

Desy Contribution to Atlas Distributed Computing

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DESY

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Atlas Desy Meeting Hamburg

Outline

1 Introduction

- ADC Operations
- ADC Development

2 Desy Contribution

- ADC Operation Shifts
- Development
 - Deletion Tool
 - Functional Test Monitor Tool
 - Subscription Monitoring
- Operations

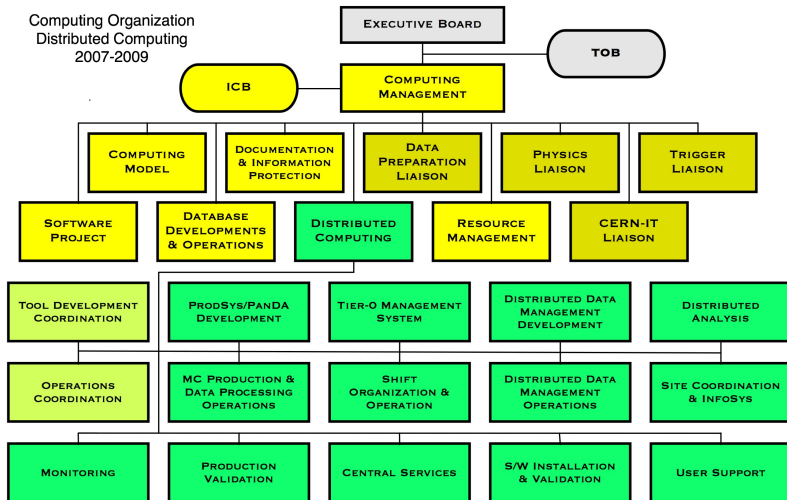
Introduction

Atlas Distributed Computing

- Is called ADC
- Consists of ADC Operations and ADC Development
- Main people are working at Cern

Computing Organization Diagram

Computing Organization
Distributed Computing
2007-2009



ADC Activities

ADC Operations

- Monte Carlo Production and data re-processing (A.Read)
- Operation of Distributed Data Management system - DDM (S.Jezequel)
- ADC Central Services Expert on Call (B.Koblitz)
- Operations and Users Support (P.Nevski, J.Yu)
- Data Replication Monitoring package for centralized ATLAS subscriptions
- ADC Operations World Wide Shift Team - ADCOS (K.De,X.Espinal)
- ADC shifts in ATLAS Point1 - ADC@P1 (B.Koblitz)
- Data reprocessing (J.Catmore,R.Walker,P.Nevski)
- Database Operations (A.Vaniachine)
- Distributed Analysis Operations (D. van der Ster)

ADC Activities cc.

Main Activities ADC Development

- Evolution of the Distributed Data Management system (DDM)
- Evolution of the Tier0 system
- Evolution of the Production system (Simulation and Data processing)
- Evolution of the distributed analysis system (Ganga and pAthena)
- Evolution of the monitor system for operations and ATLAS users

Communication

Conferences

- ADC Operations phone meeting weekly Thursday
- ADC Developer phone meeting weekly Wednesday
- ADC Operation Shifter phone meeting weekly Tuesday
- ADC Distributed Analysis phone meeting weekly Monday
- Distributed Data Management meeting daily
- Atlas Software and Computing week every 4th month
- ...

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Shifts - Contribution as Expert Shifter

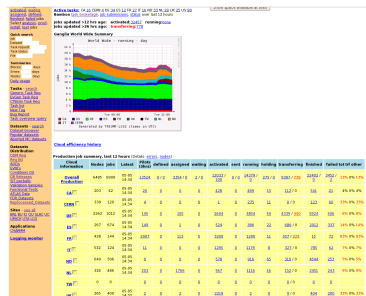
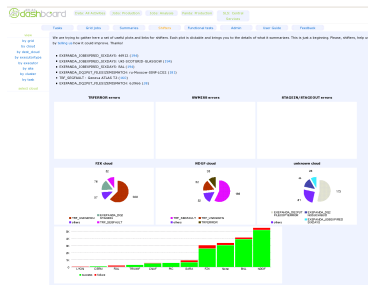
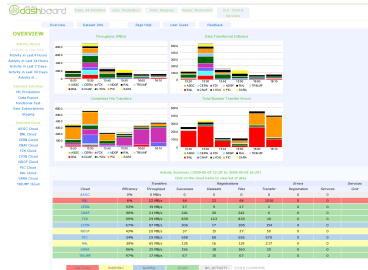
Introduction to Shifting

- The ADC Operation Shifters work as an extension to the ADC point 1 shift
- Point 1 shifters are looking at the Tier 0 services
- ADC Operation Shifters are mainly looking for worldwide distributed services

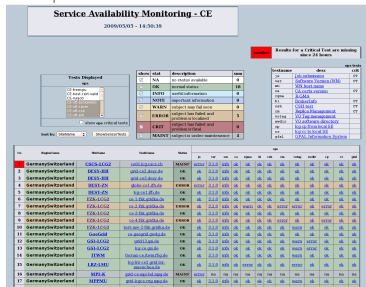
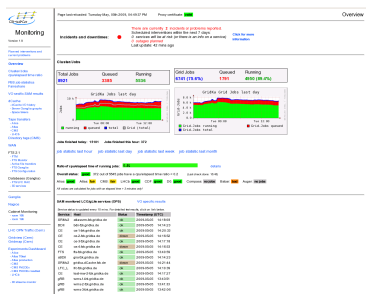
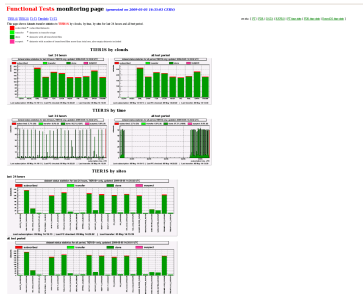
Responsibilities of trainee/senior/expert shifter

