

Report sent on July 16th to: wlcg-scod@cern.ch

Type of Incident: network outage

Location: IN2P3-CC

Duration: 4.25 hours

Date: June 29th 2012, 9:15AM to June 29th 2012, 13:30AM CEST

Author: Rolf Rumler

Description

Memory overload of a central router resulting in a severe loss of performance while receiving several 100dreds of thousands of internet routes from the French NREN RENATER.

Timeline

June 29th (Friday)

- 09:15 The site's central router went from hardware to software switching, resulting in very poor network performance. At the first glance symptoms looked like a CPU failure.
- 10:32 Declaration of downtime from 8:30AM to 3PM UTC, batch closed.
- 12:15 After a change of the CPU board network connection and performance came back.
- 12:50 Batch re-opened.
- 13:30 Downtime shortened.

Analysis

The initial analysis concluded on a CPU failure. After looking more into the details of the logs and some information taken from RENATER it was understood that the incident was the result of the transmission of a very large number of INTERNET routes from GEANT to RENATER which the latter one sent undistinguished to the router of the site. The resulting memory overload made the router turn to software switching which lowered performance far beyond acceptability.

Impact

All outside connectivity lost, nearly all services inoperative including batch and data transfers.

Corrective actions

The immediate action was the replacement of the CPU board. After finding the real reason the router was reconfigured to not accept more than 20 000 routes from neighbours.

The same configuration change was applied to routers on RENATER and on other networks, namely LHCOPN and LHCONE.