BalticGrid - Infrastructure
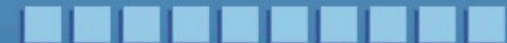
Åke Edlund

Lauri Anton
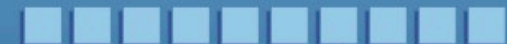
BalticGrid Infrastructure in Numbers

- 26 sites (15 certified)
- 1384 CPU cores
- 46 TB storage

- 1M compute hours in last 12 months

- 4 local active VOs (balticgrid, litgrid, gamess, biit)
- 2 EGEE VOs (cms, lhcb)

- Sites are running gLite
- BalticGrid is connected to NEROC

- **_Rec1: Sustainable network is a pre-requisite for regional Grids._**

- _Please provide information on the status of the Network you rely on and any issues you are facing._

  - All sites are connected using NRENs and GÉANT backbone
  - 1Gbps links are established to all sites

- _Please indicate the particular networking requirements of the projects applications_

  - In Latvia, connection to GÉANT was upgraded partly due to the BalticGrid project (155Mbps -> 1Gbps)
  - NICPB participates in LHC CMS experiment as Tier2 centre. It needs 2.5Gbps connection to GÉANT, but EENet can currently provide only 1Gbps
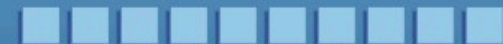
- **_Rec2: Regional Grids should continue to act as incubators for new sites,_** _new applications and new data layer integration._

- _Please provide information about the status of the infrastructure in terms of new sites and migration plans/strategy to EGEE infra if any._

  - ☐ Most of the potential sites are already connected
  - ☐ No definite plans to join EGEE project formally

- **Rec4: Organize in federations with clear relations and modus operandi. Distribute Grid and management services to spread the know-how and ensure joint responsibility and control.**
  - Each Baltic State has its own set of central services, so that in case of network failure, the local grids continue working. When some central service stops, it is possible to use alternative service from neighbouring country
  - The operation is coordinated by the BalticGrid Operations Activity Leader and by Operations Director
  - Sites are managed by local administrators
  - Operations Activity audioconferences are held weekly
  - Discussions are held using mailinglist, instant messengers (Skype, MSN) are widely used
  - Issues are tracked using **Request Tracker** tool
  - Baltic Grid Certfication Authority issues certificates for all Baltic States
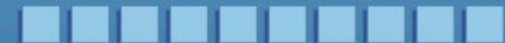
Country Level Operations

- ***Rec6: Aim to have possibility of stand-alone operations, independent on related federated Grids and projects, but interoperable and interoperational.***
  - BalticGrid is already standalone, running its own central services and not depending on the services offered by EGEE
    - ▶ BDII, WMS, VOMS, MyProxy, SAM, FCR, etc

  - BalticGrid interoperates with EGEE, large LHC VOs CMS and LHCb are using our resources

- *Rec7: Catch-all VOs on regional and national level prove to be flexible and efficient for deployment of new applications on-the-fly. A hierarchy of regional and national VOs should be established.*

- *Please provide information on how you manage VOs within the regional infrastructure*

  □ There is balticgrid and litgrid catch-all VO-s.

  □ New VOs are created if needed, examples:
    ▶ gamess VO to use licensed GAMESS Material Sciences software
    ▶ biit VO due to the data protection reasons
      ▪ Enabling new VO on sites causes discussions from time to time, so acquiring the resources for new VO can be time-consumine
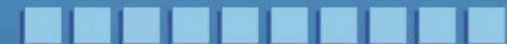
■ ***Rec8: Collaboration on SLA definitions over regions is important.***

■ *What is your approach to an SLA definition.*

    ☐ BalticGrid has defined SLAs with NRENs to define network requirements

       ▶ There should be mechanisms for checking the accordance to SLAs
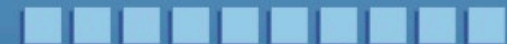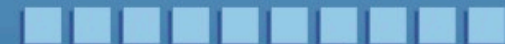
- ***Rec9: Contribution to standards and community groups like GIN OGF is important. Regional projects should contribute to standards in a coordinated way.***

- *What steps have been done towards this direction from your project?*

  - BalticGrid participates in EUGridPMA efforts

- *Rec10: Collaboration of regional Grid projects on joint development and deployment of operational and infrastructural tools (or sharing of already developed ones) should be encouraged.*

  - Source code of the middleware should be available in compileable way, then would be
  - BalticGrid has developed **BalticGrid Infosite** and Baltic Grid CA software, which could be shared with other grids
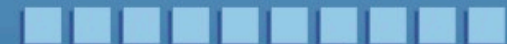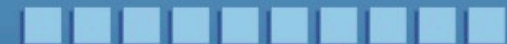
- BalticGrid has tutorial VO bgtut, which is enabled on some sites. Tutorial certificates are generated by the tutorial organizers.
- The tutorials are conducted using the same central services as production jobs

- www.balticgrid.org – general info
- infosite.balticgrid.org – resources available
- ca.balticgrid.org – Baltic Grid CA