

Cooperations and P2P technologies at FT – Orange

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- Disclaimer: this is not an exhaustive presentation, only a list of examples!
- Three examples of projects where FT-Orange is involved
 - Grid4all
 - Part@ge
 - Solipsis
 - More...

Grid4all project: objectives

- Objectives: democratic grids as a ubiquitous utility
 - Easy to set up and use
 - Reduced management and administration complexity
 - Access to collaborative tools and applications
 - Running applications drawing on resources available on the Internet
- Countries involved: France, Sweden, Greece, Spain
 - FT leader
 - INRIA main contributor
 - plus other labs/companies

Grid4all project: a sample of use cases

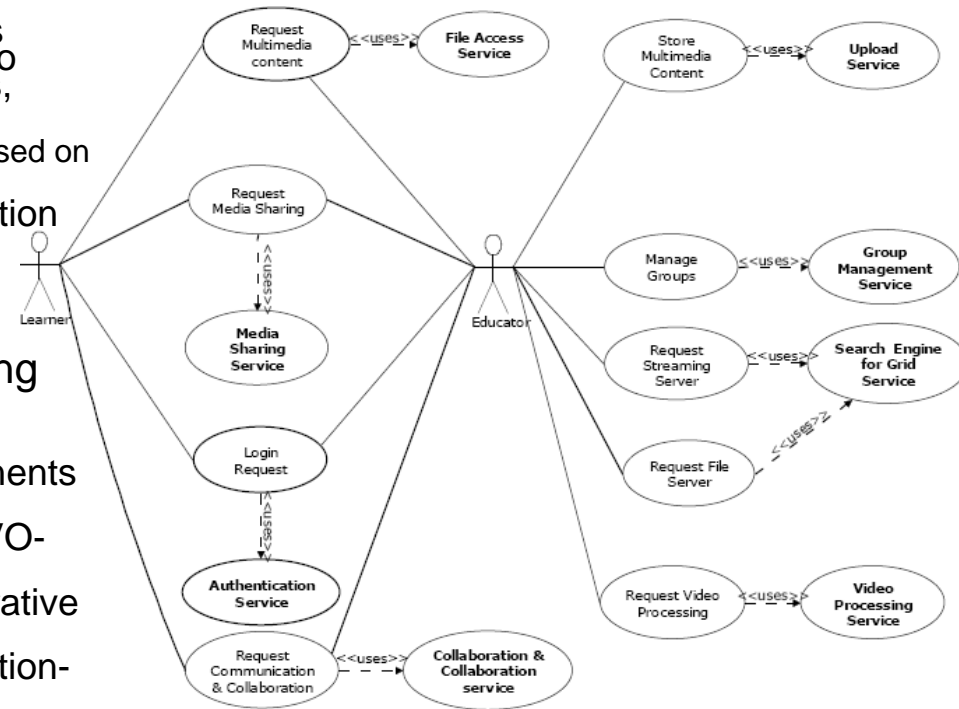
- Overall educational scenario

- eMeeting: online synchronous collaborative tool that allows to share voice, video, documents, calendar, etc.
- Collaborative File Sharing (based on Telex)
- Collaborative Network Simulation Environment

