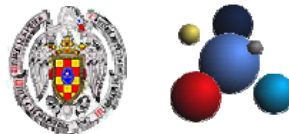


**TC11: The Globus Incubation Management Project**  
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# The GridWay Incubator Project

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## Aims of the Presentation

- The **GridWay Meta-scheduler Project**
- **Why we wanted to be an Incubator Project**
- **Benefits experienced** since GridWay is an Incubator Project



## Contents

1. Aims of the Project
2. Benefits and Major Features of the Product
3. Relation to other Parts of Globus
4. State of the Project
5. Why We Wanted to be an Incubator Project
6. Benefits of Being Part of the Globus OSS Community



**GridWay Project**  
*“The GridWay Project is a Research and Development effort that seeks to **advance the technology for meta-scheduling on grid environments**”*

The GridWay Meta-scheduler is used to perform research



The results are incorporated as technological innovations into next releases

**GridWay Meta-scheduler Product**  
*“The GridWay Metascheduler is an **open source meta-scheduling technology for Globus Grids that seeks to enable reliable and efficient large-scale sharing of computing resources managed by different local resource managers within a single organization or scattered across several administrative domains**”*

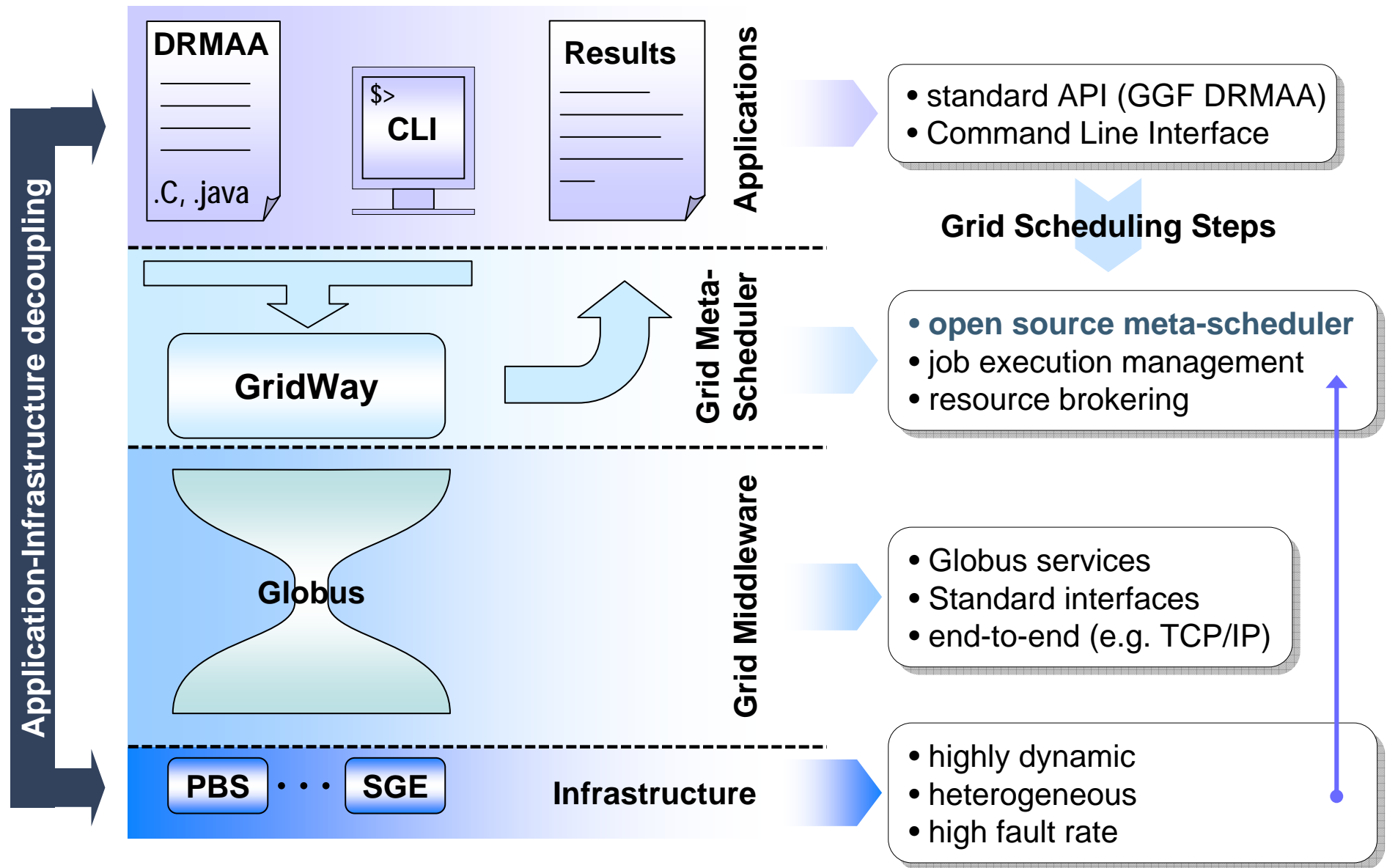
Needs and requirements in components for grid meta-scheduling and utility computing are evaluated for next releases



