



# EGI-InSPIRE

## UMD OPERATIONS CAPABILITIES QUALITY CRITERIA v1.4

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### Abstract

This document describes the Quality Criteria for the Operations Capabilities identified in the UMD Roadmap.



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1.0	03/11/2010	First draft	Enol Fernández
1.1	04/11/2010	Added configuration modules QC	Enol Fernández
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1.3	31/01/2011	Added Nagios failover configuration and APEL QC	Álvaro Simón
1.4	08/02/2011	Review of Accounting portal criteria.	Álvaro Simón
1.5	08/02/2011	Review of Accounting criteria.	Álvaro Simón



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## 1 MONITORING CAPABILITY

This section documents the Specific Quality Criteria for the monitoring system (NAGIOS) and the web portal to check the results.

### 1.1 Nagios Configuration Generation

Generation of Nagios Configuration Files	
<b>ID</b>	MON_NCG_1
<b>Mandatory</b>	
<b>Applicability</b>	Nagios Configuration Generator (NCG) component
<b>Related Requirements</b>	None
<b>Description</b> The NCG must be able to generate a correct configuration for Nagios that includes all the hosts and services to be monitored.	
<b>Input from TP</b> Test for the generator of configuration files for Nagios.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Generate Nagios configuration files according to the information available in the databases.
<b>Expected Outcome</b>	Working Nagios configuration files.
<b>Pass/Fail Criteria</b> Pass if the testsuite is provided and passes.	
<b>Related Information</b>	
<b>History</b>	

<b>Generation of Failover Nagios Configuration</b>	
<b>ID</b>	MON_NCG_2
<b>Mandatory</b>	
<b>Applicability</b>	Nagios Configuration Generator (NCG) component
<b>Related Requirements</b>	None
<b>Description</b>	
<p>The NCG must be able to understand a redundant service configuration for Nagios that includes failover capability.</p> <ul style="list-style-type: none"> <li>• Several WMS</li> <li>• Robot certificates</li> <li>• Several VOs and VOMSES</li> </ul>	
<b>Input from TP</b>	
Test for the generator of configuration files for Nagios.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Generate Nagios configuration files according to the information available in the databases.
<b>Expected Outcome</b>	Working Nagios redundant configuration files using failover services.
<b>Pass/Fail Criteria</b>	
Pass if the testsuite is provided and passes.	
<b>Related Information</b>	
<b>History</b>	

## 1.2 Visualization Portal (MyEGI)

Resource Summary View	
<b>ID</b>	MON_PORTAL_1
<b>Mandatory</b>	
<b>Applicability</b>	MyEGI monitoring visualization portal
<b>Related Requirements</b>	None
<p><b>Description</b></p> <p>Provide a view of the summary status of resources, that provides the following basic information:</p> <ul style="list-style-type: none"> <li>• Site of the resource</li> <li>• Resource name</li> <li>• Type of service</li> <li>• Current status</li> <li>• Link to detailed and historical views</li> <li>• Use colors to display the status of the resource.</li> </ul>	
<p><b>Input from TP</b></p> <p>Summary view example in visualization portal.</p>	
<p><b>Test 1</b></p> <p><b>Pre-condition</b> Configured system.</p> <p><b>Test</b> Browse the summary view of resources.</p> <p><b>Expected Outcome</b> All requested information is provided</p>	
<p><b>Pass/Fail Criteria</b></p> <p>Pass if the resource summary view is provided for any selected resource with all the information specified above.</p>	
<p><b>Related Information</b></p>	
<p><b>History</b></p>	

<b>Resource Detail View</b>	
<b>ID</b>	MON_PORTAL_2
<b>Mandatory</b>	
<b>Applicability</b>	MyEGI monitoring visualization portal
<b>Related Requirements</b>	None
<b>Description</b>	
<p>Provide a detailed view of the current status for resources that shows the results of the last execution of all the probes. Include all information requested in the summary view plus:</p> <ul style="list-style-type: none"> <li>• List of probes executed</li> <li>• Detailed results of probes</li> <li>• Last execution time for probe</li> <li>• Link to historical view</li> </ul>	
<b>Input from TP</b>	
Summary view example in visualization portal.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Browse the detailed view of resources.
<b>Expected Outcome</b>	All requested information is provided
<b>Pass/Fail Criteria</b>	
Pass if the detailed view is provided for any selected resource with all the information specified above.	
<b>Related Information</b>	
<b>History</b>	

