

Introducing EGEE Site Service Level Agreements

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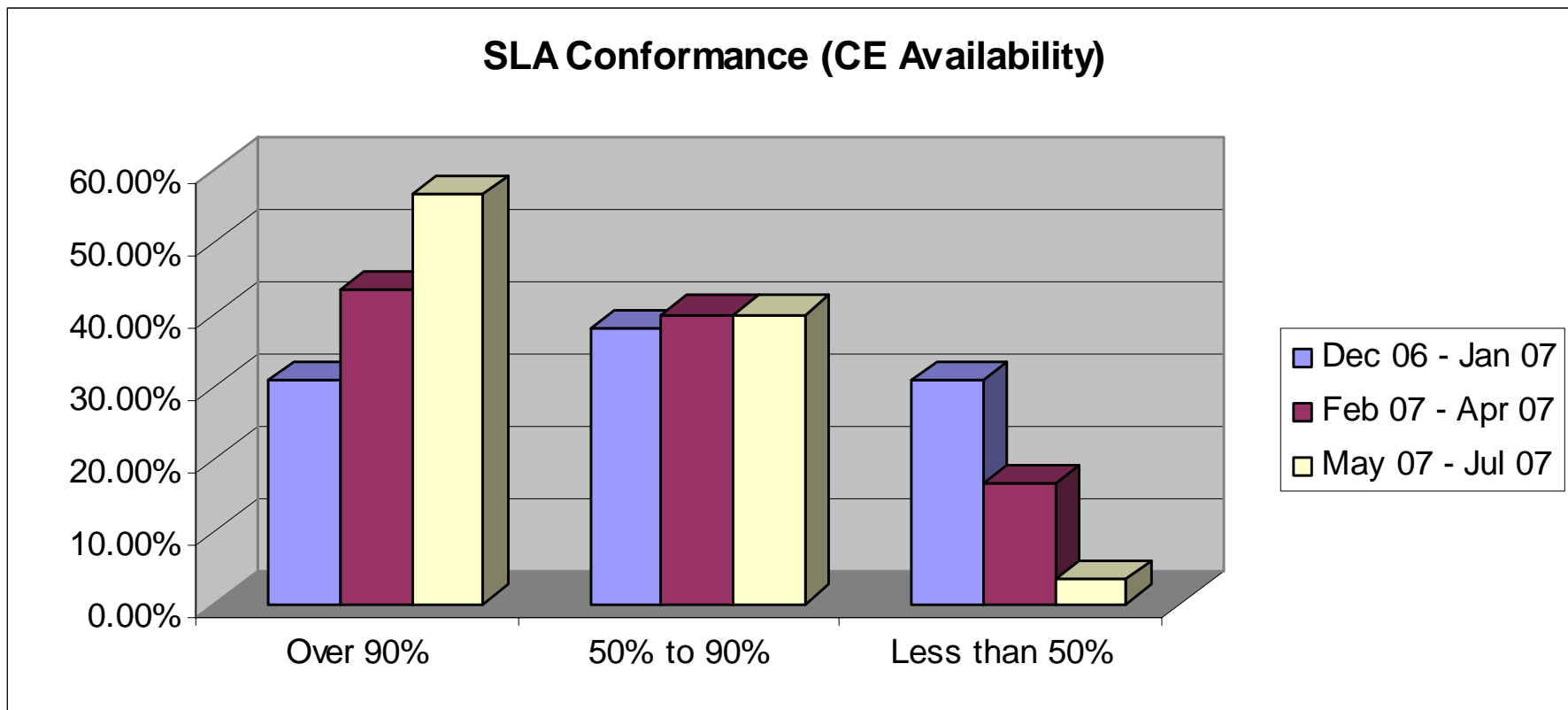
- **Some background (SLA Working Group)**
- **Purpose of the SLA**
- **Review of existing SLAs or MoUs**
- **A few slides on ITIL**
- **EGEE ROC-Site SLA in detail**
- **Example reports**
- **Lessons learned**

- **SLA Working Group Established in May 07**
- **Mandate**
 - To define an SLA between ROC and Site by the end of 2007
 - Note: SLAs between sites and VOs is out of scope
 - Collect relevant examples of SLAs and other documentation
 - Review the documents and extract relevant issues
 - Identify broad areas that a minimal SLA should cover. Agreement between ROC and sites
 - Decide on the existence of a single or multiple SLAs with varying level of commitment of the involved parties
 - Create a draft SLA and define the relevant metrics
- **The SLA working group will:**
 - try to identify reasonable limits and thresholds
 - NOT Identify penalties and consequences of violation
- **SLA will actually be an SLD to start with**