Transferring of intellectual contribution and technology is our way to create value

**Industry and Scientific Communities**

# 1. Aim of the Project





### Benefits for the Organization

- Integration of non-interoperable computational platforms
  - Establishment of a uniform and flexible infrastructure
  - Achievement of greater utilization of resources and higher application throughput

### Benefits for System Management

- Support for the existing platforms and resource managers
  - Allocation of grid resources according to management specified policies
  - Analysis of trends in resource usage
  - Monitoring of user behavior

### Benefits for End Users and Application Developers

- Friendly CLI and a standard API
  - Submission, control and monitoring of high throughput computing applications and abstract workflows, which may require file transferring and/or database access



### Workload Management

- Advanced **scheduling capabilities** and support for new scheduling policies
- **Fault detection & recovery capabilities**
- **Accounting** facilities
- Support for **array jobs and job dependencies**

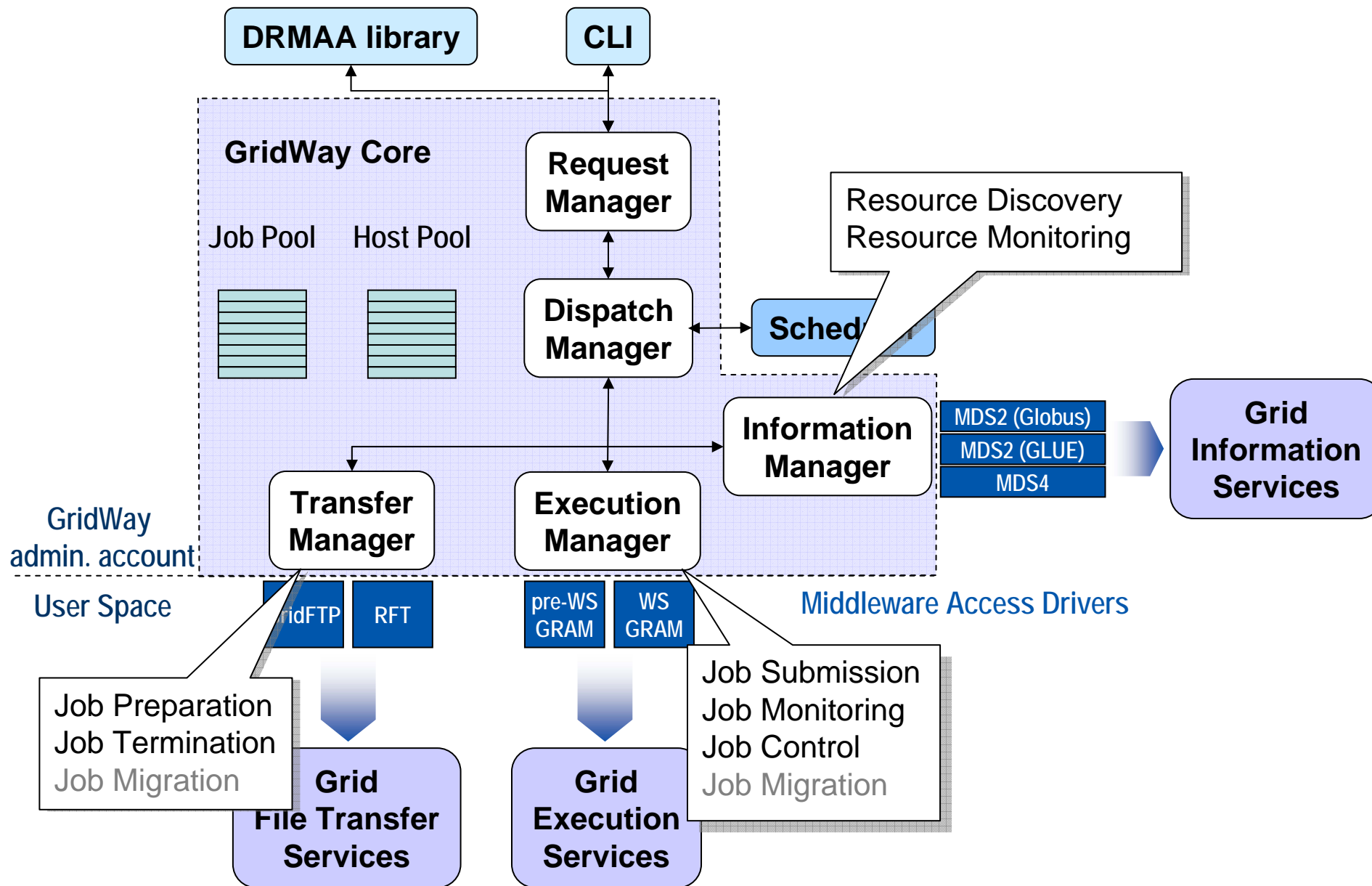
### User Interface

- Full support for **C and JAVA DRMAA GGF standard**
- **Command line interface**, similar to that found on local DRMs

### Integration

- **Straightforward deployment** as new services are not required
- Interface with **new grid services**
- **interoperability** between different infrastructures (GT WS, GT pre-WS, EGEE...)

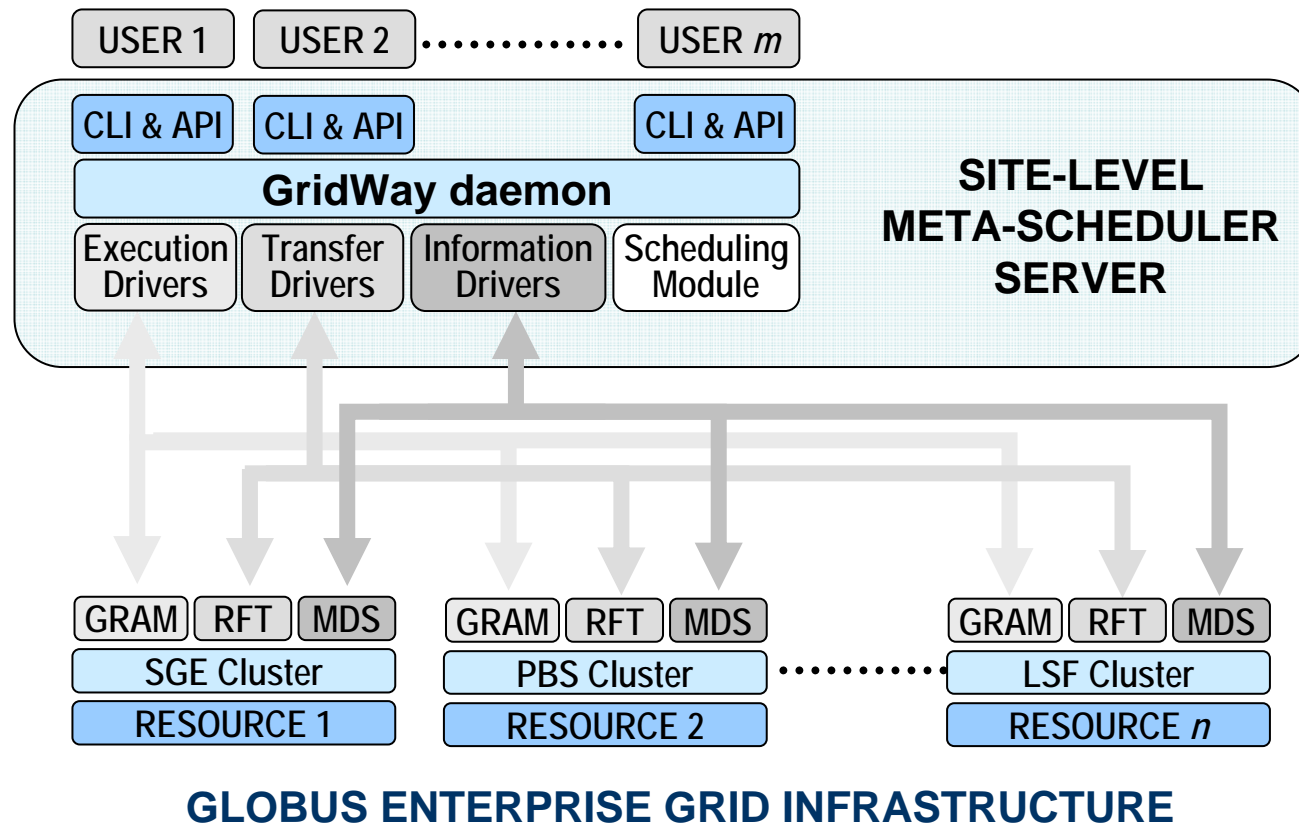
### 3. Relation to other Globus Components