<b>Resource Historical View</b>	
<b>ID</b>	MON_PORTAL_3
<b>Mandatory</b>	
<b>Applicability</b>	MyEGI monitoring visualization portal
<b>Related Requirements</b>	None
<b>Description</b>	
Provide a historical view of the probes executed at resources. Show graphically in a timeline the results for the probes. For any given probe show the detailed view fields when selected.	
<b>Input from TP</b>	
Historical view example in visualization portal.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Browse the historical view of resources.
<b>Expected Outcome</b>	All requested information is provided
<b>Pass/Fail Criteria</b>	
Pass if the historical view is provided for any selected resource with all the information specified above.	
<b>Related Information</b>	
<b>History</b>	



<b>Resource Filters</b>	
<b>ID</b>	MON_PORTAL_4
<b>Mandatory</b>	
<b>Applicability</b>	MyEGI monitoring visualization portal
<b>Related Requirements</b>	None
<b>Description</b>	
<p>Provide ways to filter the information shown in the web interface for all the possible views of the portal. At least, the displayed resources should be filtered by the following constrains:</p> <ul style="list-style-type: none"> <li>• status of resource (select just one status or several)</li> <li>• type of service</li> <li>• supported VO</li> <li>• site which the resource belongs to</li> <li>• specific name of resource</li> <li>• for historical view, range of dates which will be used for the information.</li> </ul>	
<b>Input from TP</b>	
Resource filters example in visualization portal.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Test the resource filters available.
<b>Expected Outcome</b>	Resrouces are shown according to the filters tested.
<b>Pass/Fail Criteria</b>	
Pass if the resource filters are provided and they work as expected.	
<b>Related Information</b>	
<b>History</b>	

<b>Responsiveness</b>	
<b>ID</b>	MON_PORTAL_5
<b>Mandatory</b>	
<b>Applicability</b>	MyEGI monitoring visualization portal
<b>Related Requirements</b>	None

<b>Description</b>	
Visualization portal should provide fast response to user requests. Information should be displayed as soon as possible. If too much information is to be shown the portal should use a paginated interface or dynamically load the content.	
<b>Input from TP</b>	
Test for complex page with dynamic load of information.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Browse complex page (e.g. lots of resources)
<b>Expected Outcome</b>	Page responsiveness is fast enough for navigation. Information is loaded dynamically or shown in a paged interface.
<b>Pass/Fail Criteria</b>	
Pass if the resource filters are provided and they work as expected.	
<b>Related Information</b>	
<b>History</b>	



<b>Linkable Views</b>	
<b>ID</b>	<b>MON_PORTAL_6</b>
<b>Mandatory</b>	
<b>Applicability</b>	MyEGI monitoring visualization portal
<b>Related Requirements</b>	None
<b>Description</b> Views should have unique URLs that are independent to the user session. This links should work for different users.	
<b>Input from TP</b> Link example for views.	
<b>Test 1</b> <b>Pre-condition</b> Configured system. <b>Test</b> Generate view link with user A, try it with user B <b>Expected Outcome</b> Both users A and B get the same view results.	
<b>Pass/Fail Criteria</b> Views links must work for different users and/or sessions.	
<b>Related Information</b>	
<b>History</b>	

### 1.3 Database

<b>Metric List Fetching</b>	
<b>ID</b>	MON_DB_1
<b>Mandatory</b>	
<b>Applicability</b>	Metrics Database
<b>Related Requirements</b>	None
<b>Description</b> The list of metrics to use in each of the services must be fetch at regular intervals from a given central location.	
<b>Input from TP</b> Test of the metric fetch mechanism.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Fetch metrics from central metric database. Generate list of updates for the current local metric database.
<b>Expected Outcome</b>	Metrics are fetched correctly. A list of updates is generated.
<b>Pass/Fail Criteria</b> Test must exist and execute correctly	
<b>Related Information</b>	
<b>History</b>	

