

SIMDAT Grid Technology

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Industrial Usage of Grid Technology
OGF23
2-6 June 2008
Barcelona

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Industrial application challenges



Collaboration

- accessing distributed knowledge and capabilities
- managing commercial relationships
- crossing export boundaries
- enforcing information security policies

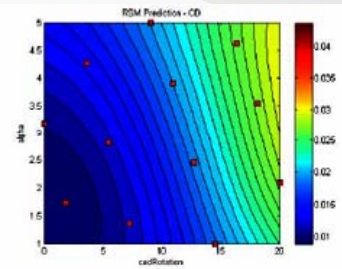
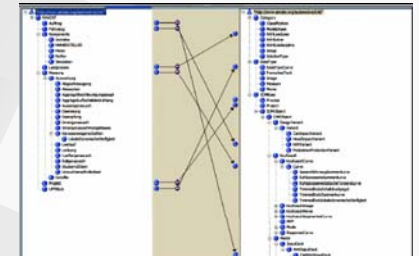
- integration of analysis codes as services
- integration of resource managers

Policy

Process

Simulation

Data



- access to heterogeneous data
- efficient large-scale data distribution
- integration of data management systems

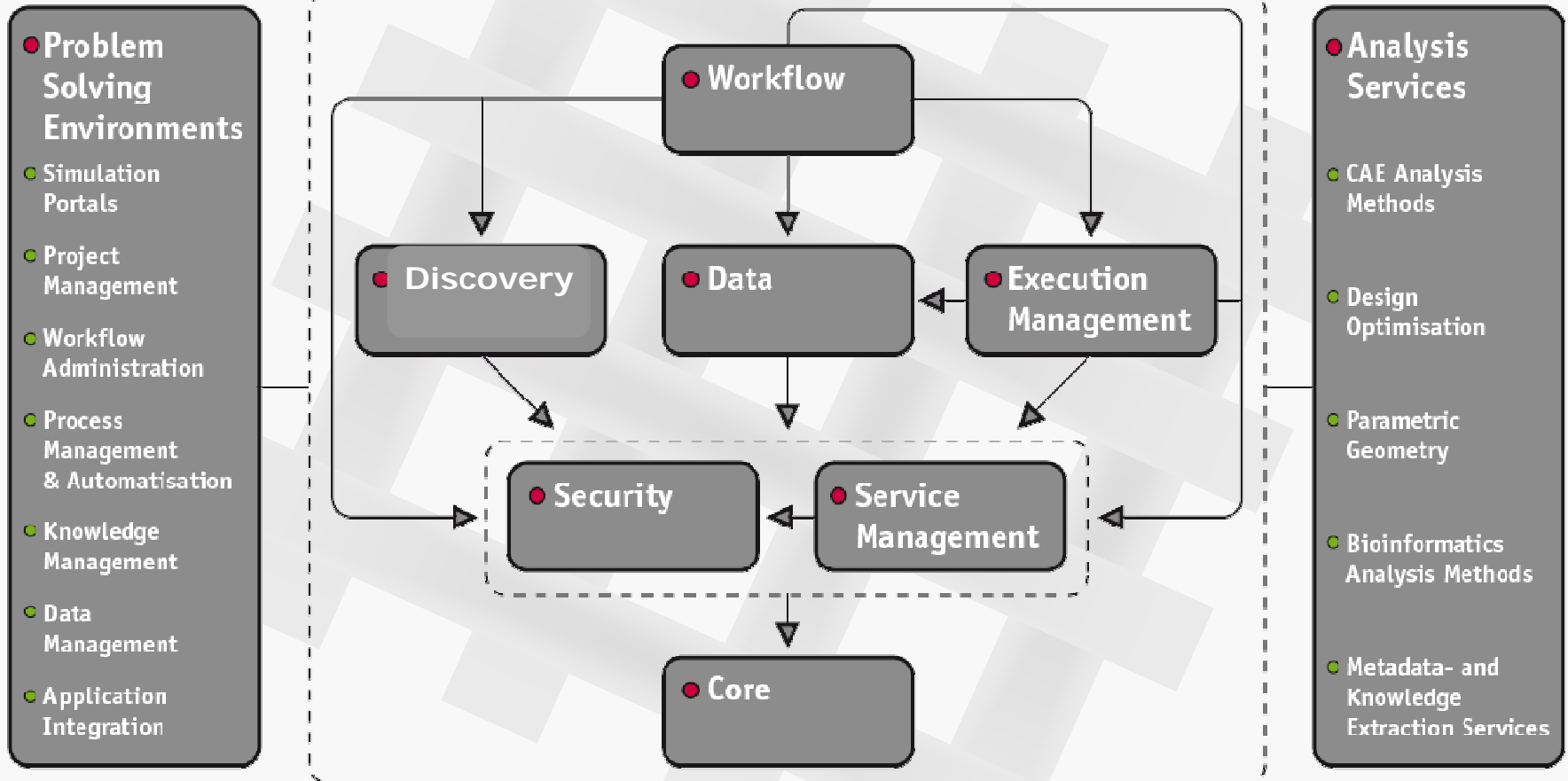
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The SIMDAT Grid Solution Portfolio

