VO Management in Grid Middleware

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Outline

• Brief overview on middleware and VO Management technologies used
• What is missing today
• Current VO support in D-Grid
• Objectives of and current work in the German IVOM project
Brief overview on existing solutions (1)

- Middleware GT4, gLite, UNICORE

- VOMS
  - Management of VOs and VO Attributes
  - Attributes used directly by the gLite PDP

- VOMRS
  - Management front-end to VOMS
    - Management of VOs and VO-Attributes
  - No direct interface to the middleware
    - VOMRS information to be exported to gridmap files

- Shibboleth
  - User campus attributes are made available to service providers’ PDPs
  - No direct interface to Grid middleware
Brief overview on existing solutions (2)

- **GridShib**
  - User campus attributes are made available to *Globus Toolkit 4* middleware through attribute certificates
  - To be presented tomorrow
- **ShibGrid**
  - Support for UK National Grid Service users to access NGS facilities securely through federated authentication mechanisms using proxy certificates
  - To be presented tomorrow
- **VASH**
  - Bringing Shibboleth & gLite together
  - To be presented tomorrow
Gaps (identified in D-Grid)

- Interoperability, e.g.
  - Moving jobs between GT4 and gLite
    - VOMS for GT4 issues
  - Making Campus attributes available for authorisation in Grid middleware PDPs
  - Multiple sources of attributes
    - Campus attribute based authorisation together with VO attribute based authorisation
  - No handling of attributes at all in UNICORE 5 and 6
  - Handling of attributes on system and application level
Towards convergence to SAML

• SAML-aware PDPs are being developed:
  – for Globus Toolkit as part of the GridShib project,
  – for gLite as part of EGEE-2,
  – for UNICORE within the
    • IVOM project (presentation tomorrow)
    • OMII-Europe project (presentation tomorrow).
Current VO ecosystem in D-Grid

- D-Grid Infrastructure is supporting different communities with different middleware requirements
- Thus, D-Grid environment supports three middleware systems:
  - GT4
  - gLite
  - UNICORE
- VO Management
  - VOMS, VOMRS
  - Central VOMRS server
    - Management of VOs
    - Management of membership
    - Synchronisation with local Gridmap files
IVOM Project

- As a result of the middleware heterogeneity D-Grid faces a number of interoperability issues
- Result of an initial D-Grid project aiming to define a VO-Management framework for D-Grid
- The first answer to the problems was the launch of the IVOM project
- IVOM: Interoperability and Integration of VO Management in D-Grid
- Focus: Interoperability and Integration
- Partners: FhG, RRZN, LRZ, AWI, DAASI
- Working on solutions for Attribute support across the D-Grid environment with three supported middleware systems
IVOM Developments (1)

- Two phases
- Phase 1:
  - Environment for Authorisation based on DNs and VO specific Attributes
  - Extend UNICORE for support of VO/Attributes, UNICORE 5 as initial code base
IVOM Developments (2)

- Phase 2
  - Supporting Attributes from multiple sources
  - Requires modification of middleware PDPs to understand SAML based attributes
  - DFN SLCS has to be in operation