<b>Resource List Fetching</b>	
<b>ID</b>	MON_DB_2
<b>Mandatory</b>	
<b>Applicability</b>	Metrics Database
<b>Related Requirements</b>	None
<b>Description</b>	
<p>The list of resources to be tested should be dynamically discovered using the various information systems available. The list of sites to be tested meet the following requirements:</p> <ul style="list-style-type: none"> <li>• listed in the BDII</li> <li>• listed in the GOCDB</li> <li>• status in the GOCDB is Certified</li> </ul>	
<b>Input from TP</b>	
Test of the resource fetch mechanism.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Fetch resources by quering BDII and GOCDB. List of updates to perform to the local resource DB.
<b>Expected Outcome</b>	Resources are fetched correctly. A list of updates is generated.
<b>Pass/Fail Criteria</b>	
Test must exist and execute correctly	
<b>Related Information</b>	
<b>History</b>	

## 1.4 Probes

The Monitoring Capability executes a set of probes defined by the operations community. These probes must be provided by the TP that implement each capability.

Probe Template	
<b>ID</b>	MON_PROBE_1
<b>Mandatory</b>	
<b>Applicability</b>	Monitoring Capability
<b>Related Requirements</b>	None
<b>Description</b> A template and documentation for the creation of new probes that can be integrated in the monitoring framework must exist.	
<b>Input from TP</b> Template for probes and documentation for the creation and integration of probes into the framework (or link to those documents)	
<b>Pass/Fail Criteria</b> The QC will pass if the template and documentation is available for external developers and is usable for creating new probes.	
<b>Related Information</b>	
<b>History</b>	

### 1.4.1 Generic Probes

<b>Certificate Lifetime Probe</b>	
<b>ID</b>	MON_PROBE_GENERIC_1
<b>Non Mandatory</b>	
<b>Applicability</b>	Applicable to all components that need a host certificate.
<b>Related Requirements</b>	None.
<b>Description</b>	
Provide a monitoring probe that test the host certificate lifetime for the service is valid.	
<b>Input from TP</b>	
Certificate Validity Probe.	
<b>Probe Description</b>	
<b>Pre-requirements</b>	None
<b>Input</b>	Host to check
<b>Output</b>	Certificate lifetime or current validity
<b>Output Status</b>	<b>OK</b> if certificate is currently valid, <b>ERROR</b> otherwise
<b>Pass/Fail Criteria</b>	
Probe exists and and passes.	
<b>Related Information</b>	
<b>History</b>	
V1.1 Added probe description.	

## 1.4.2 Information Services Probes

Information Service Status	
<b>ID</b>	MON_PROBE_INFO_1
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all information publishers (Information Model and Information Discovery Capabilities)
<b>Related Requirements</b>	None.
<b>Description</b>	
Probe dealing with services that publish information about themselves or about other services.	
<b>Input from TP</b>	
Information Service Probe.	
<b>Probe Description</b>	
<b>Pre-requirements</b>	None
<b>Input</b>	Service endpoint to check, type of service (e.g. top level, site level, CE...), freshness limit of information
<b>Output</b>	None
<b>Output Status</b>	<b>OK</b> if: <ul style="list-style-type: none"> <li>• Connection to the ldap server is established and information can be retrieved</li> <li>• Information published is fresh enough (freshness is below the passed parameter)</li> <li>• Information published corresponds to the type of service</li> </ul> <b>ERROR</b> otherwise.
<b>Pass/Fail Criteria</b>	
Probe must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	
V1.2 Added Freshness limit as input parameter	



