Identity Management in 
ESA Grid on-Demand Infrastructure

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http://www.terradue.com
Computing and Storage Elements
- + 200 Working Nodes, +120 TB on-line store
- Middleware: GLOBUS 4, (and some exp in gLite3)
- Links to external CE and SE (e.g. CNR, EGEE)

Data Interfaces
- GS products Rolling Archives (ENVISAT, MSG) and MODIS NRT products over Europe + NASA and other external data providers

Software resources on-line
- IDL, Matlab, BEAT, BEAM, BEST, CQFD, Compilers, public domain image processing utilities
- Spatial Catalogue access (e.g. EOLI) and data provision functions

- web portal and web services access powered by gridify, maintenance and evolution under Terradue responsibility
• MERIS Level-3 Products NRT generation
  ▪ Joint ESA collaboration with ACRI (France), JRC/Ispra (European Commission) and Brockmann Consult (BEAM)
  ▪ Monthly products published on-line
• Daily ASAR GM mapping of Antarctica
  ▪ Internal Development in operations since 2005
  ▪ Daily Generation of 400-m resolution mosaics and publish to ESA Web Map Server
• Monthly MERIS True-Color Mosaics
• **EarthCare Simulator**
  - Collaboration with Estec and Univ. of Valencia (Spain), part of the preparatory activity of the mission EarthCARE 2.5x10^5 simulations carried out using ESA and CNR GRIDs

• **River and Lake Processor**
  - ESA/Montfort University (UK) collaboration for the Accurate River and Lake heights measurements in NRT from satellite altimetry

• **RAIES Processor**
  - Assessment of the 2000 Hz individual echoes of Envisat/RA2

• And many more…
Based on the Grid Security Infrastructure (GSI)
- Secure communications between elements of a computational Grid
- Security across organizational boundaries
- User’s "Single sign-on", including delegation of credentials for computations that involve multiple resources and/or sites

GRID Technology develop comprehensive infrastructure to handle common issues:
- Security and “single sign on” with X509 certificates
- Cross-community workgroups formation -“Virtual Organizations”
- Dynamic discovery and utilization of shared resources and services
- Location transparency (of users, computing resources, data etc.)
- Workload scheduling and load-balancing
- Accounting, auditing and traceability
Objectives

- Harmonization of auth/N and auth/Z between ESA Grid Infrastructure (G-POD) and HMA

- Assess the potential of 07-118r1 in the ESA Grid infrastructure

- Promote the usage of 07-118r1

- Output: Prototype SOAP Gateway implementing 07-188r1 integrated in G-POD (reference platform @Terradue)

- HMA-T/G-POD Gateway System (HGG)
HGG System acts as a G-POD Policy Enforcement Point (PEP)

Provide users having a valid SAML token (returned by an 3rd party authentication WS) the possibility to invoke G-POD Web service

Based on the content of the message header (including the authentication token) of the client requests the PEP decides whether to accept or refuse the service request and forward it to the G-POD Web service.
Current Activities

Requirements:
- Joint Effort RAL + Terradue
- Abstract Test Suite based on User Management spec (07-118)
- Executable Test Suite for HGG using CITE for the ServiceRequest transactions

Initial System Architecture

Component Analysis
- SAML implementations and toolkits
- Open source vs commercial products
Thank you

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