



NORDUGRID-XXXXXXX-NN

19/10/2009

THE ARC JOB DESCRIPTION

Internal Representation Mapping

M. S. Andersen*

Contents

| | | |
|----------|------------------------------------|----------|
| 1 | Introduction | 3 |
| 2 | Data Structure | 3 |
| 2.1 | JobIdentification | 3 |
| 2.1.1 | JobName | 3 |
| 2.1.2 | Description | 3 |
| 2.1.3 | JobType | 3 |
| 2.1.4 | UserTag | 3 |
| 2.2 | JobVOName | 4 |
| 2.3 | Application | 4 |
| 2.3.1 | Executable | 4 |
| 2.3.2 | Input | 4 |
| 2.3.3 | Output | 4 |
| 2.3.4 | Error | 5 |
| 2.3.5 | Join | 5 |
| 2.3.6 | Environment | 5 |
| 2.3.7 | Prologue | 6 |
| 2.3.8 | Epilogue | 6 |
| 2.3.9 | LogDir | 6 |
| 2.4 | RemoteLogging | 6 |
| 2.4.1 | Rerun | 6 |
| 2.4.2 | ExpiryTime | 6 |
| 2.4.3 | StartOnHold | 7 |
| 2.4.4 | ProcessingStartTime | 7 |
| 2.4.5 | Notification | 7 |
| 2.4.6 | CredentialService | 7 |
| 2.4.7 | AccessControl | 7 |
| 2.5 | Resources | 7 |
| 2.5.1 | OperatingSystem | 7 |
| 2.5.2 | Platform | 7 |
| 2.5.3 | NetworkInfo | 8 |
| 2.5.4 | NodeAccess | 8 |
| 2.5.5 | IndividualPhysicalMemory | 8 |
| 2.5.6 | IndividualVirtualMemory | 8 |
| 2.5.7 | DiskSpaceRequirement | 8 |
| 2.5.8 | SessionLifetime | 9 |
| 2.5.9 | SessionAccessMode | 9 |
| 2.5.10 | IndividualCPUTime | 9 |
| 2.5.11 | TotalCPUTime | 9 |
| 2.5.12 | IndividualWallTime | 9 |

| | | |
|----------|--------------------------------|-----------|
| 2.5.13 | TotalWallTime | 9 |
| 2.5.14 | Homogeneous | 9 |
| 2.5.15 | Benchmark | 10 |
| 2.5.16 | CEType | 10 |
| 2.5.17 | SlotRequirement | 10 |
| 2.5.18 | CandidateTarget | 11 |
| 2.5.19 | RunTimeEnvironment | 11 |
| 2.6 | DataStaging | 11 |
| 2.6.1 | File | 11 |
| 2.6.2 | Directory | 14 |
| 2.7 | JobMetaData | 14 |
| 2.7.1 | Author | 14 |
| 2.7.2 | DocumentExpiration | 15 |
| 2.7.3 | Rank | 15 |
| 2.7.4 | FuzzyRank | 15 |
| 3 | XRSL mapping | 15 |
| 4 | JDL mapping | 16 |
| 5 | JSDL mapping | 18 |
| 6 | POSIX-JSDL mapping | 19 |
| 7 | HPCProfile-JSDL mapping | 20 |

1 Introduction

This document contains information about how XRSL, JDL and the various supported JSDL flavours are mapped to and from the job description internal representation in ARC-lib.

2 Data Structure

The internal representation of the job description is contained in the JobDescription class, which consist of the following objects: JobIdentification, Application, Resources, DataStaging and JobMetaData. JobIdentification contains data used to identify the job description through various types, tags and names. The Application object is used to describe explicitly the executable which should be executed at the Computing Endpoint (CE), environment variables, logging, standard in and out, credential service, etc. The Resources class contains information about requirements and the type of execution node preferred by the user. The DataStaging class contains information about input files and output files/directories created by the job. Finally the job description may contain meta data, describing the context in which the description was generated, and it is stored in the JobMetaData class.

2.1 JobIdentification

2.1.1 JobName

| | In | Out |
|----------|---------------------------|---------------------------|
| XRSL | jobname | jobname |
| JDL | No matching attribute | Not mapped |
| JSDL | JobIdentification/JobName | JobIdentification/JobName |
| ARC-JSDL | | |

2.1.2 Description

| | In | Out |
|----------|-------------------------------|-------------------------------|
| ARC-JSDL | JobIdentification/Description | JobIdentification/Description |

2.1.3 JobType

| | In | Out |
|----------|---------------------------|---------------------------|
| ARC-JSDL | JobIdentification/JobType | JobIdentification/JobType |

JDL has a jobtype and a type attribute, however a mapping has not been made.

