

LHCOPN update

Pasadena, 3rd of December 2013
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Update



CERN:

- Number of servers installed in Wigner will double in February 2014 and will triple in June 2014.
- Campus and datacentre network now IPv4-IPv6 dual stack.

New Tier1 NRC-KI and JINR, Russia:

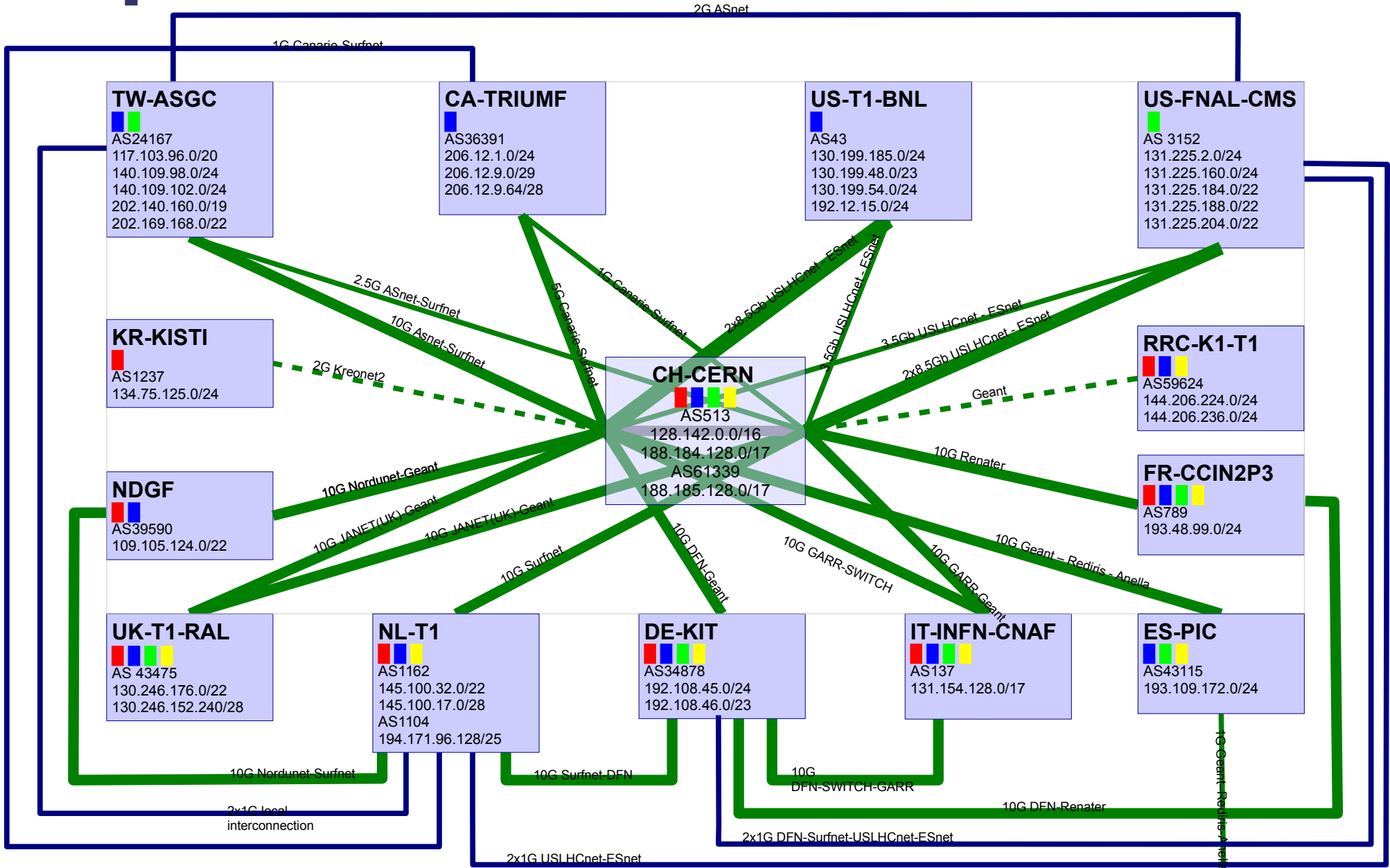
- Connection to LHCOPN postponed. They will start with connection to LHCONE

New Tier1 KR-KISTI:

- setting up a 2G link to CERN via Kreonet, Canarie and Surfnet. Ready to join LHCOPN very soon.

