



EUROPEAN MIDDLEWARE INITIATIVE

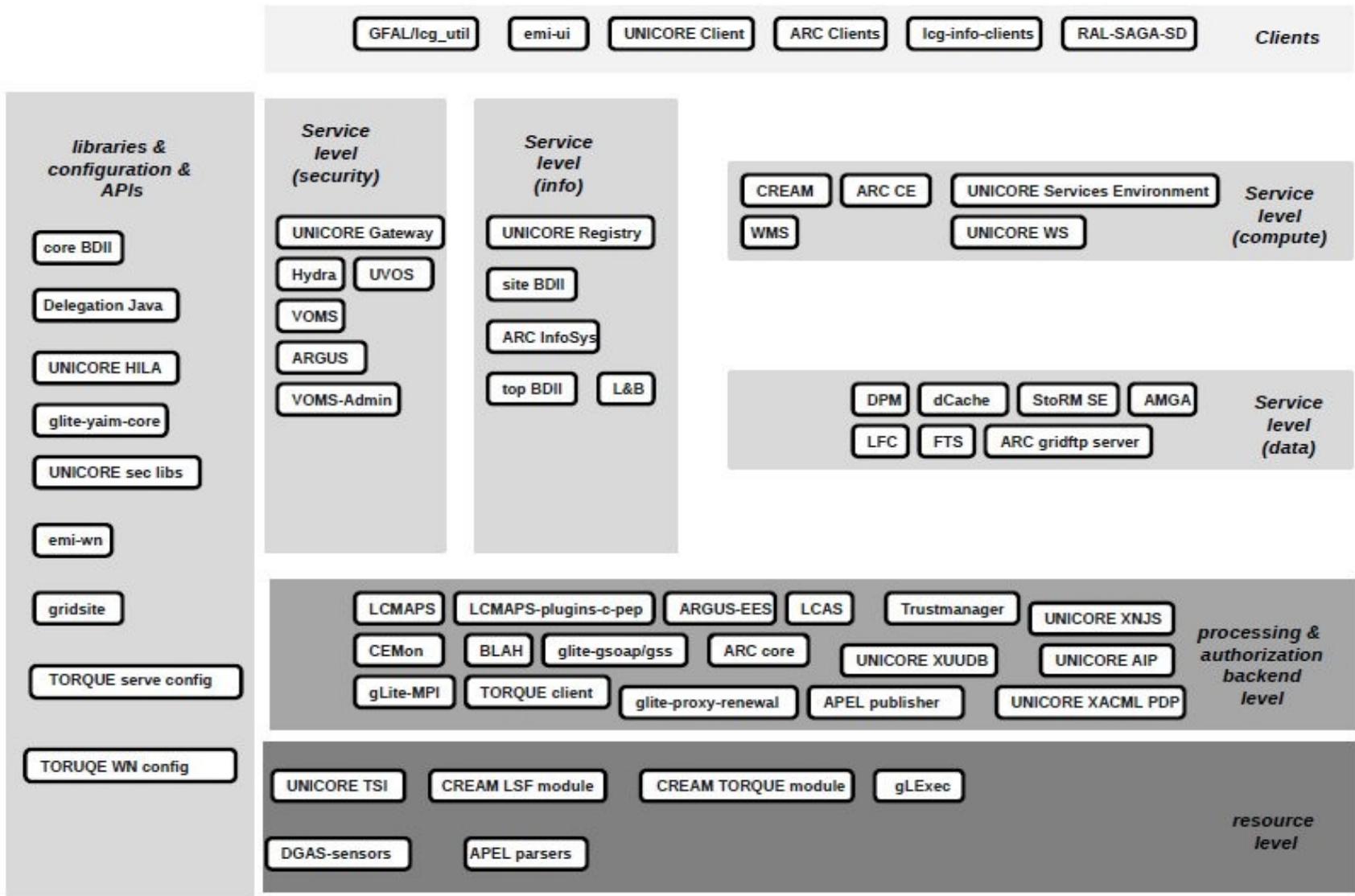
EMI Deployment Planning

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Outline

- Migrating to EMI: WHY
 - What's new: EMI Overview
 - Products, Platforms, Repos, Dependencies, Support / Release Cycle
- Migrating to EMI: HOW
 - Admin Corner
 - Tips for Services Migration
 - EMI Preview experience
- Conclusion

EMI Overview: products



EMI Overview



- For the first time components from the four major European software providers in a single repository, better compliance with open source operating systems and guidelines
 - 54 products from ARC, dCache, gLite, UNICORE
 - Scientific Linux 5 (augmented with EPEL5), 64 bit, fully supported platform
 - Selected products for SL5, 32 bit, available
 - Porting to SL6 starting soon
 - 333 binary packages
 - 86% of source packages
 - Digitally signed
 - 192 external dependencies
 - 165 from SL5/EPEL5, 27 managed by EMI
- Compliance with standard security protocols (SSL), info system models (GLUE 2), data access protocols (WebDAV, NFS4.1/pNFS), security profiles (SAML)

EMI Overview: why migrate?



