par l'organisateur, et se connectent en audio depuis un poste téléphonique. Cette offre dispose de toutes les fonctionnalités nécessaires aux réunions à distance : présentation de documents, partage d'application, pilotage de l'audioconférence associée, webcam, chat, prise de contrôle à distance... Orange Business Services propose également un pack eLearning destiné aux organismes de formation.Vous retrouverez tous les détails de offre sur
`http://www.orange-business.com/fr/sme/collaboratif`

La suite collaborative "Multimedia Conference" proposée par Orange Business Services

Orange Labs

Christian COLLETTE, Recherche & Développement
26 juin 2008, présentation à l'Ecole Polytechnique

Les outils collaboratifs

- Contribuent au développement durable en réduisant fortement les déplacements
  - une réunion virtuelle c'est 8.4Kg de Co2 en moins par rapport à une réunion physique
- Facilitent la communication de groupe :
  - pour la gestion des réunions à distance
  - en associant l'audioconférence avec la Web conférence
- Sont largement utilisés dans le groupe France Télécom grâce aux outils Coop'Net (2500 conférences par jour)
- Sont proposés pour les clients Entreprise :
  - Offre "Multimedia Conference"
  - Pack formation destiné au e-Learning

Multimedia Conference, des réunions multimédia aussi simples que sûres !

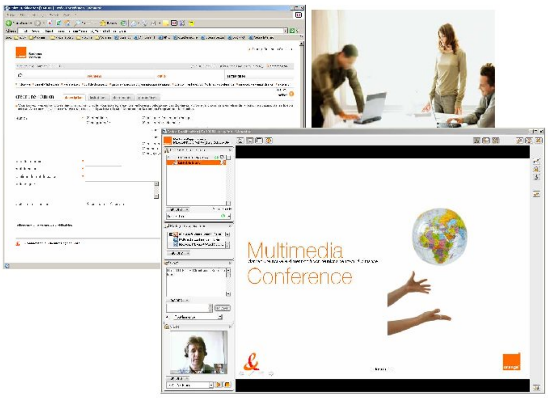
Pour répondre à 5 attentes précises :

- Simplicité :
  - Accès à la solution via un portail et depuis Microsoft Office®
  - Des réunions interactives à distance avec de nombreux interlocuteurs internes ou externes en quelques clics
- Convergence :
  - Solution intégrant la Web conference et l'audioconférence
- Modularité :
  - Possibilité de choisir les fonctionnalités selon son usage
- Qualité :
  - Service de qualité, supervisé en permanence pour des réunions sûres !
- Sécurité :
  - Confidentialité des échanges avec le cryptage des informations et le verrouillage des réunions

Multimedia Conference : Une solution 100% développée par le groupe France Télécom

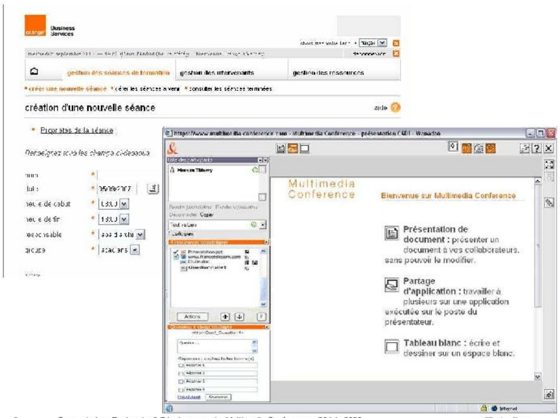
- Briques technologiques développées par Orange Labs
- Service développé par la Direction des Plateformes de Services du groupe
- En intégrant le pilotage des audioconférences dans l'application de Web conférence
- Fonctionnalités :
  - Entrée en réunion de manière sécurisée par mail en 1 click,
  - La programmation de réunions depuis Microsoft Outlook®,
  - La présentation de tout type de document imprimable,
  - Le partage de toute application sur son PC,
  - La vidéo par Webcam
  - Le pilotage de l'audioconférence :
    - Appeler un nouveau participant,
    - Couper ou rétablir un ou plusieurs micros,
    - Verrouiller la conférence,
    - Exclure un participant,
  - La possibilité de donner le rôle d'organisateur ou de présentateur à un participant,
  - Des dialogues par "Chat" entre participants (entre tous les participants ou 1 seul),
  - Les annotations, le tableau blanc, le push d'URL

- http://www.orange-business.com/fr/sme/collaboratif/



Multimedia Conference : Pack formation

- Proposer à nos clients dans le cadre de l'offre Multimedia Conference un Pack Sectoriel destiné aux entreprises et organismes de Formation, qui souhaitent faire de la formation à distance.
- Portail de service dédié :
  - Gestion de la formation
  - Support de cours (contenus)
  - Questionnaires
  - Outils de communication
  - Suivi de formation
- Classe virtuelle :
  - Couplage data/audio/vidéo
  - Pilotage audio
  - Projection de documents
  - Partage d'applications
  - Push de document ou URL
  - Interactions (animation, appels apprenants)
  - Questionnaires



Annexes

Résumé

- Titre : La suite collaborative "Multimedia Conference" proposée par Orange Business Services
- Résumé : L'offre "Multimedia Conference" est un service de Web conférence proposé par Orange Business Services. Ce service contribue au développement durable en évitant les déplacements et permet les réunions à distance en toute convivialité.
  – Cette suite propose les services d'audioconférence associés au partage des applications logicielles du poste bureautique. L'organisateur de la conférence multimédia dispose d'un compte qui lui donne la possibilité de programmer des réunions avec plusieurs participants.
  – Il faut noter que Multimedia Conference permet de réunir plusieurs centaines de participants dans une même conférence.
  – Les participants se connectent sur la Web conférence directement en un clic depuis un mail d'invitation envoyé par l'organisateur, et se connectent en audio depuis un poste téléphonique.
  – Cette offre dispose de toutes les fonctionnalités nécessaires aux réunions à distance :
    – présentation de documents,
    – partage d'application,
    – pilotage de l'audioconférence associée,
    – webcam,
    – chat,
    – prise de contrôle à distance...
  – Orange Business Services propose également un pack eLearning destiné aux organismes de formation.
- Vous retrouverez tous les détails de offre sur http://www.orange-business.com/fr/sme/collaboratif/

Multimedia Conference

donnez une nouvelle dimension à vos réunions de travail à distance

Multimedia Conference, zoom sur l'option d'Audioconférence Automatique

- principales fonctionnalités de l'audioconférence sur l'interface Web
  – disponibilité immédiate d'un numéro d'audioconférence
  – appel possible en cours de réunion
  – affichage du numéro de téléphone des participants avec icône téléphone
  – association des participants connectés sur l'interface web et/ou par téléphone
  – activation/désactivation des micros des participants : un micro/tous les micros
  – demande de prise de parole par interface web
  – exclusion d'un participant

Multimedia Conference, un usage, une formule

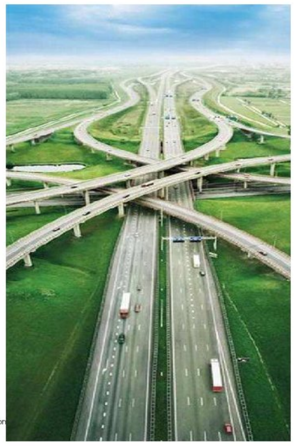
- ne payez que ce que vous utilisez
  – choisissez votre niveau de fonctionnalités :
    – projection de documents avec Intégration audio, messagerie instantanée,… (pack Téléprésentation)
    – partage d'applications avec Intégration audio,… (pack Collaboratif)
  – choisissez votre formule de tarification :
    – pour des réunions occasionnelles : Formule Découverte
    – pour des réunions régulières avec la souplesse d'une tarification à l'usage : Formule Croissance
    – pour des réunions quasi-quotidiennes : Formule Intensive (forfait illimité)
- créez votre site de réunion personnalisé à l'image de votre entreprise
  – avec la Formule Intensive, renforcez la notoriété de votre entreprise en créant votre interface web Multimedia Conference personnalisée à la charte de votre entreprise

Multimedia Conference, un accompagnement dédié

- le Service Clients Multimedia Conference à votre écoute en permanence au
  - un accueil 24h N°Azur 0 810 801 000 PRIX APPEL LOCAL
  - un expert Multi... pour :
    - vous offrir une formation initiale de découverte du service dès l'ouverture du compte
    - vous accompagner dans l'utilisation du service en cours de réunions
    - vous proposer des prestations de formation ou d'accompagnement sur mesure à votre demande
  - http://www.orange-business.com/fr/sme/collaboratif/
- APIs disponibles pour vos services
  - Orange Partner
  - http://www.orangepartner.com/site/frfr/access_orange_apis/mmc/p_multimedia_conf_api.jsp

13 diffusion libre

English version



diffusion

Collaborative tools

- Contributes to sustainable development by greatly reducing business travel
  - A virtual meeting produces 8.4kg less Co2 than a physical meeting
- Facilitates group communication:
  - Enhances management of distant meetings
  - Associates Audio conferencing with Web conferencing
- Internally widely used thanks to the tools Coop'Net
  - More than 2500 virtual conferences everyday
- For business Customer :
  - "Multimedia Conference"
  - also proposed as an e-Learning pack

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Multimedia Conference : multimedia meetings simple and sure

Meets 5 precise expectations:

- Simplicity :
  - Access to the application via a portal and from Microsoft Office®
- Convergence :
  - Solution integrates of Web conferencing and Audio conferencing
- Modularity :
  - Possibility of choosing features according to usage
- Quality :
  - Quality service, permanently monitored
- Security :
  - Secure and crypted data

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Multimedia Conference : A 100% homegrown solution

- Technological tools developed by Orange Labs
- Integration of Audio conferences management into Web conference application
- Features:
  - Enter meetings securely through e-mail one click,
  - Program meetings from Microsoft Outlook®,
  - Presents any type of printable document,
  - Shares applications on local PC,
  - Webcam,
  - Manages Audio conferences :
    - Call a new participant,
    - Mute or un-mute one or several microphones,
    - Lock the conference,
    - Exclude a participant,
  - Possibility to give the role of organizer or presenter to a participant,
  - Chat between participants (between all the participants or only one),
  - Notes, whiteboard, URL push

- http://www.orange-business.com/fr/sme/collaboratif/

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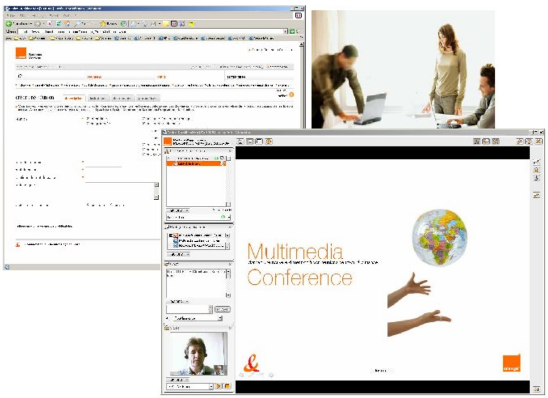

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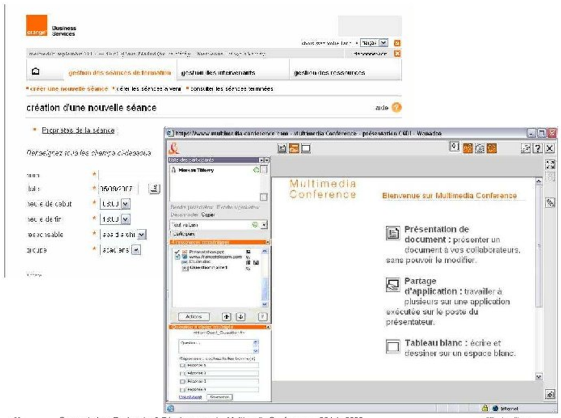
Multimedia Conference : e-learning pack

- Proposed to our customers in the Multimedia Conference an e-learning pack
  Intended for e-learning companies, which wish to make distant trainings.
- Portal of dedicated service :
  - Training management
  - Contents
  - Questionnaires
  - Communication tools
  - Training monitoring

- Virtual class :
  - Coupling data / audio / video
  - Audio monitoring
  - Projection of documents
  - Share applications
  - Push document or URL
  - Interactions (animation, call participants)
  - Questionnaires



diffusion libre

2.6 AccessGrid for the OptIPortal

Christoph Willing (University of Queensland)

, intervention depuis l'Australie

This talk will introduce the concepts of graphics clustering, as applied to OptIPortals, and summarise our efforts to integrate the Assess Grid toolkit into these large format displays.

Ces transparents sont ceux présentés lors de la 2008 Access Grid Retreat (`http://www.accessgrid.org/retreat/2008/program`) Pour des raisons de temps, l'exposé à distance n'en donnait qu'une selection.

Access Grid and the OptIPortal

Christoph Willing

Queensland Cyber Infrastructure Foundation (QCIF)
University of Queensland

c.willing@uq.edu.au

OptIPortal

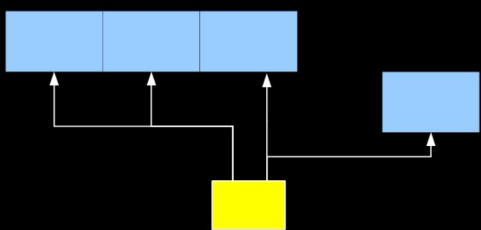
- an element of the OptIPuter
  OptIPuter = Internet Protocol + Optical network
  for computer storage, processing, visualisation
- a (large) clustered tiled display
- built on Rocks ?

OptIPortal example (EVL)

OptIPortal example (QCIF/UQVislab)

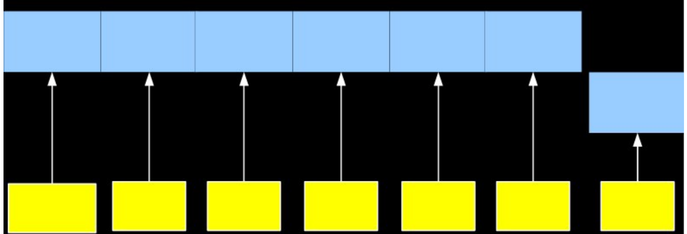
Tiled Display

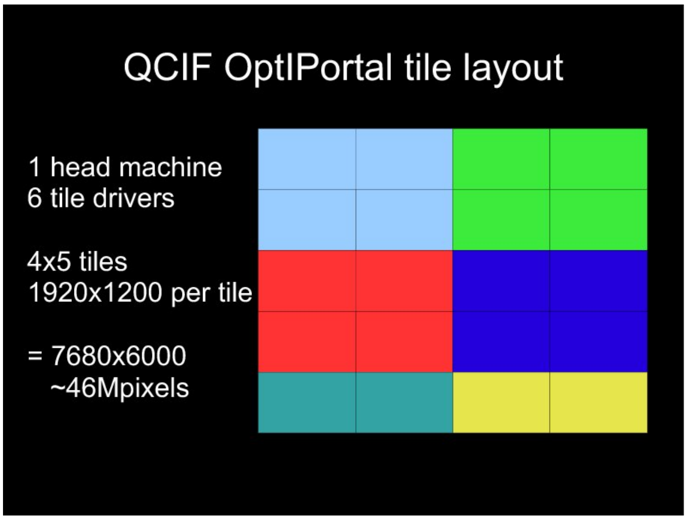
- multiple adjacent display outputs from <u>same</u> machine
  e.g. Access Grid room node

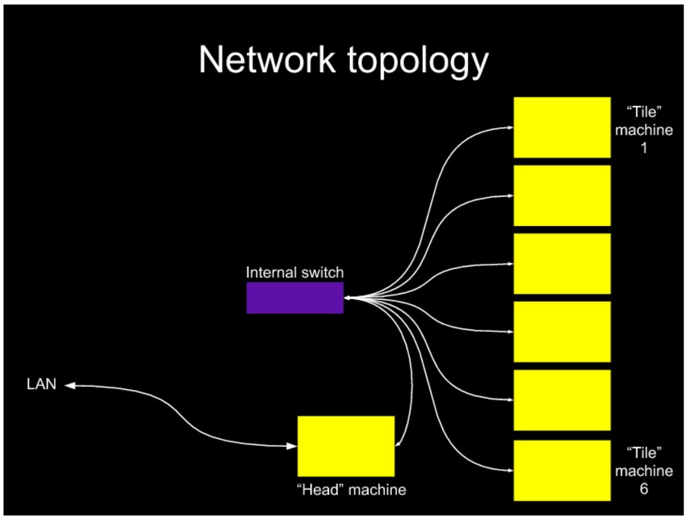


Clustered Tiled Display

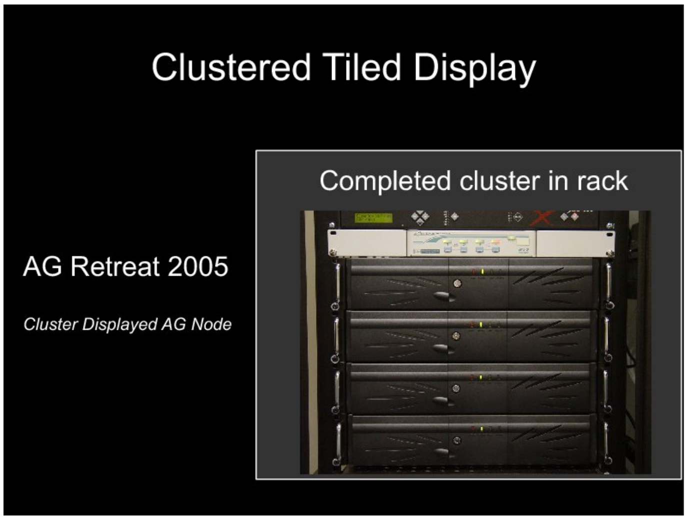
- multiple adjacent display outputs from <u>multiple</u> machines