### 1.4.3 Compute Capability Probes

Compute Capability Probes	
<b>ID</b>	MON_PROBE_JOBEXEC_1
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all Job Execution Capability implementations.
<b>Related Requirements</b>	None.
<b>Description</b> Provide monitoring probes that tests the functionality of the Compute Capability	
<b>Input from TP</b> CE probes as described at: <a href="https://tomtools.cern.ch/confluence/display/SAMDOC/CE">https://tomtools.cern.ch/confluence/display/SAMDOC/CE</a> .	
<b>Pass/Fail Criteria</b> Probes must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	

<b>CREAM Compute Capability Probes</b>	
<b>ID</b>	MON_PROBE_JOBEXEC_2
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all implementations of the CREAM interface
<b>Related Requirements</b>	None.
<b>Description</b> Provide monitoring probes that tests the functionality of the Compute Capability	
<b>Input from TP</b> CREAM Probes described at <a href="https://tomtools.cern.ch/confluence/display/SAMDOC/CREAMCE+DJS">https://tomtools.cern.ch/confluence/display/SAMDOC/CREAMCE+DJS</a>	
<b>Pass/Fail Criteria</b> Probes must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	

### 1.4.3.1 WN Probes

Probes that check various functionality that must be provided at the executing nodes. They submit a job to a Compute Capability and the job tests the functionality.

<b>Compute Capability WN Probes</b>	
<b>ID</b>	MON_PROBE_JOBEXEC_3
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all Compute Capability implementations.
<b>Related Requirements</b>	None
<b>Description</b> Provide monitoring probes that tests the Worker Nodes.	
<b>Input from TP</b> WN probes as described at: <a href="https://tomtools.cern.ch/confluence/display/SAMDOC/WN">https://tomtools.cern.ch/confluence/display/SAMDOC/WN</a> .	
<b>Pass/Fail Criteria</b> Probes must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	

#### 1.4.4 Compute Job Scheduling Probes

<b>Compute Job Scheduling Capability WMS Interface.</b>	
<b>ID</b>	MON_PROBE_JOBSCH_1
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all Job Scheduling Capability implementations with WMS interface
<b>Related Requirements</b>	None.
<b>Descriptio</b> Provide monitoring probes that tests the functionality of the WMS Compute Job Scheduling Capability	
<b>Input from TP</b> WMS probes as described at: <a href="https://tomtools.cern.ch/confluence/display/SAMDOC/WMS">https://tomtools.cern.ch/confluence/display/SAMDOC/WMS</a> .	
<b>Pass/Fail Criteria</b> Probes must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	

### 1.4.5 File Access Capability Probes

File Access Capability Probes	
<b>ID</b>	MON_PROBE_STORAGE_1
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all Storage Management Capability implementations
<b>Related Requirements</b>	None.
<b>Description</b> Provide monitoring probes that tests the functionality of the File Access Capability	
<b>Input from TP</b> SRM probes as described at <a href="https://tomtools.cern.ch/confluence/display/SAMDOC/SRM">https://tomtools.cern.ch/confluence/display/SAMDOC/SRM</a> .	
<b>Pass/Fail Criteria</b> Probes must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	

#### 1.4.6 Metadata Catalogue Capability Probes

Metadata Catalogue Capability Probes	
<b>ID</b>	MON_PROBE_METADATA_1
<b>Mandatory</b>	
<b>Applicability</b>	Applicable to all LFC Metadata Catalogue Capability implementations
<b>Related Requirements</b>	None.
<b>Description</b> Provide monitoring probes that tests the functionality of the LFC Metadata Catalogue Capability	
<b>Input from TP</b> SRM probes as described at <a href="https://tomtools.cern.ch/confluence/display/SAMDOC/LFC">https://tomtools.cern.ch/confluence/display/SAMDOC/LFC</a> .	
<b>Pass/Fail Criteria</b> Probes must exist and work as expected.	
<b>Related Information</b>	
<b>History</b>	

## 2 ACCOUNTING CAPABILITY

The use of resources within the e-Infrastructure must be recorded for understanding usage patterns by different user communities and by individuals within their communities.

