POZNAŃ
SUPERCOMPUTING AND NETWORKING CENTER
e-Infrastructure and related projects in PSNC

Norbert Meyer
PSNC ACTIVITY

- Operator of Poznań Metropolitan Area Network POZMAN
- Operator of Polish National Research and Education Network PIONIER
- HPC Center
- Systems and Network Security Center
- R&D Center for New Generation Networks, Grids and Portals
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PIONIER NETWORK

GÉANT 10+10 Gb/s
GÉANT/TELIA
2x2.5 Gb/s
TELIA
5 Gb/s
The vision of e-Infrastructure

(by European Commission)

- Sharing and federating scientific data
- Sharing computers, instruments and applications
- Linking at the speed of the light
The vision of e-Infrastructure

(by European Commission)

Connecting researchers
Sharing the best scientific resources
Building global virtual research communities

Sharing and federating scientific data
Sharing computers, instruments and applications
Linking at the speed of the light
e-Infrastructure support in PSNC

- **Linking at the speed of light**
  - Porta Optica, Phosphorus
  - WLCG – connecting Tier1 and Tier0

- **Sharing computers, instruments**
  - Capacity computing
  - Capability computing
  - DORII – all about remote instrumentation

- **Sharing scientific data**
  - National Data Storage

- **Applications**
PORTA OPTICA
distributed optical gateway
to Eastern Europe

Partners

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Porta Optica Study - outcome

- Successful completed plans for high-speed national research networks deployment in all beneficiary countries mainly based on DF
- Real NREN plans regarding DF deployment
  - All countries of Baltic States migrate to optical technology using purchased/leased DF
- NRENs plans are known for decision makers
- International CBDF points
  - (EE-LV, LV-LT, LT-PL, UA-PL, UA-SK, UA-MD, MD-RO)
- First undertakings in the course of POS
  - Construction of DF in Ukraine by NASU
  - 155 Mbps link exists between BASNET and PIONIER where access to GÉANT2 is provided
  - 155 Mbps link exists between URAN and GÉANT2 via PIONIER

- Currently Belarus, Moldovia and Ukraine are partners in GN3 proposal !!!
- Back See Connectivity, Baltic GRID I/II, relation with SEEREN, SEEGRIDc
Poland in e-VLBI - Expres project

By Mike Garrett from JIVE

- Connectivity
- Introducing grid approach in e-VLBI (distributed software correlation)
- Virtual Laboratory
PI ONI ER projects

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• Integrated services platform for science
  • HD Videoconference service
  • EDUROAM service
  • Campus computing service
  • Archive service
  • Interactive research HDTV service

• PIONIER sponsored projects
  • Certificate service and internal project
  • VoIP service
Campus computing service (1)
Campus service (2)

<table>
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<tr>
<th>Global management layer (open-source)</th>
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<td>Local resource managers</td>
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<td>On-demand virtual machines</td>
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Performance Pyramid

- European HPC center(s)
- National/regional centers, Grid-collaboration
- Local centers
- Campus Computing Personal/office computing
- Capability Computing
- Capacity Computing

TIER 0
TIER 1
TIER 2
TIER 3
Work plane - outline

• Preparation of the RI as a single legal entity
  • Legal form and governance structure, funding, procurement, and usage strategy, Peer Review process
  • HPC Ecosystem links: European and national HPC infrastructures e.g. DEISA, the ESFRI projects, EGEE and EGI, communities, vendors and user industries, ...

• Prepare operation of petascale systems in 2009/2010
  • Deployment and benchmarking of prototypes
  • Porting, optimising, petascaling of applications
  • Start a process of technology development and assessment for future multi-petascale systems
International co-operation - R&D
Thank YOU for the attention !!

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