



LCG France IPv6, quoi de neuf en 2015 ?

jerome.bernier@in2p3.fr
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■ Groupe de travail HEPIX

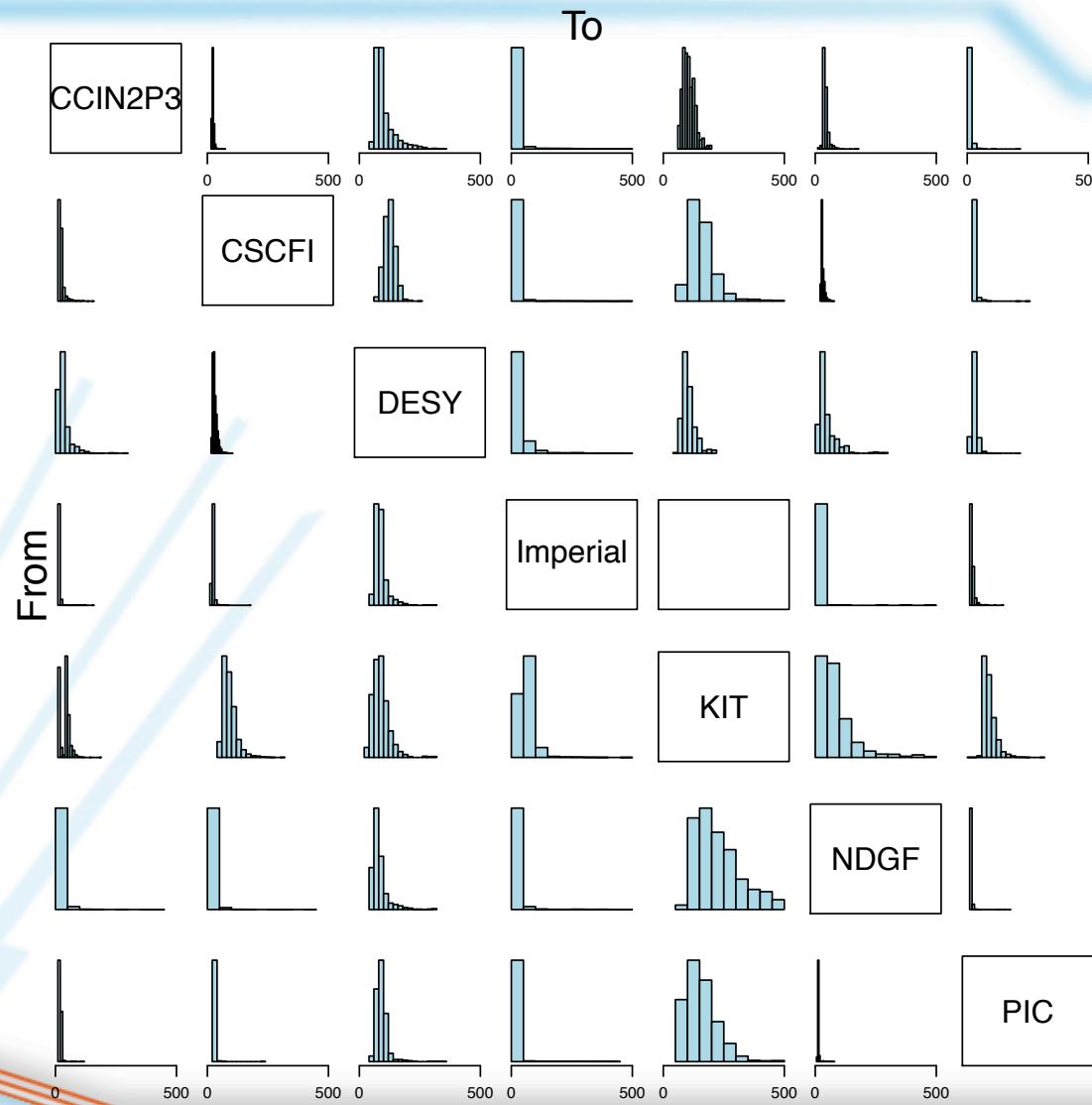
Testing IPv6 Compliance of WLCG applications

<ipv6@hepix.org>

<http://hepix-ipv6.web.cern.ch>

■ Bug en cours FTS, Globus, SAM, ...

HEPIX testbed FTS3





WLCG/OSG perfSONAR Dashboard

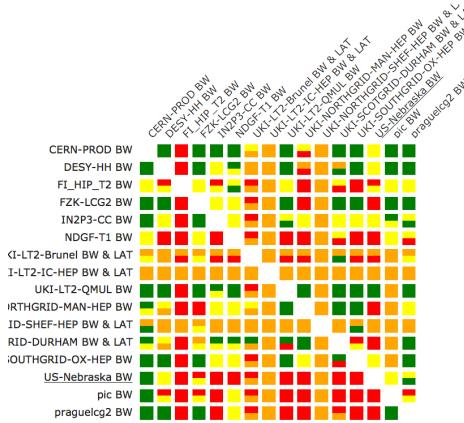
≡ Dashboards * Settings ↵ WLCG/OSG Networking Resources

Last page refresh time: juin 18, 2015 08:57:33 AM CEST

Dual-Stack Mesh Config Dashboard

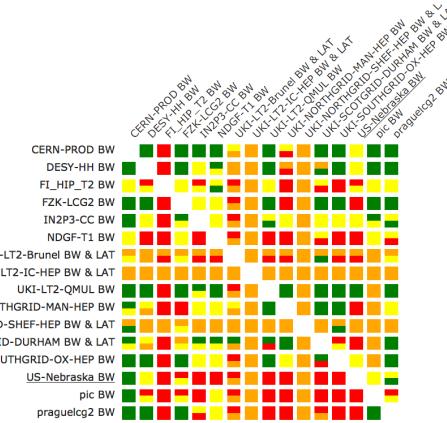
Dual-Stack Mesh Config - IPv4 Bandwidth Test