- **Measure service level in view of improving it**
 - EC review comment: “The measures of robustness and reliability of the production infrastructure are still very rudimentary.”
- **Formalize the responsibilities of both parties**
 - Avoid misunderstandings
 - Improve relationships between both parties
- **Understand what must be supplied**
- **Understand what is the minimum acceptable**
- **Identify service parameters**
 - Availability
 - Performance
 - Security
 - Quality

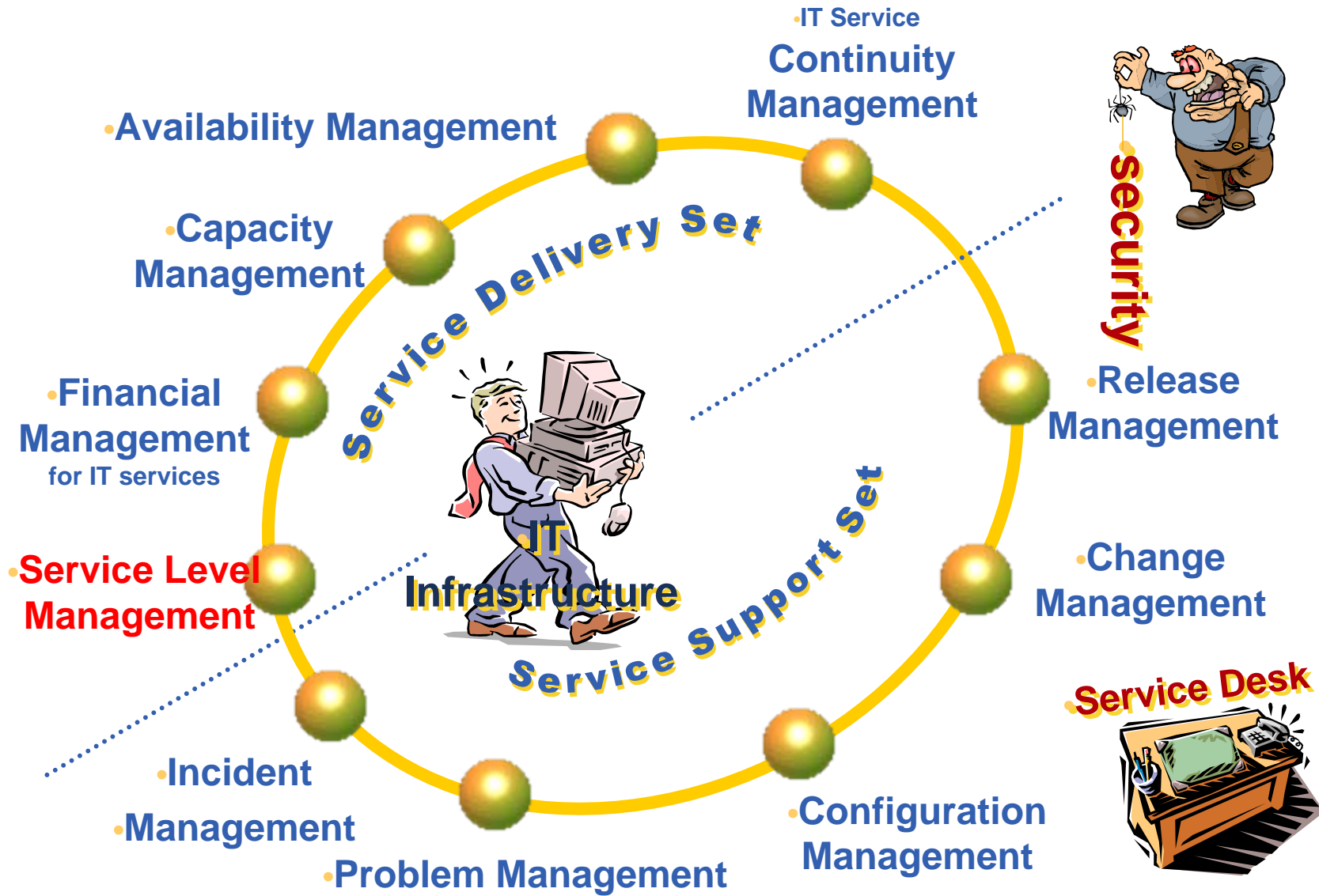
- **BalticGrid NREN SLA Draft (Networking)**
- **SEE-GRID Site SLA**
- **WLCG MoU**
- **INFN MoU**
- **GridPP SLA**
- **Oxford NGS Service Level Descriptions**
- **UK Tier2 MoU**
- **Service Level Description for NGS Help-desk**
- **EGEE-II SA2 SLA (Networking)**
- **JSPG Site Operations Policy**