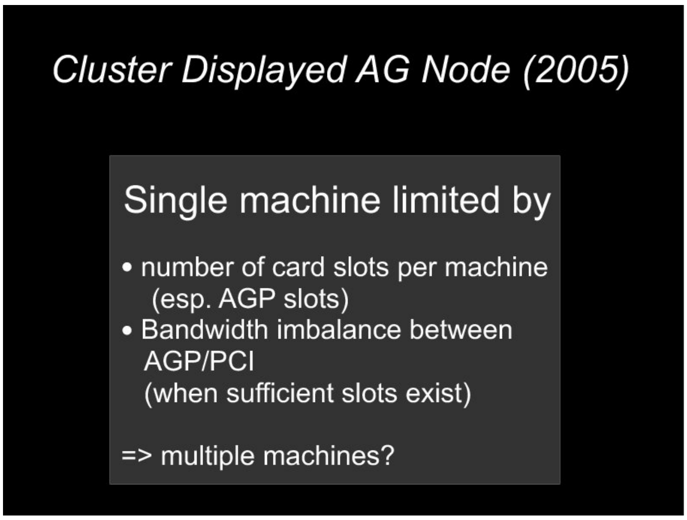


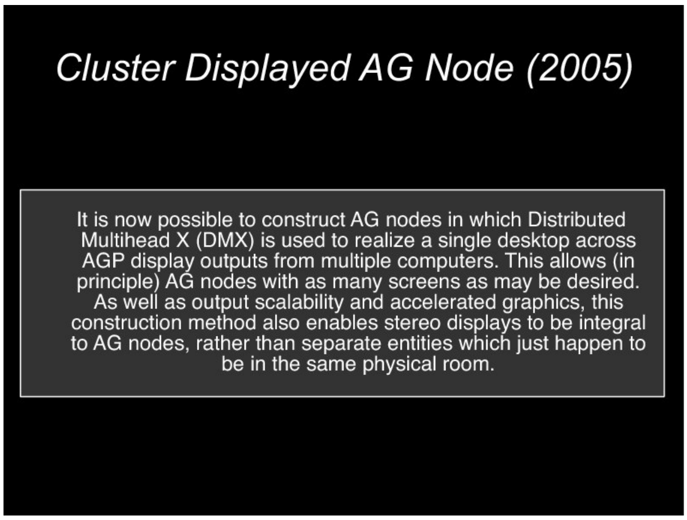

QCIF OptIPortal tile layout
1 head machine
6 tile drivers
4x5 tiles
1920x1200 per tile
= 7680x6000
~46Mpixels


Network topology
"Tile" machine 1
Internal switch
LAN
"Head" machine
"Tile" machine 6


Clustered Tiled Display
- not normally used for Access Grid but ....


Clustered Tiled Display
AG Retreat 2005
Cluster Displayed AG Node
Completed cluster in rack


Cluster Displayed AG Node (2005)
Single machine limited by
• number of card slots per machine (esp. AGP slots)
• Bandwidth imbalance between AGP/PCI (when sufficient slots exist)
=> multiple machines?


Cluster Displayed AG Node (2005)
It is now possible to construct AG nodes in which Distributed Multihead X (DMX) is used to realize a single desktop across AGP display outputs from multiple computers. This allows (in principle) AG nodes with as many screens as may be desired. As well as output scalability and accelerated graphics, this construction method also enables stereo displays to be integral to AG nodes, rather than separate entities which just happen to be in the same physical room.

OptIPortal display environments

DMX
Distributed Multihead X (X Windows)

SAGE
Scalable Adaptive Graphics Environment (EVL)

CGLX
Clustered GLX (CALIT2)

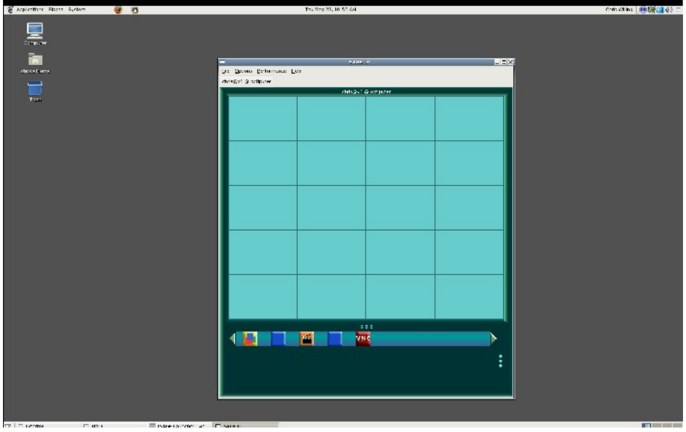
Distributed Multihead X (DMX)

- runs normal apps normally
- some limits on accelerated graphics e.g. blitter
- limit of 16 nodes

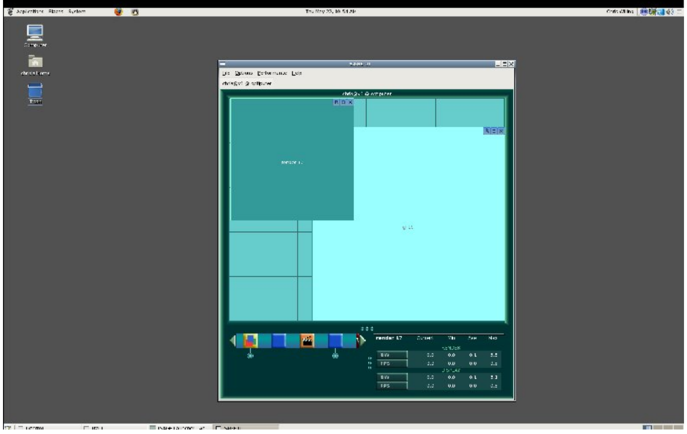
Scalable Adaptive Graphics Environment (SAGE)

- streams pixels
  ultimately bandwidth limited?
  image scaling quality
- some multi site capability
- configuration hand crafted

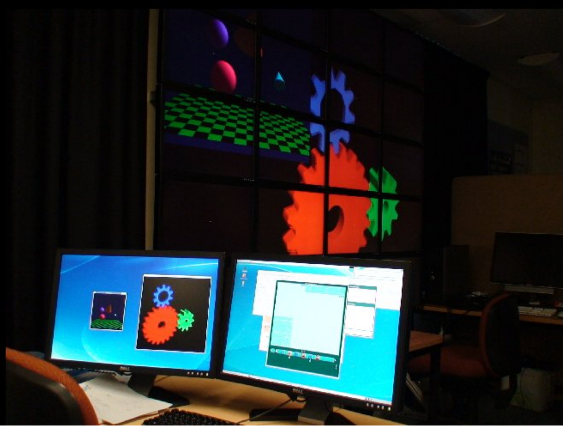
SAGE UI (remote)

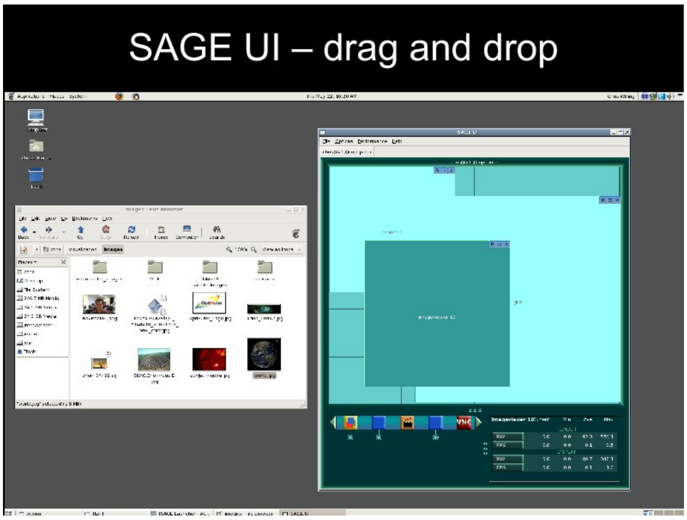


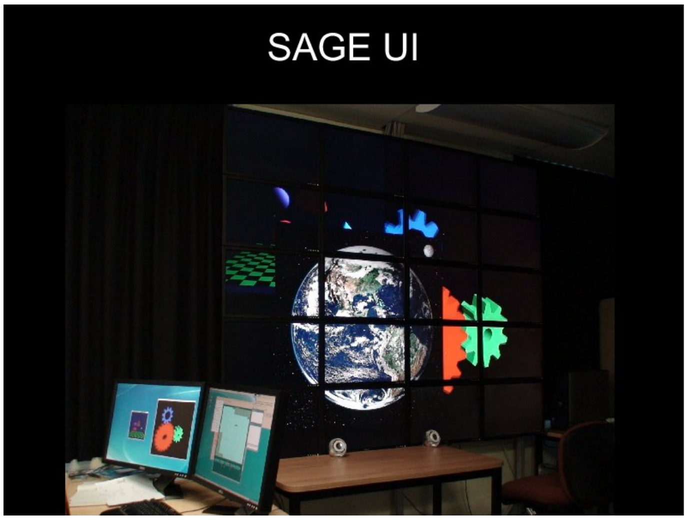
SAGE UI – remote apps

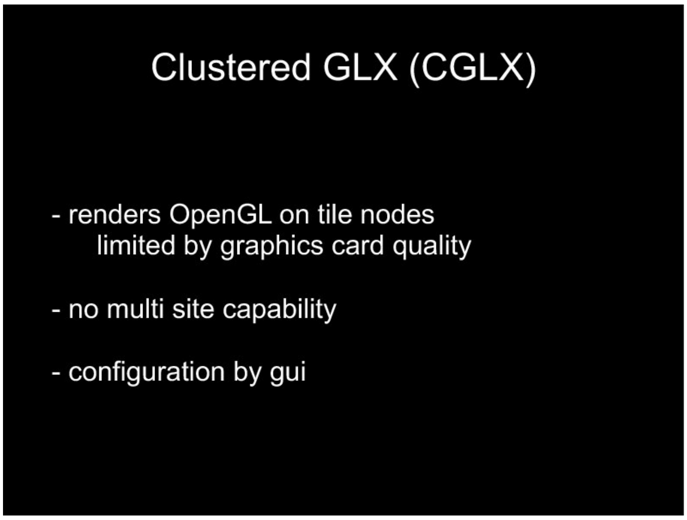


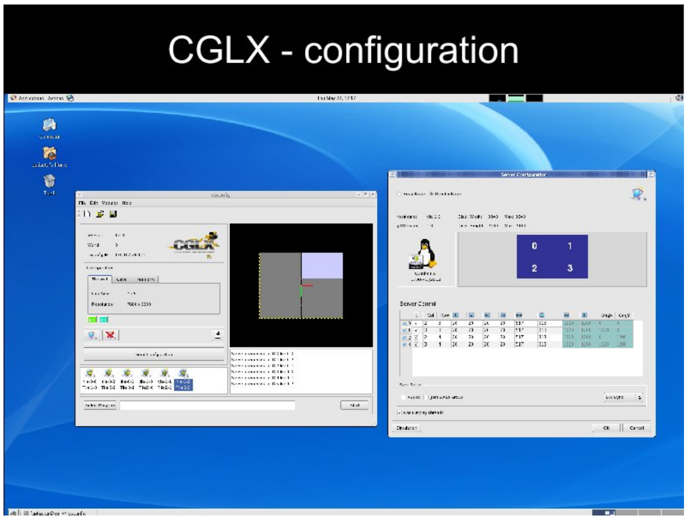
SAGE UI - local




SAGE UI – drag and drop


SAGE UI


Clustered GLX (CGLX)
- renders OpenGL on tile nodes
limited by graphics card quality
- no multi site capability
- configuration by gui


CGLX - configuration


CGLX - MediaViewer


CGLX MediaViewer Display


CGLX tile rendering

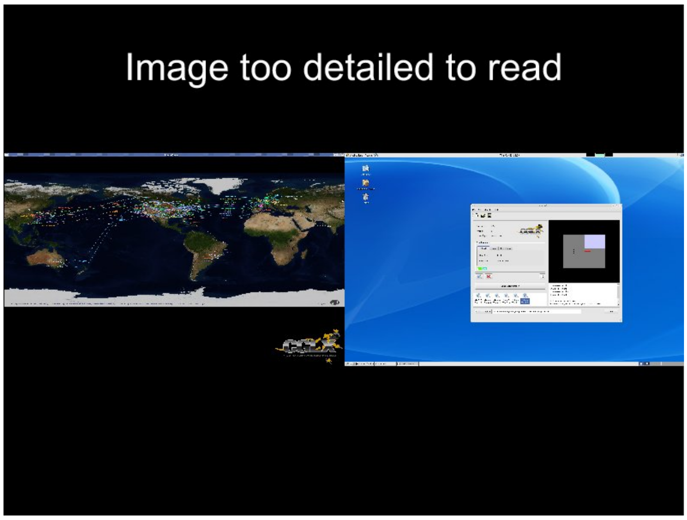
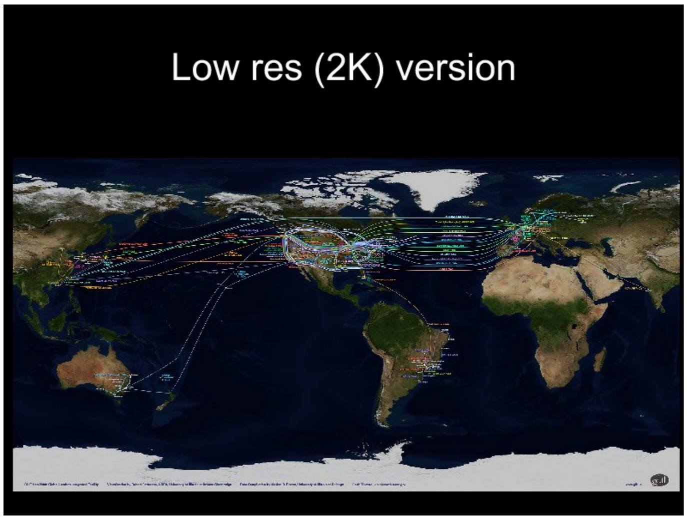


Image too detailed to read


Image detail readable


Low res (2K) version

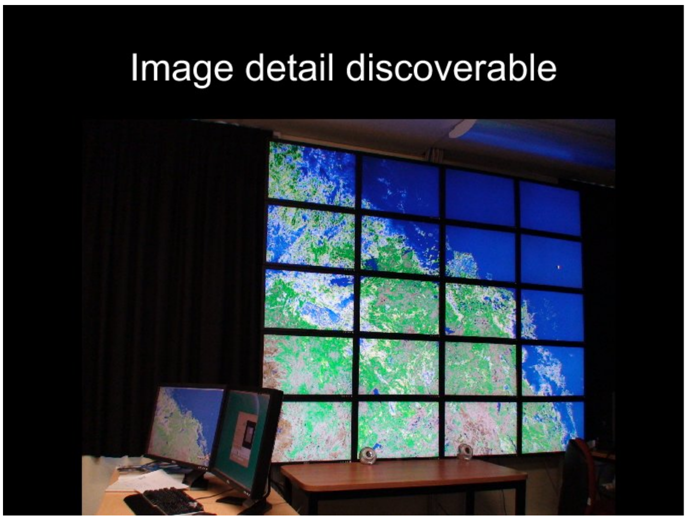
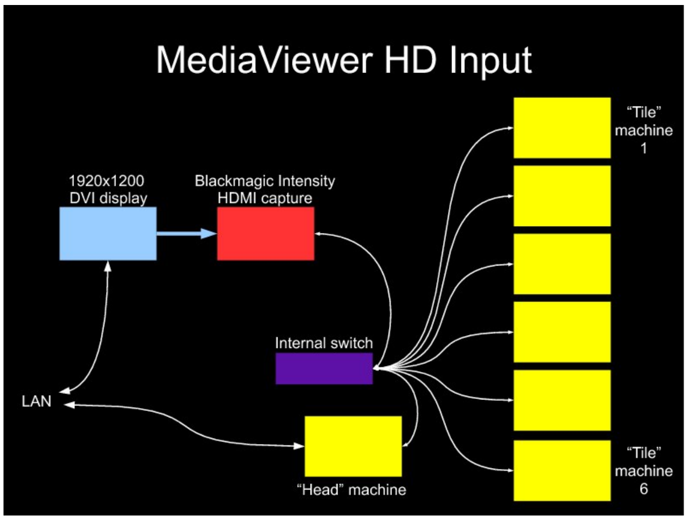


Image detail discoverable


MediaViewer HD Input
"Tile" machine 1
1920x1200 DVI display
Blackmagic Intensity HDMI capture
Internal switch
LAN
"Head" machine
"Tile" machine 6

OptIPortal OS environments

- Rocks

- Anything else (Linux)
  but CGLX binary only at present

Rocks

- "easy" cluster building

- functionality via "Rolls" (including 3rd party rolls)
  hpc, bio, area51, web-server,
  intel,
  viz, hiper (CGLX)

- based on CentOS

- not essential and/but ....

