



Solving Grid Interoperability between 2nd and 3rd Generation Grids by the Integrated P-GRADE/GEMLCA Portal

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GEMLCA: <http://www.cpc.wmin.ac.uk/gemlca/> - Email: gemlca-discuss@cpc.wmin.ac.uk

P-GRADE Portal: <http://www.lpds.sztaki.hu/pgportal>



Research Objectives

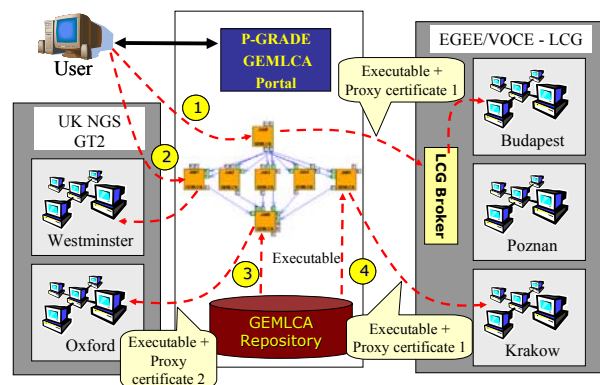
Supporting the creation and execution of Grid workflows where different jobs of the workflow are mapped to different grids which

- may accept different certificates
- can rely on different Grid middleware (e.g. GT2, LCG, g-Lite, GT4, Unicore etc.)
- communicate via file transfer

Results

Connecting Second Generation (GT2/LCG) Grids

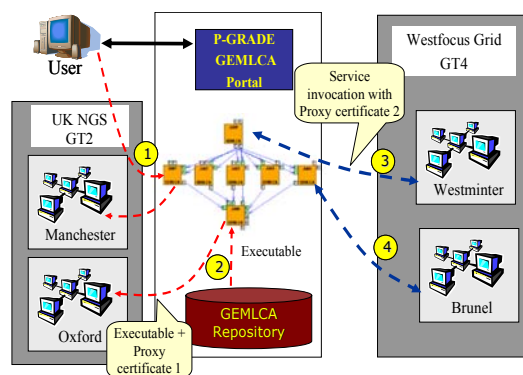
Different jobs of a workflow can be mapped to resources within an LCG-based (EGEE Grid) and a GT2-based (UK NGS) Grid.



Jobs can be submitted through a broker (1), using direct mapping (2), or from the GEMLCA code repository (3 and 4)

Connecting Second (GT2) and 3rd (GT4) Generation Grids

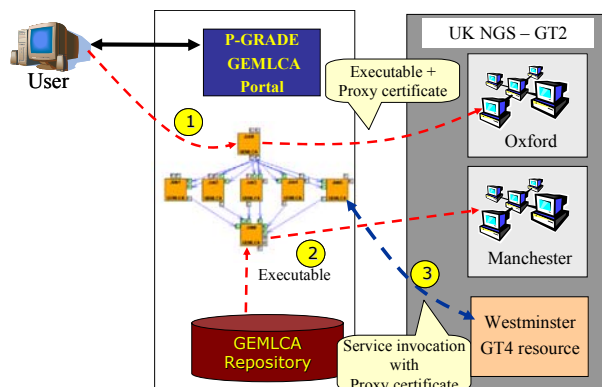
different jobs of a workflow can be mapped to resources within GT2 (NGS) and GT4 (WestFocus Grid) based grids



Job submission to GT2-based NGS (1 and 2) and SOAP-XML service invocation to GT4-based WestFocus Grid (3 and 4).

Extending 2nd generation (GT2) Grids with 3rd Generation (GT4) Resources

GT4 GEMLCA resources can be added to GT2- or LCG-based Grids without any modification of the underlying infrastructure.



GT4 GEMLCA resource is accessed via SOAP-XML service invocation

Traffic Simulation Workflow Bridging Grid Generations and Middleware

Workflow analysing urban car traffic

Jobs of the workflow utilised resources in three different Grids:

- LCG/g-Lite resource in VOCE VO of the EGEE Grid
- GT2 resource in NGS (both direct submission and from GEMLCA code repository)
- GT4 service invocation in Westfocus Grid