- Generic framework for delivering domain-specific business Grids
 - service-oriented architecture based on key Grid and Web Service specifications
 - combination of open source and commercial middleware and tools
- Technology and professional service offering from SIMDAT to commercial Grid users

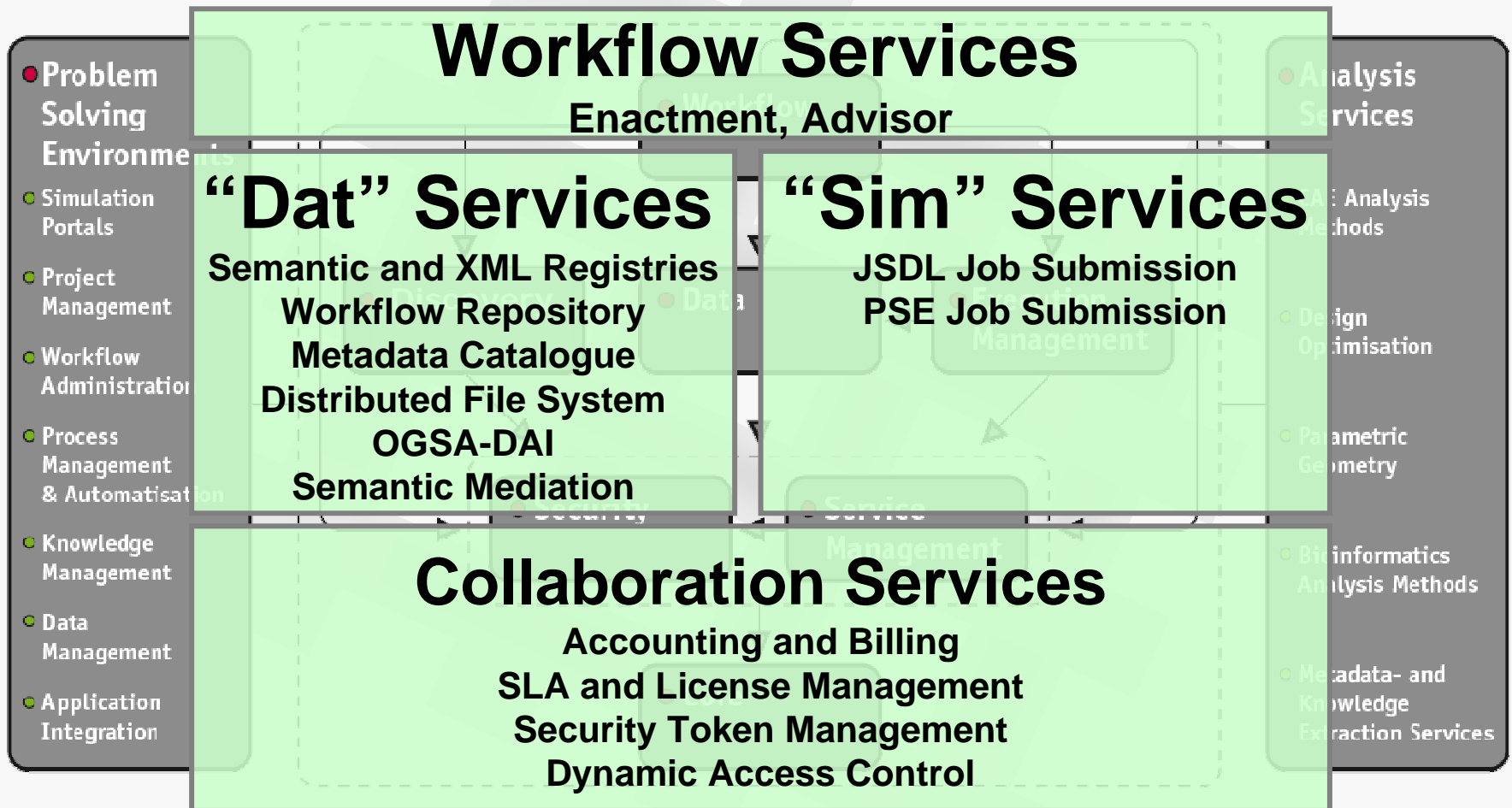
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Framework Architecture and Services