Access Grid Issues

- Rocks (CentOS) version
  viz & hiper for 4.3 but no AGTk
  AGTk for 5.0 but no viz & hiper

- SAGE & CGLX oriented to OpenGL
  i.e. "ordinary" apps somewhat difficult

- multicast only on head machine's private network
  (needs to be on public network too)

Possibilities?

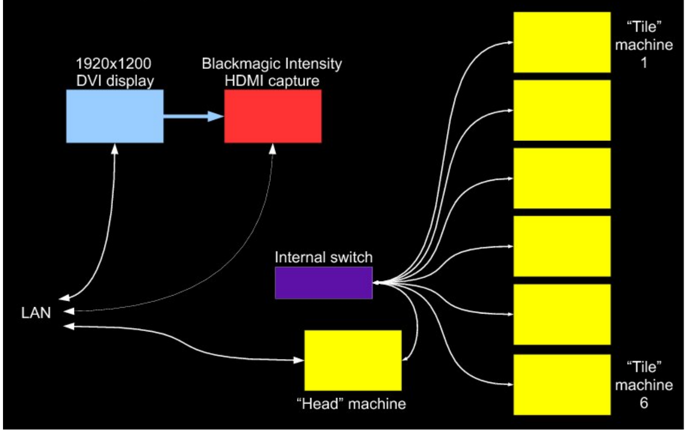
- build on different OS
- wait for viz, hiper rolls for Rocks 5

- inject as HD stream into MediaViewer
  (even to wider Internet, not just local display)

- create OpenGL texture from partial screen capture (like VPCScreen)

- modify VenueClient to use OpenGL drawing toolkit (like GLUT)

Inject HD into wider internet



References

http://www.vislab.uq.edu.au
http://www.optiputer.net
http://wiki.optiputer.net/optiportal
http://www.calit2.net
http://www.evl.uiuc.edu/cavern/sage/
http://vis.ucsd.edu/ftp-site/pub/cglx/
http://www-new.mcs.anl.gov/fl/flevents/ag/agr05/talks/agr05_willing_T_cluster.pp
http://www.rocksclusters.org

2.7 Projet Transhumance

Isabelle Demeure (TELECOM ParisTech ENST)

"Transhumance : a Platform on a Mobile Ad hoc NETwork for collaborative application"

The goal of the Transhumance project is to devise a software platform to support the execution of collaborative applications in a mobile ad hoc network. In this presentation, we will describe the main functionality of the middleware platform. We will then introduce “Team Exploration” a pervasive collaborative treasure hunting game designed to demonstrate the Transhumance platform. Finally we will show a short movie of the experiments.

Transhumance was ANR project, involving France Telecom R&D, Thales Communications, 3iE, CODETIC and TELECOM ParisTech. Des informations sur le projet sont disponibles à la page `http://www.infres.enst.fr/~demeure/TRANSHUMANCE/index.html`

TRANSHUMANCE

Transhumance: a platform for collaborative applications on Mobile Ad-hoc NETworks

isabelle.demeure@telecom-paristech.fr

http://www.infres.enst.fr/~demeure/TRANSHUMANCE

TELECOM ParisTech — ANR — france telecom — THALES

Outline

- Definitions, project objectives
- Transhumance platform
  - State of the art
  - Architecture
  - Overview of the functionalities
- Prototype
- Description of the experimentations
- Movie
- User feedback

2

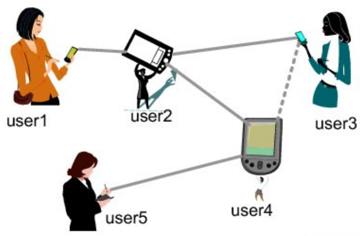
Objectives

- Design, develop and evaluate a software environment
- Dedicated to collaborative applications on Mobile Ad-hoc Networks
- Executing in a limited geographic perimeter
- Offering communication and data-sharing facilities
- Power-aware
- Enabling trusted secured exchanges
- Abstracting the physical network complexity
- With optimized management of available resources

3

MANet: Mobile Adhoc Network

- MANET self-configuring network of mobile nodes connected by wireless links
  - A node may be both terminal and routeur
- Consequences :
  - Nodes may be out of reach
  - Possible network partitions



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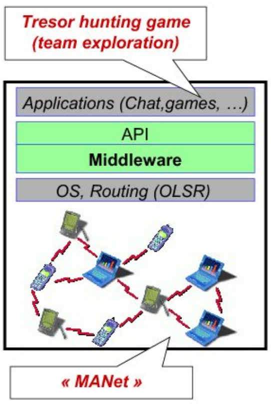
Transhumance project challenges and objectives

- Design and prototype a middleware platform
  - Over Mobile Ad-hoc Networks (MANet)
  - To support spontaneous collaborative applications
  - Involving up to 20 PDAs, with wifi cards in ad-hoc mode.
- Main challenge: topology evolves and nodes may become out of reach.
- Consequences
  - Client/server model not adapted
  - Cannot rely on node reachability
- Middleware key aspects:
  - Fully distributed solution
  - Event communication and data sharing robust to disconnections
  - Presence service, group management (collaboration)
  - Lightweight security mechanism



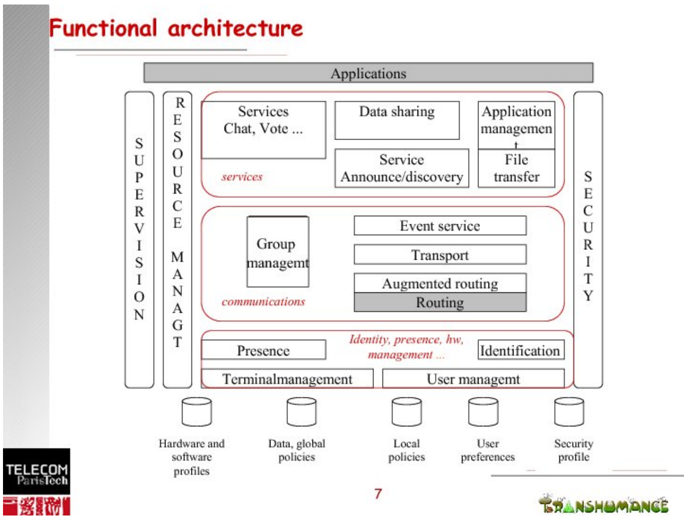
5

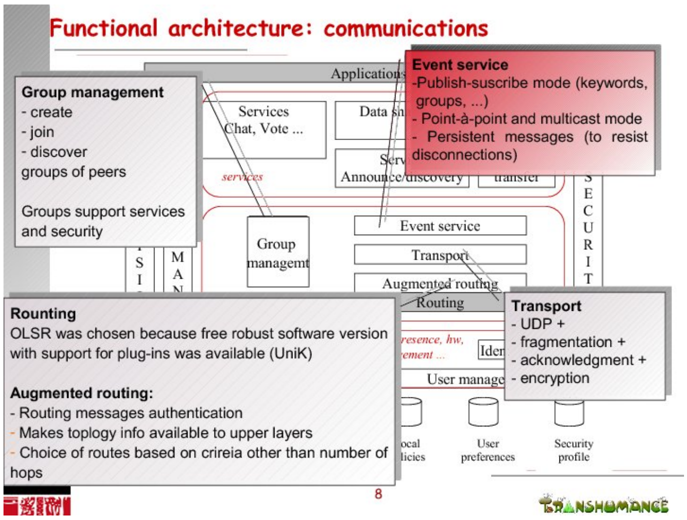
State of the art

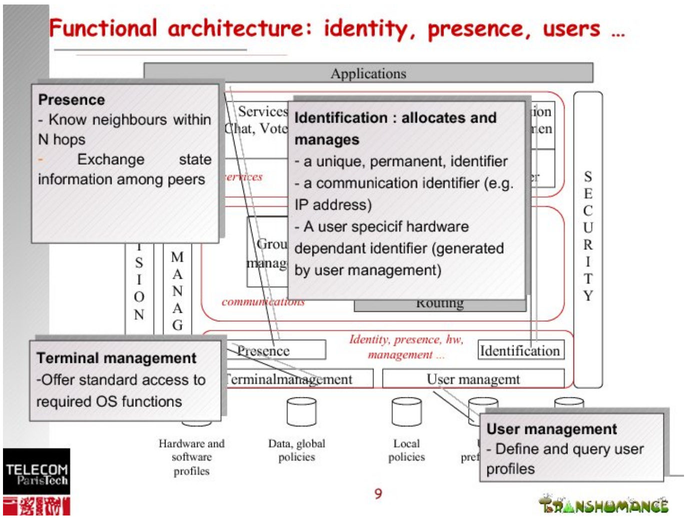
- No commercial solution available
- About 10 research projects
  - ex : PROEM, JMobiPeer, SELMA, XMIDDLE, STEAM, Infoware …
- None proposes an integrated solution including all Transhumance functionalities

Functionalities reused	Strong points
Group management	Energy management
Event system ("publish-subscribe")	Lightweight MANet fit security mechanism
Resource discovery (presence, services, data)	No servers
Data sharing	Robust to disconnections (event service, data sharing)

6


Functional architecture
Applications
SUPERVISION
RESOURCE MANAGT
Services Chat, Vote ...
Data sharing
Application management
Service Announce/discovery
File transfer
services
Group managemt
Event service
Transport
Augmented routing
Routing
communications
Presence
Identity, presence, hw, management ...
Identification
Terminalmanagement
User managemt
SECURITY
Hardware and software profiles
Data, global policies
Local policies
User preferences
Security profile
TELECOM ParisTech
7
TRANSHUMANCE


Functional architecture: communications
Group management
- create
- join
- discover
groups of peers
Groups support services and security
Event service
-Publish-suscribe mode (keywords, groups, ...)
- Point-à-point and multicast mode
- Persistent messages (to resist disconnections)
Rounting
OLSR was chosen because free robust software version with support for plug-ins was available (UniK)
Augmented routing:
- Routing messages authentication
- Makes toplogy info available to upper layers
- Choice of routes based on crireia other than number of hops
Transport
- UDP +
- fragmentation +
- acknowledgment +
- encryption
8
TRANSHUMANCE


Functional architecture: identity, presence, users ...
Presence
- Know neighbours within N hops
- Exchange state information among peers
Identification : allocates and manages
- a unique, permanent, identifier
- a communication identifier (e.g. IP address)
- A user specicif hardware dependant identifier (generated by user management)
Terminal management
-Offer standard access to required OS functions
User management
- Define and query user profiles
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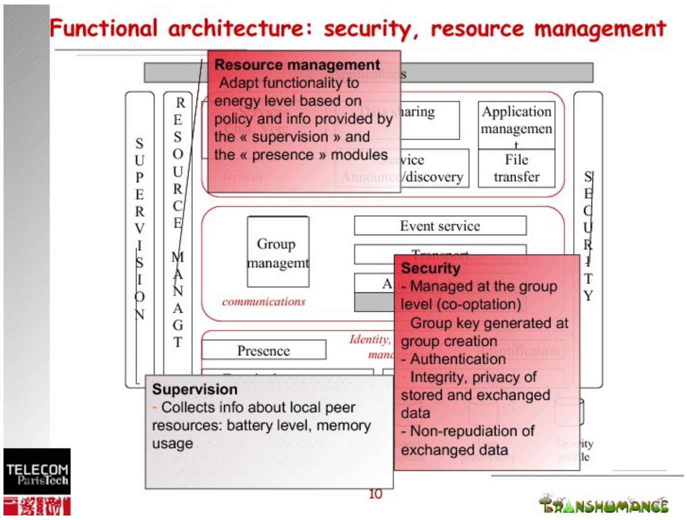
TRANSHUMANCE


Functional architecture: security, resource management
Resource management
Adapt functionality to energy level based on policy and info provided by the « supervision » and the « presence » modules
Security
- Managed at the group level (co-optation)
Group key generated at group creation
- Authentication
Integrity, privacy of stored and exchanged data
- Non-repudiation of exchanged data
Supervision
- Collects info about local peer resources: battery level, memory usage
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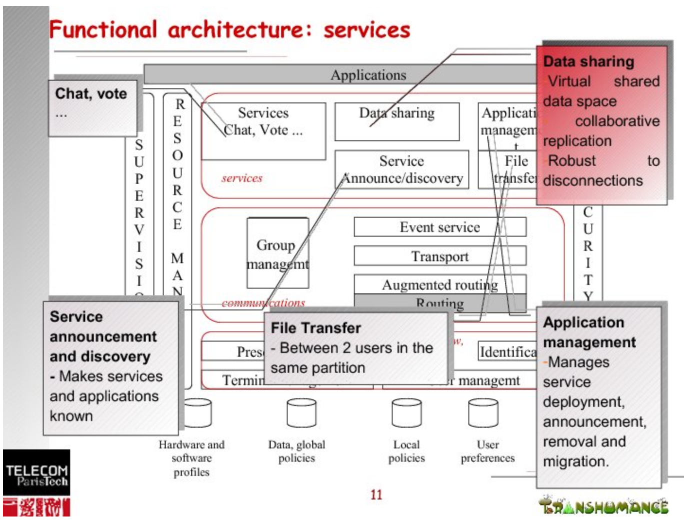
TRANSHUMANCE


Functional architecture: services
Chat, vote ...
Data sharing
Virtual shared data space
collaborative replication
Robust to disconnections
Service announcement and discovery
- Makes services and applications known
File Transfer
- Between 2 users in the same partition
Application management
-Manages service deployment, announcement, removal and migration.
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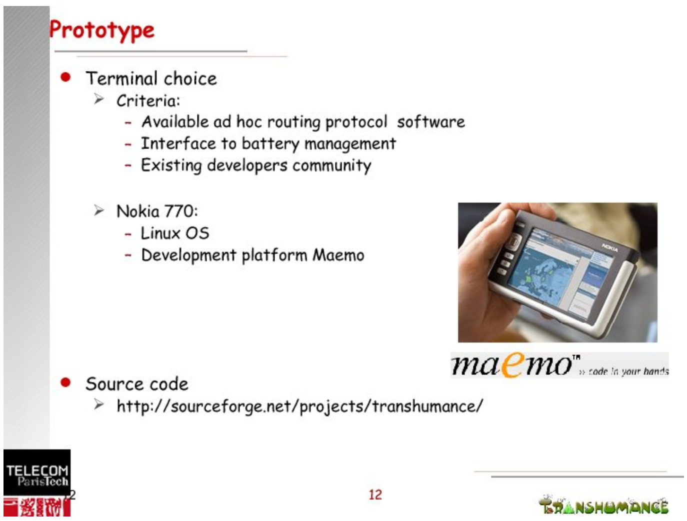
11
TRANSHUMANCE


Prototype
Terminal choice
Criteria:
- Available ad hoc routing protocol software
- Interface to battery management
- Existing developers community
Nokia 770:
- Linux OS
- Development platform Maemo
maemo » code in your hands
Source code
http://sourceforge.net/projects/transhumance/
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TRANSHUMANCE

Experimentations descriptions

- 2 experimentations « treasure hunting games »
  - 2 teams of 4 players each
  - Urban setting: « la Butte aux Cailles »
  - Indoor setting : France Télécom R&D building in Caen, Normandy
- Objectives
  - Evaluate the Transhumance platform and its potential in real mobility conditions
  - Analyse the use of MANets
    - Study behaviour and propositions made by users faced with spontaneous networks
    - Study user behaviour in mobile situations
  - « Creative Evaluation »
    - Study what people have in mind and imagine when faced with these technical objects
    - Identifies possible ways to develop urban services, social networks « game design » ...

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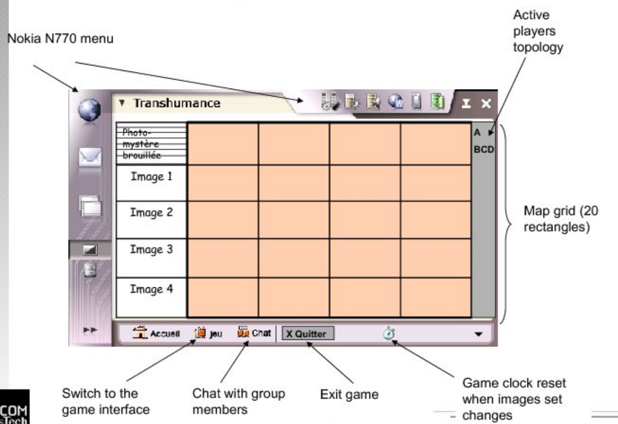
Game interface



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Indoor experimentation

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The movie ....

Movie

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Some users' feedback

- Mobile ad-hoc network
  - Innovative, attractive and practical
  - Easy to set up connections
  - Anytime, anywhere independantly from wifi access points
  - Inexpensive
- Limits
  - Unstable network connections
  - Software security ?
  - Energy limit ?
  - Low bandwith if many players
- Nice terminal (lightweight, digital screen) but writing text is not practical
- Technology seen as a way to design new services that exploit presence in the neighbourhood:
  - Waiting in the line at the movie theater, discover the district where I leave or that I visit, meet my neighbours, play games at the bus station or in public transportations ...

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Thank you ! Questions ?

