



Enabling Grids for E-science

SA1 in EGEE-II

Ian Bird
CERN/IT

EGEE – EGEE-II Transition Meeting
CERN

13th April 2006

www.eu-egee.org



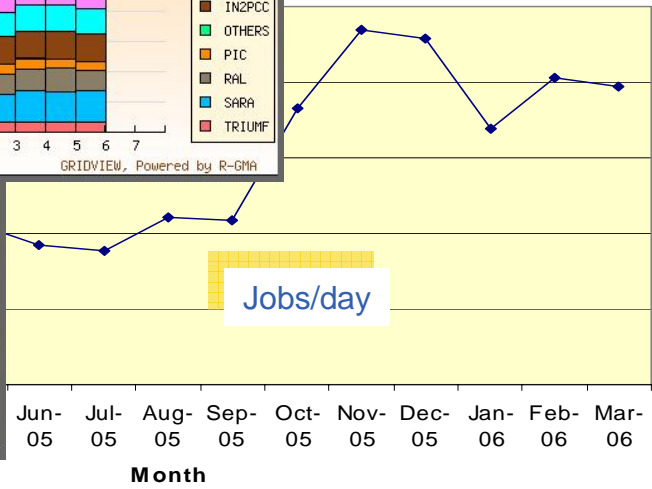
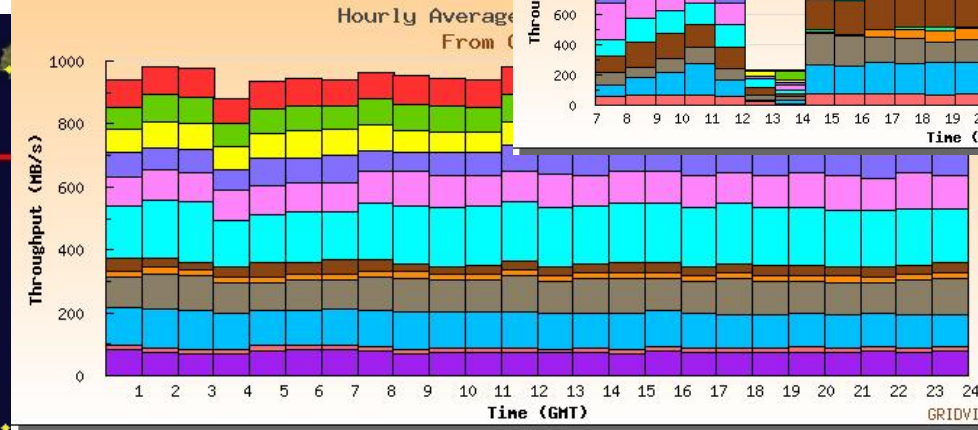
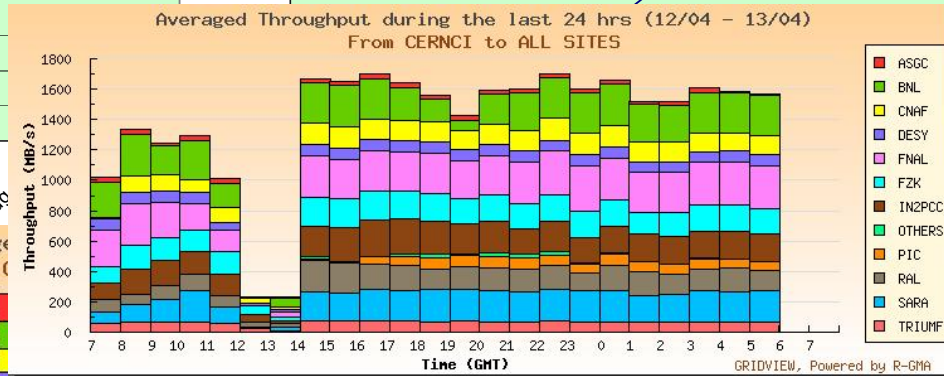
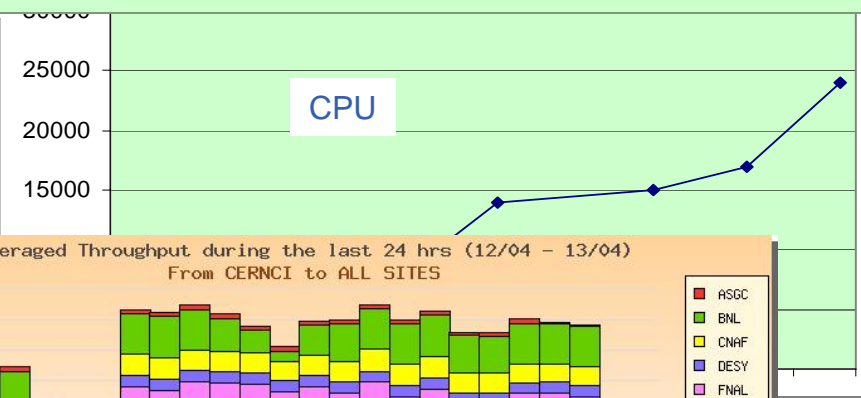
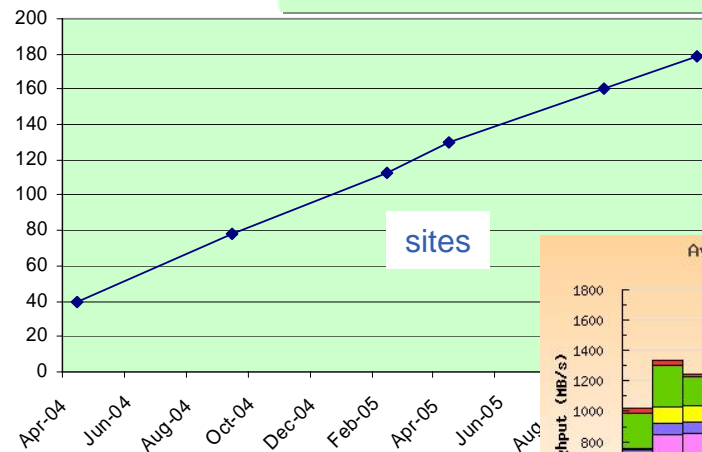
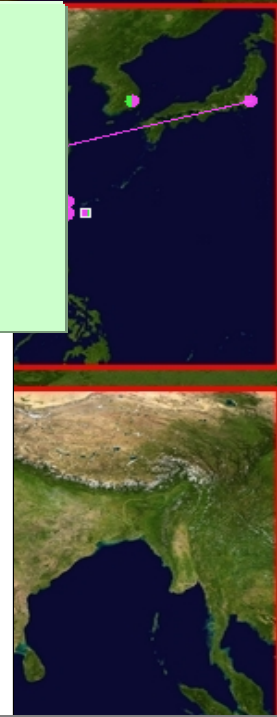
Information Society
and Media



