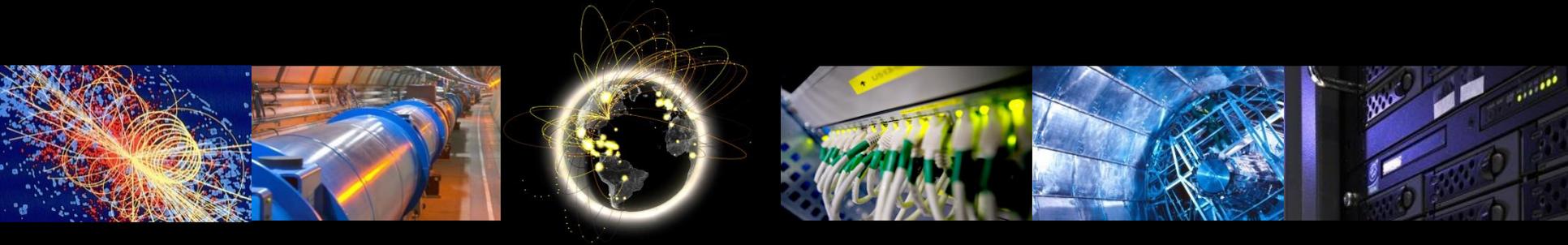


WLCG Tier-2 IPv6 update

Andrea Sciabà

WLCG Operations coordination, 6-12-2018

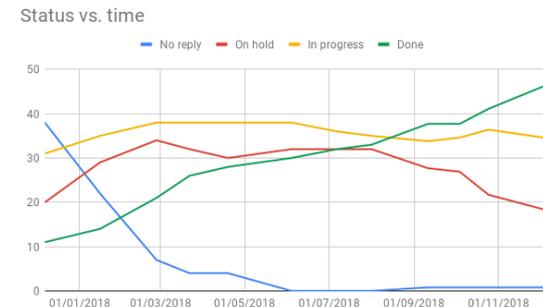
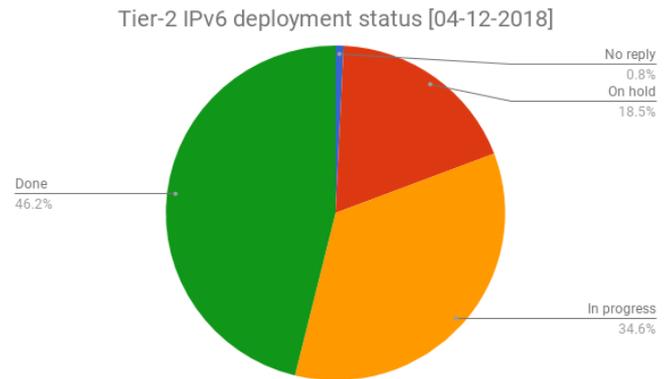
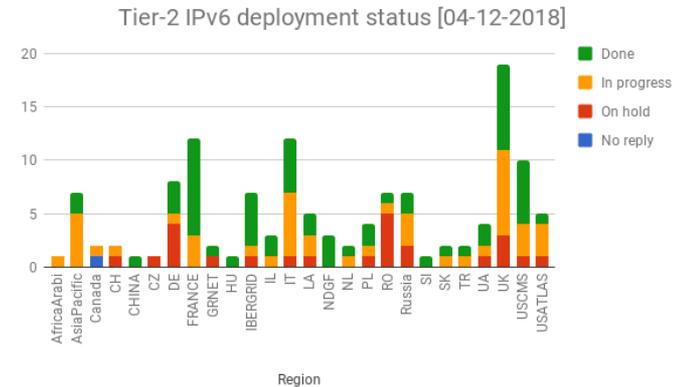


IPv6 deployment on WLCG

- The main activity of the HEPiX IPv6 working group and the WLCG ops coordination IPv6 task force in the last year is the coordination and support for the deployment of IPv6 at WLCG sites
- The stated goal is to allow data on federated storage to be accessible by jobs on IPv6-only connected CPUs
- Short summary of the timeline
 - Tier-1: deployment of dual-stack on production storage, CVMFS and FTS by April 2018
 - Tier-2: deployment of dual-stack on production storage (and perfSonar if installed) by end of Run2 (i.e. end of 2018)