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Quelques publis et rapports

- G. Paroux, L.Martin, J.Nowalczyk et I.Demeure. Transhumance: A power sensitive middleware for data sharing on mobile ad hoc networks. "ASWN 2007 - seventh international Workshop on Applications and Services in Wireless Networks". Santander, Espagne, 24-26 Mai 2007.
- I.Demeure, A. Gentès, J. Stuyck, A. Guyot-Mbodji, L. Martin. "Transhumance: a Platform on a Mobile Ad hoc NETwork Challenging Collaborative Gaming". The 1st International Workshop on Collaborative Games (CoGames 2008), May 19-23, 2008. Irvine, California, USA.
- L. Martin and I. Demeure. Structured segmented data for improving collaborative edition on MANETs. IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), September 2008, Cannes, France.
- G. Paroux, I. Demeure, L. Reynaud. Un Intergiciel Adaptable à l'Energie pour les Réseaux Mobiles Ad hoc. Soumis pour publication à la 8ème Conférence Internationale sur les NOuvelles TEchnologies de la REpartition (NOTERE'08), Lyon, FRANCE - 23-27 Juin, 2008.
- L. Martin, I. Demeure, Améliorer l'édition collaborative sur MANETs avec des données structurées et segmentées, Soumis au Second Workshop sur la Cohérence Des Données en Univers Réparti (CDUR 2008), Juin2008.

- Paroux G., Demeure I. et Baruch D. A survey of middleware for mobile ad hoc networks. Rapport de recherche 2007D004, 2007, École Nationale Supérieure des Télécommunications.
- L. Martin et I. Demeure. Bibliographical survey on data sharing systems for mobile ad hoc networks. Rapport de recherche 2006D009, 2006, École Nationale Supérieure des Télécommunications.

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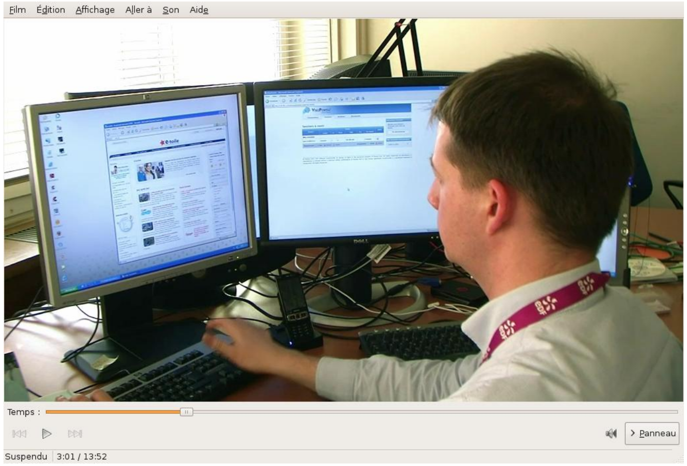
TRANSHUMANCE

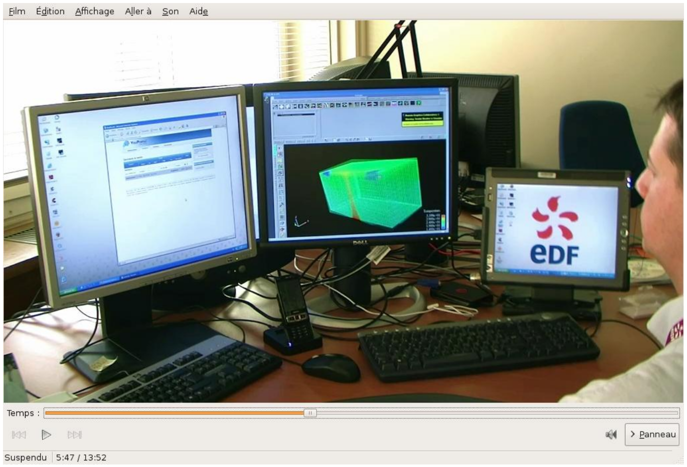
2.8 Portail de visualisation scientifique parallèle distante. projet Carriocas

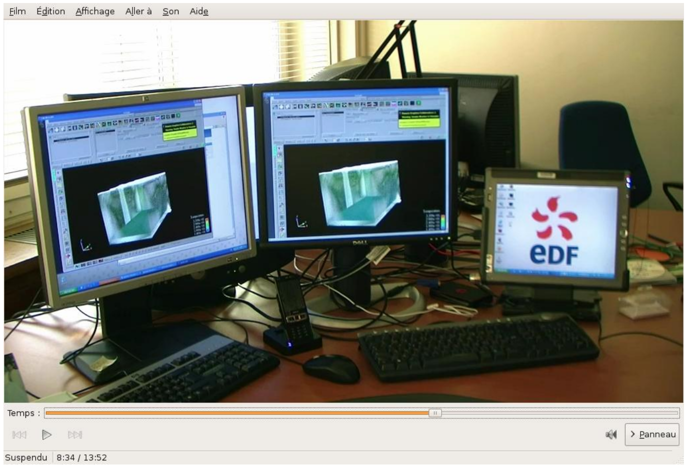
Christophe Mouton (EDF R&D)

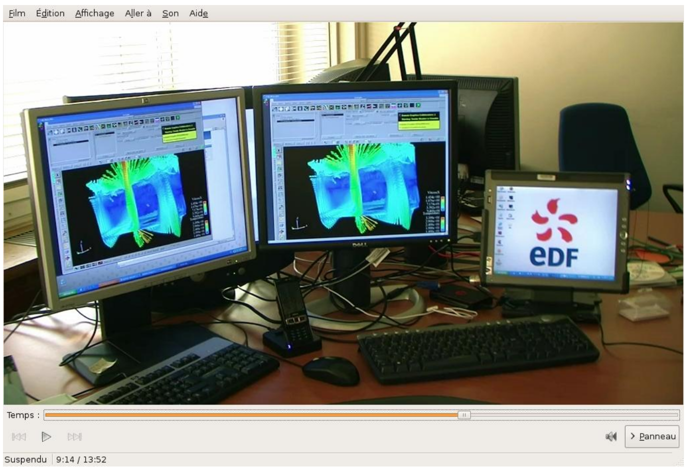
Au sein du pôle de compétitivité Sytem@tic, le projet Carriocas étudie et développe les éléments matériels et logiciels d'un réseau coeur à fibre optique à ultra haut débit (40 Gbits/canal). L'exposé presentera la plateforme mise en place puis les travaux réalisés sur le partage de données entre sites.

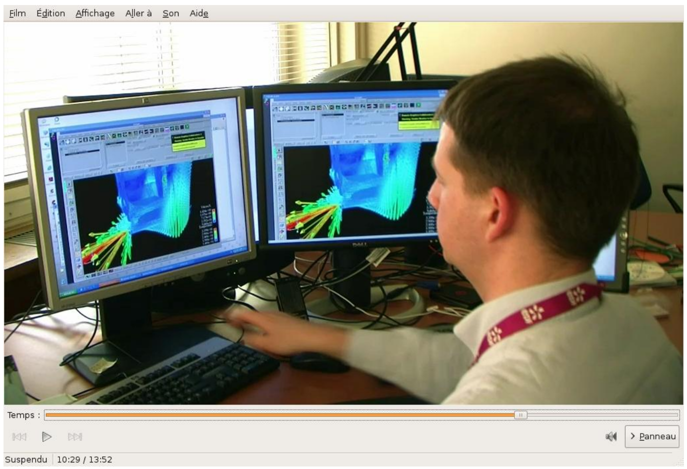
Image des vidéos projetées.











2.9 AccessGrid Smart Meeting Space

JongWon Kim (Gwangju Institute of Science and Technology)

, intervention depuis la Corée

As an effort to develop a prototype of Quality of Experience (QoE) Sensitive Advanced Collaborative Environments (ACE). we have been working on the Smart Meeting Space (SMeet). The SMeet software architecture is designed to provide flexible organization of meeting space supporting user-centric collaboration.

Ces transparents sont ceux présentés lors de la 2008 Access Grid Retreat (`http://www.accessgrid.org/retreat/2008/program`) Pour des raisons de temps, l'exposé à distance n'en donnait qu'une selection.

PerWare 2008, HongKong
(Session-3: Middleware & Service Oriented Architectures)

Design of Software Architecture for Smart Meeting Space

Namgon Kim, Sangwoo Han and JongWon Kim
{ngkim, swhan, jongwon}@nm.gist.ac.kr

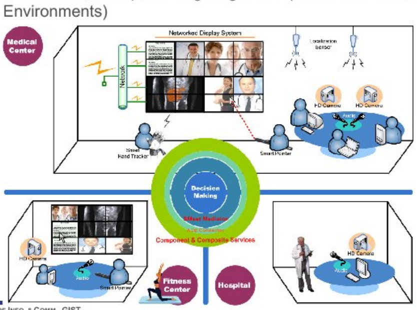
March 21, 2008

Networked Media Laboratory
School of Information and Mechatronics
Gwangju Institute of Science and Technology (GIST), Korea
http://nm.gist.ac.kr/

Contents

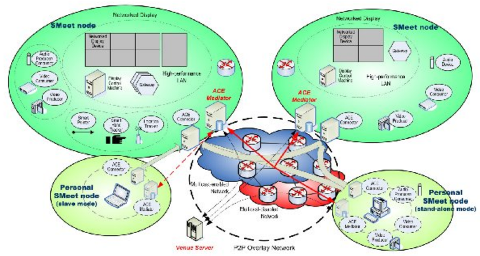
Smart Meeting Space

- SMeet (Smart Meeting Space)
  - A collaboration space targeting ACE (Advanced Collaborative Environments)



Objectives

- Software architecture design for Smart Meeting Space (SMeet)
  - Service composition approach for constructing complex collaboration service
  - To clarify what is the level of services that divides a component service



Requirements of SMeet SW Architecture

- How to provide user-centric collaboration using context sharing?
  - It is necessary to clearly understand all the context related to the collaboration session and apply the interpreted collaboration context to configure the given SMeet node.
- How to flexibly organize SMeet node based on the capabilities of nodes?
  - Component-based approach gives us the flexibility to select collaboration services to best match the capability of given SMeet node.

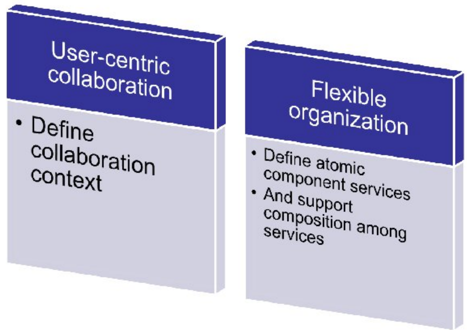
User-centric Collaboration

- Provide a collaboration environment customized for a user
- A user come into the meeting space
  - Call remote users or connect to a meeting server
    - Based on the meeting reservation
  - Turn on services that one prefers
    - Use 720p HD video for transmitting his video
    - Display received videos on preferred screen
    - Use a laser pointing device to control display result
  - Turn on services to increase quality of the meeting
    - Monitor the performance of meeting, e.g. network delay, frame rate of video, etc.
    - Run services that complements the quality of the meeting

Flexible Organization of Meeting Space

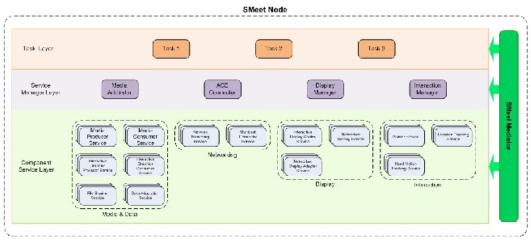
- Each meeting space has different capabilities
  - Video cameras
  - Display devices
  - Interaction devices
  - Network characteristics
- A meeting space can be configured according to the various purpose of meeting
  - What kind of interaction service will be activated for a meeting?
    - Small meeting room: Use traditional keyboard and mouse
    - Large meeting room: Use a laser pointing device

Key Issues in SW Architecture Design



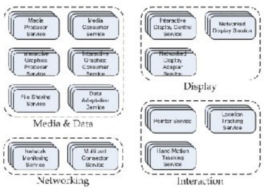
SMEET SOFTWARE ARCHITECTURE

Layered Description of SMeet SW Architecture



Component Service Layer

- Definition of Component Service
  - An atomic unit in the application layer for composing an end-to e nd service, and it is described with corresponding meta-data. [Kl ara@MM2004]
  - We define several component services and classifies those servi ces according to their functionality



[Klara@MM2004] K. Nahrstedt and W.-T. Balke, "A taxonomy for multimedia service composition," in *Proc. ACM Multimedia (MM 2004)*, New York, U.S., Oct. 2004.

Component Service Classification

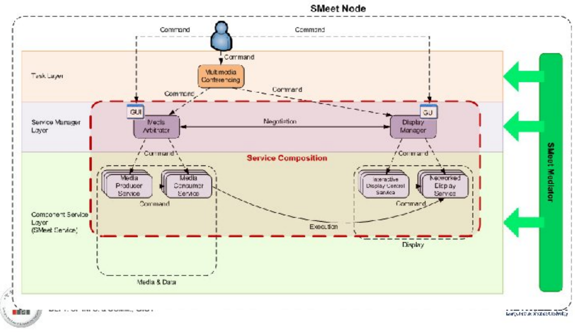
- Media & data component service category
  - provide real-time media transmission to support seamless audio and video communication among participants
- Display service category
  - Presents the decoded video or rendered graphics to the tiled display via network and controls the display device based on user interaction (e.g. pointing)
- Multimodal interaction service category
  - User-friendly interaction with tiled display such as pointing service, hand motion tracking service, and location tracking service
- Networking service category
  - Monitors network performance and removes networking barriers such as multicast connectivity problem and NAT/firewall traversal

Service Manager Layer

- Service manager manages component services
  - To handle service composition request from SMeet Mediator
  - Manage contexts from each component service
  - Cooperate with other service managers
  - Share the contexts with other service managers
- Each service manager take charges in its service category
  - Media Arbitrator: Media & data component service category
  - Display Manager: Display service category
  - Interaction Manager: Multimodal interaction service category
  - ACE Connector: Networking service category

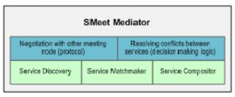
Task Layer

- Task is the application that a user wants to achieve during the collaboration session



SMeet Mediator

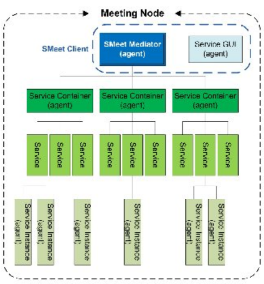
- SMeet Mediator
  - Representative of a SMeet node
  - [Inter SMeet node] Creates a collaboration session by cooperating with other SMeet node
  - [Intra SMeet node] Discover/Configure/Manage services in a SMeet node
    - Service configuration: Configuring component services and customized tuning of service parameters
    - Service matching: Matching the heterogeneity of component services
    - Service composition: Composing a new extended services



IMPLEMENTATION

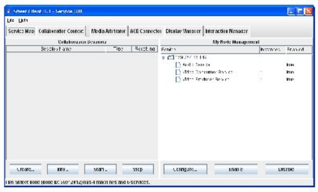
SMeet Node Structure

- **SMeet Mediator**
  - Service & container discovery
  - Service & container operation
  - Communication with other nodes
- **Service GUI**
  - User interface for meeting node operation
- **Service Container**
  - Service holder placed on every host
  - Service registration and launch
- **Service**
  - Abstract code to access multimedia tools
- **Service Instance**
  - Instantiated service activated by user

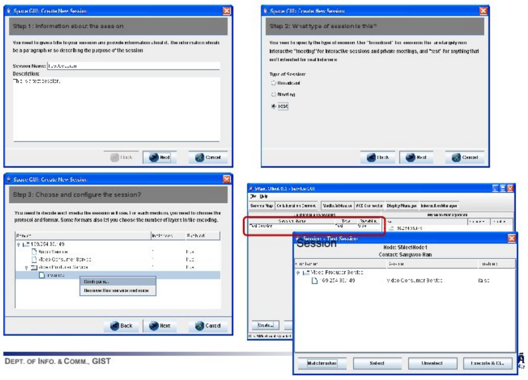


Conferencing Session

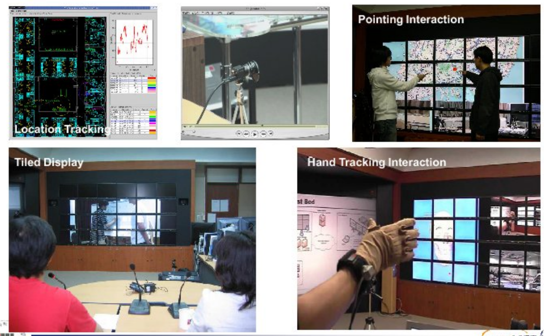
- Session is a logical set having various services which have users communicate with other participants.
- Service GUI helps users to create sessions and announce them to other users. It also enables users to join existing session.



Session creation wizard UI



Current Prototype of SMeet Node



Conclusion and Future work

- Conclusion
  - The proposed architecture supports flexible organization of SMeet node by integrating a set of component services.
    - Design of software architecture supporting flexible service composition
- Future work
  - Define collaboration context
  - Implement smart configuration functionality of SMeet

Acknowledgement

This research is supported by the Ubiquitous Computing and Network (UCN) Project, the Ministry of Information and Communication (MIC) 21st Century Frontier R&D Program in Korea.