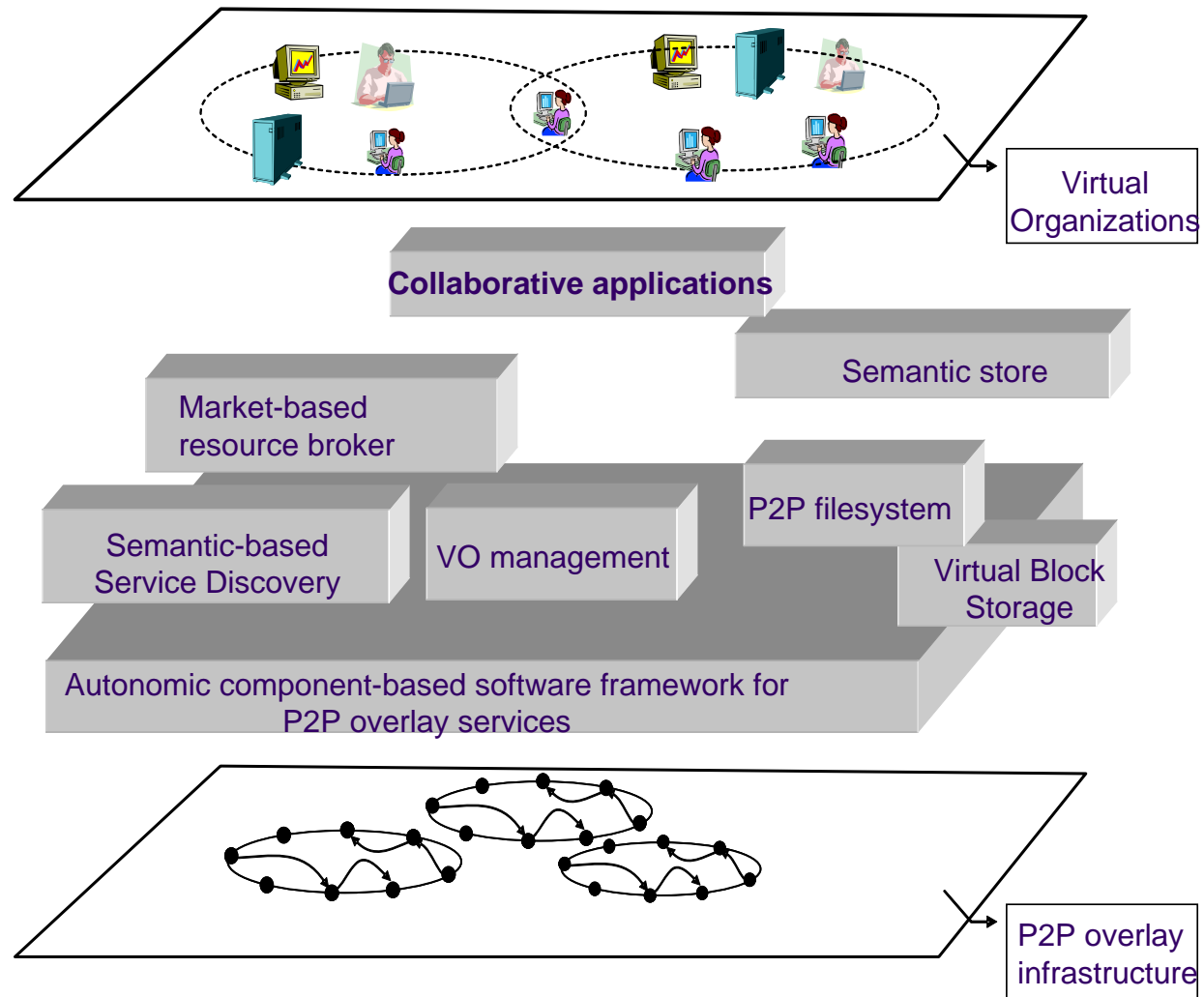
- Based on use cases implementing collaborative services

- Deploying application components on VO(*) resources
- Access of data managed by VO-wide shared workspace
- Conflict resolution for collaborative applications (Telex)
- Allocation of resources at auction-based markets

(*)VO: virtual organization



Grid4all project: P2P-based architecture



Part@ge (www.rntl-partage.fr)

- To conceive, develop and test collaborative systems for Product LifeCycle Management (PLM)
 - Enhanced Human - System Interaction
 - Distant haptic Interaction rendering and simulation
 - Gesture Interaction
 - Interfaces and interactive surfaces
 - Multimodal interaction
 - Collaboration and communication between people via the system
 - Telepresence
 - VideoAvatar
 - Mobility
 - 2D and 3D document sharing
- RNTL Platform (National Research Agency), 3 years from 01/07
 - INSA Rennes, INRIA-Alcove, INRIA-I3D, CNRS-Labri, CNRS-LPM, Esiea
 - Technological Transfer Organisms: CEA-List, CLARTE
 - FT R&D, Renault, Thalès,
 - SME : Haption, Virtools, Sogitec,
 - + Open Users Group



Part@ge: Real time Video extraction

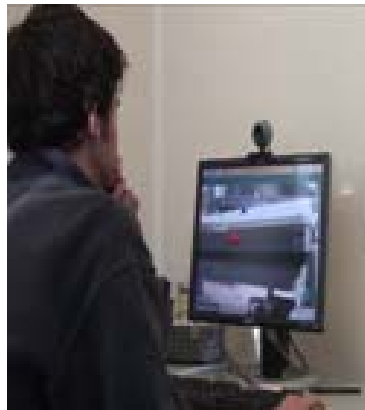
Real time extraction and integration in a virtual environment of the video image of a person:

- *Technical approach : comparison of local histograms of contours orientation and chrominance between stored background and current image.*
- *C++ module currently running at 10Hz (320x240 pixels).*
- *Possible improvement of performance by making assumptions on the scene (uniform background, stable light conditions, few user's movements in video mode, ...)*

