



EMI 1 (Kebnekaise) Highlights Status and Plans

Cristina Aftimiei (INFN)
EMI Release Manager

*EGI – Technical Forum
Lyon, 19 - 23 September, 2011*

EMI Mission Statement

The European Middleware Initiative (EMI) project represents a close collaboration of the major European middleware providers - ARC, gLite, UNICORE and dCache - to establish a sustainable model to support, harmonise and evolve distributed computing middleware for deployment in EGI, PRACE and other distributed e-Infrastructures



KnowARC

20/09/2011



UNICORE



dCache.ORG

EGI - TF, Lyon, 19 - 23 September, 2011

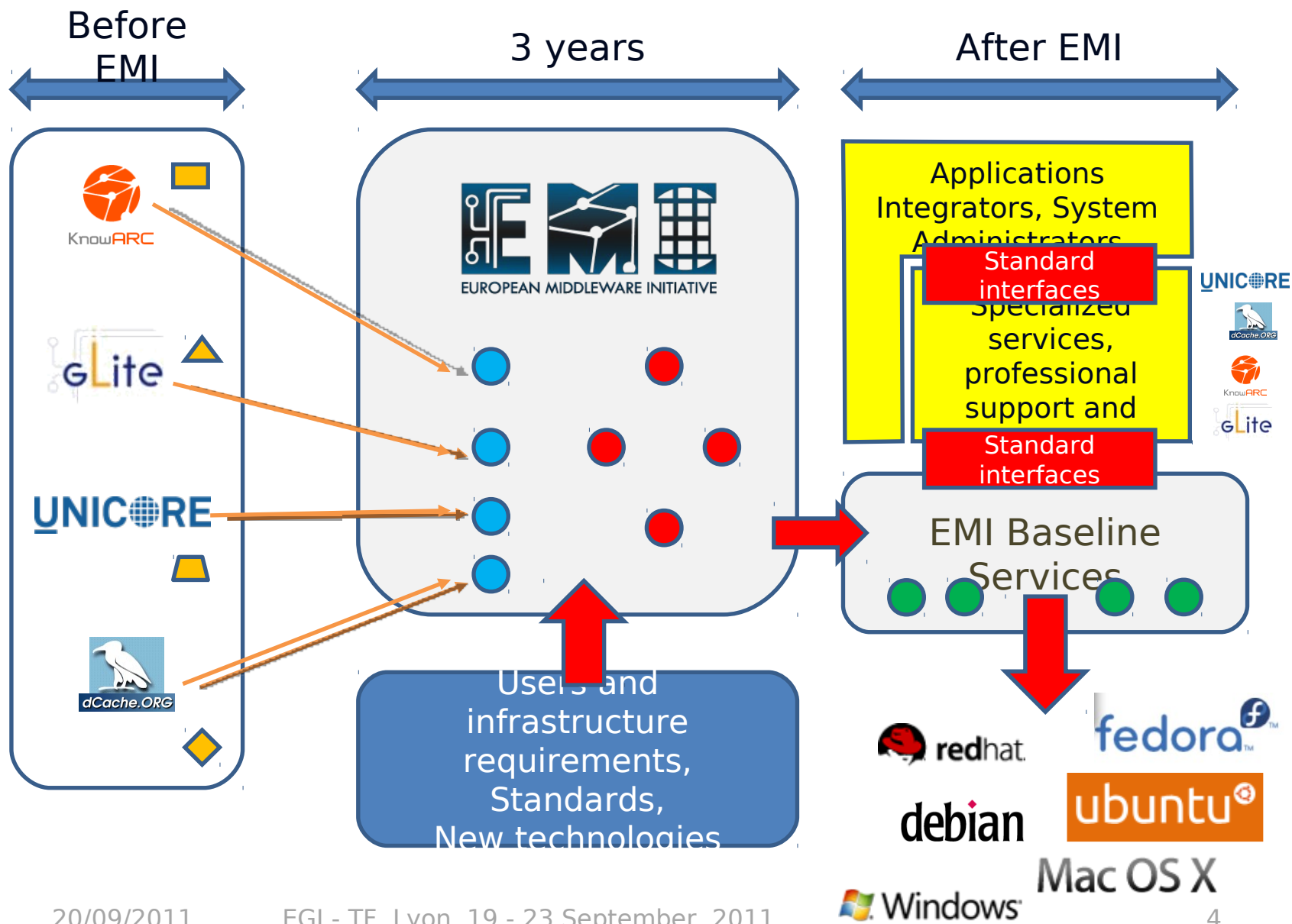
What is EMI?

