ALICE LCG Task Force

F.Carminati

PEB, August 23, 2005

Objective

- Enable ALICE to process the data on LCG computing resources via the ALICE Distributed Computing Environment
- The Task Force (TF) will effectively concentrate on the resources EGEE-enabled
- Initial focus on SDC3/AliPDC05 but the TF should be in place till data taking and beyond

Strategy

- Make optimal use of common services deployed and maintained by LCG
- Work in close collaboration with EGEE/LCG support
- Start from the conclusions of the BS working group
- Use ALICE-specific services to complement EGEE ones
- Concentrate on production environment

Courtesy of I. Bird, LCG PEB, Jun, 7th 2005

Baseline services

- Storage management services
  - Based on SRM as the interface
- Basic transfer services
  - gridFTP, srmCopy
- Reliable file transfer service
- Grid catalogue services
- Catalogue and data management tools
- Database services
  - Required at Tier1,2
- Compute Resource Services
- Workload management
- VO management services
  - Clear need for VOMS: roles, groups, subgroups
- POSIX-like I/O service
  - local files, and include links to catalogues
- Grid monitoring tools and services
  - Focussed on job monitoring
- VO agent framework
- Applications software installation service
- Reliable messaging service
- Information system

LCG interfacing

- gLite FTS service for data placement
  - Test in SC3
  - Implementation to allow choice of higher level components
- gLite SE to access storage via SRM
- ALICE File Catalogue (central and local)
  - Interface to LFC (Local File Catalogue)
  - Evaluate Fireman
- VOMS to manage VO

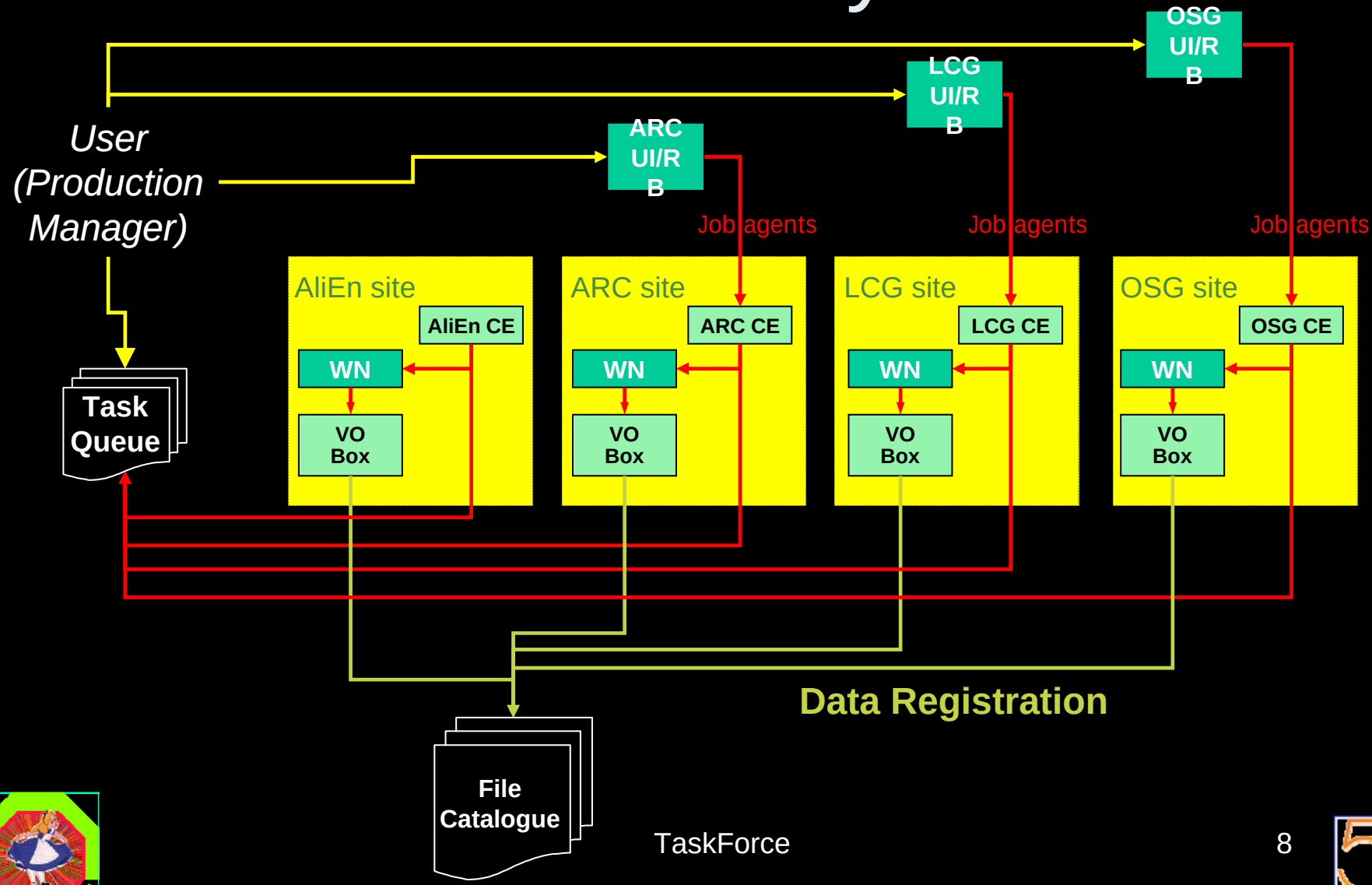
LCG interfacing (cont)

