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Grid Publisher Development

Introduction

The goal of this wiki page is to plan but also track the work on Grid Publisher foreseen by the Monitoring Working Group.

Plan

Phase I

Goal: Set up a simple ActiveMQ [↗](#) based environment and test it using GridFTP log data:

- take historical logs from CERN production services to replay or generate simulated data transfer events
- adapt log parser (Python) to publish to ActiveMQ broker
- set up a single instance of broker under Tomcat application server
- develop a simple message summarizer (Java) that consumes GridFTP log messages in ActiveMQ, does simple summarisation (for example number of events per minute) and publishes the results back to ActiveMQ
- put an additional consumer that simply reads the messages
- test the capabilities of the system in following dimentions:
 - ◆ number of messages per second
 - ◆ number of parallel consumers/producers
 - ◆ number of topics
 - ◆ complexity of JMS selector

Details:

- machines for test installation provided by James (lxb6117, lxb6118)
- an existing Python implementation of STOMP protocol pointed out by James, to be evaluated/extended by Wojtek

Phase II

Goal: Evaluate possible broker network configurations, set up and test the most promising one(s), test durable subscriptions

- enable persistent messaging on broker running at lxb6117 (MySQL database)
- provide high availability and fault tolerance by Master-Slave broker configurations (Shared Filesystem based, JDBC based)
- test networks of brokers and brokers' discovery methods
- test client-side dynamic failover

Phase III

Goal: Develop security mechanisms by using digital signatures and encryption on the message level with Grid certificates (proxies).

Details to come

Progress tracking

2007-07-19 - planning meeting

- **Participants:** James Casey, Ian Neilson, Wojciech Czech, Piotr Nyczyk
- **Goals achieved:** Initial planning

2007-07-30 - phase I tests report

- report1.pdf: Report on phase I tests

2007-08-09 - phase II tests report

- report2.pdf: Report on phase II tests

2007-08-09 - evaluation of tests results

- **Participants:** James Casey, Ian Neilson, Wojciech Czech, Piotr Nyczyk
- **Goals achieved:** Planning to test prototype in SAME configuration

2007-09-19 - Grid Messaging System Presentation

- presentation.pdf: Wojciech Czech presentation on test results and ActiveMQ overview.

2007-10-25 - extended Tests Presentation and Report

- **Participants:** Max Boehn, James Casey, David Collados, Gavin Mccance, PiotrNyczyk, Daniel Rodrigues
- **Summary:** Presentation of the 1st month of work on the MSG (Messaging Service For Grids)
- **Final Remarks:**
 - ◆ Double Check inconsistent results on the ActiveMQ broker capabilities
 - ◆ Further test with more fine-grained measurements, namely consumers throughput and latencies.
 - ◆ Stick to ActiveMQ 5.0, unless unusable
 - ◆ Time visualization on impact of additional producers or subscribers. (graphs of messages/second per each producer/ consumer)
- report-A-18Oct2007.pdf: First Month Work Report
- Evaluation_of_ActiveMQ_broker_for_the_Grid_Messaging.ppt: First Month Work Report

2008-01-29 - Openlab Presentation (MSG: An Overview on a Messaging System for Grid)

- **Summary:** Presentation on test results and further directions for the MSG in Openlab Quarterly Meeting
- **Further Steps:**
 - ◆ Test with different topics, queues, + master slave configurations;

- ◆ Implement SAM messaging (based on Piotr Prototype)
- MSGOpenlab_v1.2.pps: MSG Openlab Presentation

2007-01-30 - Test Plan

Further test plans:

clients on different machines, improvedClient	1 Consumer, 1 Producer	3Consumers, 3 Producers	5 Consumers, 5 Producers
Queue Performance	1 Consumer 1 Producer	3 Consumers 3 Producers, 1 queue	3 Consumers, 3 Producers, different queues
Master/Slave	1 Consumer 1 Producer Queue	3 Consumers 3 Producers, 1 topic	100 Producers, 1 Consumer, Queue
Master/Slave,SAN			
Master/Slave,JDBC			
*Network Of Brokers			

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