	SEE-GRID SLA	WLCG MoU	GridPP SLA	INFN MoU	NGS Support SLDs	BalticGrid SLA	EGEE-II SA2 SLA
Definition of Grid Operation Services	X	X		X	X		
Minimum Hardware	X	X	X	X			
Network Connectivity	X	X	X			X	X
Level of Support	X	X		X	X		
Level of Expertise	X						
VO Support	X	X	X	X			
Site Availability	X	X	X		X		
Site Downtime	X						
Levels of Service/Support		X			X		
Provision of GOC		X	X				
User support facilities		X					
Middleware Deployment			X	X	X		
Reporting/Management	X	X	X	X			
Training					X		



**Improvements seen after three quarters
of pilot SLA enforcement**

- **IT Infrastructure Library**
- **Best practices for supplying IT services**
- **Description of what to do, not how to do it**
- **Not a method, nor a standard**
- **Eleven specific processes and one function:**
 - Service Desk (SPOC) function
 - 5 Support (Operational) processes
 - 5 Delivery (Tactical) processes
 - 1 IT Security process



- **Benefits of ITIL**
 - Improved service and end-user satisfaction
 - Better efficiency in providing IT services (ROI)
 - Improved reliability of infrastructure
 - Documented processes
- **No need for a big-bang approach!**
 - Step-by-step (examine maturity of existing processes)
 - Be realistic (i.e. miracles won't happen)
- **But... management support is a must**



• Continuous improvement over time



- **Introduction**
- **Service hours**
- **Availability**
- **Reliability**
- **Support**
- **Throughput**
- **Transaction response times**
- **Batch turnaround times**
- **Change**
- **IT Service Continuity and Security**
- **Charging**
- **Service reporting and reviewing**
- **Performance incentives/penalties**

1. Introduction

- EGEE makes a collection of hardware, software and support resources available to the European academic community and others. This Service Level Description (SLD) is intended to specify the constraints imposed on Regional Operations Centres (ROCs) and sites (resource centres) in order to ensure an available and reliable grid infrastructure.

2. Parties to the Agreement

- Name of the ROC and site signing the SLD
- Description of what defines a ROC
- Description of what defines a site

3. Duration of the Agreement

- As long as sites are part of the EGEE infrastructure (registered as production & certified in GOCDDB)

4. Amendment Procedure

- Amendment when mutually agreed by both parties. SLA addendum.

5. Scope of the agreement

- Commitments from ROC->Site and Site->ROC
- Does not cover (GOCDDB, GGUS, SAM, VOs)

6. Responsibilities

- 6.1 ROCs
 - Provide regional helpdesk facilities (GGUS support units or Regional Helpdesk interfaced with GGUS)
 - Register Site administrators in Helpdesk and GGUS
 - Provide 3rd level support for complex problems
 - Ticket follow-up in a timely manner
 - Support deployment of gLite middleware on sites
 - Registration of new sites
 - Maintain accurate GOCDDB entries for ROC managers, deputies, security staff (name, phone, e-mail)
 - Adhere to OPS manual
 - Follow up issues raised by sites in weekly EGEE Operations meetings

- **Responsibilities (contd.)**

- 6.2 Sites

- Provide 2nd level support
- Provide one or more site admins, security contacts, details in GOCDB (name, phone, e-mail)
- Adhere to OPS manual
- Maintain accurate information on their services (provided in GOCDB)
- Adhere to security and availability policy document
- Adhere to the criteria and metrics defined in the SLA
- Run supported version of the gLite (or compatible) middleware
- Respond to GGUS tickets in a timely manner

7. Hardware and Connectivity Criteria

- Site must ensure sufficient computational and storage resources, and network connectivity to support proper operation of its services, and continuously pass SAM tests.

8. Description of Services Covered

- Services should be specified in GOCDB and monitored by SAM.
- At least one CE (Worker Nodes totaling 8 CPUs) OR
- At least one SE with 1 TB storage capacity
- one site BDII
- one accounting service

9. Service Hours

- Intended availability of service is 24/7.
- Support must be available during a site's business hours.
- Service Hours to be specified in GOCDB
- Response time to trouble tickets is expressed in service hours.