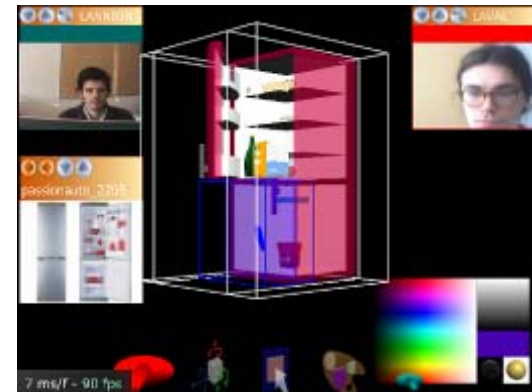


Part@ge: Multi-point collaboration/communication

- **Integration on the same display of :**
 - multi-point video communication,
 - 2D document sharing
 - collaborative interaction on 3D DMU
- **Based on existing Spin3D platform** *(previously jointly developed with INRIA)*
 - 3D interface (extended VRML player)
 - Collaborative middleware (extended Corba bus)



- **Démo :** 3 desktops connected on internet, use-case based on project design review about the "fridge" model



Solipsis

- Public, massively-shared and user-generated unbound digital universe, sustained by a dedicated Peer-to-Peer protocol
 - P2P information sharing
 - towards enterprise applications
- Partners
 - ANR,
 - Orange,
 - IRISA,
 - Univ Rennes II
 - Artefacto, Archivideo



