

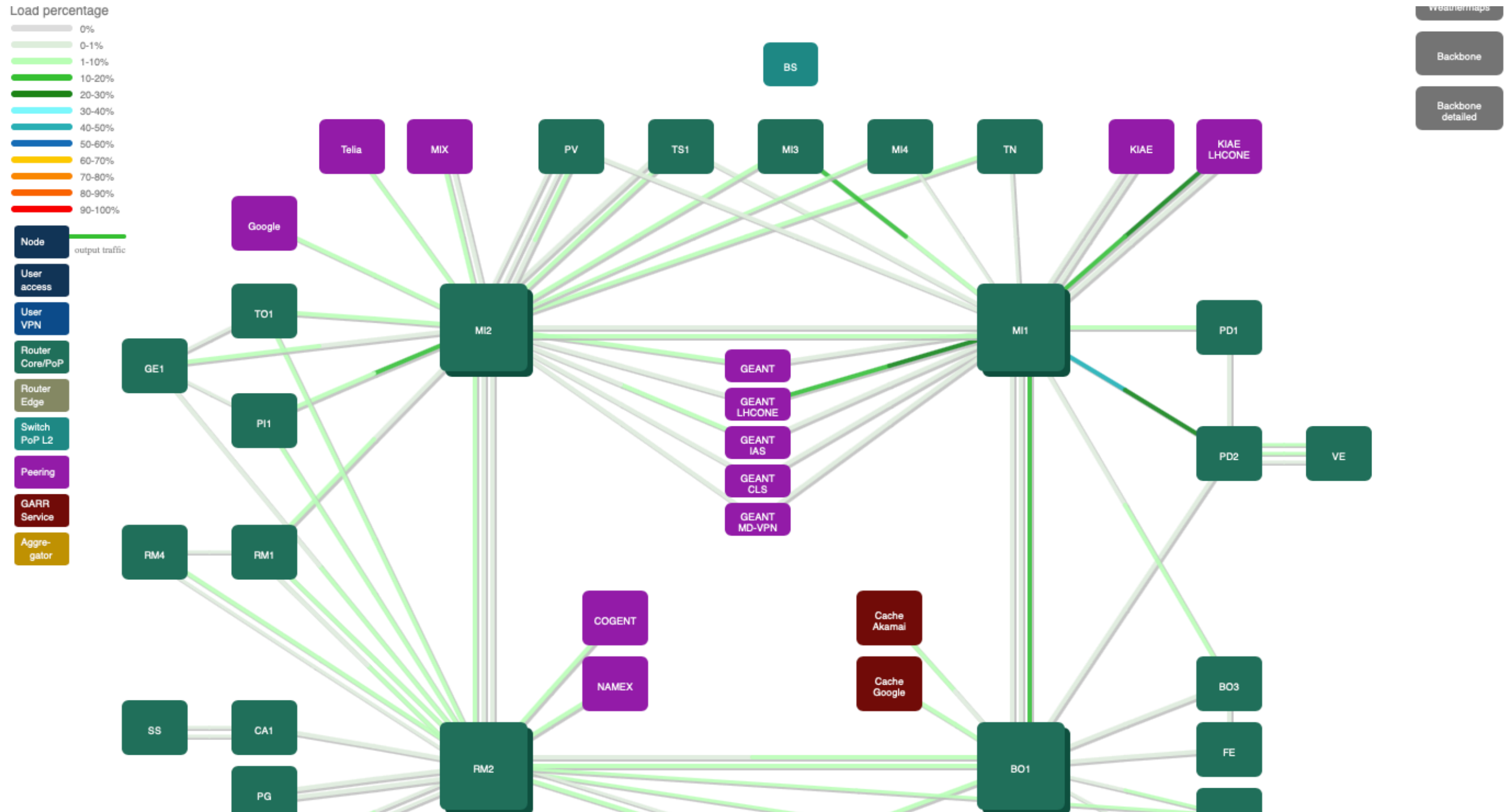


Data transfer from SA Ilifu/IDIA

Matteo Stagni - Catania - 10/11 September 2019

GARR research network

Real time weathermap: https://gins.garr.it/xWeathermap/mapgen.php?slice=garrx_top



Ilifu/IDIA Account activation

- Beginning of July 2019
- Few days to get a feeling of how the environment is
- Acknowledge the existence of `dtn01.ilifu.ac.za` for data transfers