2.1.4 UserTag

| | In | Out |
|----------|---------------------------|---------------------------|
| JDL | usertags | usertags |
| ARC-JSDL | JobIdentification/UserTag | JobIdentification/UserTag |

2.2 JobVOName

| | In | Out |
|----------|-----------------------------|-----------------------------|
| XRSL | jobname | jobname |
| ARC-JSDL | JobIdentification/JobVOName | JobIdentification/JobVOName |

2.3 Application

2.3.1 Executable

| | In | Out |
|------------|--|--|
| XRSL | executable, arguments | executable, arguments |
| JDL | Executable, Arguments | Executable, Arguments |
| Posix-JSDL | Application/POSIXApplication/Executable, Application/POSIXApplication/Arguments | Application/POSIXApplication/Executable, Application/POSIXApplication/Arguments |
| HPCP-JSDL | Application/HPCProfileApplication/Executable, Application/HPCProfileApplication/Arguments | Application/HPCProfileApplication/Executable, Application/HPCProfileApplication/Arguments |
| ARC-JSDL | Application/Executable/Path, Application/Executable/Argument | Application/Executable/Path, Application/Executable/Argument |

The Executable data member is a composite structure of a string and a list of strings, where the string holds the executable and the list holding the arguments.

2.3.2 Input

| | In | Out |
|------------|---|---|
| XRSL | stdin | stdin, inputFiles |
| JDL | StdInput | StdInput, InputSandbox |
| Posix-JSDL | Application/POSIXApplication/Input | Application/POSIXApplication/Input |
| HPCP-JSDL | Application/HPCProfileApplication/Input | Application/HPCProfileApplication/Input |
| ARC-JSDL | Application/Input | |

If the Input data member does not exist in the file list, it will be added to it.

2.3.3 Output

| | In | Out |
|------------|--|--|
| XRSL | stdout | stdout, outputFiles |
| JDL | StdOutput | StdOutput, OutputSandbox, OutputSandboxDestURI |
| Posix-JSDL | Application/POSIXApplication/Output | |
| HPCP-JSDL | Application/HPCProfileApplication/Output | |
| ARC-JSDL | Application/Output | |

If the Output data member does not exist in the File list, it will be added to it.

2.3.4 Error

| | In | Out |
|------------|---|---|
| XRSL | stderr | stderr, outputFiles |
| JDL | StdError | StdError, OutputSandbox, OutputSandboxDestURI |
| Posix-JSDL | Application/POSIXApplication/Error | |
| HPCP-JSDL | Application/HPCProfileApplication/Error | |
| ARC-JSDL | Application/Error | |

If the Error data member does not exist in the File list, it will be added to it.

2.3.5 Join

| | In | Out |
|----------|------------------|------------------|
| XRSL | join | Not mappedTODO |
| ARC-JSDL | Application/Join | Application/Join |

2.3.6 Environment

Name

| | In | Out |
|------------|--|--|
| XRSL | environment* | environment* |
| JDL | Environment** | Environment** |
| Posix-JSDL | Application/POSIXApplication/Environment.name | Application/POSIXApplication/Environment.name |
| HPCP-JSDL | Application/HPCProfileApplication/Environment.name | Application/HPCProfileApplication/Environment.name |
| ARC-JSDL | Application/Environment/Name | |

The XRSL attribute environment is a list of pairs. The first element of each pair is mapped to the Name data member. The JDL attribute Environment is a list of equalities.

Value

| | In | Out |
|------------|---|--|
| XRSL | environment* | environment* |
| JDL | Environment** | Environment** |
| JSDL | No matching attribute | Not mapped |
| Posix-JSDL | Application/POSIXApplication/Environment | Application/POSIXApplication/Environment |
| HPCP-JSDL | Application/HPCProfileApplication/Environment | Applicaion/HPCProfileApplication/Environment |
| ARC-JSDL | Application/Environment/Value | |

2.3.7 Prologue

| | In | Out |
|----------|---|---|
| JDL | Prologue, PrologueArgument | Prologue, PrologueArgument |
| ARC-JSDL | Application/Prologue/Path, Application/Prologue/Argument | Application/Prologue/Path, Application/Prologue/Argument |