- **SA1 goals**
- **SA1 from EGEE → EGEE-II**
 - Changes
- **Management structure**
- **SA1 Tasks & Partners**
 - WBS (!)
 - Reviews and reporting
- **Milestones**
- **Deliverables**
- **Interactions with other activities**
- **Risk analysis**

SA1 has achieved a lot in EGEE

- 👉 ~180 sites; 25k CPU
- 👉 sustained & regular workloads of 20K jobs/day
- 👉 massive data transfers with FTS > 1GB/s



- **Key goal:**

- We have a large running production infrastructure; But EGEE-II MUST take what we have now and make it:

- **Reliable**
 - *It fails too often – middleware fails, error reporting is missing, ...*
 - There is an application responsibility here too – needs effort
- **Robust**
 - *Services need to be more like real services and not prototypes*
- **Usable**
 - *It is too hard to use for many users; its still too hard to introduce new VOs*
- **Acceptable**
 - *It must be easy to deploy in a wide variety of environments and coexist with other grid infrastructures*
- **Sustainable**
 - *The infrastructure must become sustainable for the long term*

a) Grid management

- Coordination of ROCs; resource providers → SLAs

b) Operate core infrastructure services

- Basic essential grid services that form the infrastructure

c) Grid monitoring and control

- Operator on duty; etc.

d) Middleware deployment and introducing new resources

- Support for deploying SA3 distributions and new sites joining

e) Resource and user support

- All aspects of user and operational support; GGUS etc.

f) International collaboration

- Interoperability and interoperation; specifically OSG, DEISA, ARC (in DoW) and NAREGI; also GIN