Map

LHCOPN



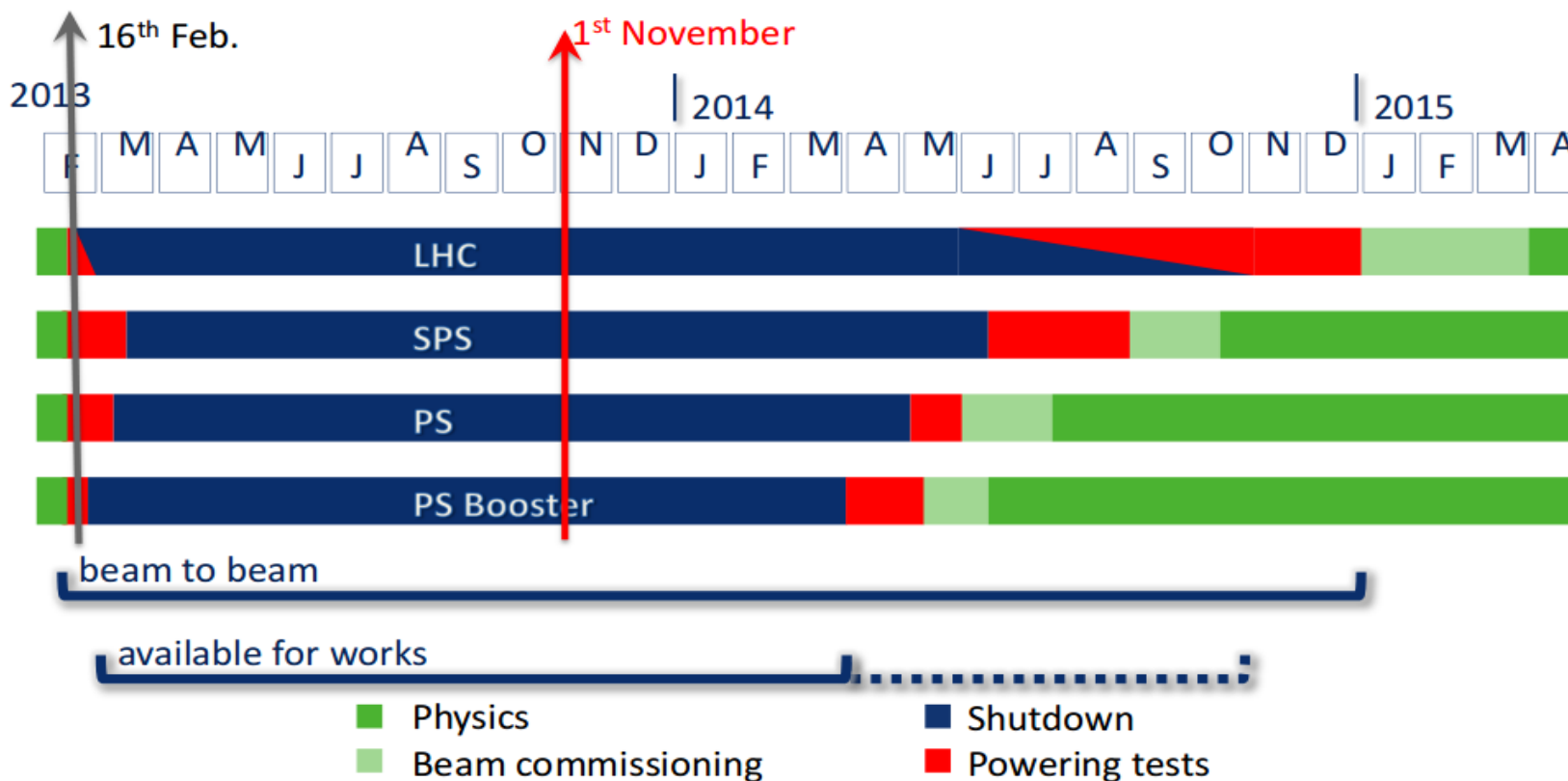
	T0-T1 and T1-T1 traffic		= Alice		= Atlas
	T1-T1 traffic only		= CMS		= LHCb
	Not deployed yet				
	(thick) >=10Gbps				
	(thin) <10Gbps				
	p2p prefix: 192.16.166.0/24				
	edoardo.martelli@cern.ch 20131113				