2.3.8 Epilogue

| | In | Out |
|----------|---|---|
| JDL | Epilogue, EpilogueArgument | Epilogue, EpilogueArgument |
| ARC-JSDL | Application/Epilogue/Path, Application/Epilogue/Argument | Application/Epilogue/Path, Application/Epilogue/Argument |

2.3.9 LogDir

| | In | Out |
|----------|--------------------|--------------------|
| XRSL | gmlog | gmlog outputFiles |
| ARC-JSDL | Application/LogDir | Application/LogDir |

2.4 RemoteLogging

| | In | Out |
|----------|---------------------------|---------------------------|
| XRSL | jobreport | jobreport |
| ARC-JSDL | Application/RemoteLogging | Application/RemoteLogging |

2.4.1 Rerun

| | In | Out |
|----------|-------------------------------|--------------------------------|
| XRSL | rerun | rerun |
| JDL | RetryCount ShallowRetryCount* | RetryCount ShallowRetryCount** |
| ARC-JSDL | Application/Rerun | Application/Rerun |

* Only the maximum value between RetryCount and ShallowRetryCount is stored.

** Both RetryCount and ShallowRetryCount will be set if Rerun is set, and they will both have the value of Rerun.

2.4.2 ExpiryTime

| | In | Out |
|----------|------------------------|------------------------|
| JDL | ExpiryTime | ExpiryTime |
| ARC-JSDL | Application/ExpiryTime | Application/ExpiryTime |

2.4.3 StartOnHold

| In | Out |
|----|-----|
|----|-----|

2.4.4 ProcessingStartTime

| | In | Out |
|----------|---------------------------------|---------------------------------|
| ARC-JSDL | Application/ProcessingStartTime | Application/ProcessingStartTime |

2.4.5 Notification

| | In | Out |
|----------|--------------------------|--------------------------|
| XRSL | notify | notify |
| ARC-JSDL | Application/Notification | Application/Notification |

2.4.6 CredentialService

| | In | Out |
|----------|-------------------------------|-------------------------------|
| XRSL | credentialserver | credentialserver |
| JDL | MyProxyServer | MyProxyServer |
| ARC-JSDL | Application/CredentialService | Application/CredentialService |

2.4.7 AccessControl

| | In | Out |
|----------|---------------------------|---------------------------|
| XRSL | acl | acl |
| ARC-JSDL | Application/AccessControl | Application/AccessControl |

2.5 Resources

2.5.1 OperatingSystem

| | In | Out |
|----------|---------------------------|---------------------------|
| XRSL | opsys | opsys |
| ARC-JSDL | Resources/OperatingSystem | Resources/OperatingSystem |

2.5.2 Platform

| | In | Out |
|----------|---|--------------|
| XRSL | architecture | architecture |
| JSDL | Resources/CPUArchitecture/CPUArchitectureName | |
| ARC-JSDL | Resources/Platform | |

2.5.3 NetworkInfo

| | In | Out |
|----------|--------------------------------------|-----|
| JSDL | Resources/IndividualNetworkBandwidth | |
| ARC-JSDL | Resources/NetworkInfo | |

2.5.4 NodeAccess

| | In | Out |
|----------|----------------------|------------|
| XRSL | nodeAccess | nodeAccess |
| ARC-JSDL | Resources/NodeAccess | |

2.5.5 IndividualPhysicalMemory

| | In | Out |
|------------|--|--------|
| XRSL | memory | memory |
| Posix-JSDL | Application/POSIXApplication/MemoryLimit | |
| ARC-JSDL | Resources/IndividualPhysicalMemory | |

2.5.6 IndividualVirtualMemory

| | In | Out |
|------------|---|-----|
| Posix-JSDL | Application/POSIXApplication/VirtualMemoryLimit | |
| ARC-JSDL | Resources/IndividualVirtualMemory | |

2.5.7 DiskSpaceRequirement

DiskSpace

| | In | Out |
|----------|--|------|
| XRSL | disk | disk |
| JSDL | Application/FileSystem/DiskSpace | |
| ARC-JSDL | Resources/DiskSpaceRequirement/DiskSpace | |

CacheDiskSpace

| | In | Out |
|----------|--------------------------|--------------------------|
| ARC-JSDL | Resources/CacheDiskSpace | Resources/CacheDiskSpace |

SessionDiskSpace

| | In | Out |
|----------|----------------------------|----------------------------|
| ARC-JSDL | Resources/SessionDiskSpace | Resources/SessionDiskSpace |

2.5.8 SessionLifetime

| | In | Out |
|----------|---------------------------|---------------------------|
| XRSL | lifeTime | lifeTime |
| ARC-JSDL | Resources/SessionLifeTime | Resources/SessionLifeTime |

2.5.9 SessionAccessMode

| In | Out |
|----|-----|
|----|-----|

2.5.10 IndividualCPUTime

| | In | Out |
|----------|------------------------------|-----|
| JSDL | Resources/IndividualCPUTime* | |
| ARC-JSDL | Resources/IndividualCPUTime | |

* The JSDL element is mapped to the Range part of IndividualCPUTime.