- **What is EMI?**

- Collaboration among the four major European middleware providers
- Three-year project, 24 M EUR, 50% from the European Commission, 50% from the partner Institutes
- 26 partners
- Work in three major areas:
 - Consolidation of common libraries, clients, interfaces across the four MW stacks, decommissioning of unused services
 - Development of new functionality based on user requirements
 - User support - Reactively and proactively maintain the middleware distribution to keep it in line with the growing infrastructure usage



EMI Middleware Evolution



20/09/2011

EGI - TF, Lyon, 19 - 23 September, 2011

Release Codenames



Kebnekaise (SW), 2104 m



Matterhorn (CH), 4478 m

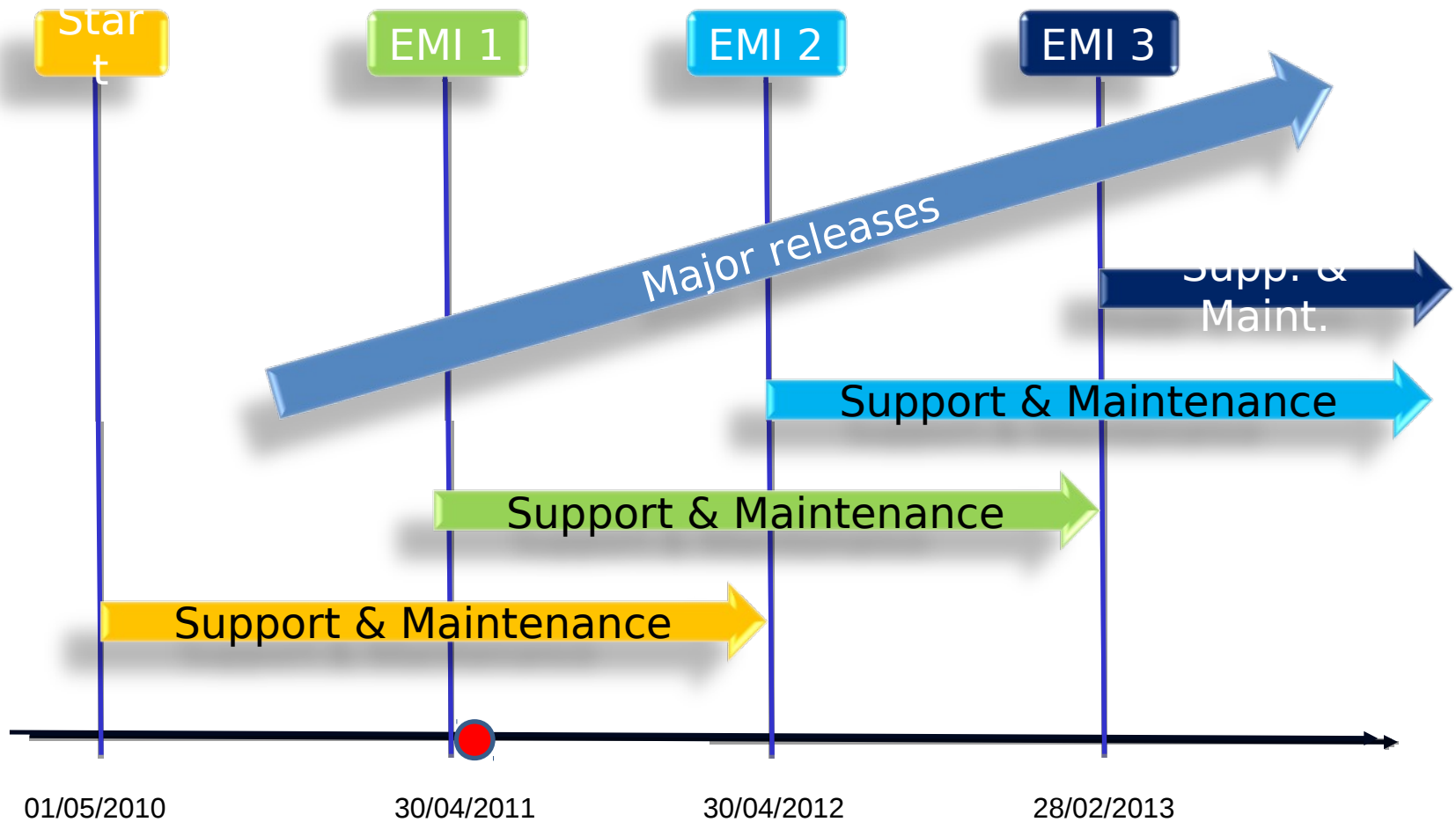


Monte Bianco (IT/FR), 4810 m

EMI Roadmap

EMI Releases and Software Timelines

Released May 12th



01/05/2010

30/04/2011

30/04/2012

28/02/2013

20/09/2011

EGI - TF, Lyon, 19 - 23 September, 2011

First year Objectives

Consolidate

Standardize the software development and release management to adopt established best practices from mainstream open source operating system providers

Evolve

Start the process of interface standardization implementation by implementing what exists and reach wide agreements on what has to be done. **Address requirements.**

Support

Support EGI and the NGIs without disruption from previous projects, work on an **SLA** and define agreed retirement calendars for older services

Achievements Highlights

Consolidate

Release of the EMI 1 (Kebnekaise):

For the first time components from 4 providers in a single repository, better compliance with open source operating systems and guidelines

Common Quality Assurance policies and software engineering tools based on industry standards (ISO/IEC 12207, ISO/IEC 9126, ITIL V3)

Evolve

Implementation of new functionality following stated user requirements:

Compliance with standard security protocols (SSL), info system models (GLUE 2), data access protocols (WebDAV, NFS4.1/pNFS), security profiles (SAML)

First implementation of WMS on SL5 64bit operating system, initial integration of the Argus authorization system with the grid services

Agreement on Execution Services and Storage Accounting specs

Support

Continuous support for EGI production sites

GGUS as single entry point, dedicated Support Units for all EMI Products

