A proposal to introduce EDG's Network Monitoring into LCG

We propose the introduction of EDG's Network Monitoring into LCG. This will give LCG a number of benefits currently enjoyed by EDG:

a) Network monitoring between all LCG sites, providing performance metrics and analysis to sites administrators and GOCs.
b) Online analysis of GridFTP performances between all sites and evaluation of inter-sites and global Grid traffic
c) *NetworkCost* function provided to Resource Brokers and applications for optimized match-making and better file accesses.

See http://ccwp7.in2p3.fr/wp7archive/ to access visualization interface to EDG Network Monitoring.

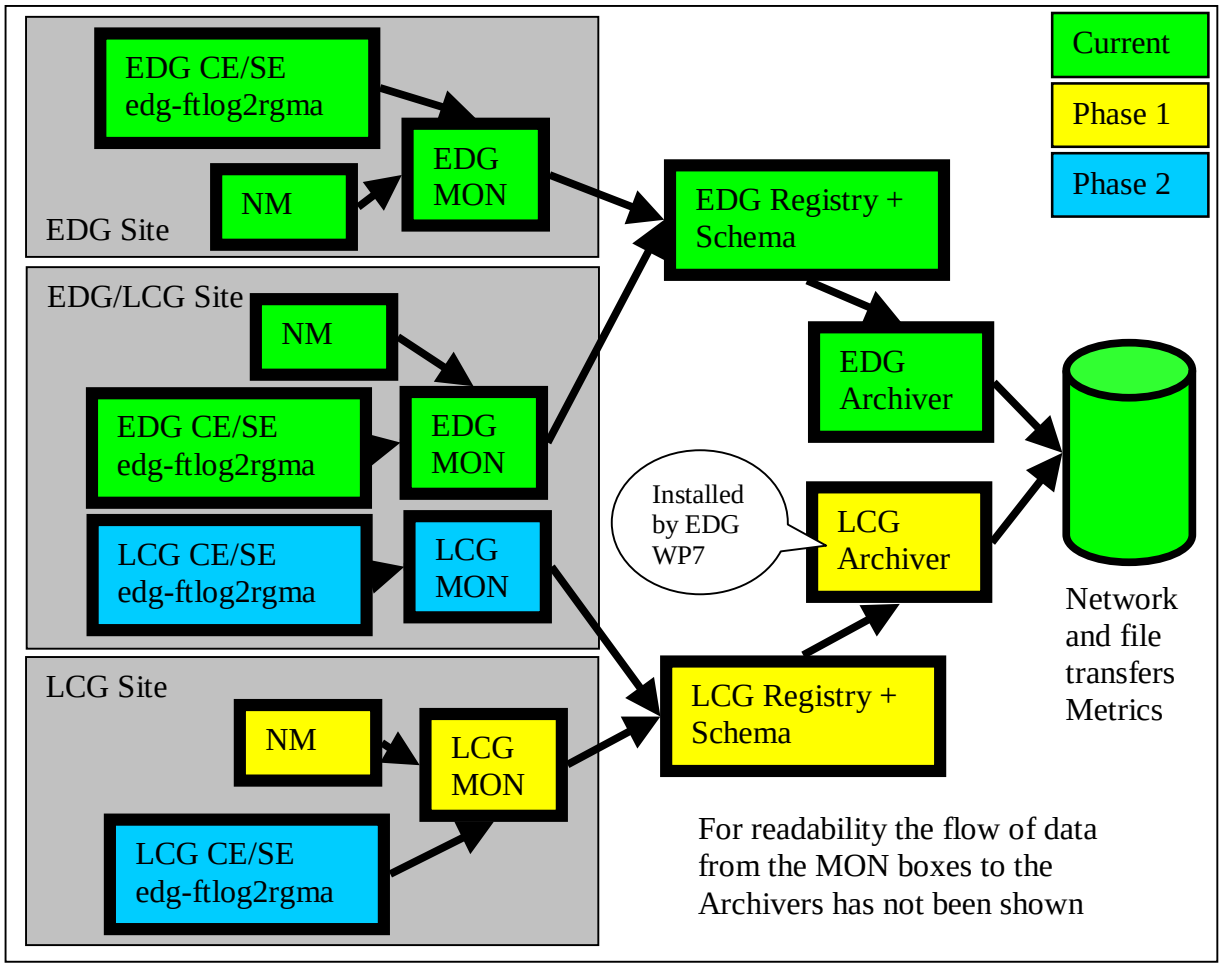

Figure 1 Network Monitoring Architecture deployment

The proposed architecture (cf. Figure 1~~Figure 1~~) relies on R-GMA to transfer and archive the monitoring data. Thereby, the system is completely independent from the MDS based information system and does not interfere with any critical Grid services. In addition, it will serve as large-scale test case for evaluating the reliability, scalability, and efficiency of R-GMA, which can pave the way for more widespread use of R-GMA.
In order to achieve secure steps, we propose a 2 phases deployment. We consider sites which are just EDG, some which are just LCG and some which support both.

Phase 1 :

- Install dedicated R-GMA infrastructure (Registry and Schema server)
- Use current MON and NM on LCG/EDG sites
- Install MON (RGMA Servlets) and NM (Network Monitoring nodes) on pure LCG sites.
- Configure a dedicated network archiver for LCG metrics (to be done by EDG WP7), that will put all data in common EDG/LCG database.

Phase 2 :

- Install dedicated LCG MON (RGMA Servlets) on EDG/LCG sites.
- Install RGMA clients on all LCG CEs and SEs, to produce NetworkCE and NetworkSE tables (links between CE/SE and associated NM)
- Install edgftlog2rgma package on all LCG CEs/SEs, to produce GridFTP logs into our central database.

Functionality **a** will be assured after phase 1
Functionalities **b** and **c** will be assured after phase 2.

Comments

The R-GMA MON servers (one machine per site) will not interfere in any way with the currently deployed MDS information service

Failure of any of the new proposed components for LCG will at worst lose a small amount of network monitoring information.