2.5.11 TotalCPUTime

| | In | Out |
|------------|--|---------|
| XRSL | cpuTime | cpuTime |
| JSDL | Resources/TotalCPUTime* | |
| Posix-JSDL | Application/POSIXApplication/CPUTimeLimit* | |
| ARC-JSDL | Resources/TotalCPUTime | |

* The JSDL and POSIX-JSDL elements is mapped to the Range part of TotalCPUTime.

2.5.12 IndividualWallTime

| | In | Out |
|----------|------------------------------|-----|
| ARC-JSDL | Resources/IndividualWallTime | |

2.5.13 TotalWallTime

| | In | Out |
|------------|--|----------|
| XRSL | wallTime | wallTime |
| Posix-JSDL | Application/POSIXApplication/WallTimeLimit | |
| ARC-JSDL | Resources/TotalWallTime | |

2.5.14 Homogeneous

| In | Out |
|----|-----|
|----|-----|

2.5.15 Benchmark

Type

| In | Out |
|----|-----|
|----|-----|

Value

| In | Out |
|----|-----|
|----|-----|

2.5.16 CEType

| | In | Out |
|----------|--------------------|--------------------|
| XRSL | middleware | middleware |
| ARC-JSDL | Application/CEType | Application/CEType |

2.5.17 SlotRequirement

NumberOfSlots

| | In | Out |
|------------|--|-----|
| Posix-JSDL | Application/POSIXApplication/ProcessCountLimit | |
| ARC-JSDL | Resources/SlotRequirement/NumberOfSlots | |

ProcessPerHost

| | In | Out |
|----------|--|-------|
| XRSL | count | count |
| JSDL | Resources/TotalCPUCount | |
| ARC-JSDL | Resources/SlotRequirement/ProcessPerHost | |

ThreadsPerProcesses

| | In | Out |
|------------|---|-----|
| Posix-JSDL | Application/POSIXApplication/ThreadCountLimit | |
| ARC-JSDL | Resources/SlotRequirement/ThreadsPerProcesses | |

SPMDVariation

| | In | Out |
|----------|---|-----|
| ARC-JSDL | Resources/SlotRequirement/SPMDVariation | |

2.5.18 CandidateTarget

EndPointURL

| | In | Out |
|----------|---------------------------------------|---------------------------------------|
| XRSL | cluster | Not mapped |
| JSDL | Resources/CandidateHosts/HostName | |
| ARC-JSDL | Resources/CandidateTarget/EndPointURL | Resources/CandidateTarget/EndPointURL |

QueueName

| | In | Out |
|----------|-------------------------------------|-------------------------------------|
| XRSL | queue | queue |
| JDL | QueueName | QueueName |
| ARC-JSDL | Resources/CandidateTarget/QueueName | Resources/CandidateTarget/QueueName |

2.5.19 RunTimeEnvironment

| | In | Out |
|----------|--------------------------------|--------------------------------|
| XRSL | runTimeEnvironment | runTimeEnvironment |
| ARC-JSDL | Application/RunTimeEnvironment | Application/RunTimeEnvironment |

2.6 DataStaging

2.6.1 File

Name

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

Source

URL

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

Threads

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

DataIndexingService

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

Target

URL

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

Threads

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

Mandatory

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

DataIndexingService

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

NeededReplica

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

KeepData

IsExecutable

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

DownloadToCache

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

2.6.2 Directory

2.7 JobMetaData

2.7.1 Author

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

2.7.2 DocumentExpiration

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

2.7.3 Rank

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

2.7.4 FuzzyRank

| | In | Out |
|------------|----|-----|
| XRSL | | |
| JDL | | |
| JSDL | | |
| Posix-JSDL | | |
| HPCP-JSDL | | |
| ARC-JSDL | | |