### 2.1 Generation of Accounting Records

<b>Job Execution Capability Accounting</b>	
<b>ID</b>	<b>ACC_JOBEXEC_1</b>
<b>Mandatory</b>	
<b>Applicability</b>	Accounting Appliances for Job Execution Capability (APEL)
<b>Related Requirements</b>	None

<p><b>Description</b></p> <p>The Job Execution Capability must generate accounting records for all the actions of the users into the local resources.</p> <p>These records must include, at least, the following information for all the jobs submitted to the system:</p> <ul style="list-style-type: none"> <li>• User DN</li> <li>• VO</li> <li>• Job start execution time</li> <li>• Job end execution time</li> <li>• SPECint information</li> <li>• CPU &amp; Wall Time</li> <li>• Number of slots/CPU's used by the job</li> </ul> <p>The generation of accounting records must be available for the execution manager supported by the Job Execution Capability implementation. Support is expected for the following systems:</p> <ul style="list-style-type: none"> <li>• Torque</li> <li>• SGE</li> <li>• Condor</li> <li>• LSF</li> </ul>	
<p><b>Input from TP</b></p> <p>Test for the generation of records.</p>	
<p><b>Test 1</b></p> <p><b>Pre-condition</b> Configured system.</p> <p><b>Test</b> Creation of accounting records</p> <p><b>Expected Outcome</b> Accounting records for all the jobs submitted to the execution manager through the Capability.</p>	
<p><b>Pass/Fail Criteria</b></p> <p>Pass if the test is provided and passes for all the Job Execution Capability implementations and execution managers supported. The generation of the records should not compromise the availability and reliability of the system.</p>	



<b>Related Information</b>
<b>History</b>



<b>Job Scheduling Accounting Records</b>	
<b>ID</b>	ACC_JOBSCH_1
<b>Not Mandatory</b>	
<b>Applicability</b>	Accounting Appliances for Job Scheduling Capability
<b>Related Requirements</b>	None
<b>Description</b>	
<p>The Job Scheduling Capability must generate accounting records for all the actions of the users. These records must include, at least, the following information for each submitted job:</p> <ul style="list-style-type: none"> <li>• status of job</li> <li>• submission time</li> <li>• completion time</li> <li>• failures</li> </ul> <p>Summary information (number of submitted jobs, success rate, average submission time, etc) should also be provided.</p>	
<b>Input from TP</b>	
Test for the generation of records.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Creation of accounting records
<b>Expected Outcome</b>	Accounting records for all the jobs submitted the system through the Capability.
<b>Pass/Fail Criteria</b>	
Pass if the test is provided and passes. The generation of the records should not compromise the availability and reliability of the system.	
<b>Related Information</b>	
<b>History</b>	

## 2.2 Accounting Store and Transmission for Job Execution Appliances.

The accounting information should be stored in a local database and transmitted in regular intervals to a central registry where information of the whole EGI infrastructure is stored.

Local Accounting Store	
<b>ID</b>	<b>ACC_STORE_1</b>
<b>Mandatory</b>	
<b>Applicability</b>	APEL Accounting Appliances.
<b>Related Requirements</b>	None

### Description

APEL must be able to store the information collected from the execution manager in a site registry database, where information about all the jobs executed at the site is stored. The records must include the following information, as recommended by OGF community:

- ExecutingSite: Site name (example: RAL-LCG2 )
- LocalJobID: Local job name (example: 12311.lcgce02.gridpp.rl.ac.uk )
- LCGJobID: Optional default value: NULL)
- LocalUserID: Local user name (example: alicesgm 001)
- LCGUserID: User DN (example:/C=IT/O=INFN/OU=Personal Certificate ..)
- LCGUserVO: Local user group (example: alice)
- ElapsedTime: Job Wall duration (example: P8H24M47S )
- BaseCpuTime: Job CPU duration (example: P8H21M34S )
- ElapsedTimeSeconds: Job Wall duration in seconds (example: 3500)
- BaseCpuTimeSeconds: Job CPU time duration in seconds (example: 3000)
- StartTime: Job start time (example: 2010-03-14T11:06:08Z )
- StopTime: Job stop time (example: 2010-03-14T19:30:55Z )
- StartTimeUTC: Job start UTC time (example: 2010-03-14T11:06:08Z )
- StopTimeUTC: Jobs stop UTC time (example: 2010-03-14T19:30:55Z )
- StartTimeEpoch: Job start time epoch (example: 1079262368 )
- StopTimeEpoch: Job stop time epoch (example: 1079292655 )
- ExecutingCE: Submit Host (example: lcgce02.gridpp.rl.ac.uk )
- MemoryReal: Used real memory (example: 769548 )
- MemoryVirtual: Used virtual memory (example: 1244948 )
- SpecInt2000: SpecInt2000 value (example: 40322)
- SpecFloat2000: SpecFloat2000 value (example: 30234)
- EventDate: Event record date (example: 2010-03-14 )
- EventTime: Event record time (example: 19:30:55 )