LHC Long Shutdown 1 schedule



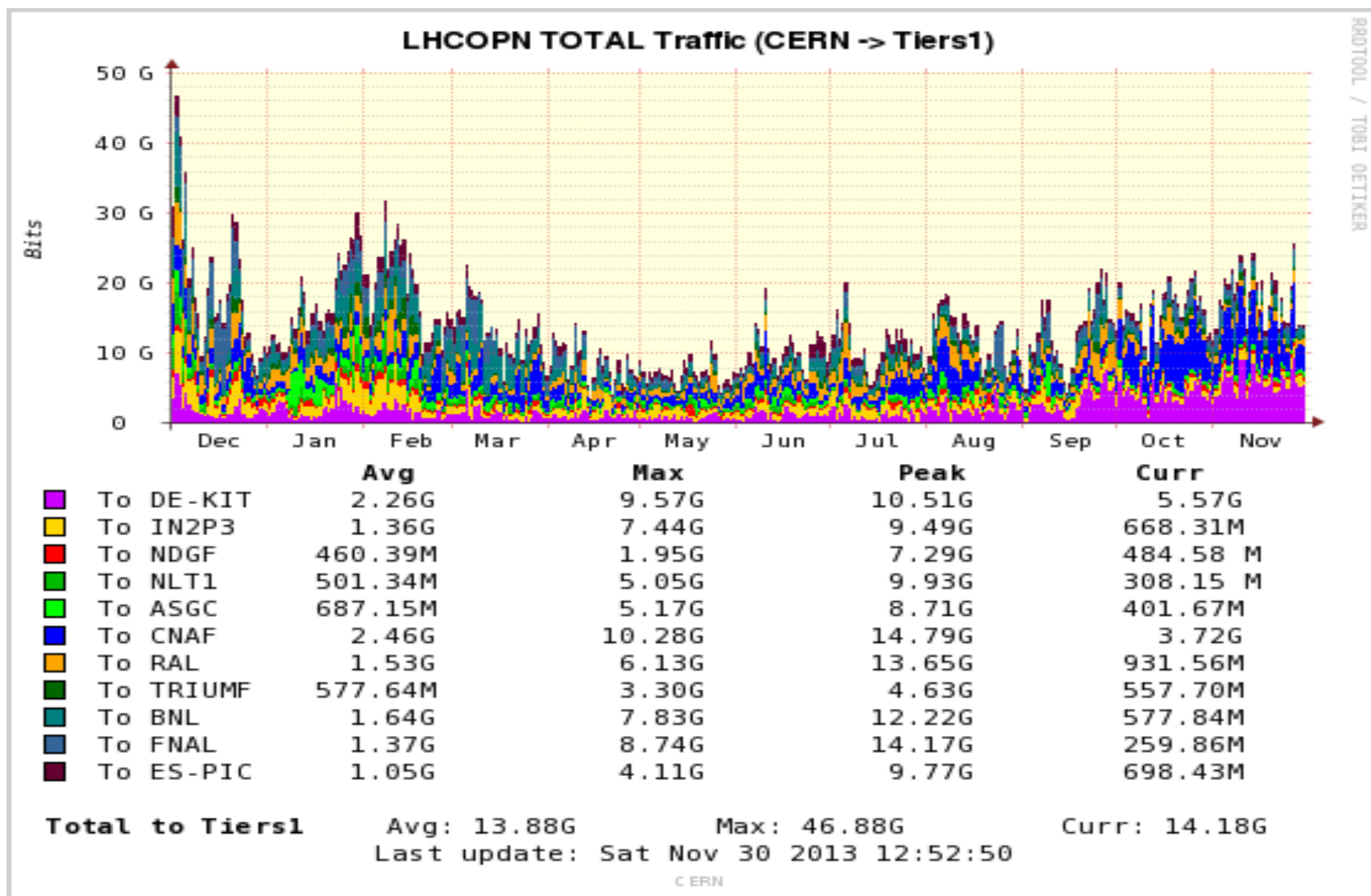
LS 1 from 16th Feb. 2013 to Dec. 2014



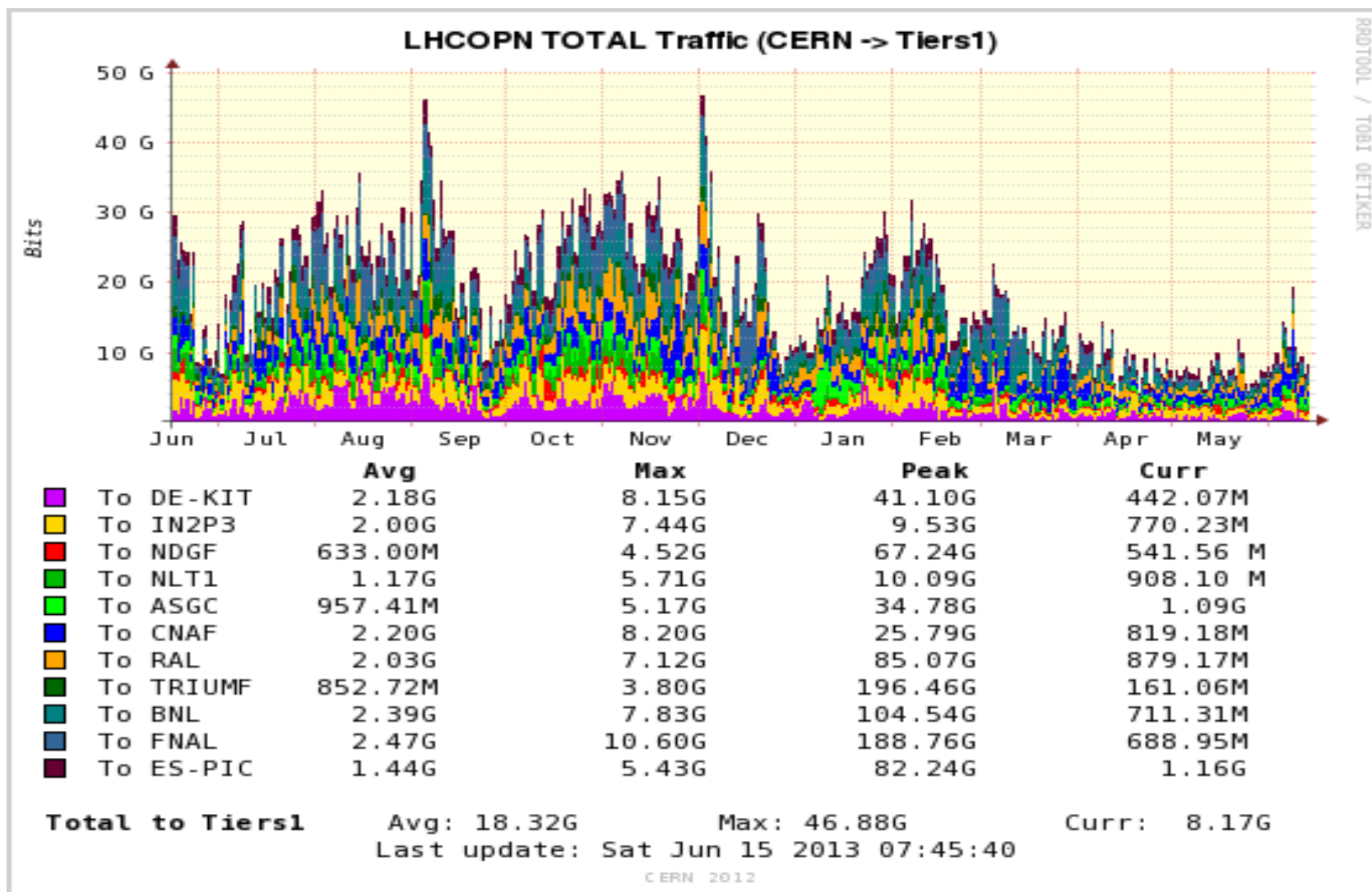
LS2 will start in December 2017

Ref: <http://indico.cern.ch/getFile.py/access?contribId=1&sessionId=0&resId=0&materialId=slides&confId=251191>

LHCOPN traffic trends



(previous graph, June 2013)



WLCG collaboration workshop



Full agenda:

<http://indico.cern.ch/conferenceOtherViews.py?view=standard&confId=251191>

Physics at Run-2

<http://indico.cern.ch/getFile.py/access?contribId=1&sessionId=0&resId=0&materialId=slides&confId=251191>

Computing model evolution: from requirements to validation:

<http://indico.cern.ch/getFile.py/access?contribId=2&sessionId=0&resId=0&materialId=slides&confId=251191>

Atlas computing in Run-2:

<http://indico.cern.ch/getFile.py/access?contribId=12&sessionId=1&resId=0&materialId=slides&confId=251191>

HEP computing futures:

<http://indico.cern.ch/getFile.py/access?contribId=9&sessionId=2&resId=1&materialId=slides&confId=251191>

