Update on Grid Monitoring Solutions – GridMap –

6th openlab Major Review Meeting
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Max Böhm
EDS / CERN openlab

max.boehm@eds.com
A new type of **monitoring data visualization** which provides **easy readable top-level live views** into the state of distributed systems based on treemap/heatmap visualization techniques.

- Services are visualized by rectangles sized by importance and colored by state. A problem becomes visually correlated to its impact.

- **Better visibility and manageability of large scale distributed services**

**Background**

- Developed during EDS/CERN openlab collaboration in 2007/08 to meet the need for better management views of the Grid.

- Used at CERN for improved monitoring and operations of the production grid services.

Patent Pending
Visualizing the State of the World-wide eScience Grid Services

Top-level View
Global GridMap

Large-scale Federated Grid Services Infrastructure

Application Domain GridMap

Multiple Views:
Federation, Partner, Site...

Corrective action effect

Local GridMap

Next level of GridMaps

Alert
GridMap System Architecture

EGEE/WLCG Grid sites
- 70,000 CPUs
- 250 sites
- 45 countries

EGEE = Enabling Grids for E-sciencE
WLCG grid infrastructure includes subsets of the EGEE Grid and the US Open Science Grid
Review of Activities

Main GridMap

EGEE '07

CERN Open Days

4/07 10/07 4/08 10/08 1/09

Start collaboration

GridMap Prototype

packaging, feature improvements, used for production grid monitoring

Technical Student

Other GridMap based monitoring applications evolving at CERN

2/08

WLCG Critical Services Map

New Prototypes
- Site Status Board GridMap (CMS)
- Experiment Workflow (CMS)
- Site Monitoring (WLCG)
- ...

D4Science collaboration

GridMap based applications at EDS

4/08

SOA Services Monitoring

Network Monitoring

CERN openlab presentation – 2009
Examples of GridMap Technology
Reuse at CERN (Prototypes)

Experiment Workflow from VO's perspective

GridMap view in the CMS Site Status Board
Work in progress

- Technical Student: Lukasz Kokoszkiewicz
  - started 11/2008, work area GridMap (know-how transfer)

- GridMap software framework & repository
  - Consolidate all applications & documentation
  - Factor out common components and reusable code, develop test support
  - Standardize directory structure & configuration

- Next GridMap application update
  - Better WLCG support (OSG sites)
  - Improved data feeds (WLCG topology, #Cores)
  - Usability improvements (e.g. services selection)

- Generic GridMap server improvements