■ Throughput >= 900Mbps ■ Throughput < 900Mbps ■ Throughput <= 500Mbps ■ Unable to retrieve data ■ Check has not yet run



Dual-Stack Mesh Config - IPv6 Bandwidth Test

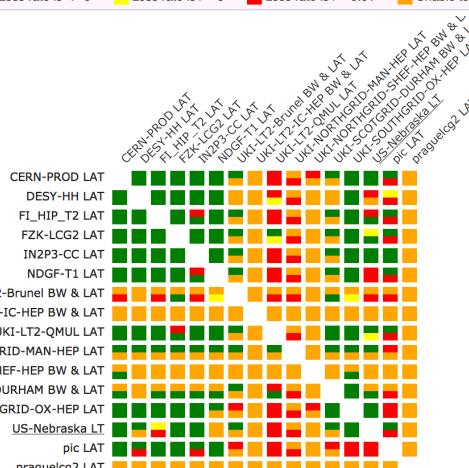
■ Throughput >= 900Mbps ■ Throughput < 900Mbps ■ Throughput <= 500Mbps ■ Unable to retrieve data ■ Check has not yet run



Dual-Stack Mesh Config - If

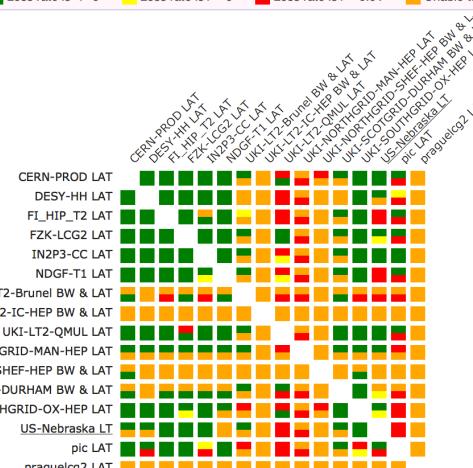
Dual-Stack Mesh Config - IPv4 Latency Test

■ Loss rate is <= 0 ■ Loss rate is >= 0 ■ Loss rate is >= 0.01 ■ Unable to retrieve data ■ Check has not yet run



Dual-Stack Mesh Config - IPv6 Latency Test

■ Loss rate is <= 0 ■ Loss rate is >= 0 ■ Loss rate is >= 0.01 ■ Unable to retrieve data ■ Check has not yet run



advertising IPv6 CIDR Tier-1
<http://hepix-ipv6.web.cern.ch/perfsonar-ps>

■ Tier-1 -- LHCOPN

- CH-CERN ✓
- FZK-LCG2 (DE-KIT/GridKa) ✓
- FR-CCIN2P3 ✓
- NDGF-T1 ✓
- ES-PIC ✓

■ Tier-1 :

- IT-INFN-CNAF
- KR-KISTI
started but not finished

■ Tier-1s still missing:

- | | |
|---------|-----------------|
| ■ NL-T1 | ■ Triumf |
| ■ BNL | ■ RAL |
| ■ FNAL | ■ Russian sites |
| ■ ASGC | ■ RRC-KI |
| | ■ JINR |

advertising IPv6 CIDR Tier-2

<http://hepix-ipv6.web.cern.ch/perfsonar-ps>



■ Tier-x -- LHCONE

- T0 - CH-CERN ✓
- T1 - FZK-LCG2 (DE-KIT/GridKa) ✓
- T1 - FR-CCIN2P3 ✓
- CEA SACLAY ✓
- DESY ✓

Current additional LHCONE Peerings:

University of Wisconsin Madison	AS 59
CNAF (guess) – GARR	AS 137
Esnet	AS 293
ARNES-IPv6-NET Slovenia	AS 2107
Dante	AS 20965

■ Tier-2 – GPI (only)

- FI_HIP_T2
- UKI-LT2-Brunel
- UKI-LT2-IC-HEP
- UKI-LT2-QMUL
- UKI-NORTHGRID-SHEF-HEP
- UKI-SCOTGRID-DURHAM
- UKI-SOUTHGRID-OX-HEP
- US-Nebraska
- praguelcg2

- RENATER fournit des adresses IPv6
- Un /48 par site

- CCIN2P3 2001:0660:5009::/48
- CPPM 2001:0660:5408::/48
- ... GANIL, IPHC, IPNL, LAL, IPNO, LAPP,
LLR, LPCclr, LPSC, SUBATECH, ...



- Zone in2p3.fr type AAAA

host ccin2p3-v6.in2p3.fr

ccpn-ether-v6.in2p3.fr has IPv6 address 2001:660:5009::1

- Reverse

- Appli DNS for Labo ne supporte pas IPv6

- > Migration EfficientIP en cours

- en attendant -> fichiers plats !

Routage



- Matériel supportant IPv6 en hardware
-> remplacement de certains routeurs
OK CC, Orsay, GANIL, LAPP, LPSC
Le CC a budgétisé le remplacement sur 2013-2015
- IOS
- Vos équipements LAN supportent ils IPv6 ?
- Plan de routage des subnets en /64
 2^{16} subnets / site !

- ACL validé
 - Bug Nexus
- ZNETS validé
- Se concentrer sur adressage statique et pas d'autoconfiguration
- Filtrer V6toV4, V4toV6, RA, ...

Laboratoires en IPv6



- Refonte réseau: LAPP, IPHC
- LAL
- Suivants ?