2.10 Projet Digitable

François Codelfy (FT R&D)

DIGITABLE is a project of a shared interface for a collaborative surface used in the same room and / or remotely. The main objectives are

- the technological optimization of finger interaction by the fusion of tactile and computer vision tracking
- the design of new styles of interaction
- usage evaluation in local and remote situations

Innovation : The digital table allows many people to interact at the same time on the same surface, thanks to the natural bare-hand interfaces. The DIGITABLE project focus on a more direct interaction (compared to the traditional mouse interaction), on gesture recognition and on physical object tracking for the creation of tangible interactions.

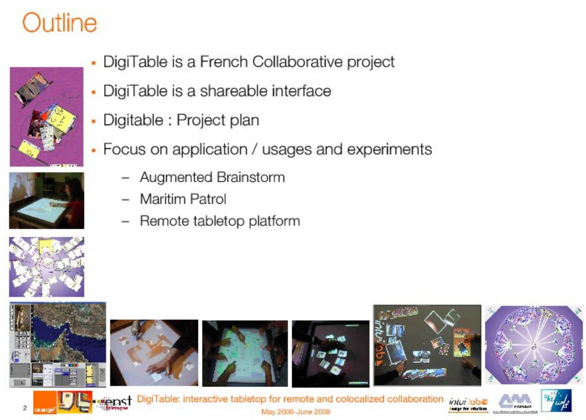
DIGITABLE offers new paradigms for :

- person-machine interaction through the manipulation of digital and tangible objects,
- person-person interaction by allowing the co-interaction in the same location or remotely through interactive tables.

Expectations : The design and validation of new tools and services for collaboration and communication based on natural interaction

DIGITABLE is a project funded by the French agency ANR in the "software" network.


DigiTable
Interactive tabletop for co-localized and remote collaboration
François Coldefy Orange Labs
www.digitable.fr


Outline
DigiTable is a French Collaborative project
DigiTable is a shareable interface
Digitable : Project plan
Focus on application / usages and experiments
– Augmented Brainstorm
– Maritim Patrol
– Remote tabletop platform
2
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

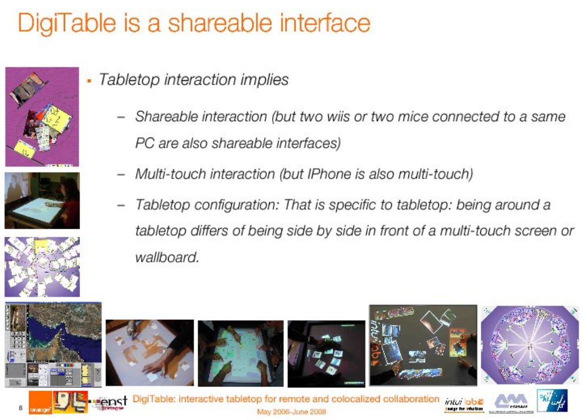

DigiTable : a French collaborative project
DigiTable (May 2006-June 2008) was supported by
– the French National Research Agency,
– The Media and Network Cluster
6 Partners:
– Academic:
– CNRS/LIMSI (Orsay) ,
– ENSAM (Paris),
– LIG (University of Grenoble),
– Institut Telecom (Brest)
– Business Companies :
– IntuiLab (SME in Human Computer Interaction),
– Orange Labs (France Télécom R&D)
3
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

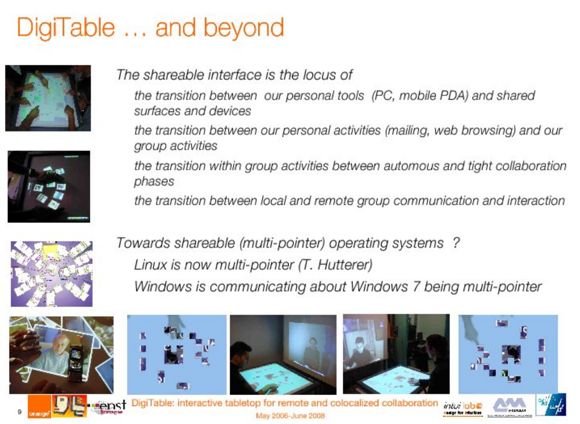

DigiTable : a French collaborative project
DigiTable takes advantage of the recent (2007- 2008)
– Buzz on Multi-touch interfaces,
– Minority Report effect (manipulating data with your hands)
– Wow effect!
… but it was not so clear when we designed the project … in 2005!
4
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

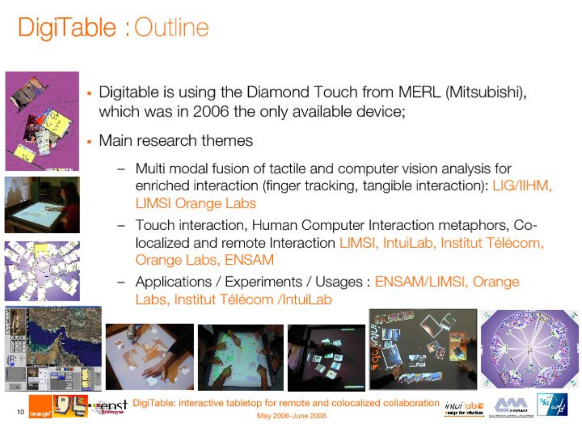

DigiTable is a shareable interface
A shareable interface supports several people simultaneously interacting on the same device
Paradigm shift :
– From personal devices (Personal Computer, Personal Digital assistant, Personal Phone) to shareable devices (tabletop,large multi-touch screens)
Conviviality : everyone interacts whenever he wants
– No turn taking (Give me the mouse!!!)
– Data are to be seen and manipulated by everyone every moment,
– Interactions are made explicit, visible and understandable,
5
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

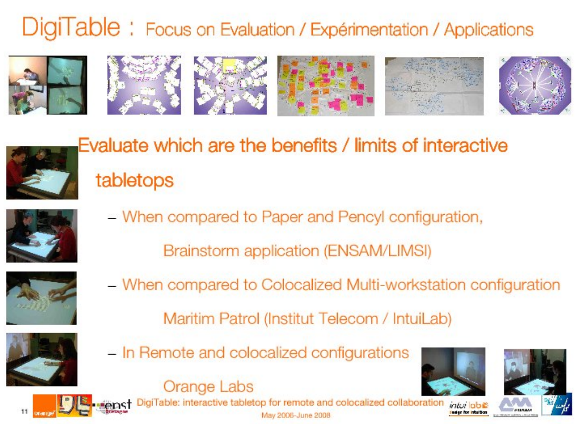

DigiTable is a shareable interface
Second paradigm shift
– From Human Computer Interaction to Agmented Human to Human Interaction
The focus is …
…on how people interact with each other and how we can afford them with digital interaction without hindering the group dynamics …
… and on Human Computer Interaction.
Human factors is a key academic discipline!!
6
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable is a shareable interface
DigiTable is also a step … backward!!!
– How did we interact and work together before the Personal Computer age?
– In some way, we were able to find more opportunities to collaborate around a tabletop
Personal Computers hamper collaboration as it is really difficult to infere what the activity of my collegue in the room is
If I have a question on a current common work, I do not know if I can ask him now or if I should wait…
… maybe should I send him a mail?
7
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

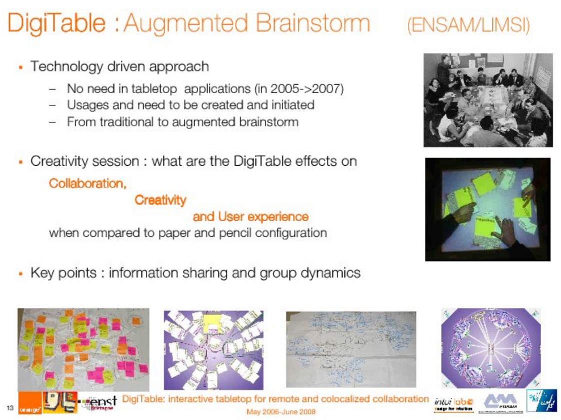

DigiTable is a shareable interface
Tabletop interaction implies
– Shareable interaction (but two wiis or two mice connected to a same PC are also shareable interfaces)
– Multi-touch interaction (but IPhone is also multi-touch)
– Tabletop configuration: That is specific to tabletop: being around a tabletop differs of being side by side in front of a multi-touch screen or wallboard.
8
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

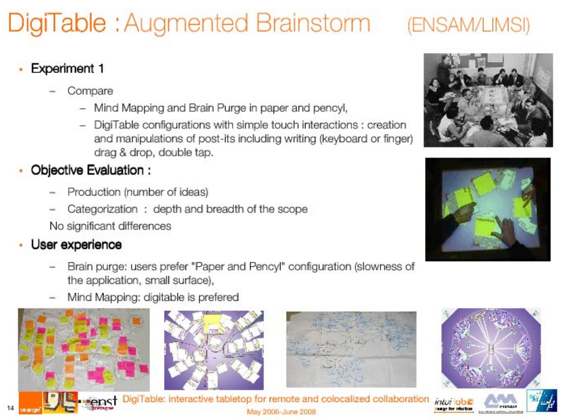

DigiTable … and beyond
The shareable interface is the locus of
the transition between our personal tools (PC, mobile PDA) and shared surfaces and devices
the transition between our personal activities (mailing, web browsing) and our group activities
the transition within group activities between automous and tight collaboration phases
the transition between local and remote group communication and interaction
Towards shareable (multi-pointer) operating systems ?
Linux is now multi-pointer (T. Hutterer)
Windows is communicating about Windows 7 being multi-pointer
9
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

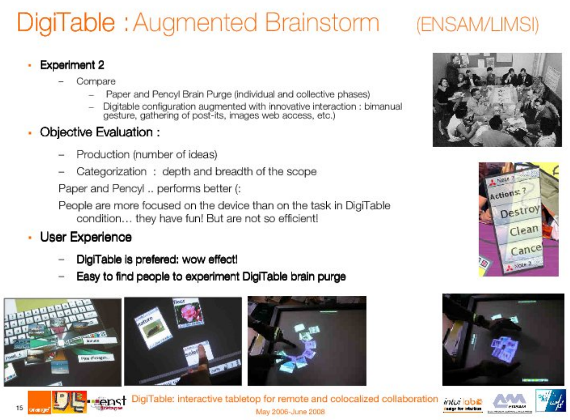

DigiTable : Outline
Digitable is using the Diamond Touch from MERL (Mitsubishi), which was in 2006 the only available device;
Main research themes
– Multi modal fusion of tactile and computer vision analysis for enriched interaction (finger tracking, tangible interaction): LIG/IIHM, LIMSI Orange Labs
– Touch interaction, Human Computer Interaction metaphors, Co-localized and remote Interaction LIMSI, IntuiLab, Institut Télécom, Orange Labs, ENSAM
– Applications / Experiments / Usages : ENSAM/LIMSI, Orange Labs, Institut Télécom /IntuiLab
10
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Focus on Evaluation / Expérimentation / Applications
Evaluate which are the benefits / limits of interactive tabletops
– When compared to Paper and Pencyl configuration,
Brainstorm application (ENSAM/LIMSI)
– When compared to Colocalized Multi-workstation configuration
Maritim Patrol (Institut Telecom / IntuiLab)
– In Remote and colocalized configurations
Orange Labs
11
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


ENSAM / LIMSI
Augmented brainstorm
Destroy
Clean

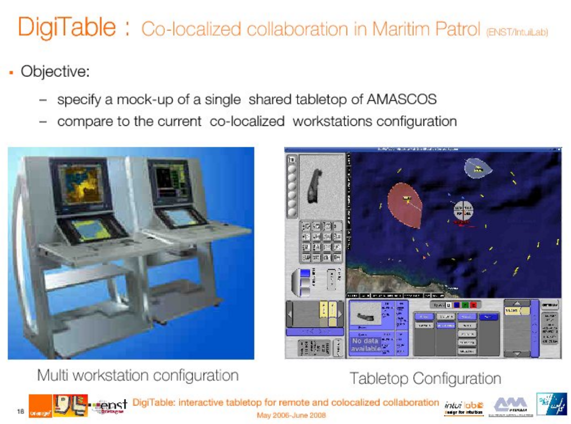

DigiTable : Augmented Brainstorm (ENSAM/LIMSI)
Technology driven approach
No need in tabletop applications (in 2005->2007)
Usages and need to be created and initiated
From traditional to augmented brainstorm
Creativity session : what are the DigiTable effects on
Collaboration,
Creativity
and User experience
when compared to paper and pencil configuration
Key points : information sharing and group dynamics
13
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Augmented Brainstorm (ENSAM/LIMSI)
Experiment 1
Compare
Mind Mapping and Brain Purge in paper and pencyl,
DigiTable configurations with simple touch interactions : creation and manipulations of post-its including writing (keyboard or finger) drag & drop, double tap.
Objective Evaluation :
Production (number of ideas)
Categorization : depth and breadth of the scope
No significant differences
User experience
Brain purge: users prefer "Paper and Pencyl" configuration (slowness of the application, small surface),
Mind Mapping: digitable is prefered
14
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Augmented Brainstorm (ENSAM/LIMSI)
Experiment 2
Compare
Paper and Pencyl Brain Purge (individual and collective phases)
Digitable configuration augmented with innovative interaction : bimanual gesture, gathering of post-its, images web access, etc.)
Objective Evaluation :
Production (number of ideas)
Categorization : depth and breadth of the scope
Paper and Pencyl .. performs better (:
People are more focused on the device than on the task in DigiTable condition… they have fun! But are not so efficient!
User Experience
DigiTable is prefered: wow effect!
Easy to find people to experiment DigiTable brain purge
Actions: ?
Destroy
Clean
Cancel
15
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


Institut Telecom/IntuiLab
Maritim Patrol
16
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Co-localized collaboration in Maritim Patrol (ENST/IntuiLab)
ENSTB/IntuiLab: Thales Amascos (Airborne MAritim Situation Control System) is a multi workstation platform on board of an aircraft dedicated to boats identification using a variety of sensors (Radar, infrared images, etc.)
17
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Co-localized collaboration in Maritim Patrol (ENST/IntuiLab)
Objective:
specify a mock-up of a single shared tabletop of AMASCOS
compare to the current co-localized workstations configuration
Multi workstation configuration
Tabletop Configuration
18
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

DigiTable : Co-localized collaboration in Maritim Patrol (ENST/IntuiLab)

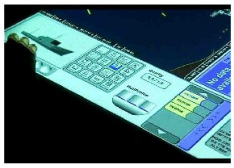
TACCO: Tactical operator
In charge of the Maritim Patrol

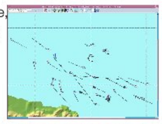
SENSO: Sensor operator
Sensor analysis for boat identification

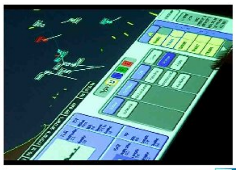
Boat identification
Aircraft Route control

DigiTable : Co-localized collaboration in Maritim Patrol (ENST/IntuiLab)

- SENSO Tasks
  - Find out the Profile and the structure of the boat from the sensors
  - Rightness level of the information
- TACCO Tasks
  - Define way-points of the aircraft
  - In charge of the boats identification
- TACCO/SENSO gesture interactions
  - Information requests and answers,
  - Tracks exchange,
  - Tracks grouping







DigiTable : Co-localized collaboration in Maritim Patrol

- Mock-up qualitative evaluation
  - Mutual awareness
    - Common awareness of the global progress of the task
    - Aware of the amount of work of the team mate,
    - Aware of the activity of the team mate (what he is doing)
      ⇒Easyness of the coordination and the task planning (new priorities, help, opportunity of common interactions, etc.)
  - Common ground
    - Users share the same view of the data
      - Univocal Pointing of objects or tracks on the map
      - Less talk about the talk

Orange Labs

Remote tabletop platform

DigiTable : Co-localized and remote collaboration (Orange Labs)

Evaluate strengthes and weaknesses of remote vs collocated tabletop collaboration

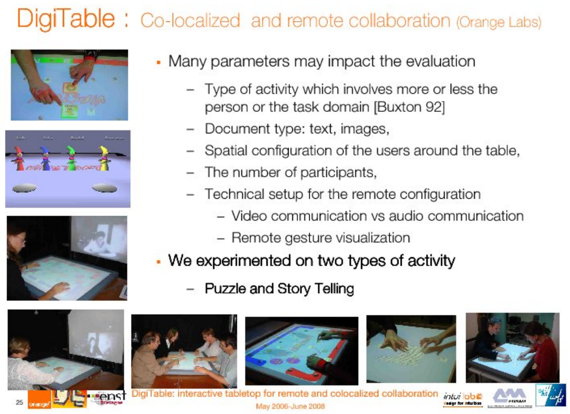
- We propose a remote collaborative tabletop platform providing:
  - Full-size video communication with eye contact and spatialized audio,
  - Remote gesture visualization as it conveys most of the perceptual information needed for mutual awareness
    - Identity : Who is doing what
    - Intentionality : Who is intending to do what
    - Pointing : showing Region of Interest to distant users
- Evaluation of the following hypothesis:
  - remote gesture visualization enables efficient cooperation and collaboration without any cognitive overload as :
    - it facilitates coordination between users (beeing aware of others' activities),
    - it helps preserving social rules related to "ownership",
    - It enables the expansion of their common ground (less talk about the talk).

