

2nd EGEE NA4 SSC Workshop A&A SSC Proposal

C. Vuerli (1,2) and F. Pasian (1,2)

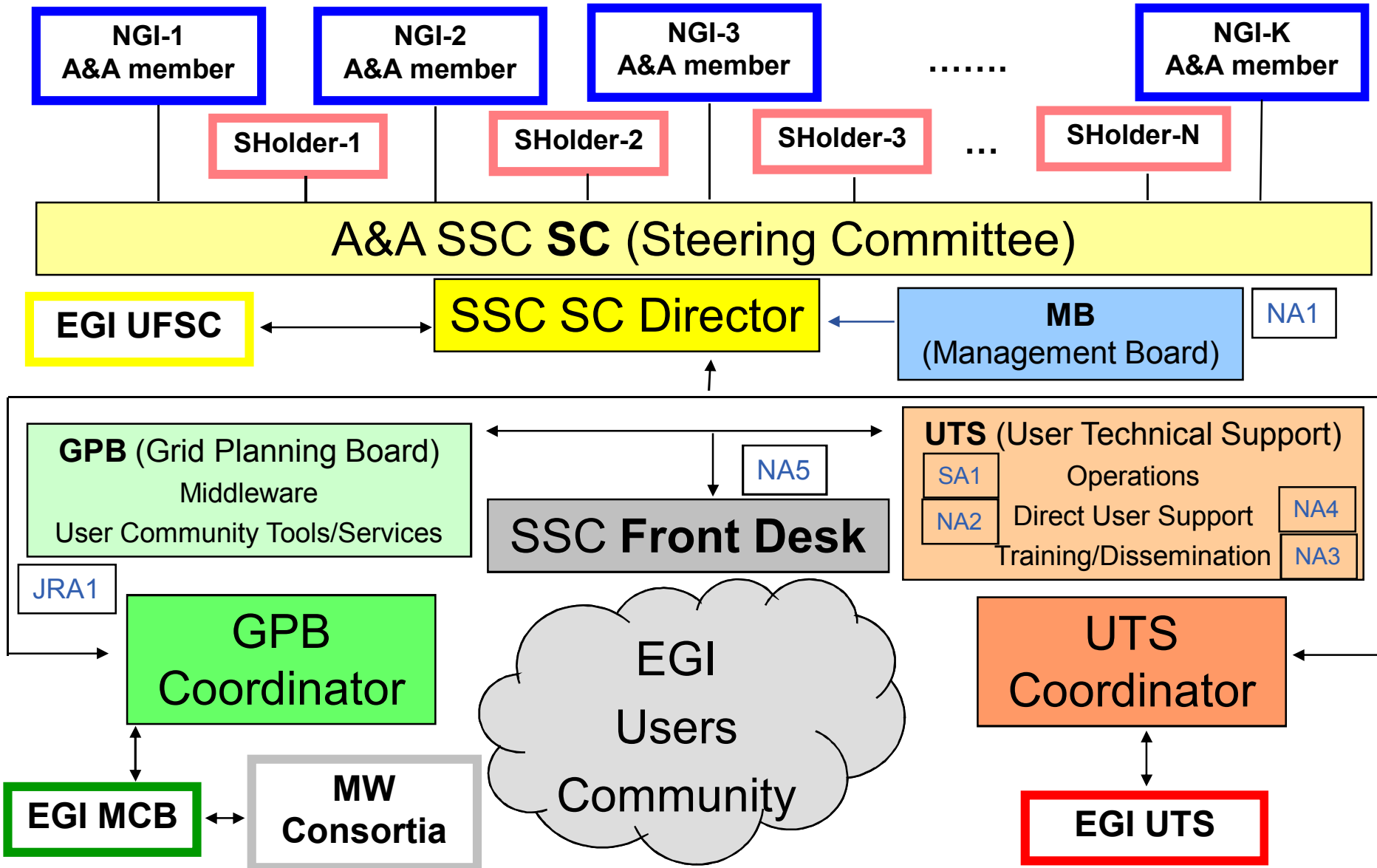
On behalf of the EGEE-NA4 A&A Cluster

(1) INAF – Astronomical Observatory of Trieste

(2) INAF – Information System Unit

LAL Orsay, Wednesday 1 July 2009

- **Contact points within the EGI management structure that are different and/or in addition to those in the EGI_DS Blueprint and Functions documents.**
- **Identify "heavy" and/or VO-specific services that are needed by the community to fully exploit the EGI infrastructure.**
- **Identify the institutes/projects/NGIs that have been contacted about the SSC.**
- **Identify any ESFRI projects that have been contacted.**
- **Identify likely partners that will be funded.**
- **Identify likely partners that will be unfunded.**
- **Identify common tools/libraries for porting that will be useful for the community. (E.g. BLAST, LAPACK, ...)**
- **Also create a rough draft of the work plan for the SSC, identifying whether the activities within the work plan are Networking Activities, Service Activities, or Joint Research Activities. Also provide a rough calculation of the effort required.**



- **According to the current SSC structure:**
 - The SSC SC Director will act as **User Forum Representative**; he/she will be member of the EGI UFSC and directly supervises the activity of the MB (Management Board) and of the Front Desk
 - The Coordinator of the GPB (Grid Planning Board) is the **Grid Planning Officer**; he/she will be member of the EGI MCB
 - The SSC might have its own UTS whose Coordinator is part of the EGI UTS. Other members of the SSC UTS could in case ask to join the EGI UTS when needed/appropriate
 - Personnel dedicated to dissemination effort and web content management will be part of the SSC UTS
 - A SSC Front Desk is envisaged; it should play the role of SSC **Scientific Gateway** coordinated by the **Gateway Officer** (the SSC Director according to the current baseline)
- **At present we haven't identified any additional missing interface with EGI we would like to see**

- **VO-specific services listed below are extracted from the A&A cluster document**
 - Environmental setup for applications
 - Sometimes A&A applications require to be run many times under different environmental conditions and groups of the A&A cluster have already developed some related tools
 - Moving data bunches on the Grid
 - A&A applications frequently produce large amounts of data that it is practically impossible to move over the Grid
 - Code deployment on the Grid
 - Storing intermediate data produced by applications on SEs