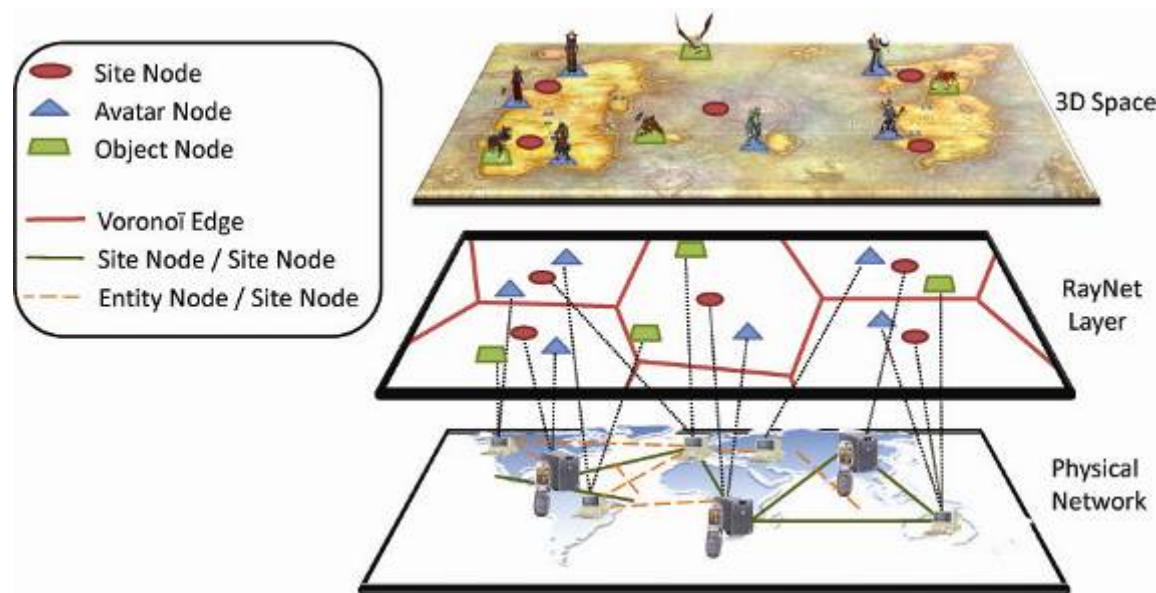
Solipsis: Hybrid Architecture

- P2P overlay for a scalable Web3D



Solipsis: Hybrid Architecture

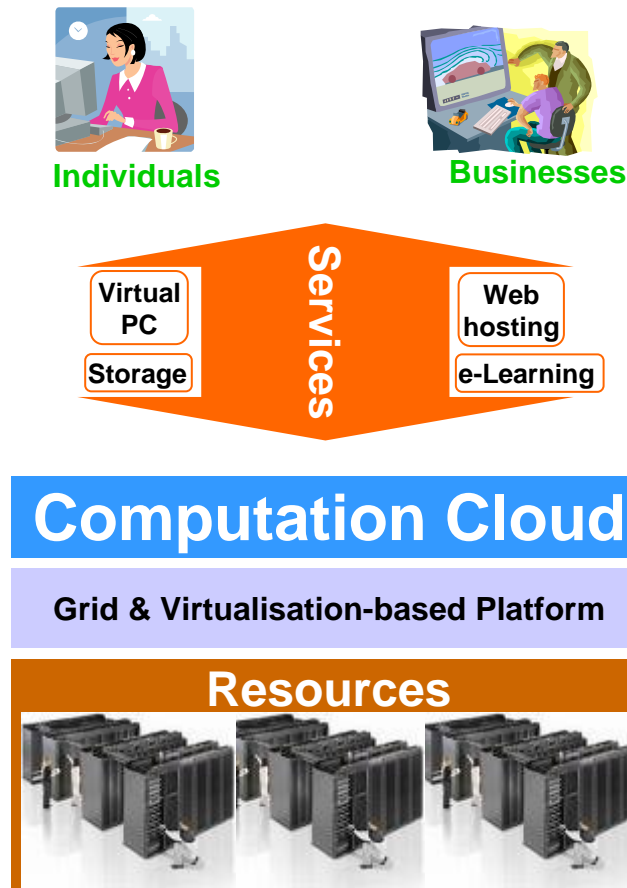
- P2P overlay to reduce server overload
 - assumption that two viewpoints within a virtual world require same contents
 - ➔ Connectivity between peers according to their distance in the virtual space
- "Site Nodes" ensure security, persistence and consistency



Solipsis: Web3D Navigator

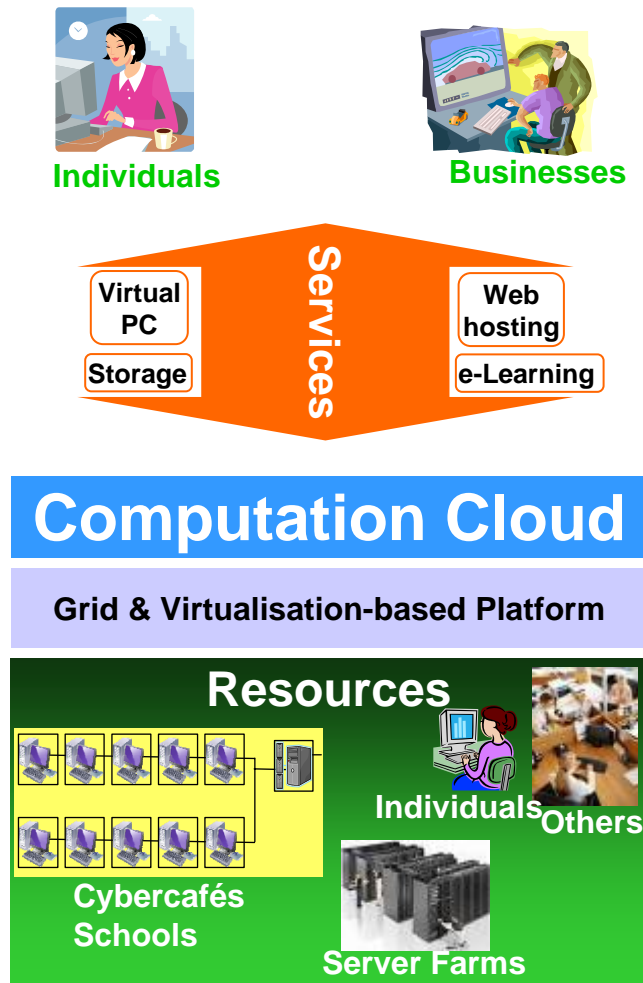
- Communication
 - Chat
 - VoIP + Lip Synch Interface
- Sharing
 - Web Pages (Navi) + Flash (Hikari)
 - Video/Audio (VLC, Speex)
 - Desktop (VNC)
- Accessibility
 - Web2.0 integration (ActiveX, plugin firefox)
 - Wiimote Interface (glovePIE)
- User generated content
 - Customizable Graphic Interface (html)
 - A declarative, an intuitive and an automatic “In World” modeler
 - Tools to import 3D models coming from professional authoring tools (skp, 3ds)

Solidar Cloud project: a P2P cloud



- Quite recent (1-2 years), Cloud Computing is a mature paradigm allowed by the convergence of
 - grid computing, virtualisation
 - Web services
 - standardisation
- Currently the big suppliers of CC (Amazon EC2, IBM, etc.) run their clouds on large distributed resources
 - huge "server farms"

Solidar Cloud project: opening the cloud model



- **Same market target as classic clouds**
 - but: (partially) based on sustainable, reliable and useful resources
 - but: opening the infrastructure to individuals
- ⇒ **A social network of services**
- ⇒ **A hybrid-P2P collaborative cloud**
- ⇒ **A novel ecosystem**

Conclusion

- At the present time no unified strategy about "P2P and CW" (nor P2P, or CW...)
- But numerous exploratory and specific initiatives
- With the aim to find new business models or extend existing ones