Technical Objectives DNA1.3.1

ID	Description	Components / Results	Deadline	Achieved
C1	Glue 2.0 support in job management services and client tools.	A-REX, CREAM, UNICORE Services Environments, UCC, WMS, arc*, arclib_client	M12	3/6 - 50% achieved (not WMS and no clients yet), all clients in Y2
D1	All storage elements publishing initial GLUE 2.0 storage information	dCache, DPM, StoRM	M12	3/3 100 % achieved
D2	Using https instead of httpg for the SRM protocol as a prototype implementation in one storage element and client (library)	dCache server and client	M12	2/2 100 % achieved
D3	All storage elements offering support for the http(s) protocol	dCache, DPM, StoRM	M12	3/3 100 % achieved
D4	All storage elements offering at least a prototype-level support for the "file://" access protocol	dCache, DPM, StoRM	M12	3/3 100 % achieved
D5	File Catalogue Access from UNICORE	UNICORE Services Environment	M12	0.75/1 Prototype existing 75% achieved
S1	Agreement on a minimal common set of security attributes to be used in policies	XACML Policy Agreement	M12	1/1 100% achieved
I1	Provide early internal guidelines for integrating messaging into potential EMI target components	Guidelines exists	M10	1/1 100% achieved
I2	Design a common EMI service registry that is required in order to discover all the service endpoints of the different middleware components	EMI Service Registry Design exists	M10	1/1 100% achieved
I3	Investigate possible use cases for a common standard messaging system in the accounting area	Initial Use Case Survey exists	M12	0.75/1 75% achieved
I4	Investigate possible use cases for a common standard messaging system for the service monitoring and management	Only initial studies	M12	0.5/1 50% achieved
I5	Investigate possible use cases for a common standard messaging system for the information services and L&B	Use Case Survey exists	M12	1/1 100% achieved

EMI 1 (Kebnekaise) Status

- **EMI 1 (Kebnekaise)**
 - released on **12 May 2011**
 - 54 products (now 56 with FTS & StoRM)
 - 197 external deps, 166 from SL5/EPEL, 31 managed by EMI
 - 100% of RPMS, 86% of SRPMS
 - Details:
 - <http://www.eu-emi.eu/kebnekaise-products>
- **Updates - 6 EMI 1 Updates containing 21 products:**
 - 3 Emergency - 2 for WMS, 1 for BDII core
 - 22 Revision
 - 2 Minor
 - 2 Major
 - Details:
 - <http://www.eu-emi.eu/emi-1-kebnekaise-updates>