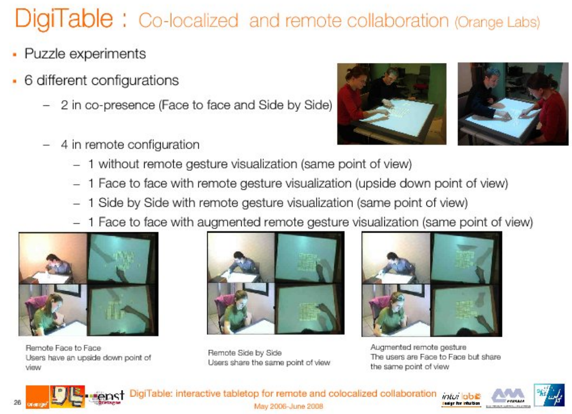
DigiTable : Co-localized and remote collaboration (Orange Labs)

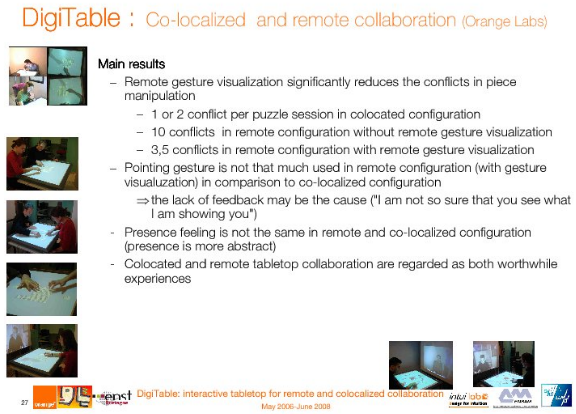
Site 1 Site 2

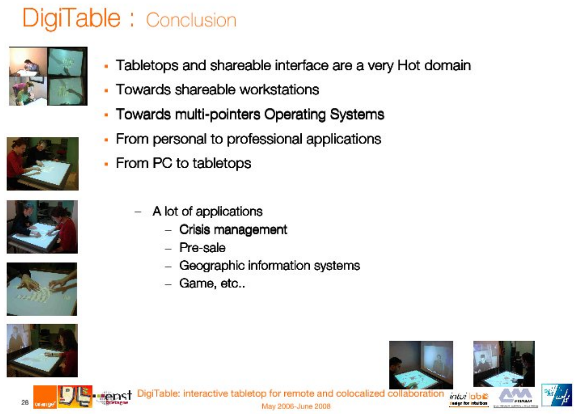
We propose a remote Tabletop platform combining:

- Merl Diamond Touch tactile Table
- Full-size Video Communication system with eye-contact (spy camera)
- Spatialized audio
- Remote gesture visualization through computer vision system,


DigiTable : Co-localized and remote collaboration (Orange Labs)
Many parameters may impact the evaluation
– Type of activity which involves more or less the person or the task domain [Buxton 92]
– Document type: text, images,
– Spatial configuration of the users around the table,
– The number of participants,
– Technical setup for the remote configuration
– Video communication vs audio communication
– Remote gesture visualization
We experimented on two types of activity
– Puzzle and Story Telling
25
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Co-localized and remote collaboration (Orange Labs)
Puzzle experiments
6 different configurations
– 2 in co-presence (Face to face and Side by Side)
– 4 in remote configuration
– 1 without remote gesture visualization (same point of view)
– 1 Face to face with remote gesture visualization (upside down point of view)
– 1 Side by Side with remote gesture visualization (same point of view)
– 1 Face to face with augmented remote gesture visualization (same point of view)
Remote Face to Face
Users have an upside down point of view
Remote Side by Side
Users share the same point of view
Augmented remote gesture
The users are Face to Face but share the same point of view
26
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Co-localized and remote collaboration (Orange Labs)
Main results
– Remote gesture visualization significantly reduces the conflicts in piece manipulation
– 1 or 2 conflict per puzzle session in colocated configuration
– 10 conflicts in remote configuration without remote gesture visualization
– 3,5 conflicts in remote configuration with remote gesture visualization
– Pointing gesture is not that much used in remote configuration (with gesture visualization) in comparison to co-localized configuration
⇒ the lack of feedback may be the cause ("I am not so sure that you see what I am showing you")
- Presence feeling is not the same in remote and co-localized configuration (presence is more abstract)
- Colocated and remote tabletop collaboration are regarded as both worthwhile experiences
27
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008


DigiTable : Conclusion
Tabletops and shareable interface are a very Hot domain
Towards shareable workstations
Towards multi-pointers Operating Systems
From personal to professional applications
From PC to tabletops
– A lot of applications
– Crisis management
– Pre-sale
– Geographic information systems
– Game, etc..
28
DigiTable: interactive tabletop for remote and colocalized collaboration
May 2006-June 2008

2.11 Naval Education Training System, problématique et solution

Franck Monin (DCI/NAVFCO Défense Conseil International branche Navfco)

Comment résoudre le problème de formation. Comment travailler avec le même outils de façon à harmoniser la formation des marins.

DCI

Naval Education & Training System

NETS

DCI

DEFINITION

TO ENSURE TRAINING CONSISTENCY & PERFORMANCE
A MODERN NAVY SHOULD USE A
GLOBAL TRAINING SYSTEM

- MULTI-PROGRAM
- MULTI-SITE ACCESS
- MULTI-USERS

NAVAL EDUCATION & TRAINING SYSTEM

DCI

DCI PROBLEM

- PLURALITY OF PROGRAMS
- DIVERSITY OF TRAINING SITES
- PLURALITY OF SKILLS
- PLURALITY AND REDUNDANCY OF CONTENTS
- CUSTOMIZATION OF TRAINING/COURSES
- COURSE DEVELOPMENT COSTS
- REACTIVITY TO CUSTOMERS
- NEED TO EVOLVE WITH NEW TECHNOLOGIES

3

DCI

SEEKING A SOLUTION

- FEEDBACK FROM PROGRAMS
- DEVELOPMENT OF E-LEARNING → NETS (IN-HOUSE and EXTERNAL)
- ECONOMIC SOLUTION
- DOCUMENTARY PROCESS INTEGRATING SPECIFICATION AND STANDARDS

4

DCI

SOLUTION =NETS

NETS COMPONENTS

5

DCI

CONTENTS DATA BASES

Demonstrated using a remote connection

- CONTENTS UNDER SCORM FORMAT AT ANY LOCATION (GETS MULTI-SITE FEATURE)
- TESTS INCLUDED IN CONTENTS, CONSIDERED AS CONTENTS OR GENERATED BY THE SYSTEM
- COURSES PLACED ON-LINE AND INTENDED FOR LEARNERS (COMPULSORY OR WITH RIGHT OF ACCESS)

6

USER DATA BASE

Demonstrated using a remote connection

• INTEGRATION IN THE SOFTWARE SYSTEM ACCORDING TO A PRE-DEFINED OR DEFINABLE STRUCTURE

• EACH USER HAS A UNIQUE AND REFERENCED PERSONAL LOGIN

• EACH USER ACTION IS TRACED BY THE SYSTEM

• EACH USER HAS A ROLE AND PRIVILEGES (MORE OR LESS LIMITED)

7

ILEARNING PLATFORM

Demonstrated using a remote connection

➢ MANAGEMENT OF TRAINING WITH DIFFERENT CATEGORIES OF USERS

- LEARNERS
- TUTORS/CONTENTS MANAGERS
- AUTHORITIES
- ADMINISTRATORS

8

ILEARNING PLATFORM

Demonstrated using a remote connection

➢ REFERENCING OF ALL CONTENTS (CONFIGURATION FOLLOW-UP) ALLOWING THEM TO BECOME TRAINING PATHS

➢ REFERENCING OF ALL USERS

➢ PRIMARY FUNCTIONALITIES

- USER ACTION ON CONTENTS
- RIGHTS OF CERTAIN USERS OVER OTHER USERS
- ACTIVITY TRACABILITY

9

ILEARNING PLATFORM

Demonstrated using a remote connection

• CONTENTS MANAGEMENT (ACCORDING TO ASSIGNED ROLES)

• ALLOCATION OF ROLES AND PRIVILEGES BY AN ADMINISTRATOR

• POSSIBILITY OF EDITING ALL TYPES OF REPORTS FOR AN AUTHORITY OR TUTOR

• FOLLOW-UP OF COMPETENCES (REGULAR CHECK OF THEIR ACQUISITION OR UPKEEP)

10

ILEARNING PLATFORM

Demonstrated using a remote connection

MULTI-MODE ACCESS:

- IN-CLASS: LOCAL TEACHER-LED TRAINING (STUDENTS IN CLASS) (*)
- E-CLASS: TEACHER-LED TRAINING OVER RSNF NETWORK (DISTANT STUDENTS) (*)
- SELF E-STUDY: STUDENT-DRIVEN (SELF-PACED) DELIVERY OF CONTENT OVER RSNF NETWORK

(*) CAN BE CONDUCTED SIMULTANEOUSLY

11

REAL-TIME TRAINING TOOL

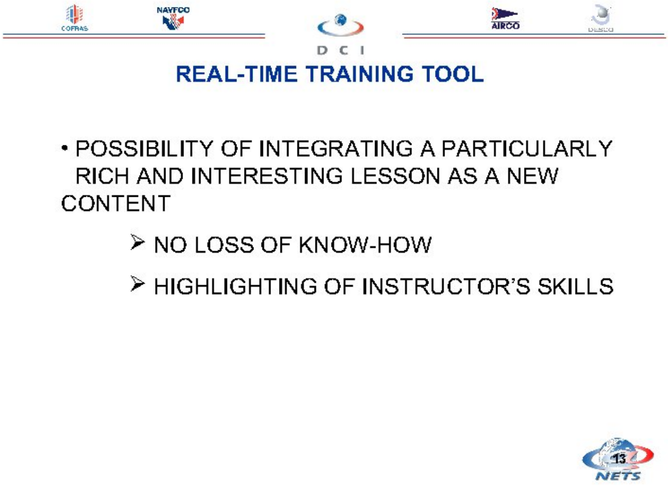
• CLASS BROADCAST IN REAL TIME (IN-CLASS AND/OR REMOTE TRAINEES)

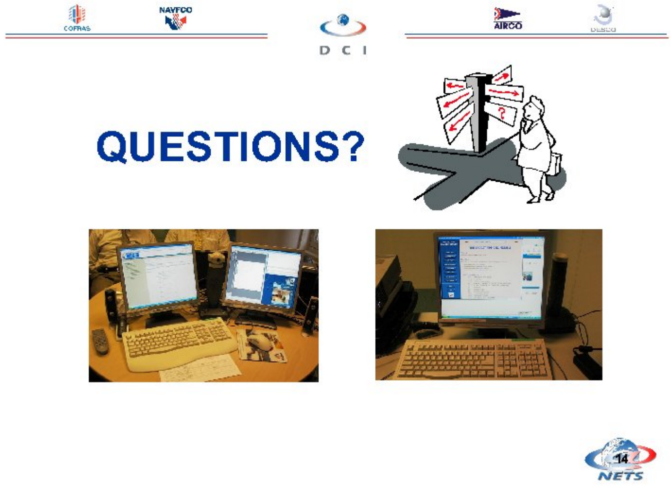
➢ TRAINEE INTERACTIVITY

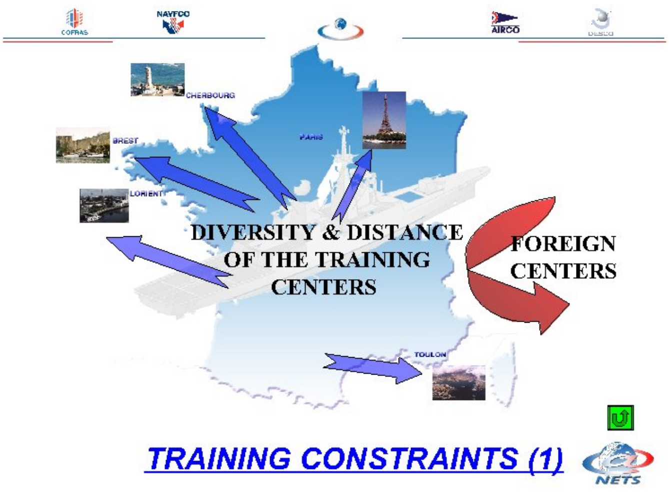
• POSSIBILITY OF A DEFERRED-TIME CLASS USING A RECORDED LESSON

➢ NO INTERACTIVITY

12


D C I
REAL-TIME TRAINING TOOL
• POSSIBILITY OF INTEGRATING A PARTICULARLY RICH AND INTERESTING LESSON AS A NEW CONTENT
➢ NO LOSS OF KNOW-HOW
➢ HIGHLIGHTING OF INSTRUCTOR'S SKILLS
13
NETS


D C I
QUESTIONS?
14
NETS


CHERBOURG
BREST
LORIENT
PARIS
TOULON
DIVERSITY & DISTANCE OF THE TRAINING CENTERS
FOREIGN CENTERS
TRAINING CONSTRAINTS (1)
NETS


NAV
DECK
INFO/CONTROL
EW
COMMS
ASW
WEAPONS
SUPPLY
AVIA
ADMIN
SPE. FORCES
MED
DIVERSITY OF SPECIALTIES
TRAINING CONSTRAINTS (2)
DC
PROP
AUX / EXT
ELECT
NETS


RSNF TRAINING CENTERS
EASTERN COAST
GHQ
WESTERN COAST
DIVERSITY & DISTANCE OF THE BASES

2.12 Lignes de temps

Vincent Puig (IRI Centre Georges Pompidou)

Partage d'annotations et de commentaires sur des films et des conférences

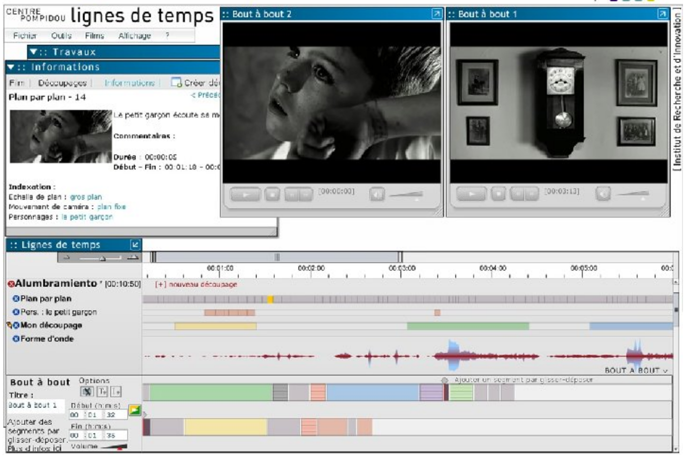
La plateforme Lignes de temps (base de la revue l'Amateur) constitue un appareil critique collaboratif d'un genre nouveau destiné aux amateurs (au sens de contributeurs) notamment dans le champ culturel. Elle s'articule autour d'un logiciel d'annotation de flux audio ou vidéo et d'un site Web permettant le partage et la publication de ses commentaires (également produits par son mobile) sous de nouvelles formes : regards signés, visites signées, podcasts, etc.

