

CMS Approaches and Goals for the Meeting LATBauerdick/Fermilab

- ◆ Some of my goals for the meeting
 - ◆ Communicate current status of BS discussion in LCG and technical roadmap discussion in OSG
 - ◆ understand commonalities and differences in approaches of LCG and OSG towards BS
 - ◆ synthesize where BS discussion stands regarding the OSG context
 - identify missing functionalities, clarify interfaces
 - outline roadmap for development, integration, deployment



CMS Computing Baseline

- ◆ Centered around processing and managing structured CMS data
 - ◆ requires a strong physics organization taking responsibilities
 - ◆ understanding of (set of ~ orthogonal) datasets based on trigger paths
 - ◆ understanding of all the relevant workflows
 - ◆ CM then defines the principles of processing at Tier-0/1
 - ◆ managing datasets: bookkeeping, transferring, hosting, accessing, producing,
 - ◆ users extract "analysis datasets" to Tier-2s for physics
 - ◆ WM tools interacting with DM services for physics jobs
- ◆ need to instrument and control the environment
 - ◆ operations scenarios, providing integrated view on WLCG
 - ◆ have instrumentation technologies like MonaLisa, GridICE etc
 - ◆ need user interface "dashboard", and some interaction with user tools
 - ◆ allow to exert some global control of environment
 - ◆ expressing & enforcing policies, quota & access rights, accounting & bookkeeping, etc are immature or non-existing in the Grid environment
- ◆ baseline defined in C-TDR and "owned" by computing project



CMS Baseline Components

- ◆ We already have a set of components/applications services
 - ◆ Production Tools: full support of the MC production workflow
 - ◆ DM: placing and hosting datasets at sites
 - ◆ WM: submitting jobs over the grid to where datasets are hosted
 - ◆ some components for instrumentation and control
- ◆ development of missing and re-factoring of existing components
 - ◆ are in the process of "domain decomposition"
 - ◆ CMS software: framework and database tasks are being involved
 - ◆ some prototyping of CMS components required – integration
- ◆ engaging to define the baseline services at sites and on Grids
 - ◆ interaction b/w CMS requirements/interfaces and Grid/sites
- ◆ baseline needs to arrive at performance metrics
 - ◆ for components, throughputs & latencies, overall systems
- ◆ urgent to develop an operations model for CMS
 - ◆ and put it into place!



Baseline Grid Services

- ◆ CMS computing components are based on and interface to infrastructure of grid services, across sites and grid flavors
- ◆ baseline list and functionality of grid services at regional centers
- ◆ different approaches in LCG and OSG
 - ◆ LCG provider for services, to be agreed with 4 LHC exp in BS mtg
 - ◆ OSG provide only minimal core services
 - ◆ VO bring your own services, OSG provide infrastructure to deploy and interface to
 - ◆ Providers US LHC, Trillium/VDT, SRM collab., DRM team, Condor team, Globus, LCG, EGEE,....
- ◆ interface CMS services with grid services at different levels
- ◆ Goal: achieve better mutual understanding of LCG and OSG approaches to grid service infrastructure (BS)
- ◆ to define baseline functionalities, to outline roadmap for development, integration, deployment of BS



"Roadmap" -- integration milestones (very preliminary)

- ◆ 2005-06 CIM-1 "initial integration of baseline components"
- ◆ 2005-09 CIM-2 "computing systems ready for SC3"
- ◆ 2005-12 CIM-3 "computing systems ready for cosmic challenge"
- ◆ 2006-03 CIM-4 "computing systems ready for SC4"
- ◆ 2006-06 CIM-5 "computing systems ready for DC06"
- ◆ 2006-09 CIM-6 "lessons learned DC-06"
- ◆ 2006-12 CIM-7 "integration of Tier-1 and Tier-2 regional centers"
- ◆ 2007-03 CIM-8 "CMS-Tier-0 and CMS-CAF ready for pilot run"
- ◆ 2007-06 CIM-9 "computing systems ready for pilot run, start of pilot run"