EMI Products Updates

- **Major Release:**
 - characterized by a well-defined interface and behavior, potentially incompatible with the interface or behavior of a previous release.
 - can be introduced only in a new major release of EMI.
- **Minor Release:**
 - interface or behavior changes backwards-compatible with those of the corresponding major release.
 - can be introduced in an existing major release of EMI.
- **Revision Releases:**
 - includes changes fixing specific defects found in production
 - represents the typical kind of release of a product during the lifetime of an EMI major release.
- **Emergency Releases:**
 - includes changes fixing only Immediate-priority defects found in production, typically security-related

Changes Prioritization

- Based on severity, impact, urgency and cost:
 - **Immediate:**
 - the RfC needs to be addressed as soon as possible
 - in all affected EMI major releases.
 - a release containing immediate- priority changes can contain only immediate-priority changes.
 - **High:**
 - the RfC will be addressed in a next planned release of the affected product, in all affected EMI major releases.
 - **Medium:**
 - the RfC will be addressed in the release of the affected product that will be shipped with the next EMI major release.
 - can be released together with High priority RfCs as part of an update to an existing EMI major release.
 - **Low:**
 - there is no target date for addressing the RfC.

EMI Updates process

- Products updates are planned & approved:
 - only for fixing Immediate & High priority bugs or to introduce minor features backward compatible
 - Approved by PTB & EMT
- every 3 weeks
- Planned products updates
 - http://bit.ly/all_active_tasks

Recent Updates - details

- **ARC CE v.1.0.1 (Update 5 - 04.08.2011):** - revision
 - fixing:
 - renew credentials does not work with arc1 server;
 - ARC incompatible with CERN voms server
- **ARC Clients v. 1.0.1 (Update 5 - 04.08.2011):** - revision
 - fixing:
 - arcstat -a very inefficient
 - argget report failure in downloading jobs from ARCO sites
- **ARC Core v. 1.0.1 (Update 5 - 04.08.2011):** - revision
 - 2.6 python bindings for RH5
- **ARC gridftp server v. 1.0.1 (Update 5 - 04.08.2011):** - revision
 - Fix for gridftpd that doesn't work when arc.conf is a symlink
- **ARC Infosys v. 1.0.1 (Update 5 - 04.08.2011):** - revision
 - Fixing:
 - Infosystem thrashes the contents of /var/lock/subsys/ when started
 - InfoProvider fails to create Idif generator script for infosys

Recent Updates – details (cont.)

- **ARGUS v.1.3.1 (Update 4 - 21.07.2011):** - revision
 - Fixes of ARGUS PEP server mapping obligation handler:
 - updates the timestamp of the lease file each time a mapping is done;
 - Fixes of ARGUS PAP - handles kerberized style DN correctly
- **BDII core:**
 - **v.1.0.1 (Update 4 - 21.07.2011):** - emergency
 - Solves an incompatibility issue with the ARC infosys.
 - **v.1.1.0 (Update 6 - 01.09.2011):** - revision
 - fixes related to packaging and the templates provided by the glite-info-provider-service
 - improved status command which detects that the BDII is not updating
 - BDII will automatically start on reboot
 - new GLUE 2 provider for VOMS, CEMon
 - BDII Nagios probe

Recent Updates – details (cont.)

- **BDII site v.1.0.1 (Update 6 - 01.09.2011):** - revision
 - config issue – wrong path in bdii-config-site
- **BDII top v.1.0.1 (Update 6 - 01.09.2011):** - revision
 - config issue – wrong path & BDII_HOST in bdii-config-top
- **CREAM & CEMon:** - revision updates
 - **v. 1.13.1 (Update 2 - 23.06.2011)**
 - Fixes an Integration with ARGUS issue problem happening with sub-CAs (e.g. CERN-TCA, UkeScienceCA)
 - **v. 1.13.2 (Update 4 - 21.07.2011)**
 - Rebuild needed to integrate the new trustmanager (v.3.0.5)

Recent Updates – details (cont.)