IPv6 at Tier-2 sites

- The deployment campaign was launched in November
 - GGUS tickets sent to all non-US sites
 - Sites made aware of the WLCG plans and asked to report plans and give updates
- Steady progress ([status](#))
 - About 46% of T2 sites have storage on dual stack

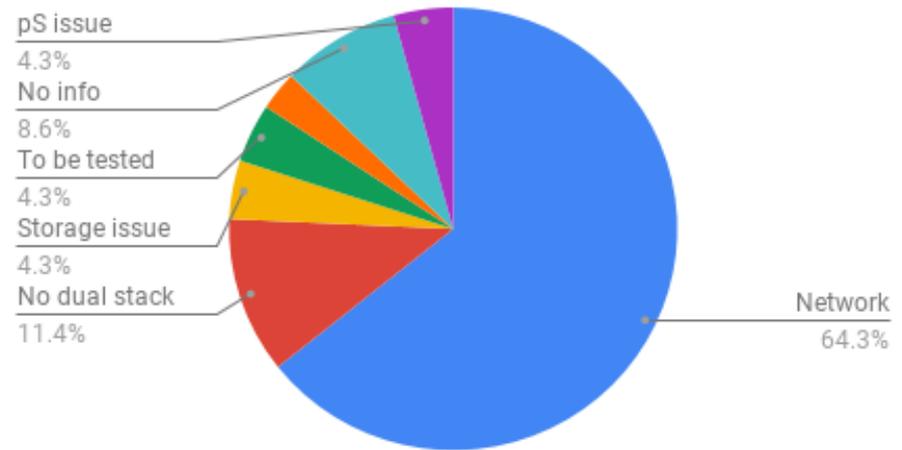


Experiment	Fraction of T2 storage accessible via IPv6
ALICE	49%
ATLAS	37%
CMS	65%
LHCb	33%
Overall	48%

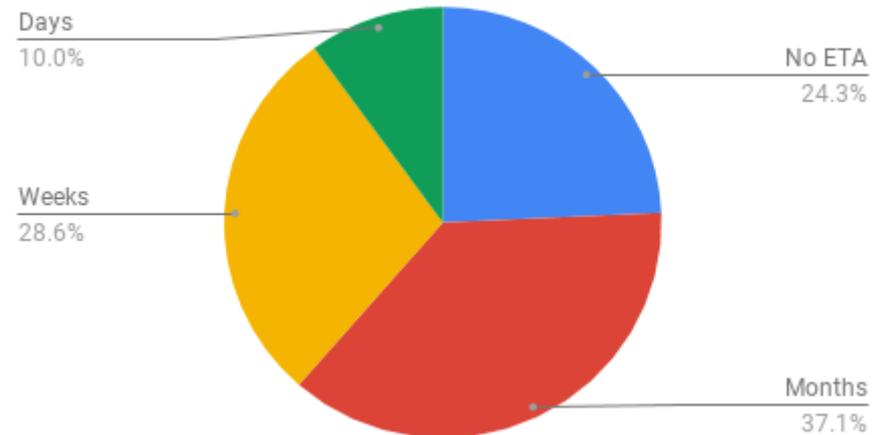
Reasons of no deployment

- Checked why sites are late in their IPv6 deployment and the expected ETA
 - **Network**: waiting for interventions on the site infrastructure or network issues to be fixed
 - **No dual stack**: infrastructure network is fine but IPv6 needs enabling on storage or perfSONAR
 - **pS/storage issues**: encountered problems that need fixing
 - **Other**: other types of problems (e.g. the site needs relocating)
 - **No info**: no meaningful information given by the site on their plans

Reason of delay



Time scale for deployment



T2 deployment observations

- 75% of missing sites should complete deployment within some months at most
 - That is, only 17 sites don't give an ETA
- Networking issues of interventions are by far the largest cause of delay
 - Most often, not under the control of the WLCG site staff
- Most sites are responsive and provide detailed information
 - For some however regular pinging is a must...
- Not all experiments are equally diligent in checking that storage works fine with IPv6

Conclusions

- By the end of the year, expect to have a bit more of 50% of Tier-2s with IPv6
- Need to keep a constant pressure on the remaining sites
 - Should WLCG operations consider officially extending the deadline by some months?
 - If yes, how much? Is it really useful?
 - If no, it's “the sooner the better”