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
- 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 addt'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*

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DRMAA compliance report

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

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