

DEISA overview



- *The technological perspective*
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Edinburgh
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4th DEISA symposium



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What is DEISA?

DEISA Objectives

- DEISA is an European Supercomputing service oriented infrastructure built on top of existing national services.
- DEISA deploys and operates a persistent, production quality, distributed supercomputing environment with continental scope.
- DEISA aims to enable Europe's terascale science by the integration of Europe's most powerful supercomputing systems.
- Enabling scientific discovery across a broad spectrum of science and technology is the only criterion for success.

A production eInfrastructure

DEISA is a production eInfrastructure →

Persistent production level performance→

Reliability, availability, serviceability (RAS) concepts are key→

Rely and leverage on mature software→

Best of breed approach on technologies

Preserve sites

In DEISA each site has to be “independent” from the others, this mean that

- the policies chosen for DEISA must not interfere with local site policies, this impose the need for a homogenisation process;
- the design architecture chosen for DEISA should be implementable by each site in a different manner without compromising the whole design or the service efficiency.

Multiple ways to access

Workflow managem.

Common production environm.

Single monitor system

Job rerouting

Co-reservation and co-allocation

Data staging tools

Data transfer tools

WAN shared filesystem

Unified AAA

DEISA Sites

Network connectivity

DEISA

Presentation layer

services

Job manag. layer and monitor.

Data manag. layer

Network and AAA layers

What is DEISA?

Multiple ways to access

Workflow managem.

Common production environm.

Simulation system

DEISA
a service-oriented production (RAS) eInfrastructure

Simulation

Simulation system

Simulation system

In DEISA it is easy to plug any supercomputer

Unified AAA

DEISA Sites

Network connectivity

2

Maturity model

UNICORE Client

File Job Preparation Job Monitoring Settings Extensions Help

Name: sort_tasked

UNICORE Site: DEISA ONE

Dependencies Resources Special Settings

Task Dependencies

Virtual Site

CINECA SP4 <NJS>

CSC <NJS>

FZJ JUMP <NJS>

IDRIS ZAHR <NJS>

RZG SP4 <NJS>

SARA ASTER <NJS>

Home » Scientific Projects » Call for Proposals

DEISA

DISTRIBUTED EUROPEAN INFRASTRUCTURE FOR SUPERCOMPUTING APPLICATIONS

DEISA Supercomputing Grid Infrastructure | Scientific Projects | Project Organisation | Documents | Users' Corner | Press Corner | News & Events | Links

Call for Proposals

DEISA Extreme Computing Initiative

Projects in operation in 2007 - 2008

Projects in operation in 2006 - 2007

Projects in operation in 2005 - 2006

DEISA Extreme Computing Initiative (DECI)

Call for proposals 2007

- Applications profiles supported by DECI
- Support to the Initiative
- Call for proposals
- Answering to the Call
- Download the DECI proposal template form

The purpose of the DEISA Extreme Computing Initiative (DECI) is to enhance the impact of the DEISA research infrastructure on leading European science and technology.

This initiative consists of the identification, enabling, deploying and operating "flagship" applications in selected areas of science and technology. These leading, ground breaking applications must deal with complex, demanding, innovative simulations that would not be possible without the DEISA infrastructure, and which would benefit – if accepted – from the exceptional resources of the Consortium.

The DECI initially focused mainly on "Grand Challenge" applications that could be migrated and adapted to the DEISA environment with little or moderate application enabling work. The scope of the initiative has now been expanded to include medium to long term support for important complex application enabling. The DEISA Infrastructure is therefore ready to provide more sustained application enabling support to specific projects and to be involved more deeply in the design of leading and innovative complex simulations.

Consortium
establishment.

Foundation
and
operation

Operation
and
extension

Operation
and
evolution

2002

2005-2006

2007

2008

2005	2006	2007	2008
1 Gbps network connectivity	Enlargement of the WAN shared filesystem	10 Gbps network connectivity	10 Gbps Unified AAA
Common DEISA policies	Enhanced job rerouting	Unified accounting	Unified data management strategy (WAN shared fs + archive + data staging + data transfer)
Unified Auth*	Enlargement of workflow management with data staging tools	Fully fledged WAN shared filesystem	
WAN shared filesystem		2 nd common production environment	Enriched middleware infrastructure for interoperability
Job rerouting	CLI access	Portal access for life science community	Multiple way to access DEISA
1 st common production environment	Single monitoring system	Data staging tools	
Workflow management			



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Technologies

SSH
UNICORE
GT4
DESHL
EnginFrame

UNICORE

DEISA
CPE

INCA

IBM
MC LL

Platform
LSF-MC

DEISA
data
staging
tools

GridFTP

IBM
MC GPFS

DEISA
unified
AAA
(LDAP)