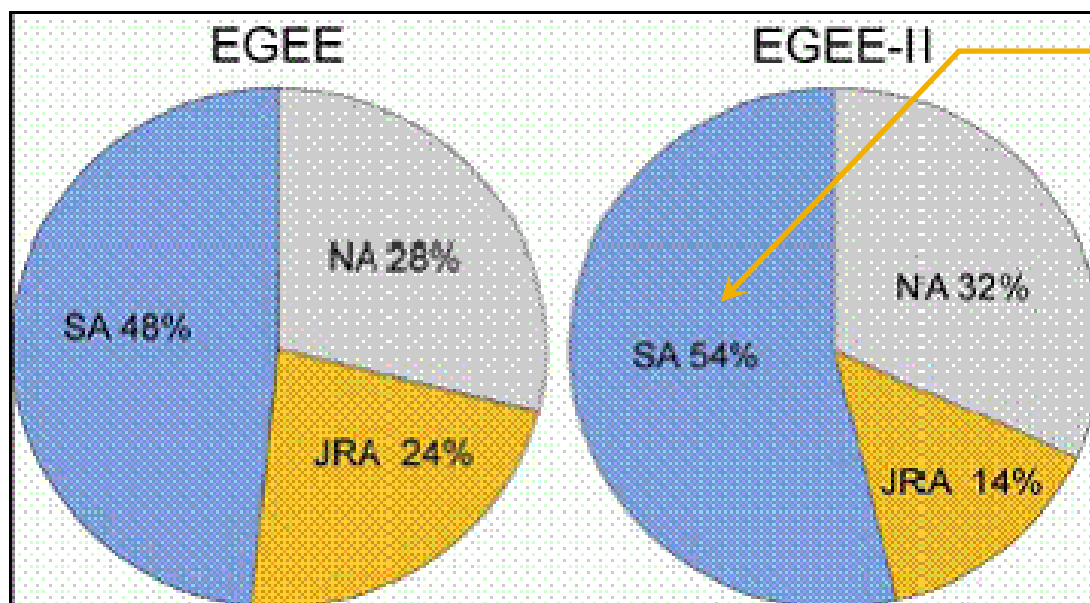
g) Capture and provide requirements

- Feedback to middleware suppliers and TCG

h) Long term sustainability

- Put in place structures (PoPs→ROCs?) for long term

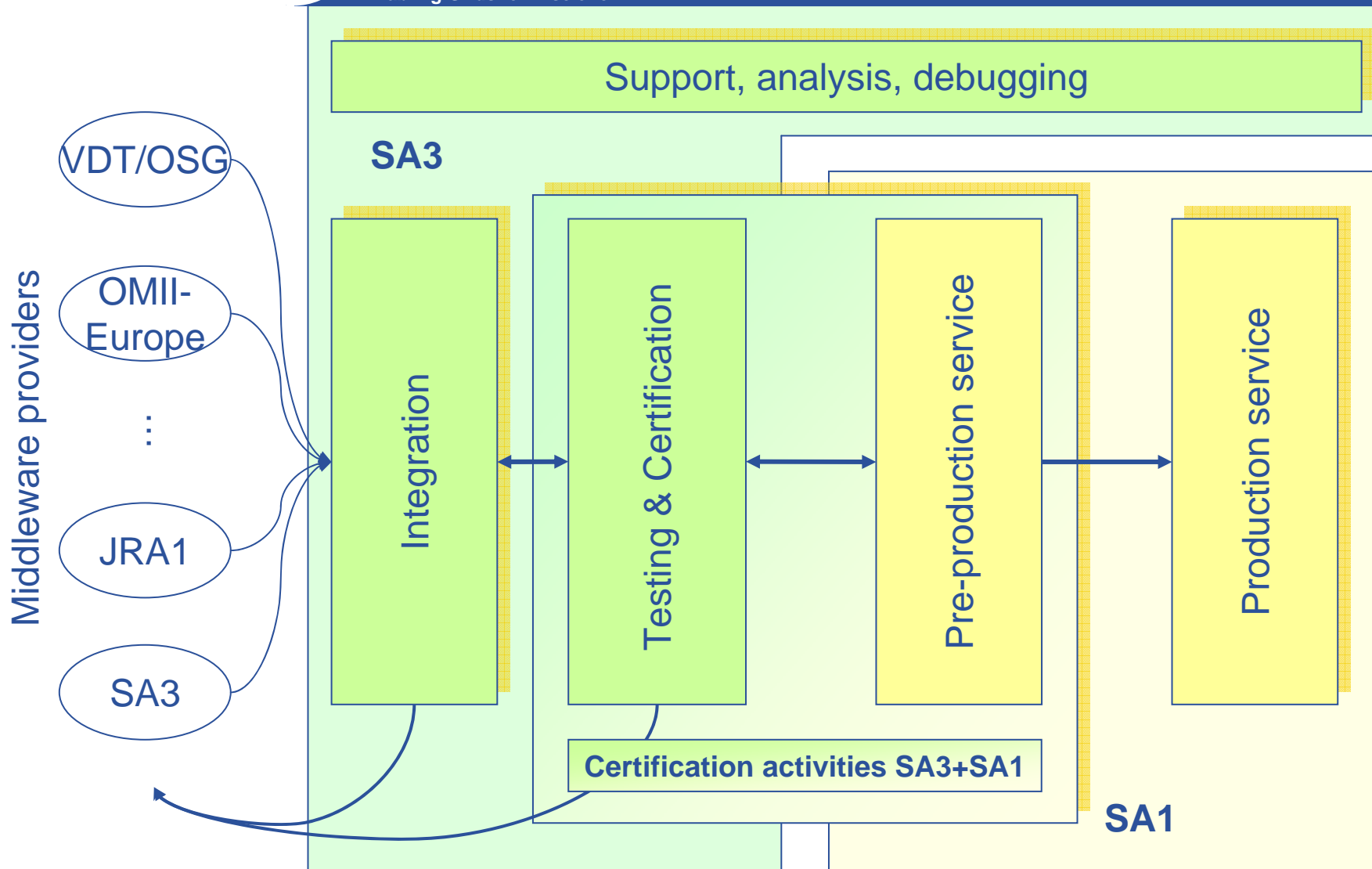
- **Simplify operations structure**
 - ROCs take responsibilities of CICs
 - Mandatory set of responsibilities for all ROCs
 - Optional set for those that can do it
 - Spread knowledge and expertise
- **Introduce SA3 (was part of SA1)**
 - Integration, certification, distribution preparation
 - Emphasises focus on stability, reliability, performance rather than new features
 - Mechanism for integrating non-EGEE software – according to need



