System Management Working Group

Alessandra Forti

WLCG workshop

CERN, 23 January 2007

Background

- Ian Bird at the Fall 2006 Hepix and at the WLCG Management board
  - https://indico.fnal.gov/materialDisplay.py?contribId=34&sessionId=8&materialId=slides&confId=384
  - http://indico.cern.ch/materialDisplay.py?contribId=s0t14&sessionId=s0&materialId=slides&confId=a063271
- 3 groups have been created to set up a comprehensive monitoring framework to improve the robustness of grid sites.
  - System Management WG: system management and fabric monitoring tools and cookbook
  - Grid Services Monitoring WG: middleware monitoring and monitoring framework.
  - System Analysis WG: Monitoring from the application side
- GSWG and SAWG presentations will follow

Mandate: Intro

- One of the problems observed (by EGEE and LCG) in providing a reliable grid service is the reliability of the local fabric services of participating sites.
- The SMWG should bring together the existing expertise in different area of fabric management to build a common repository of tools and knowledge for the benefit of HEP system managers' community.
- The idea is not to present all possible tools nor to create new ones, but to recommend specific tools for specific problems according to the best practices already in use at sites.
- Although this group is proposed in order to help improve grid sites reliability, the results should be useful to any site running similar local services.
- Two areas should be improved by the group: tools and documentation.

Mandate: Goals

- Improve overall level of grid site reliability, focussing on improving system management practices, sharing expertise, experience and tools
- Provide a repository
  - Management tools
  - Fabric monitoring sensors
  - HOWTOs
- Provide site manager input to requirements on grid monitoring and management tools
- Propose existing tools to the grid monitoring working group as solutions to general problems
- Produce a Grid Site Fabric Management cook-book
  - Recommend basic tools to cover essential practices, including security management
  - Discover what are common problems for sites and document how experienced sites solve them
  - Document collation of best practices for grid sites
- Point out holes in existing documentation sets
- Identify training needs
  - To be addressed in a workshop or by EGEE for example?

Preliminary list of areas and tools

- **System Management Areas**
  - Filesystems: ext(2,3), XFS, NFS, AFS, dcache, DPM
  - Networking: Interfaces, IPs, Routers, Gateways, NAT
  - Databases: mysql, Oracle, ldap, gdbm
  - Processes: system, users monitoring
  - Servers: http, dhcp, dns, ldap, sendmail or other, sshd, (grid)ftp rfio
  - Batch systems: LSF, Torque, Maui, BQS, Sun Grid Engine, Condor
  - Security: login access pool accounts, certificates management and monitoring, non required services, ports list backups, monitoring(file systems, processes, networking), log files (grid services included)

- **Common Fabric Monitoring and Management Tools**
  - Monitoring: Ganglia, Nagios, Ntop, Home grown, SAM, GridICE, Lemon
  - Management: Cfengine, Npaci rocks, Kickstart, Quattor
  - Security: iptables, rootkit, tripwire, nmap, ndiff, tcpdump, syslog, yummit
  - Grid Configuration: Yaim , Quattor

Mandate: Interaction with GSWG

- Some of the areas covered by this group overlap with the Grid Services Monitoring Working Group ones particularly the local fabric monitoring area.

- The two groups are required to work in close contact and boundaries and division of responsibility should be discussed between the groups.

- The SMWG should act as a bridge between the system managers and the developers in the GSMWG giving feedback for what concerns monitoring tools and sensors used.

- **It is important that work is not duplicated.**

Group Organisation

- **Chairs:**
  - Alessandra Forti (University of Manchester)
  - Michel Jouvin (LAL)
- **The group organisation is a big question mark at the moment as it depends very much on the number of people and quality (ie dedicated time) of participation.**
  - To be sustainable in the long term it has to be light wait and loosely bound, i.e people joining and leaving according to their availability. However this might not be feasible at the beginning when the initial structure has to be setup and a smaller core of dedicated people among the loosely bound are needed.

Further Information

- **Group mandate link:**
  - https://uimon.cern.ch/twiki/bin/view/LCG/SystemManagementWGMandate

- **Mailing list for the group:**
  - wlcg-system-management-wg@cern.ch

- **If you want to contribute contact:**
  - Alessandra.Forti@cern.ch
    - It would be useful to know your areas of expertise.