3 XRSL mapping

| XRSL input | Internal representaion | XRSL output |
|------------------------|---|-------------|
| executable | Application.Executable.Name | executable |
| arguments | Application.Executable.Arguments | arguments |
| inputFiles | DataStaging.File.Name, DataStaging.File.Source | inputFiles |
| executables | DataStaging.File.IsExecutable | executables |
| cache | TODO | TODO |
| outputFiles | DataStaging.File.Name, DataStaging.File.Target | outputFiles |
| cpuTime | Resources.TotalCPUTime | cpuTime |
| Continues at next page | | |

| Continued from previous page | | |
|------------------------------|---|---------------------|
| wallTime | Resources.TotalWallTime | wallTime |
| gridTime | Not mapped | Not mapped |
| benchmarks | Not mapped | Not mapped |
| memory | Resources.IndividualPhysicalMemory | memory |
| disk | Resources.DiskSpaceRequirement.DiskSpace | disk |
| runTimeEnvironment | Resources.RunTimeEnvironment | runTimeEnvironment |
| middleware | Resources.CEType | middleware |
| opsys | Resources.OperatingSystem | opsys |
| stdin | Application.Input | stdin |
| stdout | Application.Output | stdout, outputFiles |
| stderr | Application.Error | stderr, outputFiles |
| join | Application.Join | Not mapped |
| gmlog | Application.LogDir | gmlog |
| jobName | Identification.JobName | jobName |
| ftpThreads | DataStaging.File.Source.Threads, DataStaging.File.Target.Threads | Not mapped |
| acl | Application.AccessControl | acl |
| cluster | Resources.CandidateTarget.EndPointURL | Not mapped |
| queue | Resources.CandidateTarget.QueueName | queue |
| startTime | Application.ProcessingStartTime | Not mapped |
| lifeTime | Resources.SessionLifeTime | lifeTime |
| notify | Application.Notification | notify |
| replicaCollection | DataStaging.File.DataIndexingService | Not mapped |
| rerun | Application.Rerun | rerun |
| architecture | Resources.Platform | architecture |
| nodeAccess | Resources.NodeAccess | Not mapped |
| dryRun | Not mapped | Not mapped |
| rsl.substitution | Processed internally by the parser | Not mapped |
| environment | Application.Environment | environment |
| count | Resources.SlotRequirement.ProcessPerHost | count |
| jobreport | Application.RemoteLogging | jobreport |
| credentialserver | Application.CredentialService | credentialserver |

4 JDL mapping

| JDL input | Internal representaion | JDL output |
|------------------------|------------------------|------------|
| JobType | Not mapped | Not mapped |
| Continues at next page | | |

Continued from previous page

| | | |
|---------------------------|---|--|
| Executable | Application.Executable.Name | Executable, InputSandbox |
| Arguments | Application.Executable.Arguments | Arguments |
| StdInput | Application.Input | StdInput, InputSandbox |
| StdOutput | Application.Output | StdOutput, OutputSandbox, OutputSandboxDestURI |
| StdError | Application.Error | StdError, OutputSandbox, OutputSandboxDestURI |
| InputSandbox | DataStaging.File.Name, DataStaging.File.Source | InputSandbox |
| InputSandboxBaseURI | DataStaging.File.Source.URI | InputSandbox |
| OutputSandbox | DataStaging.File.Name, DataStaging.File.Target.URI | OutputSandbox, OutputSandboxDestURI |
| OutputSandboxDestURI | DataStaging.File.Target, DataStaging.File.KeepData | OutputSandbox, OutputSandboxDestURI |
| OutputSandboxBaseDestURI | DataStaging.File.Target.URI | OutputSandbox, OutputSandboxDestURI |
| Prologue | Application.Prologue.Name | Prologue |
| PrologueArguments | Application.Prologue.Arguments | PrologueArguments |
| Epilogue | Application.Epilogue.Name | Epilogue |
| EpilogueArguments | Application.Epilogue.Arguments | EpilogueArguments |
| AllowZippedISB | Stored internally, not processed | AllowZippedISB |
| ZippedISB | Stored internally, not processed | ZippedISB |
| ExpiryTime | Application.ExpiryTime | ExpiryTime |
| Environment | Application.Environment | Environment |
| PerusalFileEnable | Stored internally, not processed | PerusalFileEnable |
| PerusalTimeInterval | Stored internally, not processed | PerusalTimeInterval |
| PerusalFilesDestURI | Stored internally, not processed | PerusalFilesDestURI |
| InputData (Deprecated) | Not mapped | Not mapped |
| OutputData (Deprecated) | Not mapped | Not mapped |
| StorageIndex (Deprecated) | Not mapped | Not mapped |
| DataCatalog (Deprecated) | Not mapped | Not mapped |
| DataRequirements | Stored internally, not processed | DataRequirements |
| DataAccessProtocol | Stored internally, not processed | DataAccessProtocol |
| OutputSE | Stored internally, not processed | OutputSE |
| VirtualOrganisation | Identification.JobVOName | VirtualOrganisation |
| RetryCount | Application.Rerun | RetryCount ShallowRetryCount |
| ShallowRetryCount | Application.Rerun | RetryCount ShallowRetryCount |
| LBAddress | Stored internally, not processed | LBAddress |
| MyProxyServer | Application.CredentialService | MyProxyServer |
| HLRLocation | Stored internally, not processed | HLRLocation |
| JobProvenance | Stored internally, not processed | JobProvenance |