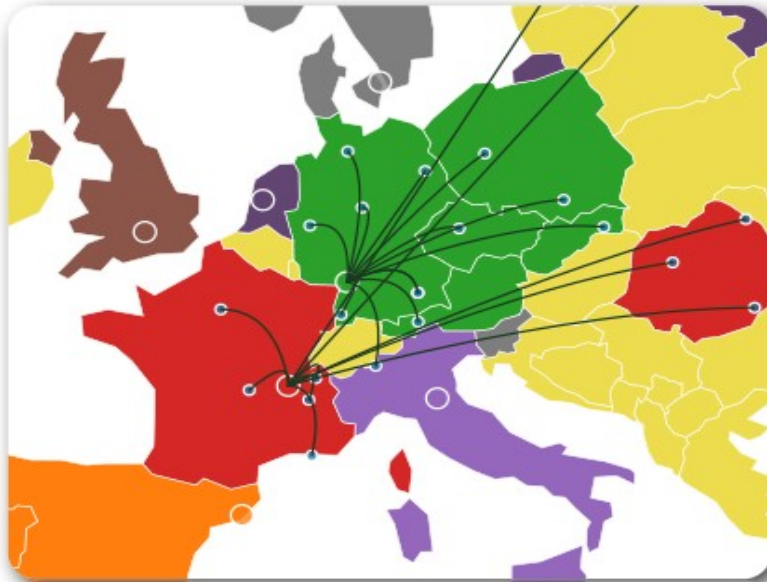
Highlights:

- Dramatic increase of generated data
- Opportunistic computing (use of commercial and public-funded cloud services)
- Considering Content Delivery Network model

Data distribution

2010

Planned data distribution
Jobs go to data
Multi-hop data flows
Poor T2 networking across regions



~20 AOD copies distributed worldwide

2013

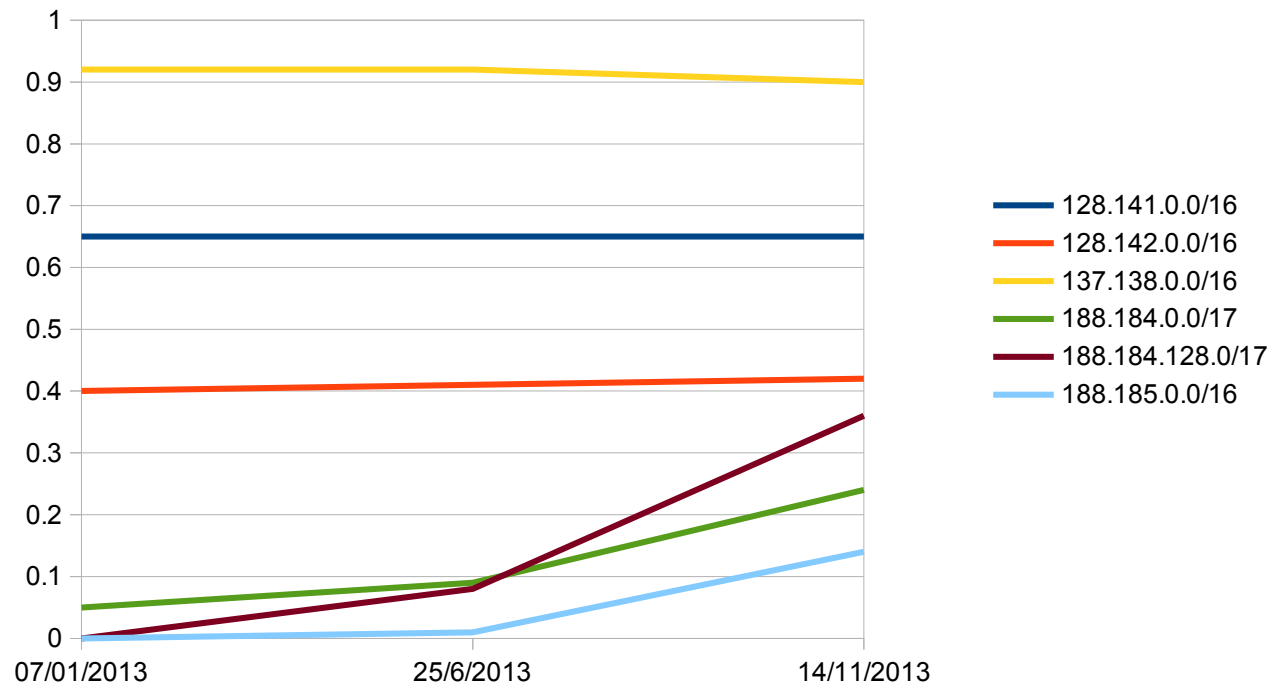
Planned & *dynamic* distribution data
Jobs go to data & *data to free sites*
Direct data flows for most of T2s
Many T2s connected to 10Gb/s link



4 AOD copies distributed worldwide

IPv4 shortage may hit deployment of new CERN VMs in 2015

CERN IPv4 prefixes utilization



IPv6 activities



- CERN IPv6 network deployment almost completed. Users will get connectivity in Q12014. Latest information here:

<http://ipv6.web.cern.ch/content/implementation-plan-and-status>

- HEPiX IPv6 working group is surveying the IPv6 compatibility of the WLCG applications. Results already available at <http://cern.ch/hepix-ipv6>

Questions?