SA: 54% of total

- SA1 (operations) : 86%
- SA2 (network) : 3%
- SA3 (certification): 11%

- **All operational security tasks now in SA1:**
 - EUGridPMA; JSPG; Incident response and operational security monitoring;
 - New vulnerability group: should do full vulnerability and risk analysis
- **Network monitoring from JRA4 now in SA1**
- **Emphasis on collaboration and interoperability/interoperation with other grids (international, regional, national, local, campus) & other middleware stacks**
 - With related infrastructure and application projects:
 - SEE-Grid(2), BalticGrid, EUMedGrid, EUChinaGrid, EELA, Health-e-Child
 - With other middleware infrastructure projects:
 - ETICS, OMII-Europe
 - With other grid & network project projects:
 - DEISA, Geant2, ARC
 - With other grid infrastructures:
 - OSG, ARC, NAREGI
- **Implies an emphasis on portability and co-existence;**
 - OS portability (other OS, 64-bit), virtual machines
 - Simplified deployment for coexistence

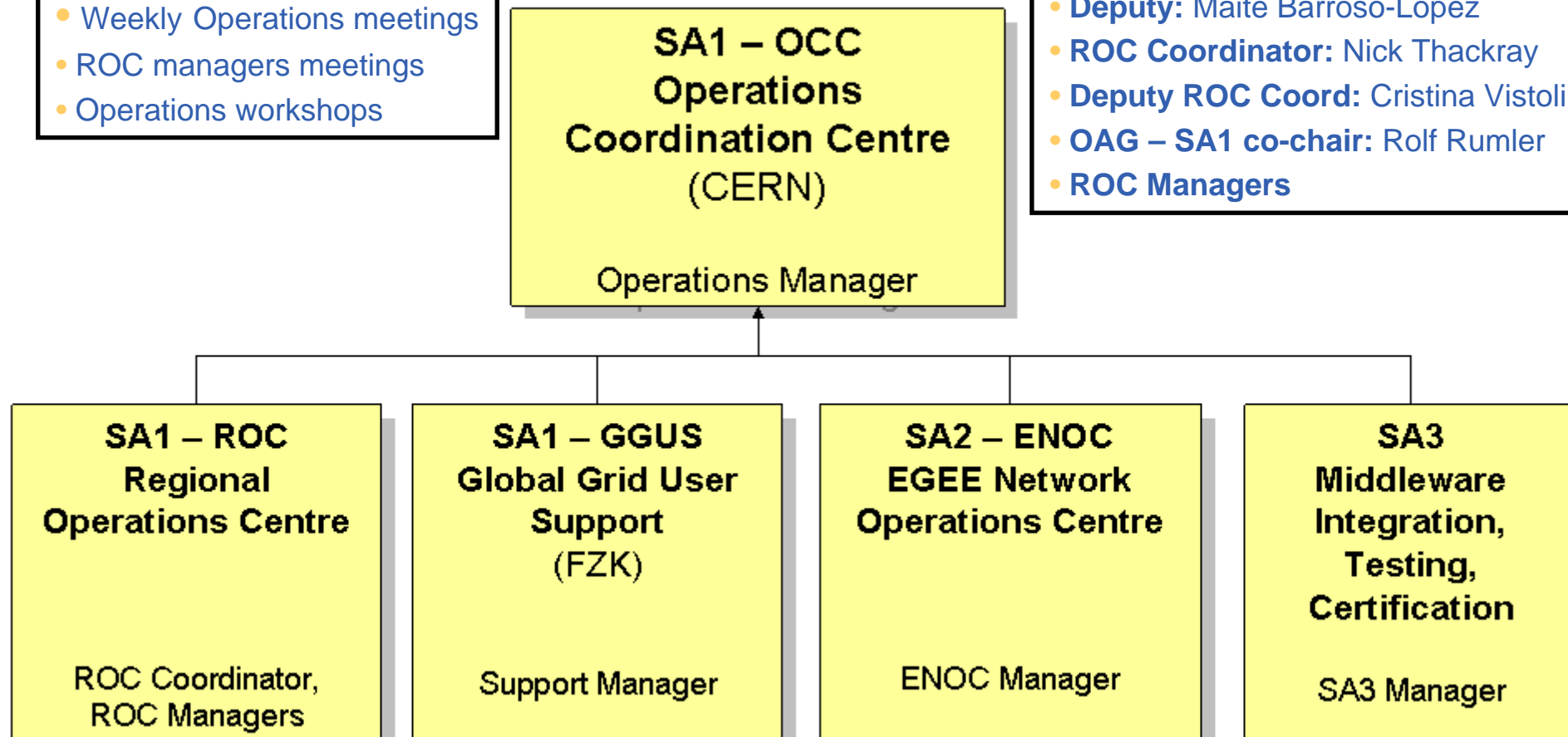


Communication:


- Weekly Operations meetings
- ROC managers meetings
- Operations workshops

SA1 People:

- **Activity Leader:** Ian Bird
- **Deputy:** Maite Barroso-Lopez
- **ROC Coordinator:** Nick Thackray
- **Deputy ROC Coord:** Cristina Vistoli
- **OAG – SA1 co-chair:** Rolf Rumler
- **ROC Managers**



<u>Task</u>	<u>Oblig</u>	<u>Task</u>	<u>Oblig</u>
TSA1.1: Operate a production and pre-production service		TSA1.5: VO, application, and user support	
TSA1.1.1: ROC management	Y	TSA1.5.1: GGUS	