Continues at next page

| Continued from previous page | | |
|---------------------------------|--|-------------------------|
| NodeNumber | Stored internally, not processed | NodeNumber |
| JobSteps (Deprecated) | Not mapped | Not mapped |
| CurrentStep (Deprecated) | Not mapped | Not mapped |
| JobState (Deprecated) | Not mapped | Not mapped |
| ListenerPort | Stored internally, not processed | ListenerPort |
| ListenerHost | Stored internally, not processed | ListenerHost |
| ListenerPipeName | Stored internally, not processed | ListenerPipeName |
| Requirements | Stored internally, not processed | Requirements |
| Rank | JobMeta.Rank | Rank |
| FuzzyRank | JobMeta.FuzzyRank | FuzzyRank |
| UserTags | Identification.UserTag | UserTags |
| BatchSystem | Stored internally, not processed | BatchSystem |
| QueueName | Resources.CandidateTarget.QueueName | QueueName |

5 JSDL mapping

| JSDL input | Internal representaion | JSDL output |
|--|------------------------|-------------|
| JobIdentification | | |
| JobName | | |
| JobAnnotation | | |
| JobProject | | |
| Application | | |
| ApplicationName | | |
| ApplicationVersion | | |
| Resources | | |
| CandidateHosts/HostName | | |
| FileSystem/FileSystemType | | |
| FileSystem/Description | | |
| FileSystem/MountPoint | | |
| FileSystem/DiskSpace | | |
| ExclusiveExecution | | |
| OperatingSystem/ OperatingSystemType/ OperatingSystemName | | |
| OperatingSystem/ OperatingSystemVersion | | |
| CPUArchitecture/ CPUArchitectureName | | |
| Continues at next page | | |

| | | |
|------------------------------|--|--|
| Continued from previous page | | |
| IndividualCPUSpeed | | |
| IndividualCPUTime | | |
| IndividualCPCUCount | | |
| IndividualNetworkBandwidth | | |
| IndividualPhysicalMemory | | |
| IndividualVirtualMemory | | |
| IndividualDiskSpace | | |
| TotalCPUTime | | |
| TotalCPCUCount | | |
| TotalPhysicalMemory | | |
| TotalVirtualMemory | | |
| TotalDiskSpace | | |
| TotalResourceCount | | |
| DataStaging | | |
| FileName | | |
| FileSystemName | | |
| CreationFlag | | |
| DeleteOnTermination | | |
| Source/URI | | |
| Target/URI | | |

6 POSIX-JSDL mapping

| POSIX-JSDL input | Internal representation | POSIX-JSDL output |
|------------------------|-------------------------|-------------------|
| Executable | | |
| Argument | | |
| Input | | |
| Output | | |
| Error | | |
| WorkingDirectory | | |
| Environment | | |
| WallTimeLimit | | |
| FileSizeLimit | | |
| CoreDumpLimit | | |
| DataSegmentLimit | | |
| LockedMemoryLimit | | |
| OpenDescriptorsLimit | | |
| Continues at next page | | |

| Continued from previous page | | |
|------------------------------|--------------------|--|
| | PipeSizeLimit | |
| | StackSizeLimit | |
| | CPUTimeLimit | |
| | ProcessCountLimit | |
| | VirtualMemoryLimit | |
| | ThreadCountLimit | |
| | UserName | |
| | GroupName | |

7 HPCProfile-JSDL mapping

| HPCProfile-JSDL input | Internal representaion | HPCProfile-JSDL output |
|-----------------------|------------------------|------------------------|
| | Executable | |
| | Argument | |
| | Input | |
| | Output | |
| | Error | |
| | WorkingDirectory | |
| | Environment | |
| | UserName | |