

This page summarizes the new features/functionality expected in the EMI-1 release for the components of the EMI Compute Area. With "new features" it is meant functionality not available in production at the start of the EMI project.

Dependencies on other components needed to implement such new functionality are also listed.

ARC CE PT

- "old" gridftpd based ARC CE
- "new" A-REX ARC CE

It is hoped that by EMI1 release, A-REX will be the reference ARC CE, while the GridFTP-based components will be kept only for backwards compatibility reasons.

Each site will decide which one to configure. A-REX can actually be exposed through GridFTP as well, so there are several possible combinations, but it is not expected to have the two ARC-CE "flavors" to be deployed simultaneously on one site.

New features for the A-REX:

- Janitor component for dynamic RTE management
- Data staging component will be completely re-written in order to support complex VO use cases, priority throttling, bandwidth management, etc.
- Re-written accounting hooks to accommodate changes in accounting systems
- Integration with ARGUS for flexible authorization

Dependencies and interactions for such implementations:

- Proper support in ARGUS. To be verified if the profile defined for the CREAM CE is usable also for the ARC CE
- Work needed for accounting still not to clear. See also here.
- WMS (through Condor-G) is able to submit to the gridftpd based ARC-CE, but not the A-REX one. To be discussed if it makes sense to ask Condor to implement the proper support for the current A-REX implementation, or if instead it makes sense to wait for the EMI-ES specification.
- Possible dependencies on EMI data management developments, since the data staging component **may** be sensitive to non-standard SRM extensions, if such will be used/required by other EMI components

ARC Compute Clients PT

- pre-WS ARC compute client version ?
- WS ARC compute client version ?
- libarcclient library version ?

New features:

- Improvements of middleware specific (CREAM and UNICORE) plugins

Dependencies and interactions for such implementations:

- Finalization of Glue 2 XML schema

gLite jobManagement PT

- CREAM CE version 1.7
 - ◆ BLAH version 1.16.z
 - ◆ CEMon version 1.13.y
 - ◆ CREAM version 1.13.x
- WMS version 3.4

New features:

- Integration of glue 2 compliant information providers in the CREAM CE
- Integration of the CREAM CE with Argus authorization service. This will allow to have a single authorization mechanism within the CREAM CE
- Implementation of recommendations of the EGEE MPI WG [↗](#)
- Matchmaking in the WMS glue 2 compliant
- Adaptive feedback mechanisms in the WMS, to migrate jobs stuck in blocking queues

Dependencies and interactions for such implementations:

- Provision of LRMS information providers Glue 2 compliant. Support for such gLite LRMS information providers is an issue since so far they were provided by partners who are not in EMI anymore.
- Provision of Argus service implementing the agreed profile [↗](#)
- bdii glue 2 compliant
- Availability of CREAM CEs and/or LCG-CEs publishing glue 2 information
- LB support for adaptive feedback mechanisms

gLite MPI PT

MPI-Start

New features:

- Support for control how to map processes to nodes (e.g.: start only one process per node, start as many process as allocated slots,...)
- Support for SLURM batch system
- support for OpenMP

Dependencies and interactions for such implementations:

- None
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MPI-utils

New features:

- Generation of MPI utils for common batch systems (SGE, PBS/Torque, LSF), currently is only available for PBS/Torque

Dependencies and interactions for such implementations:

- None

UNICORE Client and APIs

EMI-1 will include:

- Internal UNICORE client classes: same as XNJS version, so 1.4.y.
- UNICORE Commandline Client (UCC): same as XNJS version, so 1.4.y.
- HiLA will be released as 2.2 or 2.3 (the version currently in production is 2.1) depending on whether it be will released something before EMI-1

New features:

- None (only bug fixes and minor enhancements of the API)

Dependencies and interactions for such implementations:

- None

UNICORE Target System Access PT

EMI-1 will include XNJS in version 1.4.y and TSI in version 6.4.y with $y \geq 0$.

New features:

- a more flexible generation of TSI scripts

Dependencies and interactions for such implementations:

- None

UNICORE Web Service Interfaces PT

EMI-1 will include UAS version 1.4.x and OGSA-BES version 1.4.x, with $x \geq 0$.

New features:

- TBC

Dependencies and interactions for such implementations:

- None

-- MassimoSgaravatto - 05-Sep-2010

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