- **dCache v. 1.9.12-6 (Update 6 - 01.09.2011):** - minor update
 - transition to the new configuration system
 - support for third party HTTP srmCopy transfers
 - support for grid and VOMS proxies in the HTTP/WebDAV door
 - gPlazma 2 with ARGUS black listing (missing from initial release)
- **FTS v. 2.2.6 (Update 6 - 01.09.2011)** - first release in EMI 1
 - follows standard packaging
 - no dependencies on globus
 - experimental publishing of FTS service information in Glue 2.0 format
 - supports restarting/partially resuming failed transfers
- **Gridsite v. 1.7.15 (Update 4 - 21.07.2011):** - revision
 - support of VOMS .lsc files
 - Fixes of several issues in the code and the build process

Recent Updates – details (cont.)

- **glite-proxyrenewal v.1.3.21 (Update 3 - 07.07.2011):** - revision
 - Workaround for problems with threaded globus by setting signal mask
 - Improved logging, more descriptive error messages
 - Correct handling of multiple VOMS ACs (from multiple VOMS servers)
- **L&B v.3.0.12 (Update 3 - 07.07.2011):** - revision
 - Problems with L&B server dump
 - Fixed default path in glite-lb-purge.cron
- **MPI v. 1.0.1 (Update 3 - 07.07.2011):** - revision
 - Bug fixes for glite-yaim-mpi

Recent Updates – details (cont.)

- **StoRM:**
 - **v.1.7.0 (Update 3 - 07.07.2011):**– first release in EMI
 - StoRM-Backend, fixing
 - tape support
 - sanity check at service startup
 - http(s) file transfer protocol support
 - **v.1.7.1 (Update 6 - 01.09.2011):** – revision release
 - StoRM-Frontend, fixing:
 - Request with Autorization Id parameters with non ASCII characters makes FE crash
 - Storm frontend crashes
 - Storm-Backend, fixing:
 - space reporting error (Lustre)
 - Memory leak
 - Wrong paths for backend logrotate & cron

Recent Updates – details (cont.)

- **Trustmanager v.3.0.5 (Update 4 - 21.07.2011):** - revision
 - bug fix to handle properly the DESY DNs, to allow delegation to CREAM.
 - cosmetic bug fix to put properly unlimited proxy path limit when delegating RFC3820 proxies.
- **UNICORE UVOS v. 1.4.2 (Update 3 - 07.07.2011):** - revision
 - UVOS server was updated to use latest persistence libraries (JDBC drivers, MyBatis 3).
 - Support for MySQL database backend was added.
 - Support for attribute filtering on SAML interface is available.
- **VOMS Java API v. 2.0.6 (Update 5 - 04.08.2011):** - revision
 - Fix for Java APIs bug preventing the validation of certificates signed by the TERENA CA.

Recent Updates – details (cont.)

- **WMS:**
 - **v. 3.3.1 (Update 1 - 17.06.2011)** – emergency update
 - fix for condor vulnerability
 - fix for a major problem for proxy renewal in ICE
 - **v. 3.3.1-1 (Update 4 - 21.07.2011)** – emergency update
 - fixing proxy internal structure conversion probl. in ICE
 - **v. 3.3.2 (Update 5 - 04.08.2011)** – revision
 - fix for authorization problem due to a wrong "gacl" file setting
 - Solving a problem with jdl ISB tar file handling
 - **v. 3.3.3 (Update 6 - 01.09.2011)** – revision
 - fix for authorization failure when using a proxy retrieved from Myproxy

EMI 1 in UMD

- **UMD redistributes EMI products**
 - **No changes**
 - **Additional testing & verification**
- **UMD 1.2.0 (12.09.2011):**
 - http://bit.ly/umd_1_2_0
- EMI 1 products not in UMD
 - In verification:
 - VOMS Java API v. 2.0.6
 - Stage-Rollout failures:
 - MPI, StoRM v. 1.7.1, WMS
 - Queued:
 - BDII site v. 1.0.1, BDII top v. 1.0.1, FTS
- Not planned for inclusion:
 - AMGA, LFC_oracle, VOMS_oracle