- Trainee shifts are for helping new people to get into shifting
- Senior shifters:
 - ▶ are looking at all monitoring pages
 - ▶ try to find problems
 - ▶ analyse these problems with the available monitoring tools
 - ▶ try to locate the cause of the problem
 - ▶ report as much information as possible to the responsible expert
 - ▶ ...which might be a site admin, expert shifter or expert on call

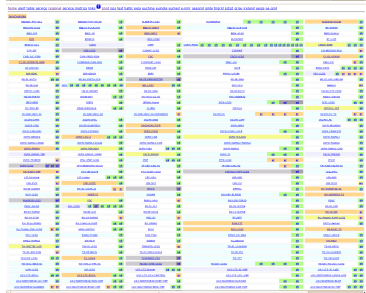
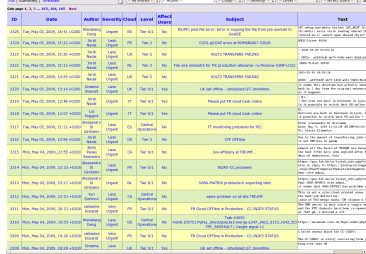
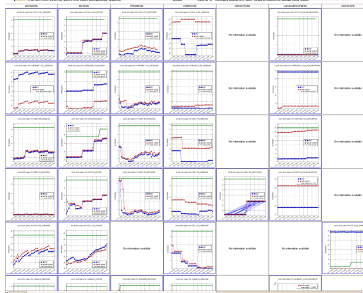
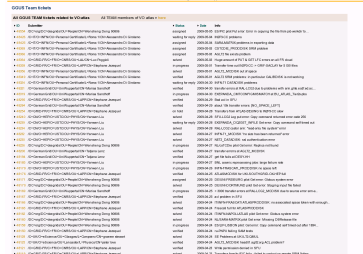
Typical Monitoring Websites



Typical Monitoring Websites cc.



Typical Monitoring Websites cc.



Summary

There is a lot to look at

- ...I just mentioned the most important sites
- ...a lot of work can be spend already on the Dashboard and the Panda monitoring
- ...senior shifter try to find the most important problems first and smaller ones later
- ...expert shifter help to recognize the importance of a problem
- ...shifter changes every other day, expert shifters keep up with outstanding problems not solved within a day
- ...interested people would like to see only that part which is important for them
- ...therefore some meta-monitoring is developed independently from ADC

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Contribution to development - Deletion Tool

Motivation

- Deletion of data at sites has been difficult with srmv1.1
- srmv2 has build in support for bulk deletion
- As space ran low a tool was needed urgently
- Integration into automatic system was aimed for as long standing goal

Contribution to development - Deletion Tool

Developing the tool

- functional test of srm interface
- performance test of srm interface
- command line tool to delete data manually

Final status

- Integration of the tool into central tools
- Deletion is done via central service
- Information about deleted data is stored in central database
- Process of deletion is monitored

Contribution to development - Functional Test Monitor

Motivation

- Functional Test was initiated to test data transfer between sites
- Some subscriptions from test datasets worked well, some not
- Request for more accurate information about the temporal course of the transfer of datasets
- Tool needed fast as big problems with the subscription occurred

Development

- Dashboard stored most of the needed information
- Dashboard api was tested
- Best performance figured out
- Command line tool developed for fast results

Contribution to development - Functional Test Monitor

Status

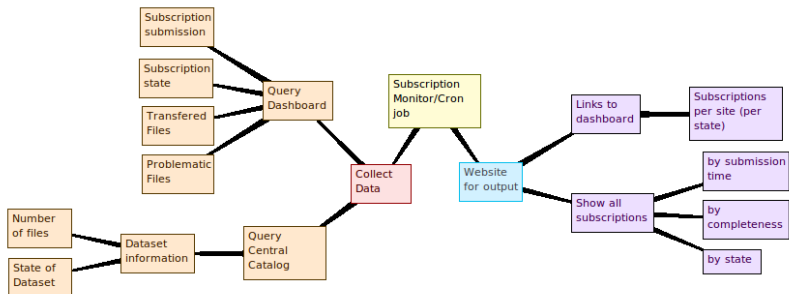
- Web site was developed
- Cron jobs are running to read out data from dashboard
- Website is updated once per day

Contribution to development - Subscription Monitor

Motivation

- Again some subscriptions make problems
- Monitoring available for US sites and subscriptions requested by users
- One monitoring should be enough
- Display all information about the subscriptions, that are not available elsewhere
- Integration into available tools like dashboard

Subscription Monitor - Structure



Contribution to development - Subscription Monitor

Changes to the system

- Add callback agent to central services
- Add new state to dashboard
- Add submission time to dashboard
- Add number of files for immutable datasets to dashboard api

Development

- Develop tool to query Dashboard and Central Catalogs for information
- Run cron job once a day to display information
- Publish information:
 - ▶ sortable by sites
 - ▶ sortable by subscription state
 - ▶ sorted by temporal course of subscription

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Operations - Contribution to daily operations

Daily Operations include

- ...report problems of central services to export on call
- ...solve problems concerning Distributed Data Management Tools (like DQ2 site services)
- ...Look into reported savannah bugs
- ...Look for strange behaviour of the system