ATLAS off-Grid sites (Tier-3) monitoring. From local fabric monitoring to global overview of the VO computing activities

Many ATLAS Institutes and National Communities already built or have plans to build Tier-3 facilities. Tier-3 centers consist of non-pledged resources mostly dedicated for the data analysis by the geographically close or local scientific groups. Tier-3 sites comprise a range of architectures and many do not possess Grid middleware, which would render application of Tier-2 monitoring systems useless.

**Goals of the project**
- Provide reasonable monitoring solution for ‘off grid’ sites (unplugged geographically close computing resources)
- Monitoring of computing facility of local groups with collocated storage system (Tier-1+Tier-3, Tier-2+Tier-3)
- Present Tier-3 sites activity on global level
- Data transfer monitoring across XRootD federation

**Tier 3 sites monitoring levels**
- Monitoring of the local infrastructure for site administration
- Central system for monitoring of the VO activities at Tier-3 sites

**Site monitoring**
Based on Ganglia monitoring system
- Collect basic metrics
- Plugin system for monitoring specific metrics
- Job processing systems, storage solutions, specifics protocols
- Special solution for XRootD and PROOF monitoring

**Global monitoring**
- Monitoring of the VO usage of the Tier-3 resources in terms of data transfer, data access and job processing and the quality of the provided service based on the job processing and data transfer monitoring metrics

**Data flows in T3MON**
- Summary data
- File access data
- Job processing data
- Data transfer data

**T3MON software suite** enables local monitoring of the Tier-3 sites and the global view of the computing activities of the LHC virtual organizations at the Tier-3 sites.

Project home: [https://svnweb.cern.ch/trac/t3mon/wiki/T3MONHome](https://svnweb.cern.ch/trac/t3mon/wiki/T3MONHome)

Packages repository: [http://t3mon-build.cern.ch/t3mon/](http://t3mon-build.cern.ch/t3mon/)