WP7 Report

Outline

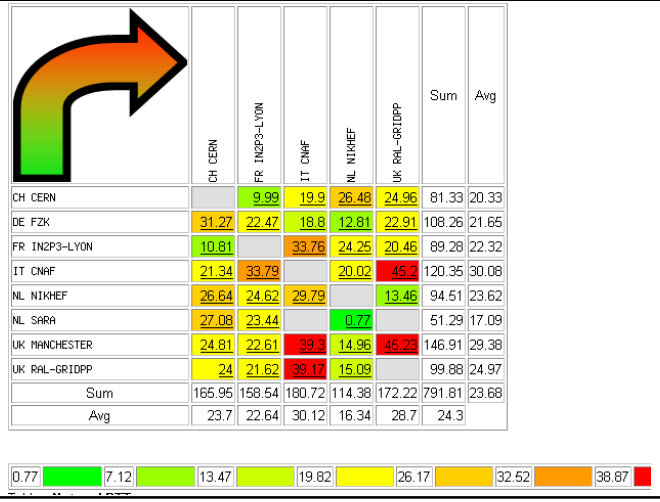
- Network Monitoring in EDG 2.x
- Test Campaign over GEANT network
- Beyond EDG … Grids and Networks interactions in the near future

EDG 2.x Network Monitoring

- NetworkCost function deployed on all sites
  - Called by the WP2 ROS service installed on MON nodes
  - Used by RBs for optimized matchmaking (getAccessCost) , and by also directly by applications (getBestFile…)
- Probe Coordination Protocol deployed, scheduling all network measurements between NM.
- Large successful usage of RGMA
- Central MySQL Archive hosting all network metrics and gridFTP logging for online analysis.

Visualization of Network Performances

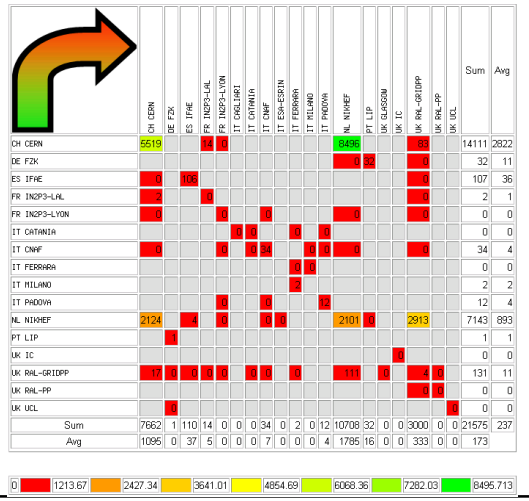
http://ccwp7.in2p3.fr/wp7archive/



	CH CERN	FR IN2P3-LYON	IT CNAF	NL NIKHEF	UK RAL-GRIDPP	Sum	Avg
CH CERN		9.99	19.9	26.48	24.96	81.33	20.33
DE FZK	31.27	22.47	18.8	12.81	22.91	108.26	21.65
FR IN2P3-LYON	10.81		33.76	24.25	20.46	89.28	22.32
IT CNAF	21.34	33.79		20.02	45.2	120.35	30.08
NL NIKHEF	26.64	24.62	29.79		13.46	94.51	23.62
NL SARA	27.08	23.44		0.77		51.29	17.09
UK MANCHESTER	24.81	22.61	39.3	14.96	45.23	146.91	29.38
UK RAL-GRIDPP	24	21.62	39.17	15.09		99.88	24.97
Sum	165.95	158.54	180.72	114.38	172.22	791.81	23.68
Avg	23.7	22.64	30.12	16.34	28.7	24.3	