Tracepath from dtn01.ilifu.ac.za

```
1?: [LOCALHOST] pmtu 8800
1: gateway 0.110ms
1: gateway 0.087ms
2: 169.254.107.17 0.115ms
3: 154.114.37.1 0.845ms
4: te0-0-0-3-2001-cpt2-pe1.net.tenet.ac.za 1.114ms
5: vlan104-cpt2-p1.net.tenet.ac.za 140.339ms asymm 12
6: ae3-0-cpt1-ir1.net.tenet.ac.za 2.027ms
7: xe-11-1-3-10-ldn1-ir1.net.tenet.ac.za 140.644ms asymm 9
8: ae1-300-ua-uk-ldn1-01.ubuntunet.net 140.691ms asymm 10
9: xe11-3-1-ua.uk.ldn1-01.ubuntunet.net 140.725ms asymm 11
10: ubuntunet.mx1.lon.uk.geant.net 141.191ms asymm 12
11: ae6.mx1.lon2.uk.geant.net 141.264ms asymm 13
12: ae5.mx1.par.fr.geant.net 147.789ms asymm 14
13: ae5.mx1.gen.ch.geant.net 185.602ms asymm 16
14: ae4.mx1.mil2.it.geant.net 191.777ms asymm 17
15: garr-gw.mx1.mil2.it.geant.net 191.827ms asymm 18
16: rx2-mi2-rx2-mi1.mi1.garr.net 192.949ms asymm 19
17: rx2-mi1-rx1-bo3.bo3.garr.net 196.260ms asymm 20
18: rx1-bo3-ru-inaf-ira-bo.bo3.garr.net 196.835ms asymm 21
19: 90.147.132.13 195.404ms reached
```

Resume: pmtu 8800 **hops 19** back 22

iperf3 TEST

Connecting to host 90.147.132.13, port 5201

[4] local 192.168.100.53 port 52121 connected to 90.147.132.13 port 5201

[ID]	Interval	Transfer	Bandwidth	Total Datagrams
[4]	0.00-1.00	sec 353 MBytes	2.96 Gbits/sec	42305
[4]	1.00-2.00	sec 387 MBytes	3.25 Gbits/sec	46423
[4]	2.00-3.00	sec 372 MBytes	3.12 Gbits/sec	44543
[4]	3.00-4.00	sec 379 MBytes	3.18 Gbits/sec	45447
[4]	4.00-5.00	sec 376 MBytes	3.16 Gbits/sec	45128
[4]	5.00-6.00	sec 380 MBytes	3.19 Gbits/sec	45579
[4]	6.00-7.00	sec 386 MBytes	3.24 Gbits/sec	46227
[4]	7.00-8.00	sec 385 MBytes	3.23 Gbits/sec	46118
[4]	8.00-9.00	sec 404 MBytes	3.39 Gbits/sec	48432
[4]	9.00-10.00	sec 376 MBytes	3.15 Gbits/sec	45079

[ID]	Interval	Transfer	Bandwidth	Jitter	Lost/Total Datagrams
[4]	0.00-10.00	sec 3.71 GBytes	3.19 Gbits/sec	0.026 ms	30/455281 (0.0066%)

[4] Sent 455281 datagrams

GRIDFTP

JULY 2019

```
globus-url-copy -p 10 -fast -udt file:///idia/projects/hippo/mstagni/pippo.dat gsiftp://  
tank-00.ira.inaf.it/ilifu/pippo.dat
```

```
error: globus_ftp_control: gss_init_sec_context failed
```

```
OpenSSL Error: s3_clnt.c:1264: in library: SSL routines, function
```

```
ssl3_get_server_certificate: certificate verify failed
```

```
globus_gsi_callback_module: Could not verify credential
```

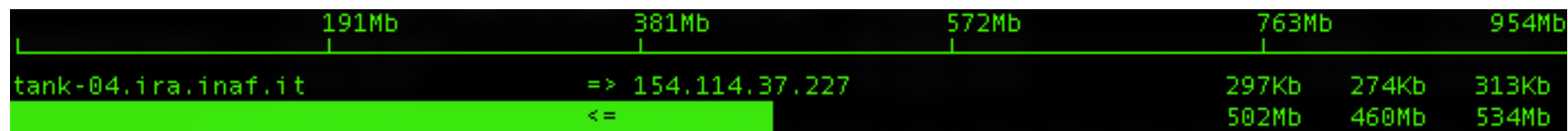
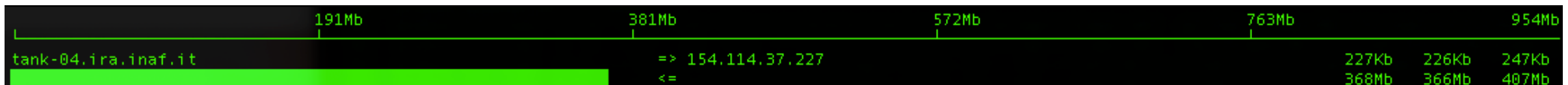
```
globus_gsi_callback_module: Can't get the local trusted CA certificate: Cannot find  
trusted CA certificate with hash 4f06f81d in /users/mstagni/.globus/certificates
```

Jive5ab

- Developed by Harro Verkouter at Jive for VLBI data transfers
- supports udp and udt protocols
- Tested VLBI data transfers in Italy up to 4 Gbit/s (disk arrays are the limit!)

Transfer speed with jive5ab

- In July 2019 first test @ ~600 Mbit/s
- Latest tests last week -> 400/500 Mbit/s



Open Questions

- How would we like to configure DTNs? ACLs? Firewalls? Dedicated storage?
- More transfer tools to test?
- Time frame / bandwidth constraints?
-



Questions - comments?

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