



## EGI.eu

# EGI SOFTWARE PROVISIONING PROCESS: RESULTS OF WMS PROVISIONING EFFORTS

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## III. APPLICATION AREA

This document is a technical report on the provisioning efforts and outcomes for EMI WMS product versions made available to EGI as described in this document.



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## 1 INTRODUCTION

This document summarises the provisioning efforts for WMS product versions delivered by EMI for inclusion into the UMD.

Starting with the EMI-1 release in mid April 2011, one initial WMS release (WMS 3.3.0) and four revision releases (WMS 3.3.1, WMS 3.3.1-1, WMS 3.3.2 and WMS 3.3.3) were verified, taken into StagedRollout, and rejected.

The following sections describe the provisioning efforts in more detail. References to the full Verification Reports, StagedRollout reports, and Service Request to EMI via GGUS are given where required.

## 2 VERIFICATION AND STAGED ROLLOUT REPORTS

The verification process is part of the EGI software provisioning workflow [R2] and its objective is to assess the current EGI Quality Criteria [R1].

WMS was rejected two times, one during the verification process and another during staged rollout, since the first UMD1 release. The complete verification reports are available here [R4],[R3], and the staged rollout report at [R6], [R7].

### 2.1 WMS 3.3.0

- RT ticket: <https://rt.egi.eu/guest/Ticket/Display.html?id=2221>
- GGUS opened tickets:
  1. [https://ggus.eu/tech/ticket\\_show.php?ticket=71168](https://ggus.eu/tech/ticket_show.php?ticket=71168): New authorization method was not documented.
  2. [https://ggus.eu/tech/ticket\\_show.php?ticket=71065](https://ggus.eu/tech/ticket_show.php?ticket=71065): Missing installation and configuration documentation.
  3. [https://ggus.eu/tech/ticket\\_show.php?ticket=71190](https://ggus.eu/tech/ticket_show.php?ticket=71190): This is a grid-site issue that affects WMS service. VOMS server certificates are still needed with EMI-1 VOMS servers. VOMS certificate must be installed into WMS machine.
- Technical Issues Description:
  1. Due to a grid-site issue, new installed EMI VOMS servers are not working properly with WMS 3.3.0. Yaim generates lsc files but these files are not enough to use the new EMI VOMS servers.
  2. Proxy renewal issue ([https://savannah.cern.ch/bugs/?func=detailitem&item\\_id=81370](https://savannah.cern.ch/bugs/?func=detailitem&item_id=81370))
- Affected EGI QC: WMS 3.3.0 fails some EGI Quality Criteria. (WMS 3.3.0 was verified using EGI Quality Criteria v1).
  1. **API Documentation:** Missing documentation for the api package.
  2. **Administrator documentation:** Missing documentation for this release.
  3. **Users Credentials:** Reported problems ([https://savannah.cern.ch/bugs/?func=detailitem&item\\_id=81370](https://savannah.cern.ch/bugs/?func=detailitem&item_id=81370))
  4. **GridSite delegation interface:** Still needed VOMS server certificates instead of just .lsc files.
  5. **Missing several Testsuits:** These testsuits were not provided by the TP. This was an original request from SA2, but it was removed in QC v2.
- Reason for rejection:
  1. The main reason to reject was it failed to comply with several EGI QC. Among the technical ones this wms 3.3.0 release will not work with the new VOMS servers installed from EMI repositories. The only workaround to fix this issue is to store the new voms public certificates into wms /etc/grid-security/vomsdir directory. There were also problems with proxy renewal. There was missing documentation, and detailed Release Notes stating important changes from previous version that prevented to work

correctly. There were missing several test suites.

## 2.2 WMS 3.3.1-1

- RT ticket: <https://rt.egi.eu/guest/Ticket/Display.html?id=2634>
- GGUS opened tickets: [https://ggus.eu/tech/ticket\\_show.php?ticket=73035](https://ggus.eu/tech/ticket_show.php?ticket=73035): authorization problem with EMI WMS.
- Technical Issues Description: In some cases grid site wasn't able to retrieve the user fqan, causes failure in the SAM/Nagios tests.
- Reason for rejection: Failure in the SAM/Nagios tests, will affect reliability of the service.
  - As a side note, the issue was discovered after the product had been accepted in staged rollout, but before the actual inclusion into the corresponding UMD release. The staged rollout report was **updated** [R6], but the staged rollout ticket had already been resolved with an ACCEPT state.

