Collaboration in Research and Education

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Agenda

- What is an NREN and what is NORDUnet
- What are the services we are developing and how do they help education collaborate, disseminate and share information using Internet
- Going forward discussion
What is an NREN

- National Research and Education Network
  - Connecting educational institutions to each other and the Internet
  - Bridge the digital divide
  - Help users with high bandwidth requirements
What is NORDUnet

- Delivering internet connectivity to five Scandinavian National Research and Education Networks (Sweden, Finland, Norway, Denmark and Iceland)
- Also has presence in Amsterdam, Frankfurt, Copenhagen, Ashburn (Washington D.C.), Chicago, Palo Alto, London, Stockholm, Oslo, Miami, New York, Reykjavik
- Scandinavian success based on connectivity, transparency and collaboration
Peering presence
## NORDUnet Services

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<thead>
<tr>
<th>Year</th>
<th>Forskningsnettet</th>
<th>Funet</th>
<th>Rhnet</th>
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Network and Services

• 2005 primary service was network
• 2012 there is a much larger focus on other services
• However infrastructure and connectivity still vital for future use and development of services
Federations

- What is a federation
  - Collection of users in physically different places virtually collected in one place

- Why is it important
  - Enable users to use different services with only one account
  - Easier to connect to new services
  - Keep control of important user data
e-learning

- Remote education and video conferencing
- Help people connect over long distances
- Decrease travel and get positive environmental impact
Video distribution

- Online teaching can reach a larger group of people
- Disseminating the collected information in the world over Internet using video
- More common now to find free course material on the Internet
Online storage

• Before data was more commonly stored on the personal computer hard disk drive, now it is getting more common to store data in remote locations using “cloud” services

• Data accessible from “anywhere”

• Makes sharing information and collaborating easier
Mobility

• Travel anywhere but use your own (home) account for authentication using the eduroam service
• Service presence expanding through tendering and SSID swapping
Operational knowledge sharing

- Operational issues and problems can be solved faster if we can work together easier
- fordrop, based on XMPP and activity flows in JSON
- More operational challenges; server configuration management and deployment, automatic deployment of network services and virtual networks, automatic network discovery and inventory creation, multidomain trouble ticket distribution system
Summary

• NORDUnet services help education connect, collaborate and disseminate information using Internet

• Good connectivity, high transparency and collaboration very important factors for future use and development of services
Going forward

• Is this relevant for Auroville?
  • Connectivity project in Auroville
  • Open source collaboration
  • Continued involvement of people collaborating with Auroville globally