WP10 evaluation of EDG middleware

Testbed evaluation meeting june 17th

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Development and production testbed sites

- Development testbed
  - Release 1.2
  - Localisation : CERN, NIKHEF, RAL,CNAF (12/06)
- Production testbed
  - Release 1.1.5 (1.1.4 patched)
  - Localisation : CERN, NIKHEF, RAL, CNAF, CC-IN2P3 (Lyon)

WP10 tests

- Described in WP10 Validation Plan (10/01)
- Test 1 : simple "hello world" job submission
- Test 2 : advanced replication
- Test 3 : Accessing a file
- Test 4 : GridBLAST

Test 1 : simple "hello world" job submission

- A shell script writing hostname, date, environment on stdout/stderr

  - Job can be submitted, status can be checked, and Job can be cancelled
  - Output/error can be retrieved from output sandbox
  - Requirements correctly taken into account

  ➡ Test 1 succeeded on both testbeds

Test 2 : Advanced Replication

- Add files to replica catalog
- Replicate files
- List physical replicas given a LFN
- Delete replicas and master

Test 2 : production testbed

- **Tested components** : Replica Manager, Replica Catalog, production testbed SEs, GDMP 2.1

☺ Success to register and publish file on local catalog

☺ Success to replicate file to another SE

☹ Generally no update of the Replica Catalog at NIKHEF

☹ Obligation to submit your proxy with JDL file for authentication

☹ No tools to remove master and replicas

Test 2 : development testbed

- **Tested components :** development testbed SE, GDMP 3.0

  - Success to register and publish files on local catalog
  - New GDMP command to remove a file
  - No need of a proxy for submission

  Failure to replicate files

  ▶ Since 14/06 we can replicate files but we have still some error messages

  No update of the Replica Catalog (opt. -n)

Test 3 : Accessing a file

- Run a program on several nodes where replicas have been made available

- Register a new LFN for output

- Tested components : JDL 'Argument' field, LFN translation to PFN, PFN access, LFN creation

- Jdl Argument field :

  InputData={"LF:sprot.fasta"};

  DataAccessProtocol="file";

  ReplicaCatalog="ldap://grid-vo.nikhef.nl:10389/…";

Test 3 : Results

- Production testbed

  - No command line to translate LFN into PFN

  - Need to parse the file .BrokerInfo to obtain a single PFN

  ➡ Test failed : PFN access

- Development testbed

  - GDMP 3.0 : command line to get all PFN
    - edg_rc_getPhysicalFileNames -l <lfn> [-c rc.conf]

  ➡ Test failed : JDL 'Argument' field (related to test2 failure)

Test 4: GridBLAST

- Program and data transmitted through sandbox

- Tested components:
  - Program/data transmission through sandbox
  - Computing Element

Test 4 : Results

- **Production testbed**
  - Successfull deployment of GridBLAST

- **Development testbed**
  - Still under test
  - Often unsuccessfull (testbed down or output retrieval impossible)

Other issues : SE configuration

- Grid-mapfile
  - Authentication between SE's failed
  - Impossible (till 12/06) to use command gdmp_host_subscribe in order to replicate

- GDMP Client not configured at NIKHEF (till 12/06) nor RAL…only at CERN
  - Solved 14/06

Other issues : Gatekeeper

- Production testbed

  – Available

  – Allows to see contents of SE and to act on it

- Development testbed

  – Discussion to remove gatekeeper (to solve security problems) but…..

  – Without gatekeeper no command to see the SE and to act on it

    ▶ GDMP 3.0 : gdmp_job_status to see only registered or published file of all local catalogues

  – Conclusion : gatekeeper definetely needed today

Other issues : Files Access Rights

- Today
  - Account mapping can change on an SE
  - "at the moment the file owner really means nothing" S. Burke
  - Answer to bug #485 : « wontfix » !!!

- Future
  - Access Control List (ACL) based on the grid certificate
  - The file owner should be the Replica Manager
  - Possibility to limit replication on trusted sites

GDMP 2.1 vs. GDMP 3.0

- ## Limitations of GDMP 2.1
  - Use globus-job-run command

  - No command to remove a file

- ## Improvements with GDMP 3.0
  - Use directly gdmp commands

  - Replica Catalog command line tools

  - Command to remove a file
    - ▶ need to modify file access rights before (go+rw)

EDG-REPLICA-MANAGER-1.0

- Component which simplifies data manipulation (copy, register, replicate, delete)

- Available on development testbed

- Easier to use than GDMP

- But…
  - Few bugs to register files in a Replica Catalogue

Conclusion

- Significantly better tools to handle data/files : GDMP 3.0 & edg-replica-manager 1.0

- But…
  - Most tests failed…

- Stabilize development testbed before release 1.2 deployment

- Install a Replica Catalog (v.1.2) for complementary tests and solve some blocking bugs…