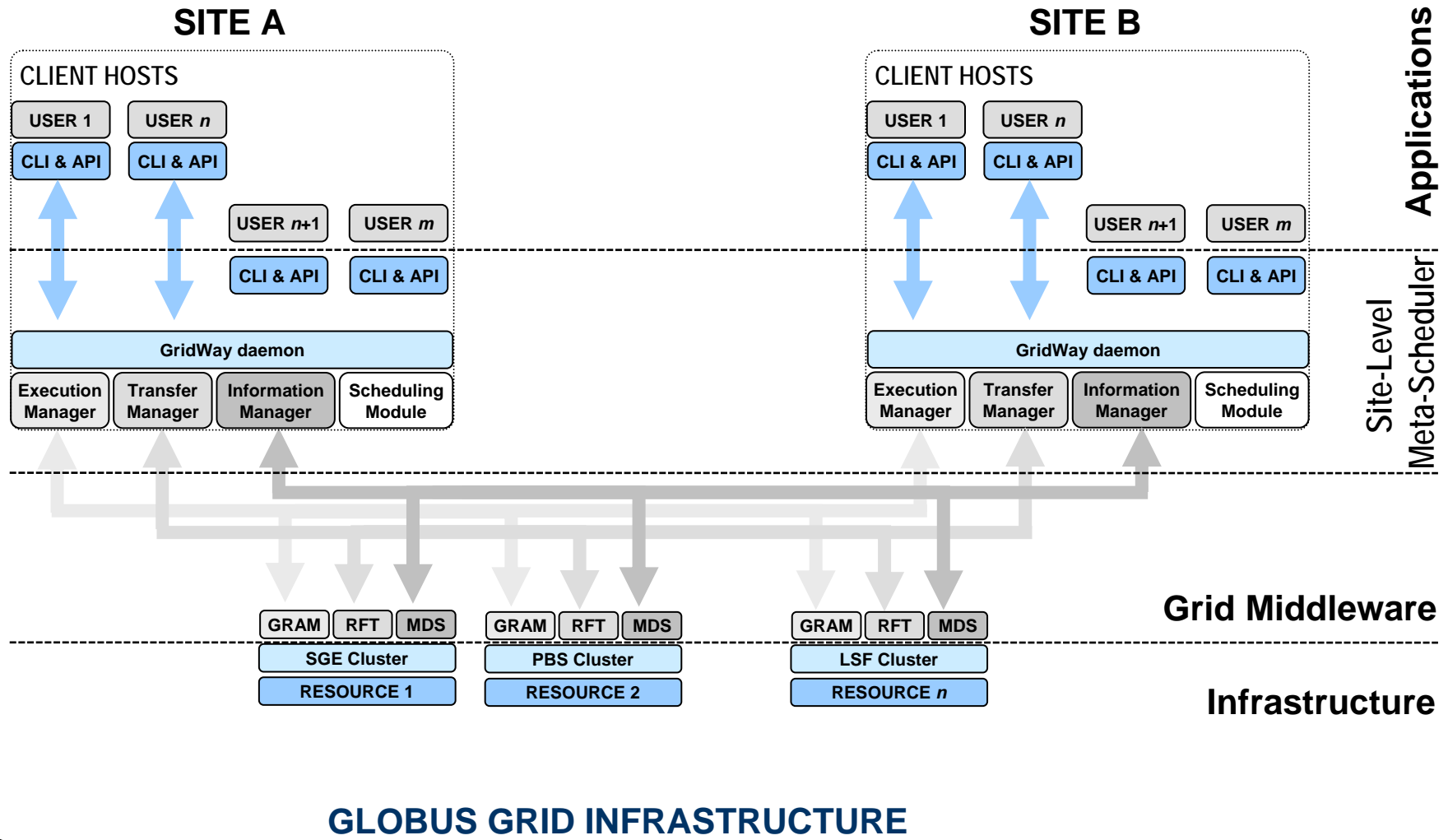
## Enterprise Grid Deployment



### 3. Relation to other Globus Components

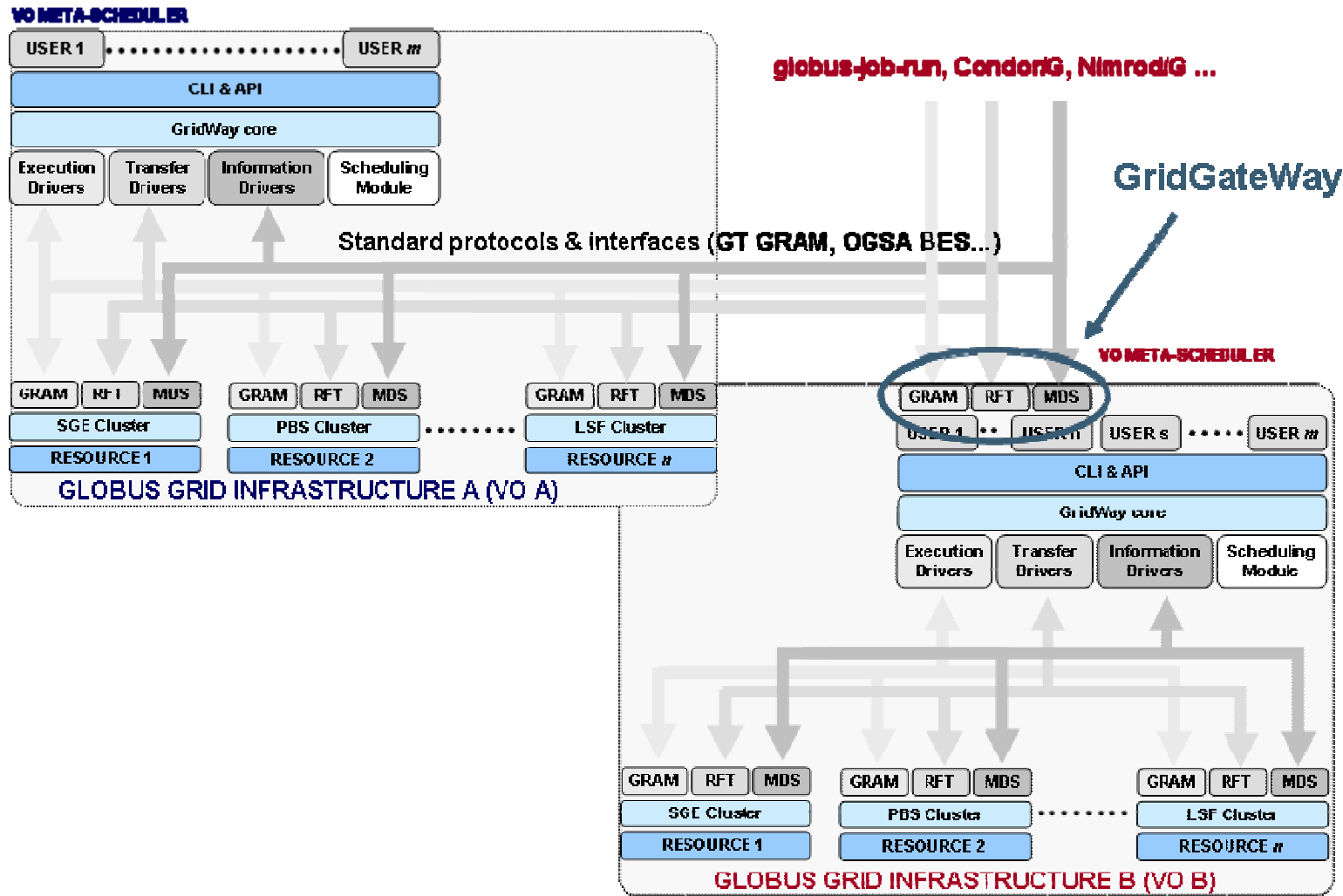


## Partner Grid Deployment





## Outsourced Grid Deployment





### History of the Project

- Started in **2002**, first releases were only distributed on request in binary format
- First open source version, GridWay 4.0, was released in **January 2005**
- **GridWay 5.0 was released in June 2006 (Apache license v2)**
- In June 2006 GridWay joined the **Globus Incubator Program**

### Downloads & Use Cases

- Since January 2005, downloaded more than **500 times from 54 different countries**
  - **25% are private companies and 75% are universities and research centres**
- **Enterprise/Campus Grids:**
  - Grid Activities at ESAC (**ESA**), Campus grid deployed by **Universidade do Porto and Sun Microsystems...**
- **Partner Grids:**
  - **IRISGrid** (The Spanish National Grid Infrastructure), **EGEE**, **CABGrid** (A Virtual Laboratory for Computational Astrobiology), **C2VO** (Grid infrastructure development for the implementation of a Computational Chemistry Virtual Organization), **CRO-GRID** Infrastructure, **Sun Solution Center World Grid...**

