



Enabling Grids for
E-science in Europe

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JRA1 All Hands Meeting 15-17 November 2004

gLite R-GMA Testing

JRA1 test team



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R-GMA basic service tests

- Availability of information in R-GMA
 - The service, service status and site information in R-GMA will be examined at regular intervals (5-10 mins)
 - Checks that the service is up and running and responding to queries
 - Measure how frequently It is working (or not)
- Consistency of information in R-GMA
 - Site and service information in R-GMA should not vanish
- Age of information in R-GMA
 - Information should not be stale
 - Test that service and site information is no older than X number of publishing intervals
- R-GMA queries should not hang
 - Perform queries at regular intervals and measure the response time

R-GMA publish tests

- Resource lifecycle tests (all producers)
 - Test the behaviour of the system when publishing data with various combinations of producer termination interval and data publishing interval
 - Is data published correctly or not ?
 - Test the system response to calling “showSignOfLife “ to keep a producer alive at various intervals with respect to the publish and termination intervals
 - At what period after the termination interval will the service become unavailable or destroyed ?
 - Destroy a resource that has exceeded its termination interval
 - What is the behaviour of the system if the resource is not contactable?

R-GMA publish tests

- Data publish storms
 - Publish data into tables at high rates and over a long period of time
 - Multiple concurrent clients
 - Measure what rates the system can handle
 - What is the behaviour of the system .
 - Crash? Die gracefully ? Recover after a period of time ?

R-GMA query tests

- NA4 requirement: Grid resource browsing (R0034)
 - Query rgma for information about all registered resources
 - get status and check if the status is correct,
 - check if information is complete
- Resource lifecycle tests for Consumers as for Producers
- Query storms
 - Measure the response time for queries at various rates
 - 10 – 100 queries per second
 - Many clients at one site and all three sites
 - What is the behaviour when the query rate becomes high
 - System should not hang

Registry replication

- Registry replication
 - Main registry at RAL, replica at NIKHEF
- Measure times for registry replicas to synchronize
 - What is an acceptable time period that registries can remain inconsistent ?
- Time to resynchronise after a replica is restarted
 - Bring down the replica registry
 - Update information in the registry
 - Bring up the replica again and measure time to resynchronise.
- Failover
 - Make unavailable the closest working registry
 - Measure time to switch to the alternative registry

More tests

- This list is not exhaustive
- Starting point for R-GMA tests
- Many more will be developed in time

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