LHCOPN/ONE Berkeley meeting summary

GDB, 10th of June 2015
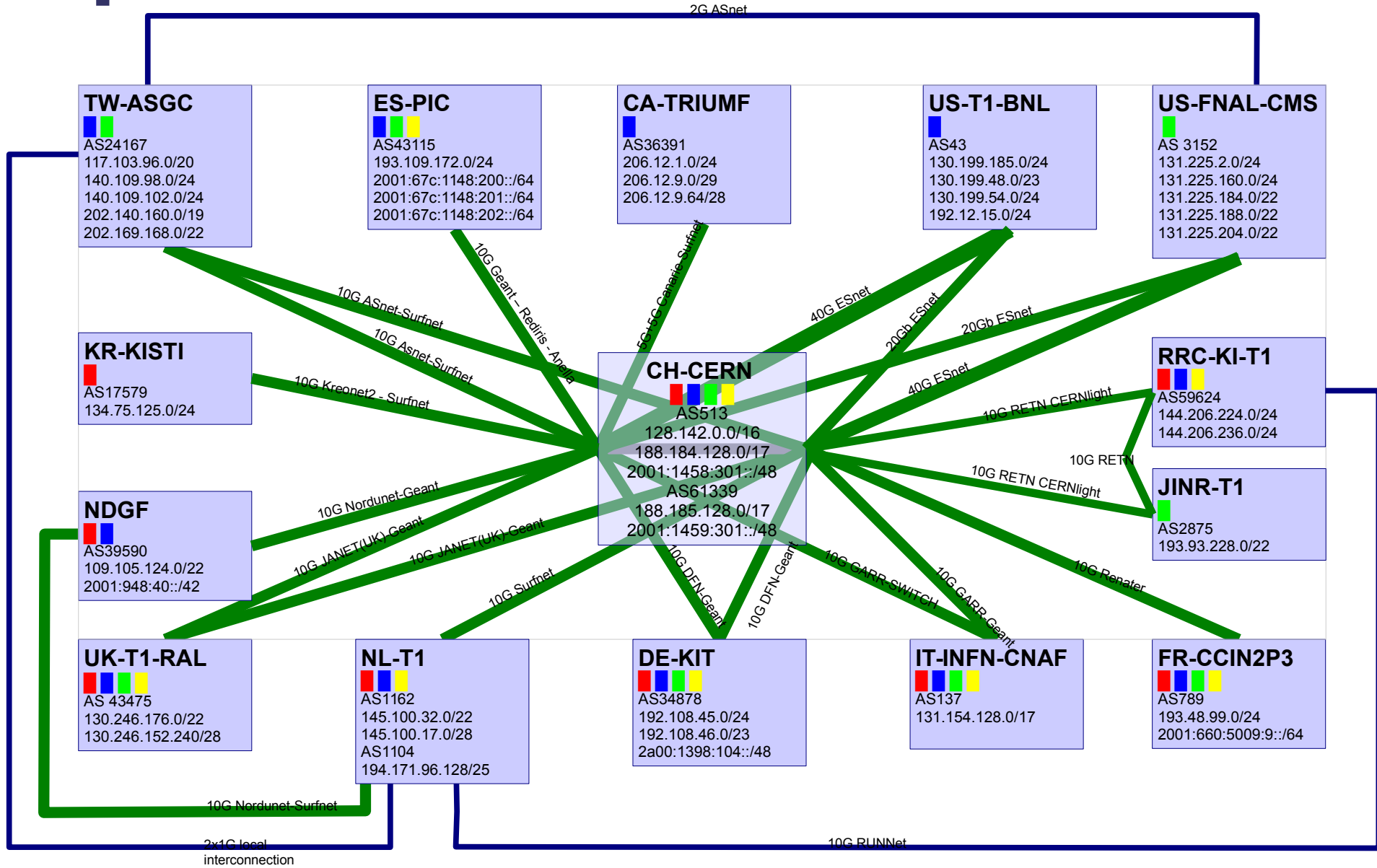edoardo.martelli@cern.ch

LHCOPN: Connectivity

- New 10G link for KR-KISTI (was 2G)

- New 10G for TRIUMF (was 5G+1G)

- Second 10G link for DE-KIT

- Almost all T1-T1 links gone

- Backup connectivity moved to LHCONE. Sites are
   urged to test it

- IPv6 Activated at IT-INFN-CNAF

Map

LHC☉PN

CERN

2G ASnet

TW-ASGC
AS24167
117.103.96.0/20
140.109.98.0/24
140.109.102.0/24
202.140.160.0/19
202.169.168.0/22

ES-PIC
AS43115
193.109.172.0/24
2001:67c:1148:200::/64
2001:67c:1148:201::/64
2001:67c:1148:202::/64