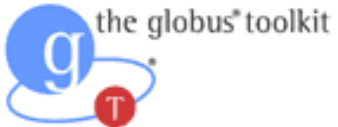



### Requirements for the Success of a Grid Technology Product

- **Non-intrusive deployment**
  - **Speed up adoption** as a smooth integration does not require to change current system organization
- **Adoption of standards**
  - **Speed up adoption** as integration is faster and cheaper
- **Development of an open-source community (open-source software + open development processes and collaborative infrastructure) :**
  - **Provide long-term stability and support** to the project development
  - **Improve its robustness and quality** thanks to a greater variety of technical visions, solutions, and features

## 5. Why We Wanted to Be an Incubator Project



			
<b>Non-intrusive deployment</b>		Globus supports the existing platforms and resource managers	GridWay only requires Globus services
<b>Standards adoption</b>		Globus is de facto standard for open source grid computing infrastructure, and adopts many GGF standards	DRMAA-WG GSA-RG
<b>Open-source community</b>	<b>Open-source software</b>	Apache V2.0	Apache V2.0
	<b>Open development processes</b>	Framework for open Globus development: dev.globus	The Globus Incubator Program is a great opportunity to be part of a healthy open-source community



### Benefits Experienced since GridWay Is an Incubator Project

- We have experienced feedback from a wider user community and greater variety of technical visions and suggestions
- The project benefits from the **Globus Development Philosophy and Guidelines** for collaborative-open development and from the **Globus Development Infrastructure**:
  - Announcement/Commit/User/Developer Mailing Lists
  - Bugzilla
  - CVS
- The Incubator Program is a perfect environment for higher **Integration with other Globus projects**
- **The visibility of the project has been improved**



# Thank you for your attention!

We are grateful to the Incubator Management Project, in particular to its current chair **Jennifer Schopf**, and to our Mentor, **Lisa Childers**, for their invaluable support.