Lignes de temps
IRI / Centre Pompidou

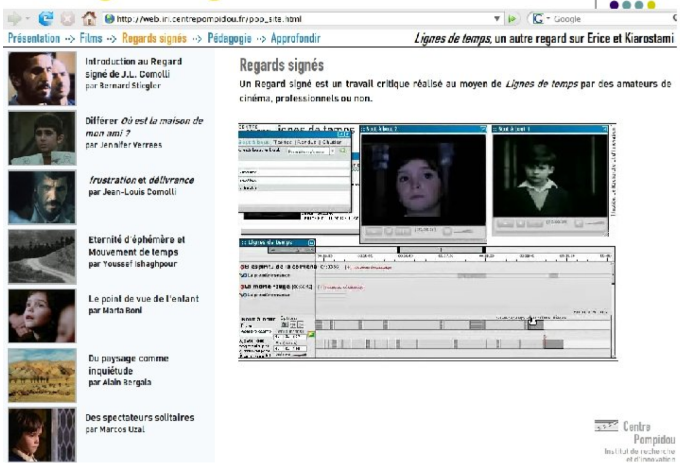
Vincent.Puig@centrepompidou.fr

1. Lignes de temps
2. Regards signés
3. Plateforme collaborative
4. Projets THD/Marcel/Critical Plateau

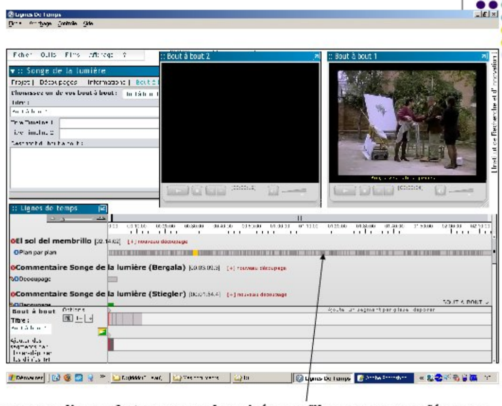
Lignes de temps



Regards signés



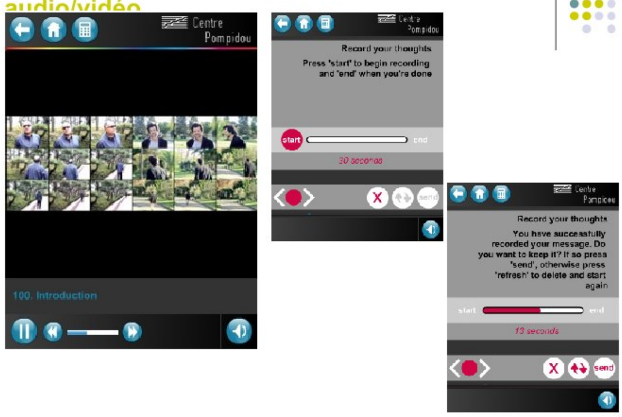
Contribution à la discussion pendant la visite



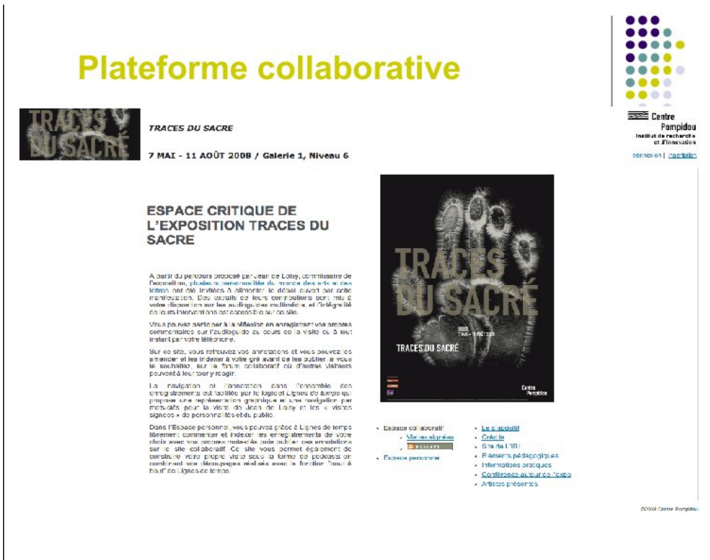
Dialogue par lignes de temps synchronisées au films ou aux conférences (Blog *Hypervidéo*)
Navigation sémantique dans les enregistrements (Audio livres)

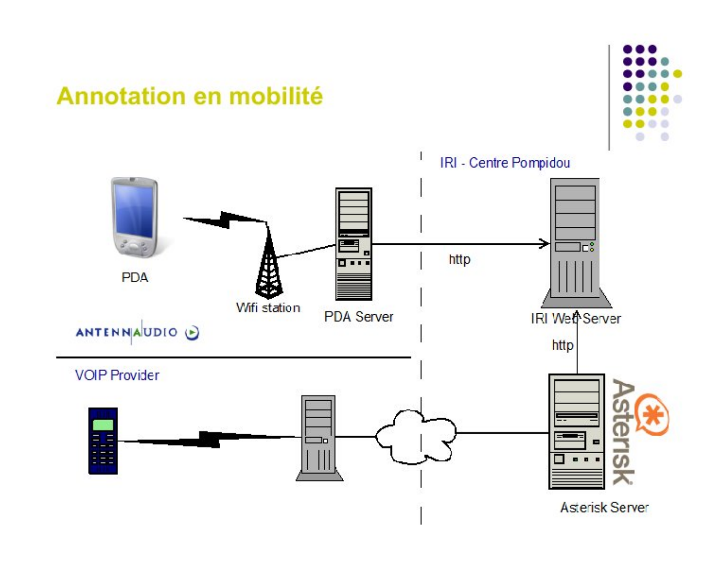
Commentaire multimodal

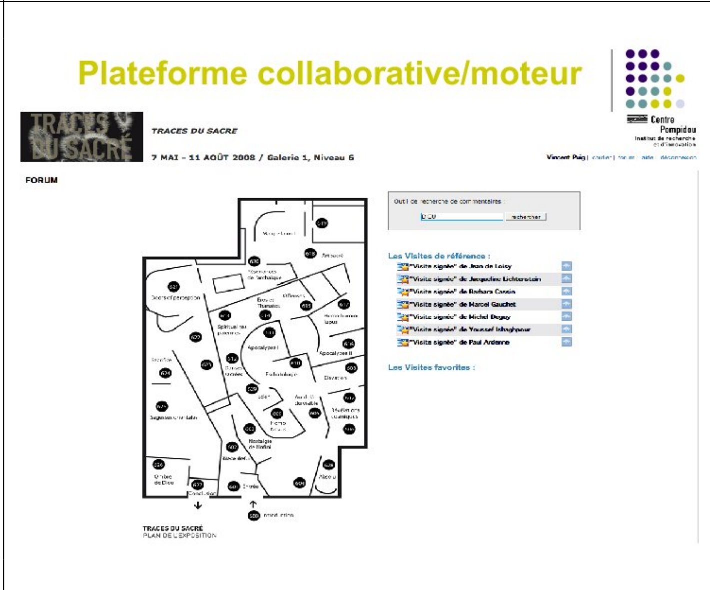
Commentaire vocal de séquences audio/vidéo

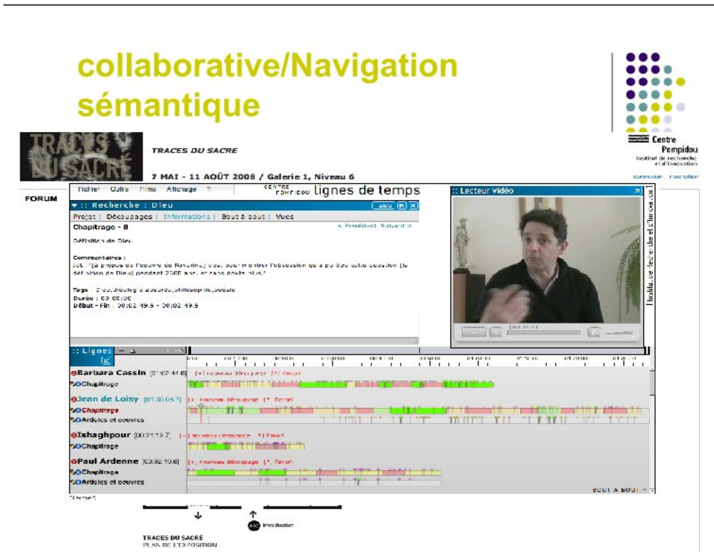


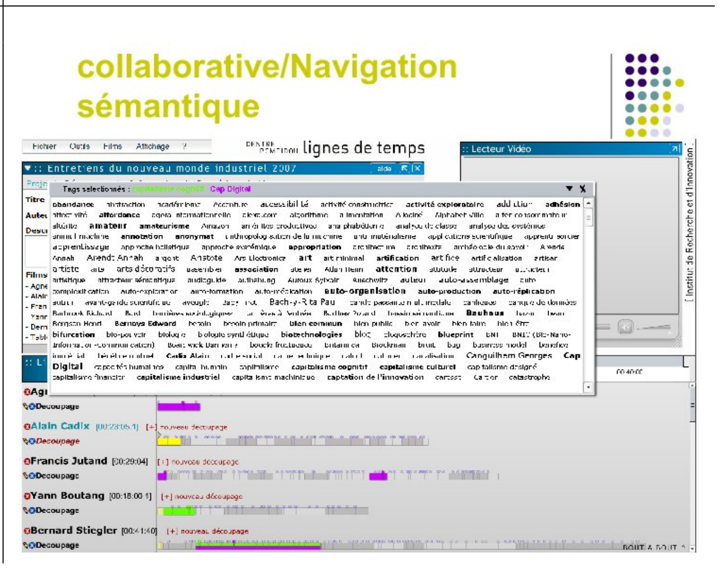

Annotation par le dessin
Centre Pompidou
ROADS
erase
send


Plateforme collaborative
TRACES DU SACRE
7 MAI - 11 AOÛT 2008 / Galerie 1, Niveau 6
ESPACE CRITIQUE DE L'EXPOSITION TRACES DU SACRE
TRACES DU SACRÉ
Centre Pompidou

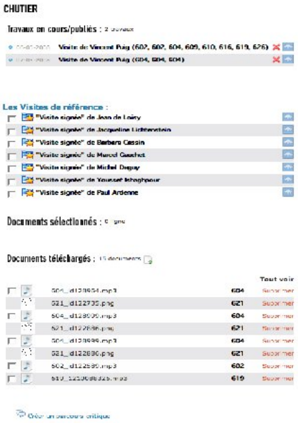

Annotation en mobilité
IRI - Centre Pompidou
PDA
Wifi station
PDA Server
http
IRI Web Server
http
ANTENNAUDIO
VOIP Provider
Asterisk
Asterisk Server


Plateforme collaborative/moteur
TRACES DU SACRE
7 MAI - 11 AOÛT 2008 / Galerie 1, Niveau 6
FORUM
Les Visites de référence :
Les Visites favorites :
TRACES DU SACRE
PLAN DE L'EXPOSITION

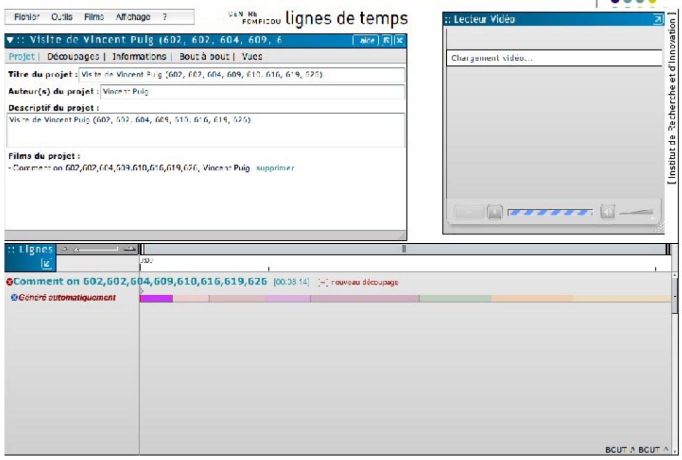

collaborative/Navigation sémantique
TRACES DU SACRE
7 MAI - 11 AOÛT 2008 / Galerie 1, Niveau 6
FORUM
lignes de temps
Lecteur Vidéo
Barbara Cassin
Jean de Loisy
Ishaghpour
Paul Ardenne


collaborative/Navigation sémantique
lignes de temps
Lecteur Vidéo
Entretiens du nouveau monde industriel 2007
Tags selectionnés :
Alain Cadix
Francis Jutand
Yann Boutang
Bernard Stiegler

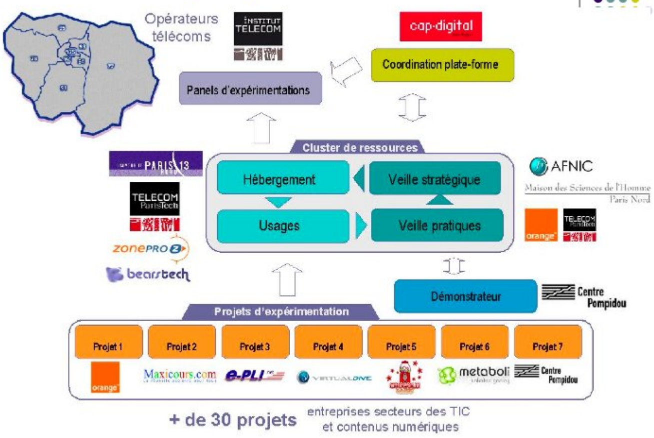
Plateforme collaborative/Espace personnel



Plateforme collaborative/Ma visite



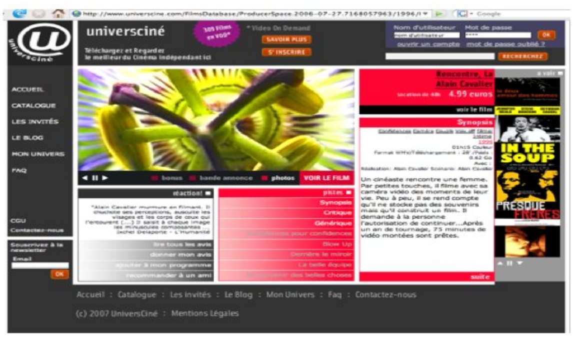
4 - THD Cap Digital



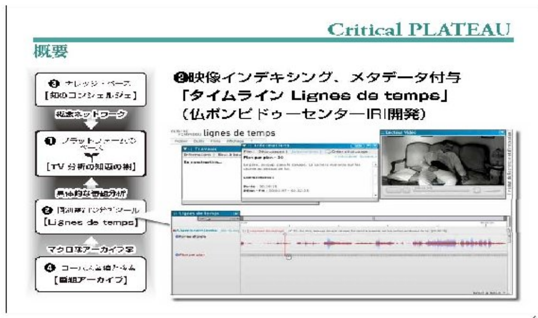
4 - THD Cap Digital

1. Think tank sur les nouvelles pratiques culturelles Web (Culture 2.0, Ecologie de l'attention, Muséologie)
2. Démonstrateur (publics du Centre Pompidou)
3. Expérimentation
   - Annotation collaborative sur plusieurs films
   - Annotation temps réel de conférences en multicast

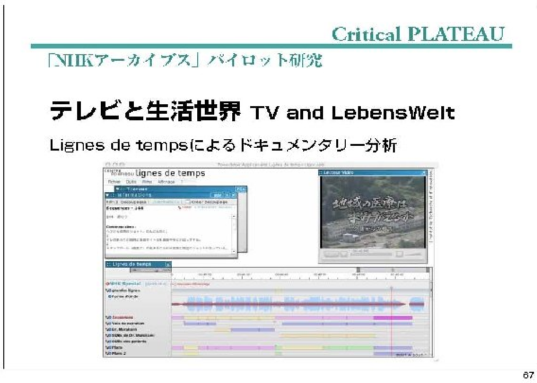
4 - THD Cap Digital IRI/Univers Ciné/Sony CSL



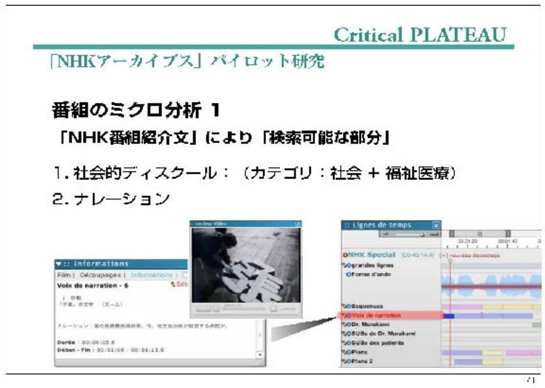
4 - THD Cap Digital Annotation Multicast (liens avec Marcel et Metaspace/Tokyo)



