



Other Users

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Other Users

- Schools : report written by Andrew Perry (UK Ministry for Education, and on short assignment at UNI-C)
- Health : Martin Bech, Henrik Soendergaard, (UNI-C) , Christina Wanscher (MedCom Dk)
- Arts Humanities Social Sciences : report written by Catalin Meirosu (TERENA) and Sabine Jaume-Rajaonia (RENATER)



Schools

- Based on literature, NREN interviews and practitioners European workshop held in Feb in Paris
- Focused on usage
- Information exchange between NRENs has improved and technical and organisational issues now well understood.
(study recalls different options)
- Importance of political factors (include Europe)



School needs (1)

- Very important to improve understanding between technicians and practitioners
- What do schools need :
 - A reliable infrastructure
 - An adequate infra
 - Are training and technical support sufficient?
- What can NREN provide :
 - Services not otherwise available
 - Services that could meet a common need within the sector
 - Common services also needed by other communities
 - Added value services(report provides examples)



School needs (2)

- ICT and network are part of the pedagogy :
 - Included in the curriculum
 - Own website and mail
 - Interactive whiteboards
 - Learning platforms
 - Video conferencing
 - Resource portals
 - Enhance traditional teaching methods (means new pedagogical approach)
 - In technical terms : Need of QoS, filtering, interoperability

Some barriers to the use of network :

- not all PCs connected
- not enough bandwidth
- training
- budget issues

Impact reduced teachers workload, increased achievement and attainment levels of pupils in a number of subject



Discussion

- Besides connectivity, which services could NRENs provide to schools? Is an extension of the range of services provides to schools something that NRENs should pursue pro-actively?
- In providing services to schools, should NRENs limit themselves to connectivity and network-related technical services, or should they also be active in providing content-related services?



AHSS

- Based on literature, interviews, questionnaire
- Network used to « support » content-centric activities and to retrieve information or sources of inspiration
- Intensification of Internet technologies uses
- Increase in multi-disciplinary scientific projects, involving people in Humanities and Social Sciences working together with researchers from Computer Science or Engineering departments
- 3 types of usage came out from questionnaires and interviews:
 - performing arts (dance, music, theater ..)
 - Virtual environment
 - Access to database



AHSS

Categories of advanced applications clustered based on technical requirements

- Real-Time Collaboration technologies (video conferencing, virtual envt)
- Live performances – music and dance (streaming, video)
- Libraries and digital repositories; copyrights issues (Berlin declaration)
- AA Infrastructures and Trust (secure federated environment)
- Peer to peer technologies
- Online surveys

→ NRENs are instrumental : provide high bandwidth and QoS

Network is part of the creative work, and new trends in the Arts lead to pedagogical changes in student curriculum

- There an intensification of usage , and raise of multi-disciplinary projects
- Need for providing specific training and outreach?



Discussion

- Should NRENs set up special services for the AHSS or are the requirements of that sector covered adequately by the existing service package of NRENs?
- Do you agree that action should be taken to raise awareness among the AHSS community of **how new services developed by the NRENs could transform their work,** and to raise the awareness of the NREN community as regards the **problems that are being approached within the AHSS?**



Health

- Based on literature, web search for 18 countries, face to face discussions
- provides an introduction to the health sector and an overview of the status of health data networking in several European countries, and offers an outline regarding the considerations a typical NREN must make when expanding into health research and the health sector.
 - > lots of information provided in this report :
Large overview and Status of Health Data Networks in Europe



Findings Health (1)

- Most health data networks in Europe are mainly regional, few National
- The health care sector = political and legislative constraints.
- The sector is applications driven, but large number of applications and low level of interoperability
- Emerging applications require significant bandwidth (telediagnosics, remote radiology etc).
- The pharmaceutical industry and clinical research organizations use closed, rented networks and have relatively little demand for high speed connections and are very demanding regarding the service levels agreements and guarantees offered by their contractors.



Findings Health (2)

- NREN could provide some pieces of the network with great benefit to the Health sector (network footprint and services already provided to other communities)
- And when provided to health research -> can also work for health care

But :

Issue of integrity and confidentiality (large exchange of data and image but confidentiality issue)

Issue of guaranteed service levels

Issues of NRENs connection policies (can NREN expand in this sector?)



Discussion

- Should NRENs aim to become the provider of connectivity and network services for Healthcare sector in their countries, or should they leave that role to separate organisations created specifically for that purpose?
- If NRENs want to provide connectivity and other services to the Healthcare sector, what are the main obstacles, problems and issues?



General discussion

- Which recommendations to various stakeholders can be formulated?
- Which of the findings and recommendations are the most important ones that should be incorporated and highlighted in the overall Summary Report of the EARNEST Foresight study?