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EMI Compute Elements comparison chart

Functionality	A-REX	CREAM	UNICORE/X
Information, accounting			
Publishing information about itself	GLUE2, GLUE1.2/1.3, ARC	GLUE2, GLUE1.3	GLUE2, UNICORE
Providing job status information (remote query)			
Notifying about job status changes by notifications	[a]	[b]	[c]
Collecting accounting information (usage record)	APEL, SGAS, OGF-UR	APEL, DGAS, OGF-UR	OGF-UR
Authorisation, security			
User authorisation using Grid credentials and local policies			
Mapping users to local UIDs			
Act on behalf of users (delegation)			
Possibility to use external policy decision service	[d]		
Task execution			
Downloading job description documents (pulling on behalf of users)	-	-	[e]
Accepting job description documents pushed by users	xRSL, JSDL, JDL	JSDL, JDL	JSDL
Converting Grid jobs to LRMS submission scripts	PBS, LSF, SGE, SLURM, LoadLeveler, Condor, fork	PBS, LSF, SGE, Condor (incomplete)	PBS, LSF, SGE, SLURM, LoadLeveler, fork
Initialising pre-installed application environment		-	
Schedule job start (LRMS submission) for a certain time	[f]	-	
Support for LRMS reservation features	-	-	
Interrupting jobs upon user request			
Restarting jobs upon user request			
Cleaning up user/job session			
Self-limiting behavior (no new jobs if the system is overloaded)			
Data handling			
Accepting input files pushed by users			
CE downloads job input files from arbitrary user-defined locations			
CE provides job outputs to users (pulled by users)			
CE uploads job outputs to arbitrary user-defined location on behalf of users			
Multiple protocols supported for data transfer	HTTP(S), GSIFTP, FTP, SRM, LFC	HTTP(S), GSIFTP	HTTP, GSIFTP, FTP, SCP, UNICORE
Caching input files		-	-
Throttle data transfer priorities		-	-
Integrated file management and data transfer capabilities	[g]	[g]	

Configuration, administration			
Possibility to set up multiple front-ends for the same resource (load sharing)			
Possibility to adjust LRMS submission script	h		h
Support for administrator-defined file systems (WORK, SCRATCH, ...)	i		
Works even if there is no common file system between the head node and the worker nodes			-
Server logs			
Log rotation			
Job draining for maintenance			
Remote service management using Grid credentials	-		
Monitoring instrumentation	-	-	j

[a] e-mail only

[b] via CEMON service

[c] depends on LRMS

[d] In development

[e] Requires an extension

[f] Will not submit the job before the specified time

[g] Only for data associated with current jobs

[h] By manual intervention

[i] Within the A-REX file system structure

[j] JMX

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