
# Operations @ CC-IN2P3

## NCSA – CC meeting, May 2015

R. Rumler

Objective : outline main operational activities with emphasis on incident handling and non standard user requirements

Overview

- The team
- Physical and software environment
- Organisation
  - Daily operations
  - On duty
  - Examples : General and VO specific actions
- User requirements handling
- Final remarks

- Principal **Support** tasks:
  - User help desk handling
  - Client management (request fulfillment, participation in production design, …)
- Main objectives :
  - Find adequate services to solve a client's problem
  - Detect mismatch of services / resources to a client's problem *early*
- 12 people : mostly physicists or with other scientific background, computer scientists
- « Extra » (Quality-related) jobs : OTRS, CMDB ; project follow-up

# The team : « Exploitation » group

- Main tasks of « **Exploitation** » group :
  - Daily load management
  - Incident handling and *coordination* of interventions / maintenance
- Main objectives :
  - Find enough resources for a client's production *in time*
  - Minimize (eliminate) impact of incidents
- 7 people : mostly computer scientists

- « Extra » (Quality-related) jobs : Quality management, Service Catalogue ; Incident and Event manager

# Physical environment

- Access control
  - Receptionist, security guard
  - Biometrics, keys
- Facility
  - Multiple power supplies, UPS, generator
  - Multiple coolers
  - Intrusion detection
  - Fire/smoke detection etc
  - CCTV w/o recording

# Software environment

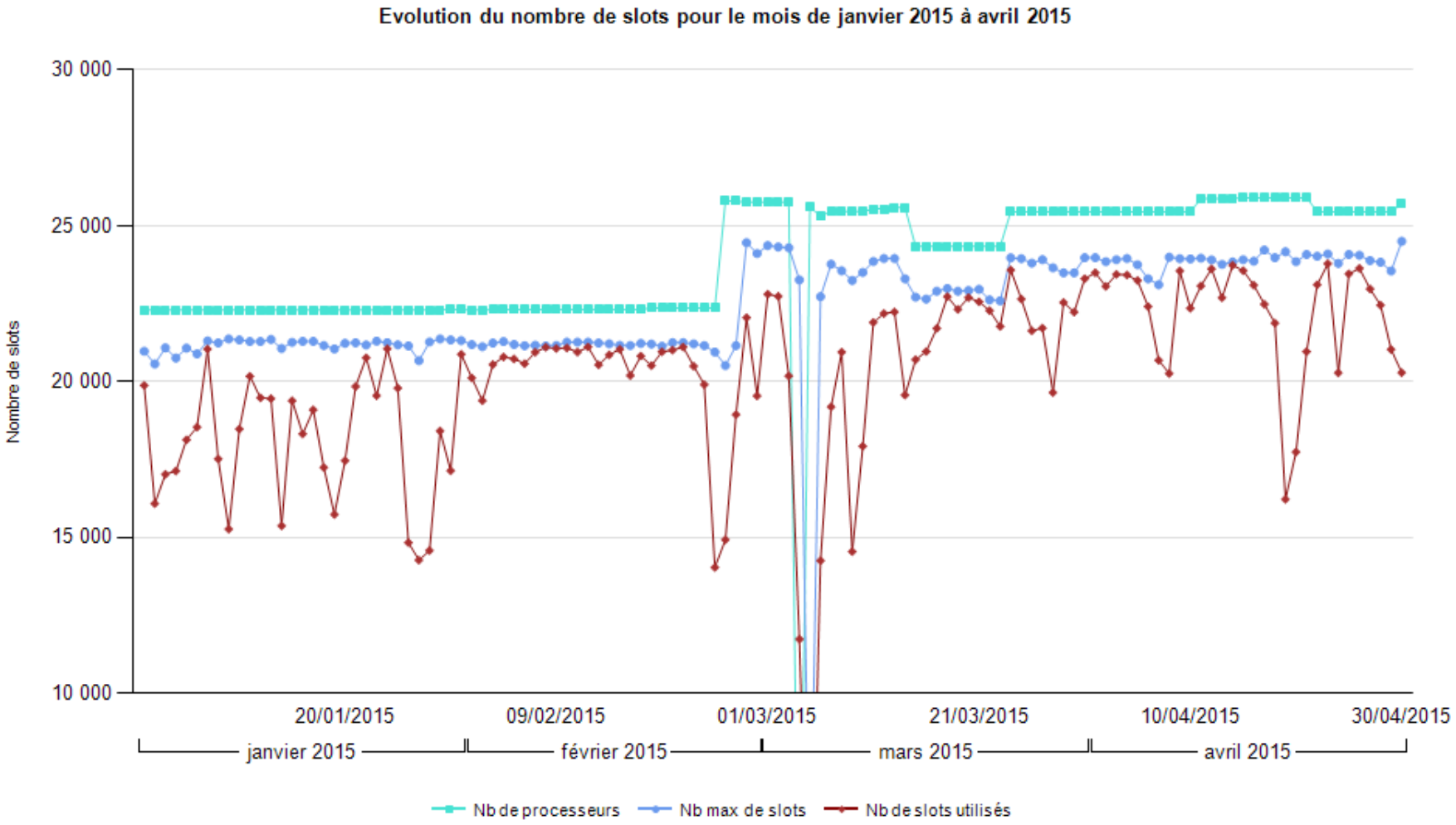
- Access control
  - Kerberos (« local »), X.509 (various grids, ...), …