DEISA
Sites

Geant
&
NRENs

4

Integrated vision

USERS

DEISA

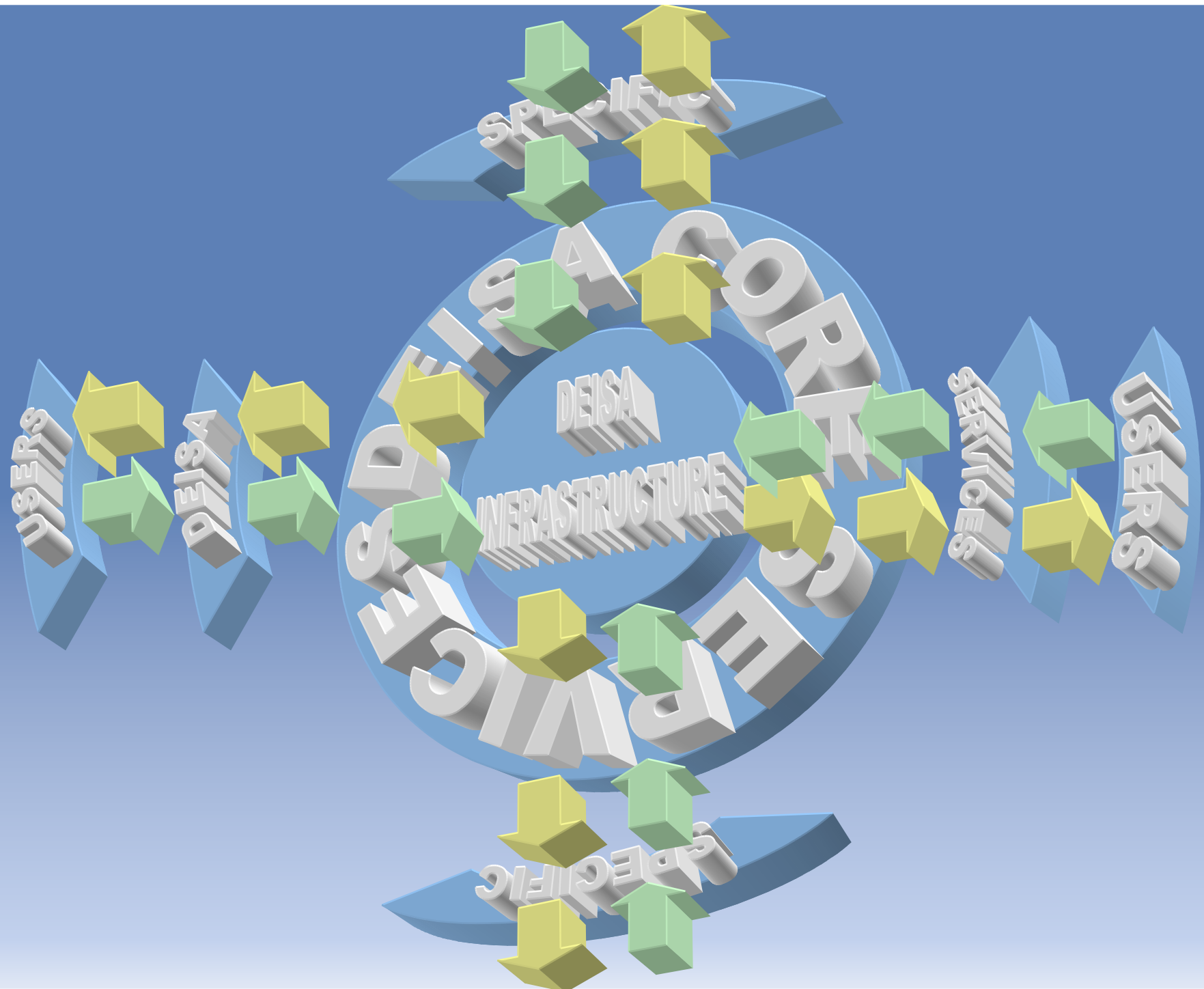
DEISA CORE SERVICES
DEISA INFRASTRUCTURE

SERVICES

USERS

SPECIFIC

SPECIFIC



Single
monitor
system

Workflow
managem.

Unified
data
managem.

Multiple
ways to
access

Network
connectivity

Job
rerouting

Unified
AAA

Co-
reservation
and co-
allocation

Common
production
environm.



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What You can do
with such eInfrastructure?

DEISA overview



- *The user perspective*
- *Than*
- *You!!*



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