

Tier3 Monitoring TF

Artem Petrosyan (JINR), Danila Oleynik (JINR),
Julia Andreeva (CERN)

T3MON proposal (1/3)

Finalized at the beginning of 2011. Registered as ATLAS note: <http://cdsweb.cern.ch/record/1336119>

- **«T3MON-SITE»** - software suite for local site monitoring, based on Ganglia monitoring system
 - Modules (plug-ins) for local resource management systems (LRMS) and storage systems
 - Additional plug-ins development for Proof and xRootD
 - Aggregation and transmission summary data to central monitoring
- **«T3MON-GLOBAL»** - information system for aggregating and visualizing data from distributed Tier3 sites at a global VO
 - Should be integrated with current ATLAS monitoring system (Dashboard)

Work is divided in two streams: validation of standard components and development.

T3MON proposal (2/3)

In order to validate T3MON-SITE for different T3 configurations, establishment of a work group at JINR was proposed

Tasks:

- Deployment of a test cluster
- Installation of batch systems and mass storage systems reported as being used at Tier3 sites during T3 survey (various configurations)
- Installation and configuration of data file monitoring and inventory
- Installation and configuration of Ganglia for a specific cluster setup
Installation and validation of the additional Ganglia plug-ins for monitoring metrics collection
- Preparation of installation and configuration instructions
- Participation in the xRootD federation project within ATLAS

T3MON proposal (3/3)

- Milestones
 - **«T3MON-SITE»**
 - Begin of June 2011: first prototype
 - Middle of July 2011- begin of September 2011: “Alfa” version
 - September 2011: stable version
 - **«T3MON-GLOBAL»**
 - Begin of June 2011: complete the collection of system requirements
 - August - September 2011: development and debugging of the publishing agents
 - October – middle of November 2011: collecting data to the central repository. Integration with the Dashboard monitoring systems
 - Middle of December 2011: a pilot version, collecting additional information for implementation of the final version
 - February 2012 – March 2012: a final version.

Team at JINR

Involved 4 specialists, 3 young employees, 2 software experts, several volunteers

- Software
 - Artem Petrosyan
 - Danila Oleynik
 - Sergey Belov
 - Vladimir Vasilyev
- Installation and validation
 - Nikolay Kutovskiy
 - Ignat Lensky, Ivan Kadochnikov, Anatoly Yakshov
- Software experts
 - Lucia Valova (Proof cluster administrator)
 - Pavel Dmitrienko (local monitoring system administrator/development)

Testbed at JINR

- Organized in February 2011
- Multicore nodes
- Virtualization
 - 4 virtual clusters at the moment
 - PBS
 - xRootD
 - PROOF
 - OGE/SGE
 - 3 clusters (PBS, xRootD, OGE/SGE) monitored by Ganglia

Status

Software	Test cluster	Ganglia	Development	Documentation
xRootD	✓	✓	+	+
PROOF	✓		+	
PBS (Torque)	✓	✓		+
OGE/SGE	✓	✓		+
Condor	✓			
LSF	+			
Lustre	+			

✓ - done

+ - in progress

Plans

- Setting up development infrastructure at CERN:
 - Development nodes
 - Repository (SVN)
 - Common development framework with other application (Dashboard, DQ2)
 - Twiki documentation
- xRootD & Proof plug-ins for Nagios (how to extend monitoring systems for sites which already use Nagios)
- Installation & validation: Condor, Lustre

Open issues

- Monitoring hooks in Athena
- Collecting more information about list of metrics to be presented on the global level
- Information about delivery frequency to the global level

Summary

- Proposal is prepared and issued
- Work group is organized
- Test infrastructure is set up at JINR
- Documentation preparation is in process
- Development of plug-ins is in process