    Federated Identity Management (FIM) under study

- Network (there's a specific talk on this)
  - NREN
  - Other links

- Computing (see introductory talk)
  - Batch (SUN/UNIVA GridEngine, LHC Grid services…)
  - Storage (dCache, GPFS, HPSS, iRods, TSM, xrootd, ...)

# Software environment




- About 100k jobs / day

- Batch load control
  - Detect unusual behaviour : (very) short jobs, stalls…

    Then call Support to help user
  - Control and adjust storage service loads

- LHC operational tasks
  - SQUID, PhEDEx, …
  - Daily / bi-weekly / bi-monthly phone conferences

- Tools
  - Ticketing : OTRS
  - Monitoring : NAGIOS, ElasticSearch/Kibana, Riemann
  - Automated tasks : specialized VM (cron)

- « Control room »
  - Ticket handling : incidents signalled by users, requests
  - Service and facility monitoring, associated incident handling
  - Coordination of planned and non planned interventions / maintenance
  - Related user and client communication
  - Daily and weekly handover to on call engineer

  - One person of each group, weekly schedule
  - Actions taken directly or by contacting the appropriate service expert

- (Computational) On-duty service
  - Ticket handling : *important* incidents signalled by users, ~~requests~~
  - Service and facility monitoring, associated incident handling
  - Coordination of ~~planned and~~ non planned interventions / maintenance
  - Related user and client communication *on urgencies*
  - Daily and weekly handover *to control room*
  - One *engineer of any computing team, schedule Thursday - Thursday*
  - Actions taken *according to online on-duty handbook. Possibilities are : no action / direct intervention / calling specialist (e. g. facility on-duty staff)*

- General (non VO specific) examples
  - Major robotics incident : coordinate Centre staff + manufacturer's maintenance service
  - Major batch system incident : coordinate experts' actions, handle communications with users / clients
- VO specific examples
  - LHC alert ticket during the night : SMS to on-duty engineer, then according to incident handbook
  - Phone call to the guard during the night by authorized person : security guard contacts on-duty engineer ...

# User requirements handling (1)

- Daily
  - User accounts : creation, update etc
  - Batch : boost requests (analysis jobs before conference, end of thesis…), special queues…
- Mid term
  - Storage : quota updates, specific access requests (mass storage, mid term or small file storage…)
- Long term / yearly
  - Resource planning : about 70 experiments

    Example « small » vs large : NANTHEO / ATLAS
  - New client account creation (subject to approval by Centre or Institute)
- Exceptional requests : data challenges, production tests, ...

# User requirements handling (2)

- Proactive actions (mainly of Support group)
  - Join experiment's communication channels
  - Formalize contacts to specific entities of the experiment
  - Give feedback to Centre staff, in particular to management
  - Suggest use of appropriate (mutualized) services
  - Adapt resource planning if possible and necessary
  - Plan and prepare
    - Data challenges
    - Tests of computing models
    - Tests of production runs

  Examples : LHC dc, LHC cloud, LSST qserv…

  Less recent : BaBar (SLAC - CCIN2P3)

# Final remarks

- Activities not mentioned (not exhaustive):
  - Training
  - Machine room urbanization
  - European and regional project handling / participation
  - French National Grid site monitoring (2nd level, «ROD »)
  - Regional Grid support

- Principles
  - Mutualize resources and services if ever possible (manpower!)
  - Suggest and implement experiment specific services if necessary (and see then if this can help elsewhere)
  - No service without monitoring, no service without entries in on-duty handbook

# Questions...