 - Storing/Retrieving data in Grid
 - A gridftp driver for CFITSIO, the FITS I/O library used by astronomical applications to manage FITS files has been implemented. We plan to integrate it in gLite
 - Visualization tools working in Grid
 - Tools and services integrated in Grid portals
 - Setup and execution of complex workflows

- Accessing databases from Grid
 - [G-DSE](#)
 - [GReIC](#)
 - [OGSA-DAI](#)
- Instruments and Sensors in Grid
 - [GridCC](#) : IE (Instrument Element) and VCR (Virtual Control Room)
 - [DORII](#)
 - [RISGE-RG](#) in OGF

- **Until now no formal contacts (only informal) have been established with NGIs that could support the SSC**
- **At a first stage the plan is to get in touch with NGIs that have groups active in the A&A cluster**
 - Italy, Spain, France, Germany, Netherlands, UK, Austria, Czech Republic, Slovakia
- **These NGIs will be contacted to negotiate:**
 - Political support to the SSC
 - Formal definition of interfaces
 - Support in terms of
 - Shared man power and resources
 - Tools and services
 - Financial support
- **Who will have in charge contacts with NGIs?**
 - During the Transition period: The EB and its Chair
 - When EGI starts: the SC members (each for its respective NGI)

- **None of the ESFRI projects have been contacted so far**
- **The current ESFRI projects recognized as relevant for A&A are:**
 - E-ELT (Extremely Large Telescope): the follow-up project of the current generation of optical telescopes. With segmented mirrors and built-in adaptive optics, it is feasible to build a 40-m class telescope
 - SKA (Square Kilometer Array): the SKA will have a collecting area of one million square meters distributed over a distance of at least 3000 km. This area, necessary to collect the faint signals from the early universe, will result in a 100 times higher sensitivity compared to existing facilities. The radically new concept of an “electronic” telescope will allow very fast surveys
 - CTA (Cherenkov Telescope Array): the pioneering Cherenkov telescopes HESS and MAGIC have observed a multitude of gamma ray sources both in our galactic centre and outside our galaxy. The CTA will greatly extend the reach of these two projects and allow for further exciting scientific discoveries
 - PRACE (Partnership for Advanced Computing in Europe): an European strategic approach to high-performance computing. It concentrates the available resources in a limited number of world-class top-tier centers in a single infrastructure connected to national, regional and local centers, forming a scientific computing network to utilize the top-level machines