TSA1.1.2: Pre-production service site	Y	TSA1.5.2: Call centre, helpdesk for ROC	Y
		TSA1.5.3: VO support, integration support	Y
		TSA1.5.4: User training in region	Y
		TSA1.5.5: Site admin training in region	Y
		TSA1.5.6: Regional contribution to GGUS - support teams	
TSA1.2: Middleware deployment and support		TSA1.6: Grid Management	
TSA1.2.1: Coordination and support for middleware deployment	Y	TSA1.6.1: OCC - CERN	
TSA1.2.2: Regional certification of middleware releases		TSA1.6.2: Accounting coordination in region	Y
		TSA1.7: Interoperation	
TSA1.3: Grid Operations and support		TSA1.7.1: National and regional grid project coordination	Y
TSA1.3.1: 1st line support for operational problems in region	Y	TSA1.7.2: International grid projects	
TSA1.3.2: Oversight and management of operational problems	Y	TSA1.8: Application<->resource provider coordination	
TSA1.3.3: Run essential regional grid services	Y	TSA1.8.1: ROC management of resources/SLAs	Y
TSA1.3.4: Weekly operator on duty support		TSA1.8.2: OAG management	
TSA1.3.5: Grid services for infrastructure or VOs		TSA1.9: Application/resource provider/mw provider coord	
TSA1.4: Grid security and incident response		TSA1.9.1: ROC representation in coordination	Y
TSA1.4.1: Grid incident response coord in region	Y	TSA1.10: Network Monitoring	
TSA1.4.2: Security vulnerability and risk analysis		TSA1.10.1: Deploy network monitoring tools	
TSA1.4.3: CA management			
TSA1.4.4: Coordinate JSPG			
TSA1.4.5: Coordinate EUGridPMA			