10. Availability

- Availability measured by SAM and published by GridView
- CE, SE, SRM and sBDII service availability is what counts (logical OR of instances, AND of critical services).
- Set of critical tests is subject to change and approved by the ROC managers and sites.
- Sites must be available at least 70% of the time over a monthly period (reliability should be $\geq 75\%$).
- Scheduled downtimes to be specified in GOCDB & kept to a minimum

11. Support

- The site will provide at least one system administrator who is reachable during service hours
- The site is responsible for ensuring the accuracy of site contact details in GOCDB
- A site must respond to GGUS incidents within 4 hours, resolve the incident within 5 working days. Missing any of these metrics on an incident constitutes a violation.
- 12.1 VO Support
 - The site must support the ops VO plus at least one user-community Virtual Organization
 - Site is encouraged to support as many VOs as it reasonably can.
 - Specific agreements between sites and individual VOs should be covered in a separate SLA

12. Service Reporting and Reviewing

- Tracking the SLA performance should be done every month
- Site availability reports will be published by GridView

13. Performance incentives and penalties

- Placeholder, since no penalties specified.

14. Table of Metrics

	Value	Section
Minimum number of site BDII's	one	8
Minimum number of CEs or SEs	one	8
Minimum number of WN CPUs/cores	eight	8
Minimum capacity of SE(s)	one TB	8
Minimum site availability	70%	10
Minimum site reliability	75%	10
Period of availability/reliability/outage calculations	per month	10
Minimum number of system administrators	one	11
Maximum time to acknowledge GGUS tickets	four hours	11
Maximum time to resolve GGUS incidents	five working days	11
Minimum number of supported user-community VOs	one	11
Tracking of SLD conformance	monthly	12

EGEE League Table [Jan, 2008]			
Site	Region	Availability	Reliability
JP-KEK-CRC-01	AsiaPacific	1.00	1.00
AUVERGRID	France	1.00	1.00
EENet	NorthernEurope	1.00	1.00
HEPHY-UIBK	CentralEurope	0.99	1.00
GRIF	France	0.99	1.00
giHECie	UKI	0.99	0.99
IN2P3-LPC	France	0.99	0.99
HG-06-EKT	SouthEasternEurope	0.99	0.99
INFN-GENOVA	Italy	0.99	0.99
HG-01-GRNET	SouthEasternEurope	0.99	0.99
BEIJING-LCG2	CERN	0.99	0.99
JINR-LCG2	Russia	0.99	0.99
LSG-NKI	NorthernEurope	0.99	0.99
TR-01-ULAKBIM	SouthEasternEurope	0.99	0.99
RU-Moscow-KIAM-LCG2	Russia	0.99	0.99
TR-03-METU	SouthEasternEurope	0.99	0.99
CERN-PROD	CERN	0.99	0.99
IL-IUCC	SouthEasternEurope	0.99	0.99
GR-05-DEMOKRITOS	SouthEasternEurope	0.99	0.99
HG-04-CTI-CEID	SouthEasternEurope	0.99	0.99
TOKYO-LCG2	AsiaPacific	0.98	1.00
DESY-ZN	GermanySwitzerland	0.98	0.99



EGEE Availability and Reliability Report

Region Summary - Sorted by Availability

March 2008

Critical SAM Tests - <http://sam-docs.web.cern.ch/sam-docs/docs/htmldocs/MANUserManual/node22.html>

Availability = % of successful tests
 Reliability = Availability / Scheduled Availability
 Reliability and Availability for Region - average of all sites in the Region

Colour coding : < 30% < 60% < 90% >= 90%


Region	Avail-ability	Reli-ability
France	92 %	93 %
UKI	88 %	90 %
GermanySwitzerland	86 %	86 %
CentralEurope	83 %	81 %
NorthernEurope	82 %	83 %
SouthEasternEurope	79 %	81 %
Russia	77 %	76 %
SouthWesternEurope	76 %	83 %
AsiaPacific	74 %	75 %
CERN	70 %	66 %
Italy	69 %	79 %



- Request feedback and integrate it (iterative process)
- Ensure both parties involved from the outset – avoids complaints later on
- Keep a change log to record changes & rationale
- State what is not covered (e.g. VO-specific arrangements)
- Keep an open mind to changes
- Know when to put a stick in the ground
- Keep things simple & use common sense
- Don't go into too many implementation details...but don't be so vague as to be content-free!
- Remember the goal: in our case, improving site reliability and end-user satisfaction


- SLA to be found in:

<https://edms.cern.ch/document/860386/>

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Summary
Sub-Documents | Approval & Comments | Used in | Access Rights | Versions & other info

Actions:

Description, External Reference and Keywords

Description This is the Service Level Description between ROCs and sites.

External Reference

Keywords service level description, sld, sites, roc, sla, operations, agreement, metrics

Files of the Document

EGEE-ROC-Site-SLD-v1.4 [pdf](#) (124 Kb) [doc](#) (688 Kb)

SLD-Change-Log-v1.4 [pdf](#) (127 Kb)

READ_ME [pdf](#) (26 Kb)

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