Catch-All Virtual Organizations

Solution for Heterogeneous and Disperse Grid Users Communities

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• Catch-all virtual organizations
  – generic description
  – advantages and drawbacks
• VOCE use case
  – VOCE status and management
  – lessons learnt
• Applicability in Asia-Pacific region
  – EUAsiaGrid VO
Catch-all virtual organizations

• Virtual organization (VO)
  – key concept for utilization of grid environments
  – usually spans multiple administrative domains
    and even countries providing an abstraction of the user community
  – set of users and resources with a common goal

• VO administration
  – running of basic (gLite) services (WMS, VOMS, …)
  – end users management
  – provision of user interfaces/high-level middlewares
Catch-all virtual organizations

• **Advantages**
  – open grid environment (users, applications, tools)
  – routine VO management performed by dedicated administrators
  – for new user communities
    • freedom from establishing their own VO before trying a Grid
    • initial outsourcing of critical VO services
Drawbacks
- utilization rules have to be set up properly
  - to prevent unwanted usage or security breaches
  - prevention of anything@home exploitation
- partners RAs/CAs readiness, resources certification
- difficult activity monitoring
  - not one central application
  - no definition of typical behavior
- non-existence of software administrator
  - collision of SGM account idea
  - users take care of their software
  - VO manager does not have corresponding information
• **Grid newbie incubator**
  – assistance in adapting a software for use on the Grid
  • even for applications that do not have any Grid / cluster / remote computing experience
  – smooth transition to production use
  – support for preparation of specific VOs
  • when users get more organized and experienced
Catch-all virtual organizations

- **Fully production environment**
  - allowing Grid newcomers to get quickly first experience with Grid computing
  - provide application neutral environment
    - not bound to any particular application
    - interested in broad scale of application areas
    - even small groups can access production Grid
  - no need to invest in specific VO setup & operation
• **Training facility**
  – as technically independent “sub-VO”
  – reasonably secured environment
    • no anonymous users
    • short-term certificates (days) for t-purpose only
  – resources are allocated, fully guaranteed
  – sharing of the infrastructure with the production services guarantees high level of availability
  – same environment for end users when training activities are finished
• **Virtual Organization for Central Europe**
  – provides complete grid infrastructure under EGEE project
  – VOCE officially registered as EGEE VO
    • the first regional VO in EGEE
  – VOCE spans the whole Central Europe federation
    • core services operated by CESNET
    • resources are provided by many institutions across CE region
• Heterogeneity (in both partners & organizations)

Austria
Croatia
Czech Republic
Hungary
Poland
Slovakia
Slovenia

ISGC 2009, Taipei, Taiwan

FP7-INFRA-223791
• Current VOCE status
  – end users stats
    • registered so far 619
    • active accounts (2009) 151
    • new accounts (2009) 92
    • extended accounts 59
  – CPUs stats 8404 cores
  – storage stats 18 SE / 128 TB avail
• Utilization report
  – testing jobs (collections, parametric or DAG jobs)
  – free energy calculations, docking, MD/QC studies
  – development of job submission portlets
  – numerical astrophysics simulations
  – phylogeny studies, plasma analysis
  – porting applications to EGEE infrastructure

=> distinct application domains
both type of usage (production & testing)
VOCE use case

• Lessons learnt
  – VO administration burden out of end users
    • obtain UI account, start to work
  – maximal simplification of registration procedure
    • uniform pointer
    • semi-automatic application form acceptance
  – dedicated helpdesk needed
    • run of specific request tracking system
**Applicability in AP region**

- Adoption of catch-all approach in Asia-Pacific
  - establishment of EUAsiaGrid VO
- EUAsiaGrid VO setup
  - own registration procedure (two steps)
  - institutes/sites involvement gradually increases
  - currently 57 end users and the number is growing
  - deployment of tools and high-level frameworks on-going