## 2.3 WMS 3.3.2

- RT ticket: <https://rt.egi.eu/guest/Ticket/Display.html?id=2708>
- GGUS opened tickets:
  1. [https://ggus.eu/tech/ticket\\_show.php?ticket=73839](https://ggus.eu/tech/ticket_show.php?ticket=73839): API documentation is missing. (not critical)
  2. [https://ggus.eu/tech/ticket\\_show.php?ticket=73811](https://ggus.eu/tech/ticket_show.php?ticket=73811): WMS 3.3.2 does not work with MyProxy certificates. Related savannah bug: <https://savannah.cern.ch/bugs/index.php?85071>.

- Technical Issues Description:
  1. Wmproxy breaks with longer proxy chain. It was tested with glite3.2 and EMI myProxy services, the job submission fails in both cases.

```
[asimon@test13 ~]$ glite-wms-job-delegate-proxy -a
Connecting to the service
https://test22.egi.cesga.es:7443/glite_wms_wmproxy_server
Warning - Unable to delegate the credential to the endpoint:
https://test22.egi.cesga.es:7443/glite_wms_wmproxy_server
AuthorizationException: Authorization error: user not authorized at
checkGaclUserAuthZ() [/home/condor/execute/dir_5260/userdir/emi.wms.w
mproxy/build/./src/authorizer/wmpauthorizer.cpp:417] at
checkGaclUserAuthZ() [/home/condor/execute/dir_5260/userdir/emi.wms.w
mproxy/build/./src/authorizer/wmpauthorizer.cpp:282] at
authorize() [/home/condor/execute/dir_5260/userdir/emi.wms.wmproxy/bu
ild/./src/authorizer/wmpauthorizer.cpp:150] at
getProxyReq() [/home/condor/execute/dir_5260/userdir/emi.wms.wmproxy/
build/./src/server/wmoperations.cpp:627]
```

- Affected EGI QC: (WMS 3.3.2 was verified using EGI Quality Criteria v2).
  1. **API Documentation**: API documentation is still missing for WMS 3.3.2 ([https://ggus.eu/tech/ticket\\_show.php?ticket=73839](https://ggus.eu/tech/ticket_show.php?ticket=73839)).

2. **Delegation Interface:** Critical issue. Wmproxy does not work with longer proxy chain (submitted by a myProxy service)
- Reason for rejection:
    1. This release was rejected because does not meet a mandatory QC. Delegation Interface does not work using a myProxy and the job submission fails. This is a critical issue because affects the regional nagios probes results and the monitoring system used by EGI.

