

VO Management in Grid Middleware



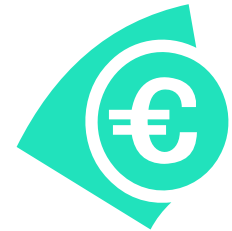
Wolfgang Ziegler

Fraunhofer Institute SCAI

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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)

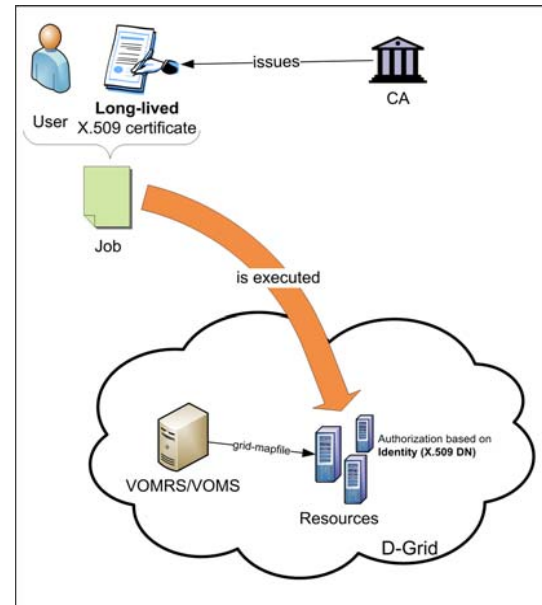
- Interoperability, e.g.
 - Moving jobs between GT4 and gLite
 - VOMS for GT4 issues
 - Making Campus attributes available for authorisation in Grid middleware PDPs
 - Multiple sources of attributes
 - Campus attribute based authorisation together with VO attribute based authorisation
 - No handling 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

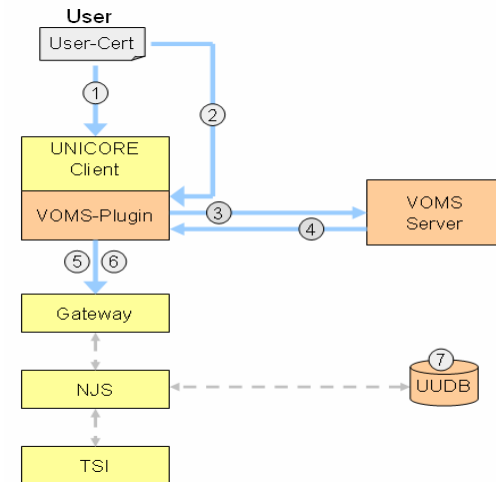
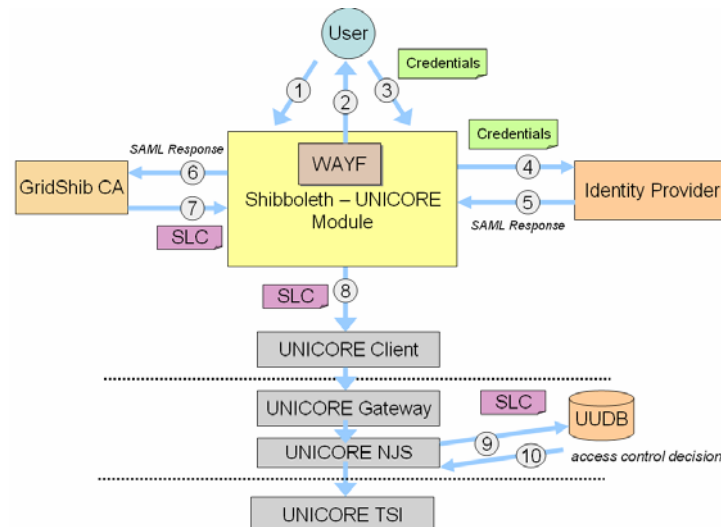
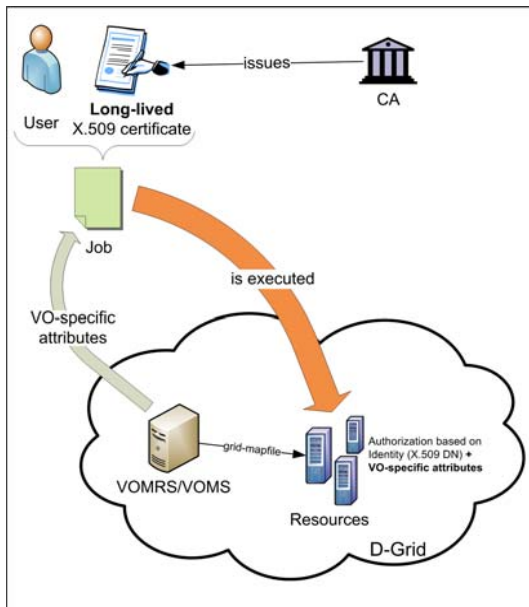


IVOM Project

- 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