CA-TRIUMF
AS36391
206.12.1.0/24
206.12.9.0/29
206.12.9.64/28

US-T1-BNL
AS43
130.199.185.0/24
130.199.48.0/23
130.199.54.0/24
192.12.15.0/24

US-FNAL-CMS
AS 3152
131.225.2.0/24
131.225.160.0/24
131.225.184.0/22
131.225.188.0/22
131.225.204.0/22

KR-KISTI
AS17579
134.75.125.0/24

CH-CERN
AS513
128.142.0.0/16
188.184.128.0/17
2001:1458:301::/48
AS61339
188.185.128.0/17
2001:1459:301::/48

RRC-KI-T1
AS59624
144.206.224.0/24
144.206.236.0/24

JINR-T1
AS2875
193.93.228.0/22

NDGF
AS39590
109.105.124.0/22
2001:948:40::/42

UK-T1-RAL
AS 43475
130.246.176.0/22
130.246.152.240/28

NL-T1
AS1162
145.100.32.0/22
145.100.17.0/28
AS1104
194.171.96.128/25

DE-KIT
AS34878
192.108.45.0/24
192.108.46.0/23
2a00:1398:104::/48

IT-INFN-CNAF
AS137
131.154.128.0/17

FR-CCIN2P3
AS789
193.48.99.0/24
2001:660:5009:9::/64

10G ASnet-Surfnet
10G Asnet-Surfnet
10G Geant – Rediris - Anella
10G IC-LFC-Canarie - Surfnet
40G ESnet
20Gb ESnet
20Gb ESnet
40G ESnet
10G RETN CERNlight
10G RETN CERNlight
10G RETN
10G Kreonet2 - Surfnet
10G Nordunet-Geant
10G JANET(UK) Geant
10G JANET(UK) Geant
10G Surfnet
10G DFN-Geant
10G DFN-Geant
10G GARR-SWITCH
10G GARR-Geant
10G Renater
10G Nordunet-Surfnet
2x1G local interconnection
10G RUNNet

Legend:
- T0-T1 and T1-T1 traffic
- T1-T1 traffic only
- Not deployed yet
- (thick) >=10Gbps
- (thin) <10Gbps

- = Alice   = Atlas
- = CMS   = LHCb

p2p prefix: 192.16.166.0/24 - 2001:1458:302::/48
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LHCOPN: Proposal

Remove T1-T1 connectivity from LHCOPN and move it to LHCONE

Pros:
- simplified operations

Cons:
- still important for sites not connected to LHCONE
- more bandwidth on LHOPN for certain sites

It will be discussed on the mailing list

LHCONE: connectivity

- Five US Tier2s have recently connected to ESnet

- CERN has 100G connections to Geant and ESnet

- PSCN (Polish NREN) and NORDUnet (Scandinavian REN) will have direct connections to CERN

- PSCN will soon join LHCONE

- GridPP asked JANET, the UK academic network provider, to pilot an LHCONE connection a exercise to investigate any technical issues. A single Tier-2 site is connected, for test purposes, and there are no plans to extend this.

LHCONE: connectivity

- Brazilian NREN connected to Geant LHCONE. Four
  Tier2s will be connected soon

- Slow progresses in Asia

- MIT connection anomaly finally solved

- IPv6 being deployed in the backbone. Six sites
  connected

LHCONE: AUP audit

AUP was finalized after February meeting

New sites are asked to acknowledge the AUP

Already connected sites will soon be asked to acknowledge the AUP

AUP: https://twiki.cern.ch/twiki/bin/view/LHCONE/LhcOneAup

LHCONE: Pierre Auger Observatory

After BelleII, the Pierre Auger Observatory collaboration has asked to join LHCONE

Most of their sites are already connected to LHCONE. Missing ones are anyway WLCG sites

No opposition on their membership at the meeting.

If none oppose, the LHCONE AUP will be amended

LHCONE: perfSONAR

LHCONE MaDDash showed status getting better

OSG is developing a network service of LHCONE which consist of datastore (Esmond), GUI (MaDDash), monitoring (OMD)

More IPv6 instances. Dual stack mesh in place

New perfSONAR 3.5 out by end of summer along with MaDDash 2.0

LHCONE: P2P service

Autogole is a working multidomain system capable of delivering P2P circuits, but no guaranteed bandwidth yet.
Currently working on monitoring, redundancy and supporting LHC sites

Circuit awareness demonstrated with PhEDEx

Use of P2P circuits demonstrated between BNL and SARA. Scalable L3 routing solution not identified yet

next meeting:
28-29 October in Amsterdam (NL)

Questions?