AIP	DE	Astrophysical Institute Potsdam
ARI	DE	Astronomisches Rechen-Institut, Heidelberg University
CESNET	CZ	Czech Republic's National Research and Education Network (NREN)
ESA/ESAC	ES	European Space Agency/European Space Astronomy Centre
IFAE/PIC	ES	Institut de Física d'Altes Energies/Port d'Informació Científica
IFCA	ES	Instituto de Física de Cantabria
II-SAS	SK	Institute of Informatics Slovak Academy of Sciences
INAF	IT	Istituto Nazionale di Astrofisica
OBSG	FR	Observatoire de Grenoble
OBSPM	FR	Observatoire de Paris Meudon
OBSS/CDS	FR	Observatoire de Strasbourg/Centre de Données Astronomiques
OCA	FR	Observatoire Côte d'Azur
ROE	UK	Royal Observatory Edinburgh
RUG	NL	Rijksuniversiteit Groningen
UCAM	UK	Institute of Astronomy University of Cambridge
UIBK	AT	University of Innsbruck

- **The first kernel of partners of the A&A SSC are those currently contributing to the EGEE-III cluster**
- **There is an effort already in progress to further expand the A&A community in EGI (e.g. astronomical groups operating in the Baltic area)**
- **For what concerns the new A&A partners of the SSC:**
 - At present our objective is to grant funds to all partners that will actively operate for the construction of the SSC in the next months (founding partners)
 - This imposes to limit the number of founding partners to avoid an excessive dispersion of resources, but...
 - At the same time the new SSC should be as inclusive as possible to expand the A&A community in EGI with mechanisms to foster this process

- **A&A community is interested to any tool/library able to provide solutions for its VO-specific services. In particular**
 - Parallel applications are relevant for us:
 - Gridification of MPI and MPICH (EGEE-III MPI WG)
 - In principle there should be interest by the A&A community for all MPI-related libraries
http://wiki.egee-see.org/index.php/Libraries_and_softwares_based_on_MPI_paradigm
 - Tools and services being part of the RESPECT program. Among them it is worth to explicitly mention
 - GANGA: a lightweight distributed framework for parallel scientific applications in master-worker model
 - i2glogin: a tool that enables interactive communication between a grid job and the user
 - GReIC (Grid Relational Catalog Project): a set of advanced data grid services to transparently, efficiently and securely manage grid-databases...and similar tools like OGSA-DAI, G-DSE and AMGA
 - IE (Instrument Element): an abstraction of an instrument, sensor, or group of instruments and sensors in Grid
 - VCR (Virtual Control Room): an open source grid portal based on [GridSphere](#) and Web 2.0 technologies. The VCR fully supports the gLite middleware and Instrument Elements
 - StoRM to manage any storage resources

Ent.	Activity	WP	Description	FTEs
MB	Management	NA1	SSC Management	2
UTS	Direct User Support	NA2	VOs Coordination	1
		NA4	Applications Identification and Support	4
	Training & Dissemination	NA3	User Training, Dissemination, and Outreach	2
	Operations	SA1	Resource Access and Monitoring	2
GPB	Grid Planning	JRA1	Middleware	1
			Tools and Services	2
Front Desk	EGI Users Interface	NA5	SSC Scientific Gateway	2
Total				16

Month	Step	S
Mar 2009 Apr 2009	Identification of the targeted community (partners of the SSC)	r
	Identification of possible stakeholders	r
	Update of the preliminary draft of the SSC document	r
	Update of the subtask AA2 (Migration to EGI) of the A&A cluster work plan	d
May 2009 Jun 2009	EGEE NA4 SSC Workshop in Athens	d
	Survey of the status of all currently active A&A-related VOs	r
	Identification of the individual who will lead the preparation of the SSC proposal (Chair of the Editorial Board)	d
	Selection of people who will form the Editorial Board (in charge of the Chair)	d
Jul 2009 Dec 2009	The Editorial Board and its Chair will provide to:	
	Finalize the A&A SSC structure and manage the SSC until April 30 th 2010	s
	Prepare the A&A SSC proposal	s
Jan 2010	Agreed structure of the A&A SSC in place	s
Feb 2010	Organization of the first SSC general meeting	s
Mar 2010 Apr 2010	Fixing of possible issues highlighted during the first general meeting	s
May 2010	SSC is in place and fully operative	s