### Input from TP

Test for the record storage in site registry database.

### Test 1



<b>Pre-condition</b>	Configured system. Accounting records are correctly generated.
<b>Test</b>	Store accounting records into site registry.
<b>Expected Outcome</b>	Accounting records are stored in the site registry. Log of operations is available.
<b>Pass/Fail Criteria</b>	Pass if the test is provided and passes. The storage of the records should not compromise the availability and reliability of the system.
<b>Related Information</b>	
<b>History</b>	

<b>Accounting Records Transmission</b>	
<b>ID</b>	<b>ACC_STORE_2</b>
<b>Mandatory</b>	
<b>Applicability</b>	APEL Accounting Appliances.
<b>Related Requirements</b>	None
<b>Description</b>	
APEL must be able to send the records stored in the site registry to a central registry database by using a messaging system.	
<b>Input from TP</b>	
Test for the transmission of records to the central registry using ActiveMQ.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system. Accounting records are correctly generated and stored in local registry.
<b>Test</b>	Send new records to the central registry using ActiveMQ.
<b>Expected Outcome</b>	Only new records are sent to central registry by default but site administrators are able also to republish accounting records in a specific interval using accounting configuration files. They are stored correctly there. Log of operations is generated.
<b>Pass/Fail Criteria</b>	
Pass if the test is provided and passes. The transmission of the records should not compromise the availability and reliability of the system.	
<b>Related Information</b>	
<b>History</b>	

<b>Periodic Local Registry Store</b>	
<b>ID</b>	<b>ACC_CRON_1</b>
<b>Mandatory</b>	
<b>Applicability</b>	APEL Accounting Appliances.
<b>Related Requirements</b>	None
<b>Description</b>	
The accounting appliance must periodically submit new accounting records to the local registry using a cron script. This action should be executed daily to check new executed jobs.	
<b>Input from TP</b>	
Test from TP to verify accounting cron job.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Send new records to the local registry each day after cron execution.
<b>Expected Outcome</b>	Only new records are sent to local registry. They are stored correctly there. Cron and accounting logs are generated locally.
<b>Pass/Fail Criteria</b>	
Pass if the test is provided and passes.	
<b>Related Information</b>	
<b>History</b>	

<b>Periodic Central Registry Update.</b>	
<b>ID</b>	<b>ACC_CRON_2</b>
<b>Mandatory</b>	
<b>Applicability</b>	APEL Accounting Appliances.
<b>Related Requirements</b>	None
<b>Description</b>	
Cron script located at local registry must be able to submit new accounting records to global accounting registry using a message system. This script should be executed daily to check new executed jobs.	
<b>Input from TP</b>	
Test from TP to verify accounting cron job.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured system.
<b>Test</b>	Send new records to the global registry each day after cron execution.
<b>Expected Outcome</b>	Only new records are sent to global registry by default but site administrators are able also to republish accounting records in a specific interval using accounting configuration files. They are stored correctly there. Cron and accounting logs are generated locally.
<b>Pass/Fail Criteria</b>	
Pass if the test is provided and passes.	
<b>Related Information</b>	
<b>History</b>	

### 2.3 Visualization Portal

Accounting Portal Summary View	
<b>ID</b>	ACC_PORTAL_1
<b>Mandatory</b>	
<b>Applicability</b>	Accounting Portal Implementation
<b>Related Requirements</b>	None