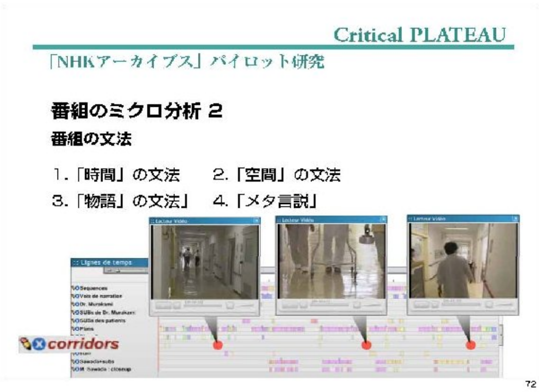
4 – Projet Critical Plateau



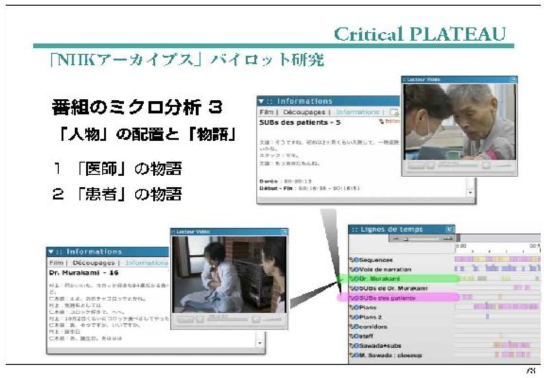
4 – Projet Critical Plateau



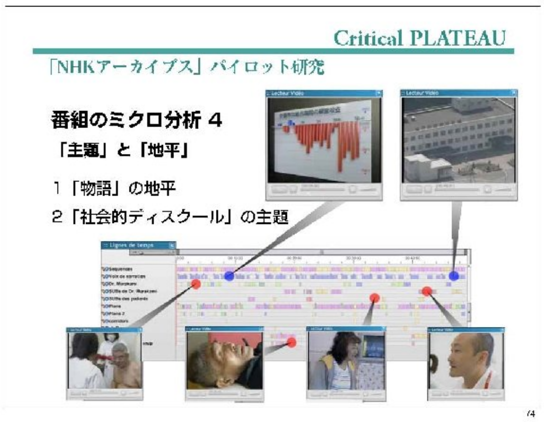
4 – Projet Critical Plateau



4 – Projet Critical Plateau



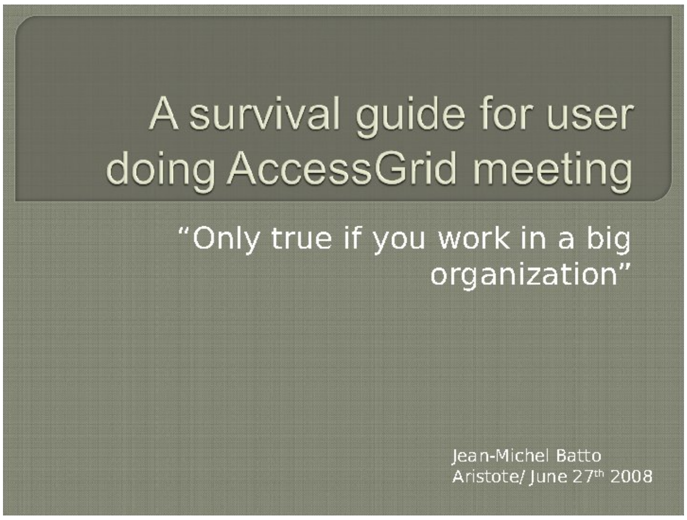
4 – Projet Critical Plateau

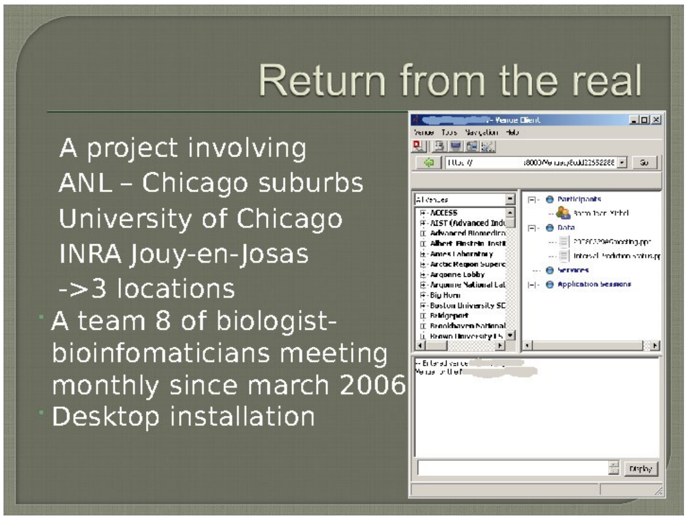


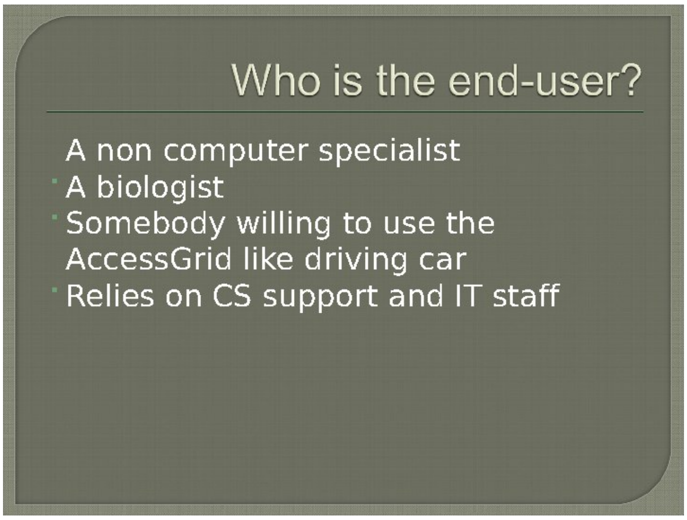
2.13 AccessGrid en situation réelle

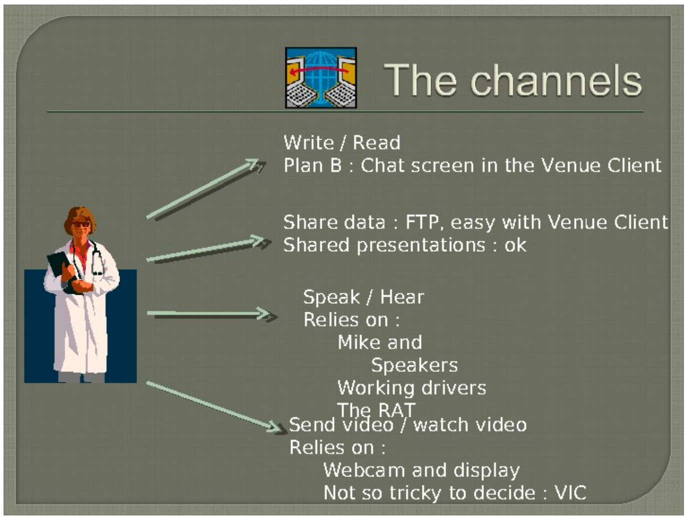
Jean-Michel Batto (INRA Jouy-en Josas)

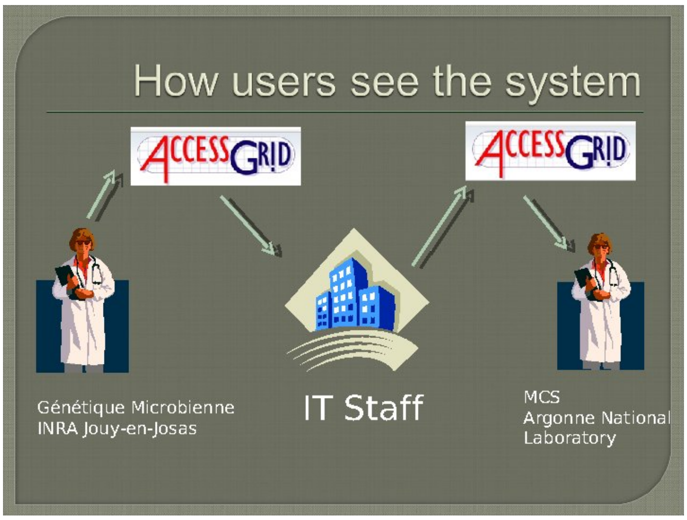
Un guide de survie pour les non-informaticiens.

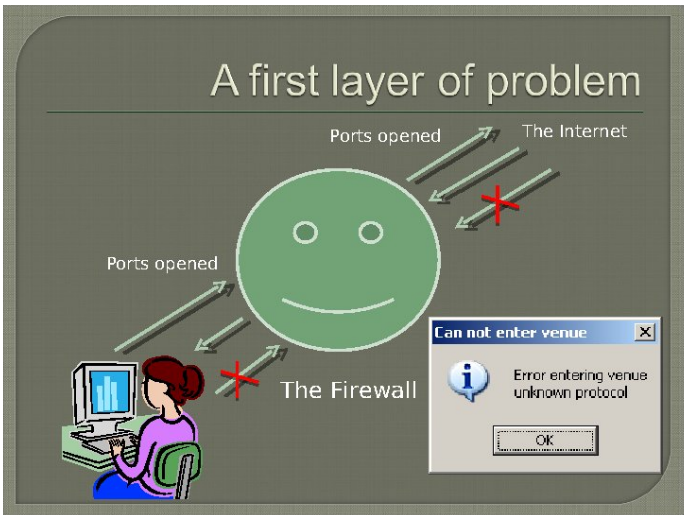

A survival guide for user doing AccessGrid meeting
“Only true if you work in a big organization”
Jean-Michel Batto
Aristote/ June 27th 2008

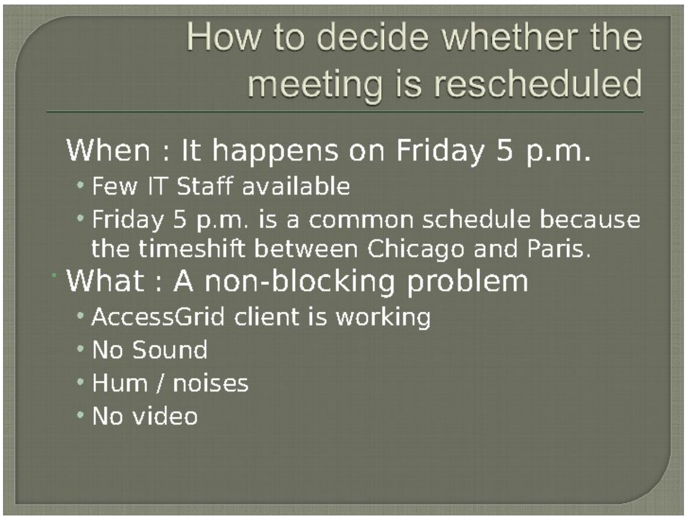

Return from the real
A project involving
ANL – Chicago suburbs
University of Chicago
INRA Jouy-en-Josas
->3 locations
A team 8 of biologist-bioinfomaticians meeting monthly since march 2006
Desktop installation

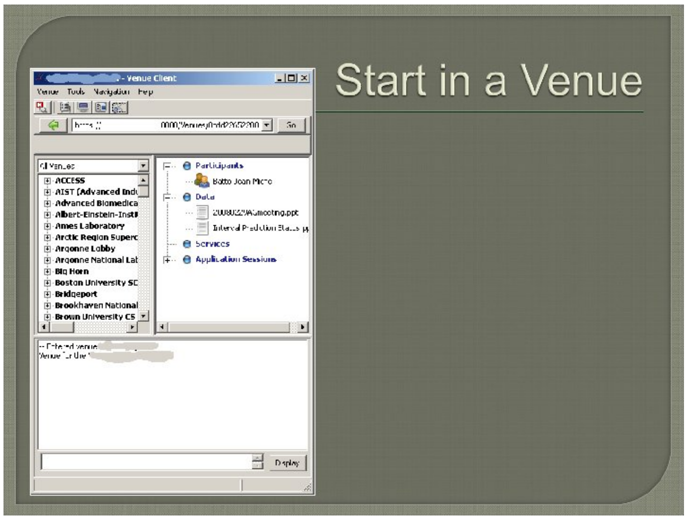

Who is the end-user?
A non computer specialist
A biologist
Somebody willing to use the AccessGrid like driving car
Relies on CS support and IT staff

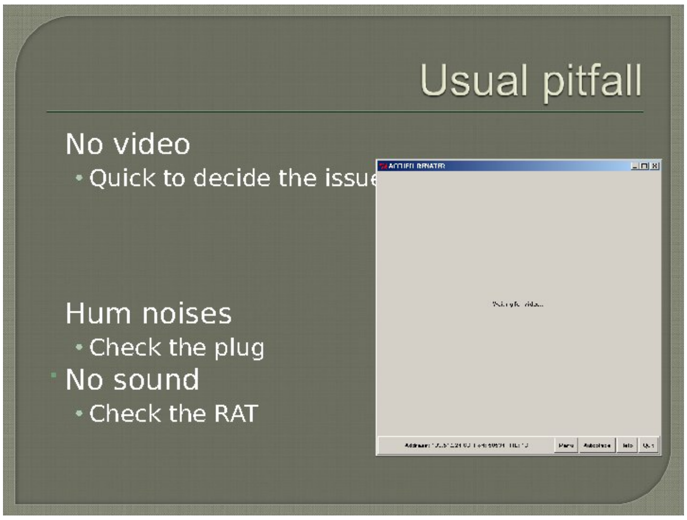

The channels
Write / Read
Plan B : Chat screen in the Venue Client
Share data : FTP, easy with Venue Client
Shared presentations : ok
Speak / Hear
Relies on :
Mike and
Speakers
Working drivers
The RAT
Send video / watch video
Relies on :
Webcam and display
Not so tricky to decide : VIC

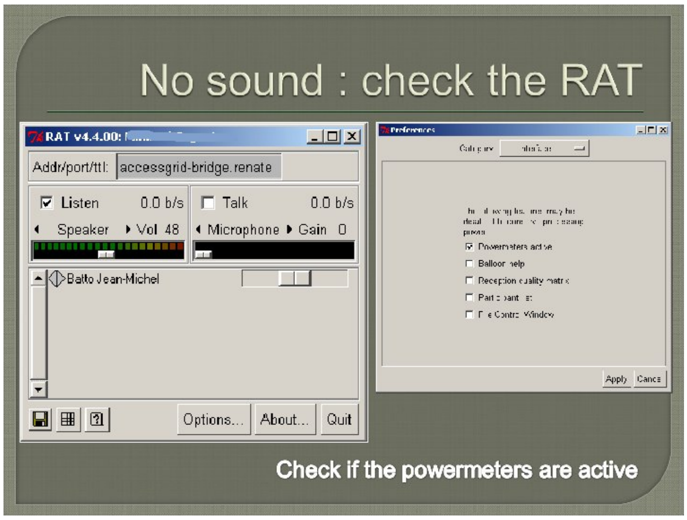

How users see the system
ACCESSGRID
ACCESSGRID
Génétique Microbienne
INRA Jouy-en-Josas
IT Staff
MCS
Argonne National
Laboratory

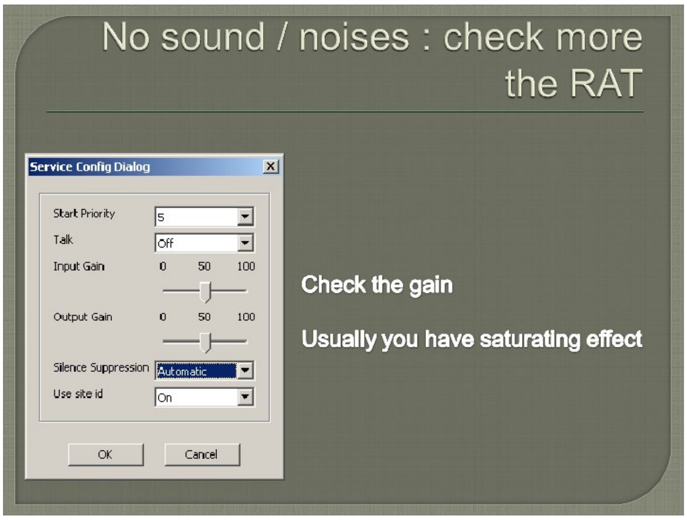

A first layer of problem
Ports opened
The Internet
Ports opened
The Firewall
Can not enter venue
Error entering venue
unknown protocol
OK

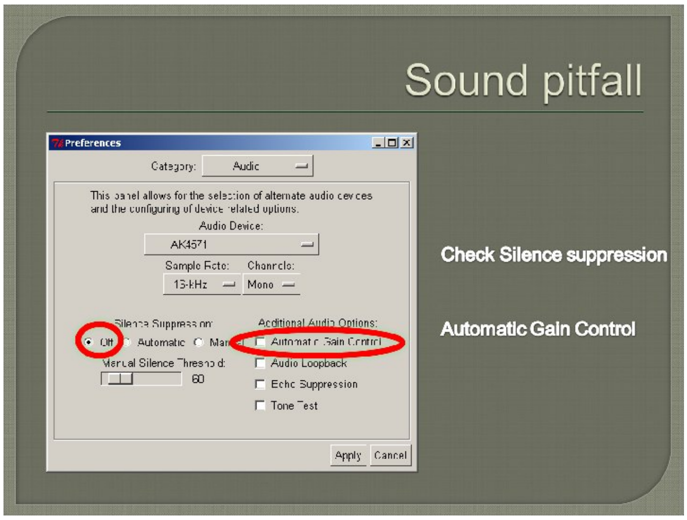

How to decide whether the meeting is rescheduled
When : It happens on Friday 5 p.m.
Few IT Staff available
Friday 5 p.m. is a common schedule because the timeshift between Chicago and Paris.
What : A non-blocking problem
AccessGrid client is working
No Sound
Hum / noises
No video


Start in a Venue
Venue Client
Participants
Data
Services
Application Sessions


Usual pitfall
No video
Quick to decide the issue
Hum noises
Check the plug
No sound
Check the RAT


No sound : check the RAT
RAT v4.4.00:
Addr/port/ttl: accessgrid-bridge.renate
Listen 0.0 b/s
Talk 0.0 b/s
Speaker Vol 48
Microphone Gain 0
Balto Jean-Michel
Options...
About...
Quit
Preferences
Powermeters active
Balloon help
Apply
Check if the powermeters are active


No sound / noises : check more the RAT
Service Config Dialog
Start Priority 5
Talk Off
Input Gain 0 50 100
Output Gain 0 50 100
Silence Suppression Automatic
Use site id On
OK
Cancel
Check the gain
Usually you have saturating effect


Sound pitfall
Preferences
Category: Audio
Audio Device:
AK4571
Sample Rate: Channels:
16-kHz Mono
Additional Audio Options:
Automatic
Audio Loopback
Echo Suppression
Tone Test
60
Apply
Cancel
Check Silence suppression
Automatic Gain Control

Usual scenario before deciding to reschedule

- Validated on Windows XP / with an already tested AG.
  - Start AG, only once (don't click too much)
  - Go into a venue
- Change the bridge -> works as the unicast/multicast is getting reinitialized
- Turn off AG client / Restart client -> works as the ports may changes (if a Firewall is filtering) as it's Windows that give the ports
- Turn off the computer / Restart (not useful by itself, but helps end-user to decide)

Is AccessGrid a mature product ?

- AccessGrid is mature and works fluently
  - For example : shared browser / shared ppt
- you have some local requirements
  - It relies on the operating system for opening the internet ports
  - It relies on the IT staff for fixing the filtering rules
  - It relies on the ability of the end-user to fix quick problem (hum, defective microphone,...)

Thanks

- Tom Uram
- Matthew Cohoon, Jenifer Zinner, Kosei Tanaka, Sabine Autret, Christopher Henry, Philippe Noirot, Fangfang Xia, Deborah Hanson, Mindy, Rebecca Koranda, Edmond Jolivet
- S.Dusko Ehrlich
- Rick Stevens

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