- You have whatever you had before but in a more standard, reliable and manageable way:
 - One single EMI repository (link)
 - EMI products:
 - follow common packaging guidelines and policies defined by Fedora, EPEL
 - followed a rigorous testing and certification process
 - Common external dependencies (from EPEL), same versions
 - Many products include fixes for a significant number of outstanding bugs
- Periodic major releases of EMI with clear support timelines:
 - Full support, 18 months, + Security, 6 months
- Individual service or component releases within an EMI major release
 - Guaranteed backward-compatibility of each service within a major release
- New functionalities/improvements mainly added only to EMI products

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Migrating to EMI: Admin Corner

- HW resources need to support SL5 64 bit
- Documentation (link):
 - First refer to EMI1 Generic Installation (link)
 - Then move to individual product documentation
- Repositories:
 - EMI
 - EGI Trustanchors
 - SL5 + EPEL (Pay attention to disable DAG!)
- Installation:
 - Pay attention to install emi-release (protect emi repo + install EMI public key)
 - Then go on with product specific instructions

Migrating to EMI: Admin Corner



- Configuration:
 - Details about manual configuration in each product documentation
 - yaim still supported for gLite
- Administration: pay attention to
 - Daemon location → `/etc/init.d`
 - Log paths → `/var/log/`
 - VOMS Certificates → `file.lsc`

Migrating to EMI: Admin Corner

- Service Reference Card:
 - Daemons running
 - Init scripts and options (start|stop|restart|...)
 - Configuration files location with example or template
 - Logfile locations (and management) and other useful audit information
 - Open ports
 - Possible unit test of the service
 - Where is service state held (and can it be rebuilt)
 - Cron jobs
 - Security information
 - Access control Mechanism description (authentication & authorization)
 - How to block/ban a user
 - Network Usage
 - Firewall configuration
 - Security recommendations
 - Security incompatibilities

Migrating to EMI: transition tips



- By default Service Migration will involve installation from scratch, but upgrade possible in some cases
- Tips on pre/post EMI co-existence and backward compatibility:
 - Clients → emiUI:
 - ~ the same for gLite, dCache
 - ARC some changes, refer to release notes ([link](#))
 - Infrastructure:
 - emi-BDII can publish both pre/post EMI resources
 - ARC infosystem fully compatible forward/backward
 - APEL: full compatibility between glite parsers ↔ EMI publisher and also emi parsers ↔ glite publisher

Migrating to EMI: transition tips

- Tips on pre/post EMI co-existence and backward compatibility:
 - Job Management:
 - emiCream - can handle both pre/post emiWNS
 - emi/gLite WMS/LB ↔ EMI/pre-EMI resources
 - ARC A-REX is compatible with pre-EMI indexing servers, clients and data services, and other way around
 - Security:
 - VOMS
 - emi-voms ↔ pre-EMI services: OK
 - gLite-voms ↔ EMI services OK
 - DB replica across EMI (voms-admin 2.6.1) and gLite (voms-admin 2.5.5) version tested
 - arcproxy utility compatible with the pre-EMI VOMS

Migrating to EMI: transition tips



- Tips on pre/post EMI co-existence and backward compatibility:
 - Data management:
 - dCache: compatibility matrix available in release notes ([link](#))
 - DPM:
 - No gLite/EMI functional differences
 - co-existence allowed in same cluster
 - ARC data movement library compatible with pre-EMI and EMI dCache

Migrating to EMI: gLite services

- **BDII:**
 - Stateless. Should be possible to migrate just by installing the EMI version:
 - run “yum update”
 - uninstall the old gLite metapackage
- **VOMS:**
 - Procedure provided based on DB dumping ([link](#))
- **WMS / LB:**
 - drain of gLite 3.1 → Install EMI (SL5/64)
 - possible cross usage of gLiteWMS/LB (3.2) ↔ emiWMS/LB
- **APEL PUBLISHER:**
 - Some functional novelties requiring manual configuration
 - Metapackage is emi-apel, but use “glite-APEL” in YAIM
 - Sites with more than one CE need to run YAIM once per CE to configure the emi-apel box correctly.
 - Migration instructions ([link](#))

Migrating to EMI: gLite services

- APEL PARSER:
 - Migration instructions ([link](#))
- DPM:
 - Head Node:
 - Setup new machine with the EMI DPM release
 - Migrate the DNS reference to the new machine when done
 - Short downtime required if using DPM MySQL and the database is co-hosted with the daemons
 - Disk Node: new EMI disk node installation required then
 - Either: re-attachment of storage disks into new EMI node (requires short downtime of disk server)
 - Or: disk drain into new EMI disk server (suitable for small installations; requires more resources)
- LFC:
 - similar to dpm Head Node

Migrating to EMI: gLite/dCache



- FTS:
 - Prepare the new EMI service
 - shut down the web service on gLite, no new transfers accepted
 - Drain the agents, channels will be inactive for a couple of hours during draining
 - Start the system on EMI, using the same database.
- StoRM:
 - No upgrade supported.
 - Stateless. Prepare the new EMI service on SL5/64. Short downtime to switch to new versions
 - Here some tips ([link](#)) in case of service and user data co-hosting
- dCache:
 - Migration Guide ([link](#))

Migrating to EMI: ARC/UNICORE



- ARC Migration:
 - (Link) with info on services migration (CE, Clients, Information System)
- UNICORE Migration:
 - Automated migration not supported
 - For all components, the /conf directories need to be preserved. Their contents have to be carefully merged into the configuration of the current versions. Be sure to keep keystores and their passwords.

Feedback on EMI

- Third party validation of EMI products
 - EMI Preview activity ([link](#))
 - EGI staged rollout / middleware verification ([link](#))
- Feedback and Support through GGUS tickets:
 - Documented known issues
 - Suggestions on how to improve documentation (ex. cross product configuration)
 - 3 Updates since EMI 1 release (12/05) fixing 16 bugs
 - Workarounds provided while waiting for updated products

Conclusion

- EMI overview:
 - EMI 1 Released on 12/05 ([link](#)), 3 Updates since ([link](#))
 - 55 products from ARC, dCache, gLite, UNICORE
 - What you had before + standard + fixing many issues + new functionalities
- Migrating to EMI:
 - Links and tips provided in the presentation (stay tuned on EMI 1 webpage)
 - Third Party validation ongoing through preview activities
 - WLCG requirements and feedback welcome...



Thank you!

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