<p><b>Description</b></p> <p>Accounting portal provides a front-end view of published CPU resources that have been aggregated into summaries. These summaries may view per:</p> <ul style="list-style-type: none"> <li>• Site</li> <li>• Countries</li> <li>• VO</li> <li>• NGI</li> <li>• Tier1 / Tier2</li> </ul>	
<p><b>Input from TP</b></p> <p>Information about new views.</p>	
<p><b>Test 1</b></p> <p><b>Pre-condition</b> Configured accounting portal.</p> <p><b>Test</b> Browse summaries.</p> <p><b>Expected Outcome</b> Summary views are shown with correct data for all the possible levels.</p>	
<p><b>Pass/Fail Criteria</b></p> <p>Pass if the test is the summary view is provided and is correctly generated for all possible levels.</p>	
<p><b>Related Information</b></p>	
<p><b>History</b></p>	

<b>Accounting Portal Access Policy</b>	
<b>ID</b>	<b>ACC_PORTAL_2</b>
<b>Mandatory</b>	
<b>Applicability</b>	Implementations of Accounting Portal
<b>Related Requirements</b>	None
<b>Description</b>	
Sensitive information about VO usage and Users DNs must be encrypted and only accessible to their VO managers via X.509 certificate.	
<b>Input from TP</b>	
Test the access policy for VO managers.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured accounting portal. Valid VO manager certificate.
<b>Test</b>	Browse VO view with VO usage and user DNs.
<b>Expected Outcome</b>	Information is displayed correctly.
<b>Test 2</b>	
<b>Pre-condition</b>	Configured accounting portal. Valid certificate without VO manager privileges.
<b>Test</b>	Browse VO view.
<b>Expected Outcome</b>	Information is not displayed. Message is shown indicating that the user does not have enough privileges.
<b>Pass/Fail Criteria</b>	
Pass if the test is the access policy is applied correctly.	
<b>Related Information</b>	
<b>History</b>	



<b>Accounting Portal Charts</b>	
<b>ID</b>	<b>ACC_PORTAL_3</b>
<b>Mandatory</b>	
<b>Applicability</b>	Implementations of Accounting Portal
<b>Related Requirements</b>	None
<b>Description</b>	
<p>Accounting Portal views must include a production global view. This view must include a custom view where users can select how display desired accounting data, users can select these options:</p> <ul style="list-style-type: none"> <li>• Data to graph: Users can select Norm. Sum CPU in kSI2000-hours, or HEPSPEC-2006 number of jobs, Norm Sum elapsed time in kSI-2000 hours and HEPSPEC-2006 hours or CPU efficiency.</li> <li>• Data period to view.</li> <li>• Show data for Region, Date or VO and as function of Region, Date, VO or Country.</li> <li>• Group results by VO, Region or Date</li> <li>• Chart type: Accumulative bar, group bar or lines.</li> <li>• Scale: Linear or logarithmic.</li> <li>• A button to exclude operations VOs like dteam and ops.</li> </ul> <p>This general view must include also a list of certified sites which are not publishing accounting data since last 3 months. Accounting Portal views must include different charts and graphs for ease of use.</p>	
<b>Input from TP</b>	
A production accounting summary view example as presentation page with a default selection.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured System.
<b>Test</b>	Visualize data with charts
<b>Expected Outcome</b>	Charts are correctly generated for the accounting data available based on users selection.
<b>Pass/Fail Criteria</b>	
Pass if the charts are correctly generated for all the accounting data available and for all the chart models.	
<b>Related Information</b>	
<b>History</b>	