Next Update

- NEXT Update 22.09.2011 http://bit.ly/emi1_update7
 - **ARGUS v. 1.4.0**: - minor update
 - repackaged to include VOMS Java API 2.0.6 to fix TERENA certificate problem
 - minor enhancement: implement memory limit & change default logging configuration for production
 - fixing PEPd - doesn't update link timestamp in gridmapdir
 - **CEMon v. 1.13.3**: - revision
 - fixes for consumer client (doesn't print correct peer address (OSG))
 - Corrects some issues with Glue2 publication
 - **gLExec-wn v.1.0.1**: revision
 - Bug fix for glite-yaim-glexec (glite-glexec_wn.post)
 - LCMAPS plugins verify-proxy - Proxy Path Length error code issued by OpenSSL on CREAM CE (GGUS #67040 - "Terena Grid Certificate not working with WMS")

Next Update (cont.)

- **UNICORE Client v. 6.4.1:** - revision
 - missing filetransfer parameters (e.g. client host for UFTP) are automatically
 - the "append" option (-a) is now also available for "get-file"
- **UNICORE TSI v. 6.4.1:** - minor update
 - tsi_ls is returning more information on files: owner, owning group, full UNIX permissions
 - new module ACL.pm for getting/setting filesystem ACLfixes for consumer client (doesn't print correct peer address (OSG))
 - fixes:
 - Submit.pm: handle TSI_STDERR and TSI_STDOUT sent from XNJS for redirecting output and error
 - Torque: GetStatusListing.pm now handles non-word characters in queue Corrects some issues with Glue2 publication
- **UNICORE/X v. 6.4.1:** - minor update
 - ACL support on Linux (provided the file system supports it)
 - fixes:
 - absolute vs. relative paths in IStorageAdapter
 - problem when "XNJS.filespace" is in linux style
 - file upload can change directory permission as a side effect

Future Updates

- **APEL parsers v.1.0.1:** - revision
 - Bug fixes for SGE and LSF parsers
- **DPM & LFC v. 1.8.2:** - minor update
 - Integration with the SEMSG Catalog Synchronization
 - filesystem selection based on assign weights
 - possibility to send logs to syslog and have log levels
 - fixing some issues with no error messages if too many groups specified - dpm-*
 - enable Glue 2.0 publishing (LFC)
 - LFC_oracle bug fixes (wrong dependency, failing to start)
- **GFAL/lcg_util v.1.11.19:** - revision
 - Fixing:
 - Memory corruption in is-interface
 - https://ggus.eu/tech/ticket_show.php?ticket=73221
 - gSOAP generates too much log files
 - https://ggus.eu/tech/ticket_show.php?ticket=71495
 - lcg-cr & lcg-cp with list of bdii's issue
 - https://ggus.eu/tech/ticket_show.php?ticket=72196

Future Updates (cont.)

- **MPI v.1.1.0**: - minor update
 - support for processor and memory affinity in MPI-Start
 - Allow definition of no. of processes per core, socket or host (MPI-START)
 - Bug fixes:
 - Variables not exported correctly to the application environment
 - machinefile missing in opempi when torque support is not available
- **StoRM SE v. 1.7.2**: - revision
 - Fixes:
 - Available space reported by InfoService is always zero
 - Memory leak on BackEnd REST service calls
 - Wrong calculation of SA_AVAILABLE_SIZE_KB and SA_USED_SIZE_KB
- **HYDRA v. 1.0.1**: - first release in EMI
 - now in testing phase

Useful links

- **EMI Web Site:** <http://www.eu-emi.eu>
- **EMI Software Repository:**
<http://emisoft.web.cern.ch/emisoft>
- **EMI Documentation:**
<http://www.eu-emi.eu/en/emi-1-kebnekaise-docs>
- **EMI Updates:**
<http://www.eu-emi.eu/emi-1-kebnekaise-updates>
- **EMI Updates Schedule:**
http://bit.ly/all_active_tasks
- **GGUS** (for submitting bugs and new requirements)
<https://ggus.org/pages/home.php>
- **Announce mailing list:**
<http://mail.eu-emi.eu/mailman/listinfo/emi-announce>
- **EMI News RSS feed:**
<http://emisoft.web.cern.ch/emisoft/EMINews.rss.xml>



Thank you

EMI is partially funded by the European Commission under Grant Agreement INFSO-RI-261611