

DRMAA

State of C binding/implementation

DRMAA implementation compliance

test

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State of C language binding

- .DRMAA language independent spec http://www.drmaa.org/docs/ggf-rec-drmaa-1_0.pdf
in 24-month operational experience period
- .DRMAA C language binding spec as GWD-R
https://forge.gridforum.org/tracker/?group_id=90&atid=608&aid=214
- .DRMAA Java language binding spec as GWD-R

DRMAA C binding

- no surprise: one C function per DRMAA operation
- Same set of operations as in language independent spec
- to model string output vectors add'l opaque datatypes and access functions were necessary

Who benefits from it?

- .ISVs can use it for generic DRM integration allowing their customers to use DRM system of their choice
- .Any other WG that wants to interface with arbitrary DRMS

Grid Engine Implementation

- .Grid Engine source snapshot of mostly complete DRMAA C binding (v0.8) now available under http://www-unix.gridforum.org/mail_archive/drmaa-wg/2003/07/msg00004.html
- .DRMAA Extent in SGE 6.0 (2004)
 - **DRMAA C binding shared library**
 - **C header file “drmaa.h”**
 - **DRMAA man pages**
 - **Sample DRMAA application**

Example application

.Control flow

- *Library initialization*
- *Preparation of job template*
- *Submit job template as single job and bulk job*
- *Synchronize with all jobs to finish*
- *Reap and report job finish information*
- *Library deinitialization*

.Example application is part of C binding document

Why DRMAA compliance test?

- *C language binding spec leaves room for link time issues:*
 - *ISVs must be able to link shared/dynamically against DRMAA library*
 - *DRMAA library dependency requires ISV to maintain secondary libraries (e.g. Pthread, OpenSSL, ..)*
 - *Shared linking for libs that come with the OS*
 - *Dynamic linking for others*
- *particular non-trivial DRM set-up might be necessary for DRMAA*
- *Partially relieves ISV from doing integration tests with all DRMAA implementations for QA*

DRMAA compliance test plan

- *Test must contain application with as many use cases as possible serves the role of ISV application*
- *Test application must be compiled and linked against DRMAA lib*
- *DRM system must be installed and configured*
- *DRM system is DRMAA compliant if test application runs without problems*

DRMAA compliance report

- ***Published report must describe***
 - ***Environment***
 - ***Operating system (type/version)***
 - ***library dependencies (ldd output)***
 - ***DRM system***
 - ***What product/version?***
 - ***DRM set-up***