- List NGIs that you expect will support the SSC – “support” in the sense that they will commit to provide manpower and/or other resources
 - At a first stage all NGIs that include A&A groups currently active in EGEE-III A&A cluster: Italy, Spain, France, Germany, Netherlands, UK, Austria, Czech Republic, Slovakia
- List collaborating projects
 - Planck, Magic, LOFAR, AUGER
- List any ESFRIs the SSC is expected to be working with
 - It is expected to work at least with ELT (Extremely Large Telescope) and SKA (Square Kilometer Array) A&A projects, but also with PRACE (Partnership for Advanced Computing in Europe)
- Have you begun regular discussions with these parties?
 - The mentioned “collaborating projects” are already actively involved in the EGEE-III A&A cluster
 - Contacts have to be initialized with ESFRI projects instead

- Will there be a governing body for the SSC?
 - Yes. It is foreseen to have a SC (Steering Committee) composed by one representative for each NGI that supports the SSC. A SC Chair will be nominated within the SC. Other technical SSC bodies (GPB, UTS and Front Desk) have to be confirmed
- If yes, will it be open just to “supporting” NGIs or all?
 - Because the SC is made of one representative for each supporting NGI it is open to just these NGIs
- If all, how do you expect relations with “non-supporting” NGIs will evolve
 - One of the main goals of the SSC is to consolidate the presence of the astronomical community in EGI, but also to expand it by progressively involving astronomical institutes/groups of all NGIs. As the SSC expands it is expected that all NGIs will support it and consequently will have a member in the SC

- Will the SSC have its own Grid Planning Board (i.e. local MCB), and if so, would you be interested in having “specialized” representatives from the middleware consortia and operations (e.g. a development coordinator specifically assigned to your thematic area)?
 - At present the structure proposed for the SSC includes a GPB; the SSC structure however have to be further discussed with all partners of the A&A cluster. If the GPB will be confirmed for our SSC we are interested to have “specialized representatives” in it
- The currently envisioned general interfaces with EGI are: The User Forum Steering Committee, the User Tech Support teams (=USAG), the MCB and perhaps a “Front Desk Liaison” team. Are there other interfaces you would like to see?
 - Not at present
- If you are planning a scientific gateway/portal, do you expect to sustain it entirely within the SSC, or do you expect some dedicated assistance from EGI (e.g. within the Operations budget)?
 - Some dedicated assistance from EGI is expected in this case

- Please provide some detail, not just a total number of FTEs
 - **28 FTE.** This is a very preliminary estimation, to be carefully evaluated with all partners of the EGEE-III A&A cluster and compared with estimations given for other SSCs in NA4
 - Porting of scientific applications to EGI : **8 FTE**
 - GPB man power : **8 FTE**
 - *Grid middleware experts : 4 FTE*
 - *Tools/services experts : 4 FTE*
 - UTS man power : **8 FTE**
 - *VOs coordination and management : 2 FTE*
 - *Resources sharing and procurement : 2 FTE*
 - *Training/dissemination activities : 4 FTE*
 - Front Desk : **4 FTE**

- Which other SSCs can you envision having contact with?
 - We plan to closely keep in touch with all SSCs of disciplinary clusters currently in EGEE-III, namely: HEP, Life Sciences, Earth Sciences, Grid Observatory, Computational Chemistry, Fusion
- If you are a “horizontal” SSC, are you planning on having specific tasks in support of individual SSCs (for instance, someone who can work with journals or professionals in a specific field)?
 - N/A

- Do you have a timetable for the evolution of the SSC?
 - Yes, until April 2010 (end of EGEE-III). The related timetable is reported in the next slide
- How do you expect the SSC to function in 2 - 4 years?
 - Starting from May 2010 the main goal of the SSC is to expand and consolidate at the same time the presence of the astronomical community in EGI. This implies a growing number of astronomical research groups from all NGIs that routinely use the grid to run their applications and requires:
 - An intense training/dissemination activity
 - The consolidation of the A&A-related VOs currently in place (in terms of contributed resources, registered users, etc.) and, when necessary, the creation of new ones
 - Tight contacts and collaborations with other disciplinary SSCs, with horizontal SSCs to exploit their tools/services and in general with EGI.org bodies and contributing NGIs