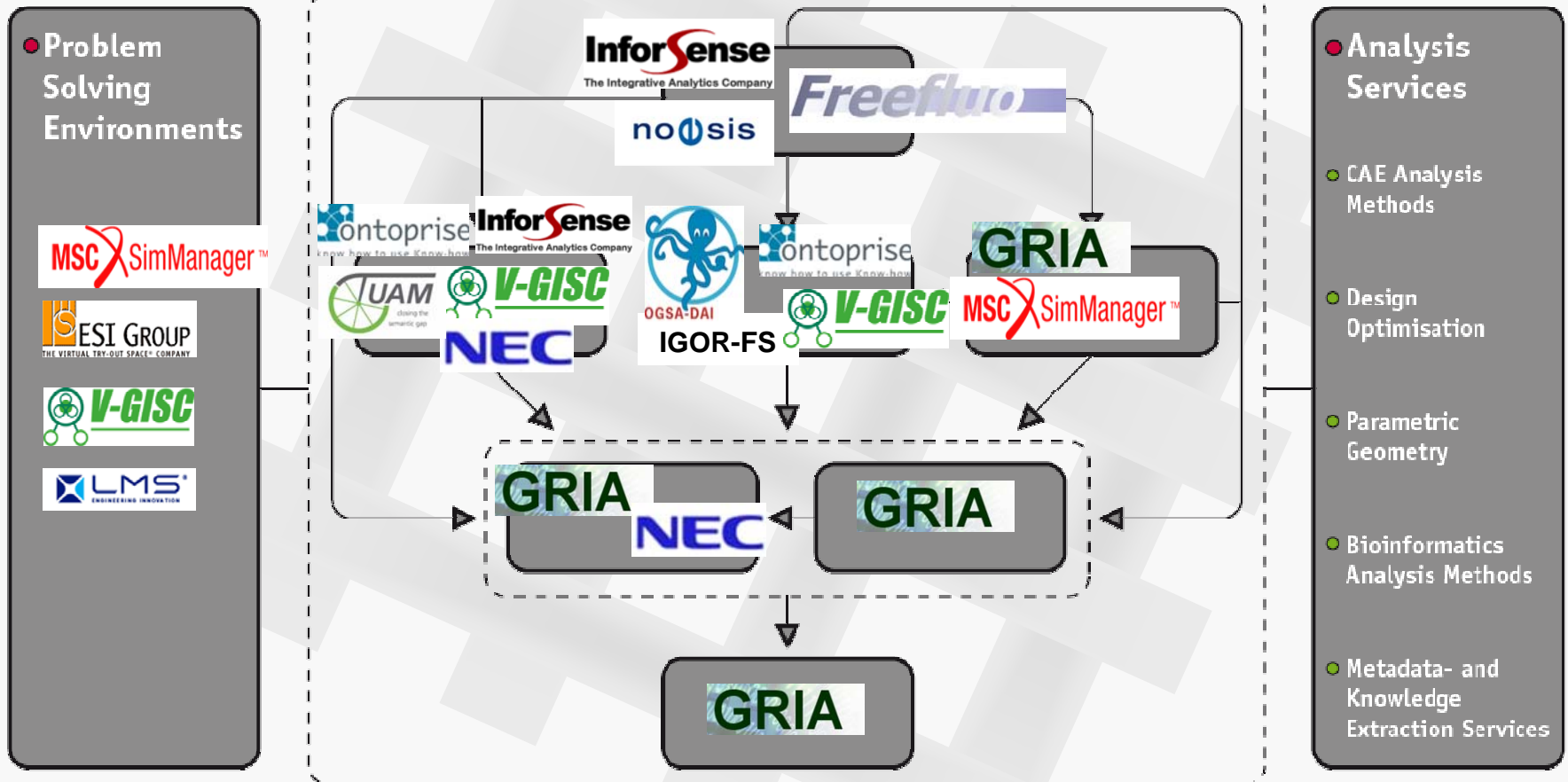
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Framework Architecture and Services



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Product Technologies



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Analysis Services

Basic modules for computing, comparison and data analysis
Standard interface based on WebServices

The SIMDAT analysis services include:

- **CAE Analysis Methods**
 - PAM-CRASH (ESI)
 - MD NASTRAN (MSC)
 - CFD SOLAR (BAE)
 - ELFIPOLE (EADS)
- **Design Optimisation**
 - LMS Optimus Metamodel (NOESIS)
 - DoE Services (UoS)
 - RMS Services (UoS)
- **Parametric Geometry**
 - Geometry Services (UoS)
- **Bioinformatics Analysis Methods**
 - EMBOSS suite
 - BLAST suite
 - IPRSCAN
 - Drugability (Inpharmatica)
 - BIOCLIP (Inpharmatica)
- **Metadata- and Knowledge Extraction Services**
 - Grid-enabled Weka (FhG-IAIS)
 - Metadata Extraction Service (FhG-SCAI)

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Problem Solving Environments

● Problem Solving Environments

- Simulation Portals
- Project Management
- Workflow Administration
- Process Management & Automatisation
- Knowledge Management
- Data Management
- Application Integration

- Interface to the end-user
- Grid-enabled versions of existing solutions
 - MSC SimManager (MSC)
 - LMS Tec.Manager (LMS)
 - Visual Composer (ESI)
 - Pharma federated portal
 - V-GISC (ECMWF)

 - Optimus (LMS)
 - Taverna/FreeFluo (IT Innovation)
 - KDE (Inforsense)

 - (Modelcenter, iSightFD)
 - (MATLAB)

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Conclusions

- SIMDAT has delivered Grid middleware that supports industrial collaboration
- Proof of concepts are being deployed by companies within and beyond SIMDAT
- Technology offerings within the Grid solution portfolio are available

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For more information



- www.simdat.eu
- www.gria.org

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