## 2.4 WMS 3.3.3

- RT ticket:
  1. <https://rt.egi.eu/rt/Ticket/Display.html?id=2839>
- GGUS opened tickets:
  1. <https://savannah.cern.ch/bugs/?86490>: EMI WMS stops accepting jobs after 31999th submission for the same DN (on ext3) (**Critical**)
  2. [https://ggus.eu/ws/ticket\\_info.php?ticket=74118](https://ggus.eu/ws/ticket_info.php?ticket=74118): EMI WMS Update 6: WMS 'hangs' after several hours of operation (**Not critical**)
  3. [https://ggus.eu/ws/ticket\\_info.php?ticket=74707](https://ggus.eu/ws/ticket_info.php?ticket=74707): EMI WMS Update 6: cron jobs fails to clear /var/jobcontrol/submit/ and SandboxDir (**Not critical**)
  4. [https://ggus.eu/tech/ticket\\_show.php?ticket=74117](https://ggus.eu/tech/ticket_show.php?ticket=74117): EMI WMS Update 6: yaim changes ownership of /var (**Not critical**)
- Technical Issues Description:
  1. The problem was that gridsite has changed the structure of the proxy cache in EMI. In gLite there was a flat structure; all proxy files get stored in: /var/glite/proxycache. In EMI, instead, there is a different structure; a proxy file gets created in: /var/proxycache/<DN>/delegationid>/userproxy.pem. Because of WMS 3.3.3 Savannah bug #86490, the directories containing expired proxy files didn't get cleaned at all in the WMS (while the files did). This means that on ext3 (where there can be at most 31999 sub-directories) the WMS couldn't accept any more jobs for a certain user after 31999th delegations for that user.
  2. There is another potential issue related to the ext3 sub-directories limitation: glite-wms-wmproxy-purge-proxycache, the process that cleans the wms cache, removes only the expired proxies. Users are currently allowed to create proxies with many days of duration, this means that those proxies will remain cached for days in the WMS. A.Cristofori – one of the early adopters of WMS – reported that he checked the number of cached non-expired proxies in a very busy WMS and they were < 15.000.
  3. The WMS will run happily for several hours and then hang - i.e. keep all jobs in a 'Waiting' state. It shows up when the JDL has requirements to use the Data Location Interface (DLI).
  4. yaim changes ownership of /var . The ownership has to be changed to the correct one, after running yaim.
- Affected EGI QC: (WMS 3.3.3 was verified using EGI Quality Criteria v2).
  1. **API Documentation (GENERIC DOC 5):** API documentation is still missing for WMS 3.3.3. Failed against mandatory documentation QC.
- Reason for rejection:
  1. This release was rejected because the WMS stops accepting jobs after 31999th submission



for the same DN (on ext3), the lack of proper cleanup scripts (crons) of the glite-wms-wmproxy-purge-proxycache. The non-critical issues also add to the impact of the critical issue.





### 3 SUMMARY

EMI has made its first major release containing WMS 3.3.0, and after it made 3 minor or revision releases of this product.

- **WMS 3.3.0:** The main showstopper to reject this release was the Proxy renewal issue ([https://savannah.cern.ch/bugs/?func=detailitem&item\\_id=81370](https://savannah.cern.ch/bugs/?func=detailitem&item_id=81370)).
- **WMS 3.3.1:** Was not published because this versions was superseded by the following one.
- **WMS 3.3.1-1:** The main showstopper to reject this release was failure in the SAM/Nagios framework ([https://ggus.eu/tech/ticket\\_show.php?ticket=73035](https://ggus.eu/tech/ticket_show.php?ticket=73035)).
- **WMS 3.3.2:** The main showstopper to reject this release was that the Wmproxy does not work with longer proxy chain (submitted by a myProxy service). The problem reported in the previous version 3.3.1-1 was still present due to the fact that both versions where very close in time, and because the problem was discovered quite late in the SW provisioning.
- **WMS 3.3.3:** The main showstopper to reject this release was that the WMS stops accepting jobs after 31999th submission for the same DN (on ext3) (<https://savannah.cern.ch/bugs/?86490>).



## 4 REFERENCES

R 1	UMD Quality Criteria v2: <a href="https://documents.egi.eu/public/ShowDocument?docid=364">https://documents.egi.eu/public/ShowDocument?docid=364</a>
R 2	MS508 Software Provisioning Process: <a href="https://documents.egi.eu/document/505">https://documents.egi.eu/document/505</a>
R 3	WMS 3.3.2 verification report: <a href="https://documents.egi.eu/document/761">https://documents.egi.eu/document/761</a>
R 4	WMS 3.3.0 verification report: <a href="https://documents.egi.eu/document/567">https://documents.egi.eu/document/567</a>
R 5	MS409 - Deploying software into the EGI Production Infrastructure <a href="https://documents.egi.eu/public/ShowDocument?docid=478">https://documents.egi.eu/public/ShowDocument?docid=478</a>
R 6	WMS 3.3.1-1 staged rollout report: <a href="https://documents.egi.eu/public/ShowDocument?docid=705">https://documents.egi.eu/public/ShowDocument?docid=705</a>
R 7	WMS 3.3.3 staged rollout report: <a href="https://documents.egi.eu/public/ShowDocument?docid=782">https://documents.egi.eu/public/ShowDocument?docid=782</a>