- gLite RB to submit job agents to LCG
  - Options under study (# of RB, config…)
  - Jobs get execution information from the TQ via the ClusterMonitor on the VO-Box
- Interface to gLite CE
  - Need outbound WN connection, possibly via proxy
- Monitoring via job agent and VO services

Services for SC3 timeframe

VO-box deployment on SC3 sites	ALICE
ROOT/AliRoot deployment on SC3 sites	ALICE
AliEn Top Level Services	ALICE
UI(s) for submission to LCG/SC3	ALICE/LCG
File Catalog	ALICE/LCG
WMS (n RBs) + CE/SE Services on SC3	LCG
LFC instances on all SC3 sites, seen from WNs/VO-boxes	LCG
xrootd	ALICE/LCG
gliteFTS accessible from all WNs/VO-boxes	LCG
SRM (DPM) accessible from all WNs/VO-boxes	LCG
SC3 resources for ALICE (Computing/Storage)	LCG
Appropriate JDL files for the different tasks	ALICE

ALICE SC3 layout



Status of deployment

- ✓ AliEn Central Services
- ✓ VO-box deployment on SC3 sites
  - ✓ OK in CERN, CCC-IN2P3, CNAF, NIKHEF, Catania, Torino and Bari
  - ✓ Allocated at: FZK, GSI, RAL
- ✓ AliROOT deployment: automated (AliEn PackMan)
- UI(s) for submission to LCG/SC3
  - ✓ Available: Catania, Torino
- WMS (n RBs) + CE/SE Services on SC3
- LFC instances on all SC3 sites, seen from WNs/VO-boxes
- gLiteFTS accessible from all WNs/VO-boxes
- SRM (DPM) accessible from all WNs/VO-boxes
- Deployment also on Itanium started

VO Box requirements

- at least one normal user account (no super-user privileges) with access via ssh
- optimal configuration: two accounts, belonging to the same group
- directory seen by the VO box shared among the WNs, min 5 GB disk space (it can be $VO_ALICE_SW_DIR)
- outbound connectivity
- inbound connectivity from CERN on two fixed network ports
- inbound connectivity from World on two fixed network ports
- local tactical data buffer (local disk, LCG deployed Disk Pool Manager, NFS mounted disk) for intermediate input and output data storage of jobs. The buffer size is at least number of jobs slots on the site * 3GB. This buffer is not necessary if xrootd is running on the site storage element.
- Linux kernel 2.4 or higher, any Linux flavour on i386, ia64 or Opteron
- hardware: min. PIII 2GHz, 1024 MB RAM

Task Force composition

- *Stefano Bagnasco - SA1 Torino*
- *Latchezar Betev - ALICE/CERN*
- *Ian Bird - LCG/CERN*
- *Predrag Buncic - EGEE/CERN*
- ***Federico Carminati (CHAIR) - ALICE/CERN***
- *Piergiorgio Cerello - INFN/Torino*
- *Catalin Cirstoiu - ARDA/CERN*
- *Guido Cuscela - SA1 Bari*
- *Giacinto Donvito - SA1 Bari*
- *Derek Feichtinger - ARDA/CERN*
- *Nicolò Fioretti - ALICE Bari*
- *Peter Hristov - ALICE/CERN*
- *Massimo Lamanna - ARDA/CERN*
- *Giuseppe Lo Re - CNAF*
- *Stefano Lusso - ALICE Torino*
- *Patricia Mendez Lorenzo - CERN/EIS*
- *Francesco Minafra - ALICE Bari*
- *Daniele Mura - ALICE Cagliari*
- *Andreas Joachim Peters - ARDA/CERN*
- *Antonio Pierro - SA1 Bari*
- *Fons Rademakers - SFT/CERN*
- *Pablo Saiz - EGEE/CERN*
- *Markus Schulz - LCG/CERN*
- *Kilian Schwarz - GridKa*

Working method

- Establish plan of work with milestones and (flexible!) WBS
  - Compatibility with ALICE and LCG/EGEE milestones
- Weekly meetings to monitor progress and discuss issues
- Periodic reports to PEB


"That's
all
folks!"