- **For SA1 execution plan we need to complete the WBS:**
 - For each task
 - For each partner contributing to the task : # PM
 - *For each person (named) : #PM*
- **This is about 50% complete so far**
 -  please send missing contributions

- **As in EGEE:**
 - Quarterly and periodic reporting

- **For monitoring the performance of partners in the tasks (asked for in general by the project across all activities)**
 - SA1 has ~60 partners, and 228 FTE:
 - 1-1 checking is not possible
 - But we need to make sure all partners are performing adequately
 - Propose a series of internal reviews:
 - Each federation should present status of tasks, work done, issues arising; OCC should flag particular problems to be addressed in advance
 - 3 regions every 3-6 months:
 1. (PM4?) NE, SEE, CE in first round
 2. (PM 8?) SWE, De//CH, Ru and follow-up issues from 1st round
 3. (PM 12?) UKI, Fr, It and any follow up from earlier
 4. (PM 16?) Follow up

Milestone	Description		
MSA1.1	Operations metrics defined		
MSA1.2	Inventory of operations tools, procedures & gap analysis	2	CERN
MSA1.3	Site operations policy agreement in place and signed by existing sites	5	Nikhef
MSA1.4	CERT teams in place – all ROCs, roles		
MSA1.5	GGUS operational		
MSA1.6	User requirements for NPM diagnostic tool captured	7	UEDIN
MSA1.7	Security and availability policy	8	CCLRC
MSA1.8	Assessment of GGUS support	11	INFN
MSA1.9	Operational Accounting portal	15	CCLRC
MSA1.10	Report on work carried out by the NPM activity	23	UEDIN

Will report against in QRs etc; but also really used for monitoring the infrastructure, sites, services, etc.

To focus on gaps and tools that are needed and avoid duplication of effort

Have been missing this – will form part of a site SLA with the project

An update/rewrite of existing cookbook: EU interested in pushing EGEE experience to GGF and wider grid community.
+ expand in collaboration with DEISA and GEANT-2 to describe full range of services on the ERA infrastructure

Deliverable	Description		
DSA1.1	GGUS implementation plan	1	FZK
DSA1.2	Operations Advisory Group (OAG) Procedures & Policy report	1	IN2P3
DSA1.3	Grid Services Security Vulnerability and Risk Analysis	10	CCLRC
DSA1.4	Assessment of production service status	11	SARA
DSA1.5	Grid operations cookbook	16	PIC
DSA1.6	Report on ROC progress and issues	18	CERN
DSA1.7	Assessment of production grid infrastructure service status	22	SARA

Requested by EU. Status report on progress with moving extra tasks to ROCs for long term sustainability. In the long term view National or Regional grid infrastructures have a point-of-presence: ROC. Includes open issues.

- **SA1 must work with:**
 - SA2: ENOC & etc.
 - SA3: teams work together
 - NA4: via OAG, VO managers group, UIG
 - NA5: SA1 has strong relations with many other grid projects
 - TCG: SA1, SA3, NA4

 - NA2? → UIG?
 - NA3? → UIG?

 - Should also work with Industry Forum and/or openlab (with SA3)

- **Reliability, performance, security not on a par with traditional computing services:**
 - Middleware providers must address basic issues of reliability, performance, etc.
 - Balance between response to user expectations of fixes, new functionality and trying to achieve stability: SA3 and PPS must put strict controls on what gets into production
 - Frustration of user communities with perceived slowness of getting new things into production; can the PPS be a platform for early adopters?
 - Unrealistic expectations of what the grid will deliver must be avoided so that failure is not perceived even though project goals are met.