<b>Accounting Portal Charts</b>	
<b>ID</b>	<b>ACC_PORTAL_4</b>
<b>Mandatory</b>	
<b>Applicability</b>	Implementations of Accounting Portal
<b>Related Requirements</b>	None
<p><b>Description</b></p> <p>Accounting Portal views must include a production VO manager view. This view must include a custom view where only VO managers can select and display desired accounting data, available options are:</p> <ul style="list-style-type: none"> <li>• VO to query including Group and Role.</li> <li>• NGI/Country to display.</li> <li>• Order by: Number of jobs, Norm. sum CPU, sum CPU, Norm sum time elapsed and sum. Time elapsed.</li> <li>• Data period to display</li> </ul> <p>This view generates a list with desired accounting information (including CPU efficiency for each VO group), a percentage pie chart and a bar chart for selected period of time.</p>	
<p><b>Input from TP</b></p> <p>A production VO manager view page based on users certificate and DN.</p>	
<p><b>Test 1</b></p> <p><b>Pre-condition</b> Configured System.</p> <p><b>Test</b> Visualize data with charts</p> <p><b>Expected Outcome</b> Charts are correctly generated for the accounting data available based on VO managers selection.</p>	
<p><b>Pass/Fail Criteria</b></p> <p>Pass if the charts are correctly generated for all the accounting data available and for all the chart models.</p>	
<b>Related Information</b>	
<b>History</b>	

<b>Accounting Portal Charts</b>	
<b>ID</b>	<b>ACC_PORTAL_5</b>
<b>Mandatory</b>	
<b>Applicability</b>	Implementations of Accounting Portal
<b>Related Requirements</b>	None
<b>Description</b>	
<p>Accounting Portal views must include a production VO member view. This view must include a custom view where only VO members can select and display desired accounting data:</p> <ul style="list-style-type: none"> <li>• VO including Group and Role.</li> <li>• Order by: Number of jobs, Norm. sum CPU, sum CPU, Norm sum time elapsed and sum. Time elapsed.</li> <li>• Data period to display.</li> </ul> <p>This view generates a list with desired accounting information (including CPU efficiency for each VO group), a percentage pie chart and a bar chart for selected period of time.</p>	
<b>Input from TP</b>	
A production VO members view page based on users certificate and DN.	
<b>Test 1</b>	
<b>Pre-condition</b>	Configured System.
<b>Test</b>	Visualize data with charts
<b>Expected Outcome</b>	Charts are correctly generated for the accounting data available based on VO members selection.
<b>Pass/Fail Criteria</b>	
Pass if the charts are correctly generated for all the accounting data available and for all the chart models.	
<b>Related Information</b>	
<b>History</b>	

<b>Accounting Portal Charts</b>	
<b>ID</b>	<b>ACC_PORTAL_6</b>
<b>Mandatory</b>	
<b>Applicability</b>	Implementations of Accounting Portal
<b>Related Requirements</b>	None

<p><b>Description</b></p> <p>Accounting Portal views must include a production Site Admin view. This view must include a custom view where only site administrators can select and display desired accounting data for their sites, site administrator can select:</p> <ul style="list-style-type: none"> <li>• Site to display accounting data.</li> <li>• Order by: Number of jobs, Norm. sum CPU, sum CPU, Norm sum time elapsed and sum. Time elapsed.</li> <li>• Data period to display.</li> </ul> <p>This view generates a list with desired accounting information (including CPU efficiency for each VO group), a percentage pie chart and a bar chart for selected period of time.</p>	
<p><b>Input from TP</b></p> <p>A production VO members view page based on users certificate and DN..</p>	
<p><b>Test 1</b></p> <p><b>Pre-condition</b> Configured System.</p> <p><b>Test</b> Visualize data with charts</p> <p><b>Expected Outcome</b> Charts are correctly generated for the accounting data available based on site administrators selection.</p>	
<p><b>Pass/Fail Criteria</b></p> <p>Pass if the charts are correctly generated for all the accounting data available and for all the chart models.</p>	
<p><b>Related Information</b></p>	
<p><b>History</b></p>	



### 3 REFERENCES

<b>R 1</b>	UMD roadmap: <a href="https://documents.egi.eu/public/ShowDocument?docid=100">https://documents.egi.eu/public/ShowDocument?docid=100</a>
<b>R 2</b>	Generic UMD Quality Criteria
<b>R 3</b>	Accounting Portal: <a href="http://accounting.egi.eu/">http://accounting.egi.eu/</a>