0.77 | 7.12 | 13.47 | 19.82 | 26.17 | 32.52 | 38.87

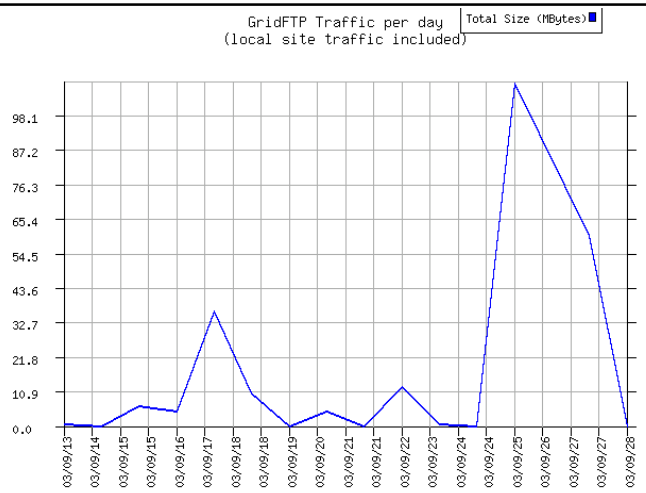
RTT between NMs



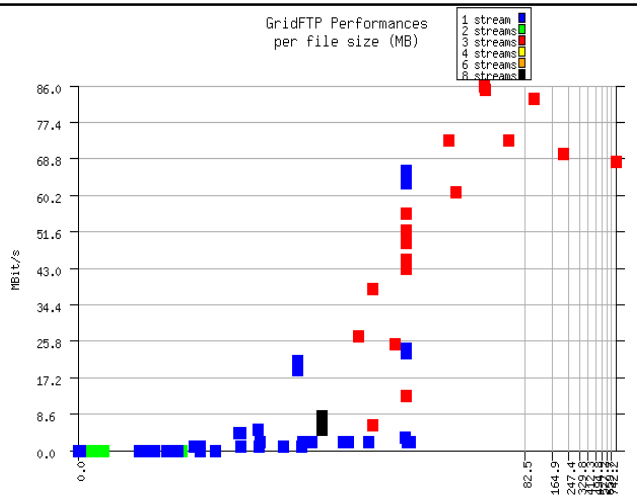
	CH CERN	DE FZK	ES IFAE	FR IN2P3-LAL	FR IN2P3-LYON	IT CATANIA	IT CNAF	IT FERRARA	IT MILANO	IT PADOVA	NL NIKHEF	PT LIP	UK GLASGOW	UK IC	UK RAL-GRIDPP	UK RAL-PP	UK UCL	Sum	Avg
CH CERN	5519			14	10						8496				83			14111	2822
DE FZK											0	32			0			32	11
ES IFAE	0		100												0			107	36
FR IN2P3-LAL	2			0											0			2	1
FR IN2P3-LYON	0				0		0				0				0			0	0
IT CATANIA					0	0		0	0									0	0
IT CNAF	0				0	0	34		0	0	0				0			34	4
IT FERRARA								0	0									0	0
IT MILANO								2										2	2
IT PADOVA					0		0			12								12	4
NL NIKHEF	2124		4		0		0	0			2101	0			2913			7143	893
PT LIP		1																1	1
UK IC														0				0	0
UK RAL-GRIDPP	17	0	0	0	0	0	0	0			111	0			4	0		131	11
UK RAL-PP															0	0		0	0
UK UCL		0															0	0	0
Sum	7662	1	110	14	0	0	0	34	0	2	0	12	10708	32	0	0	3000	0	0	21575	237
Avg	1095	0	37	5	0	0	0	7	0	0	4	1785	16	0	0	333	0	0	173		

0 | 1213.67 | 2427.34 | 3641.01 | 4854.69 | 6068.36 | 7282.03 | 8495.713

Grid Traffic between all sites



Total Grid Traffic

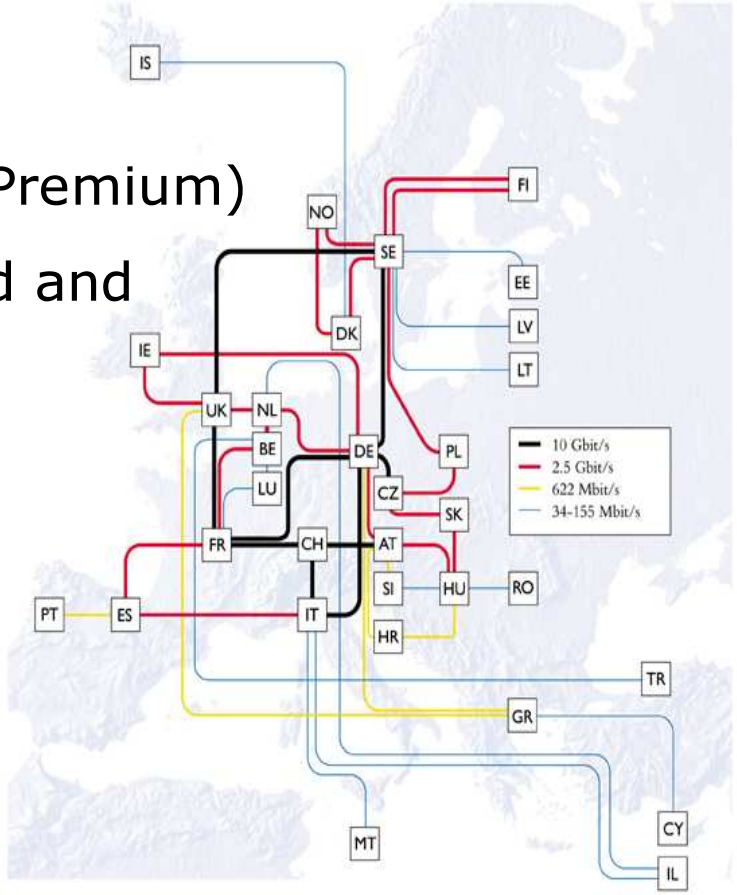


GridFTP performances analysis

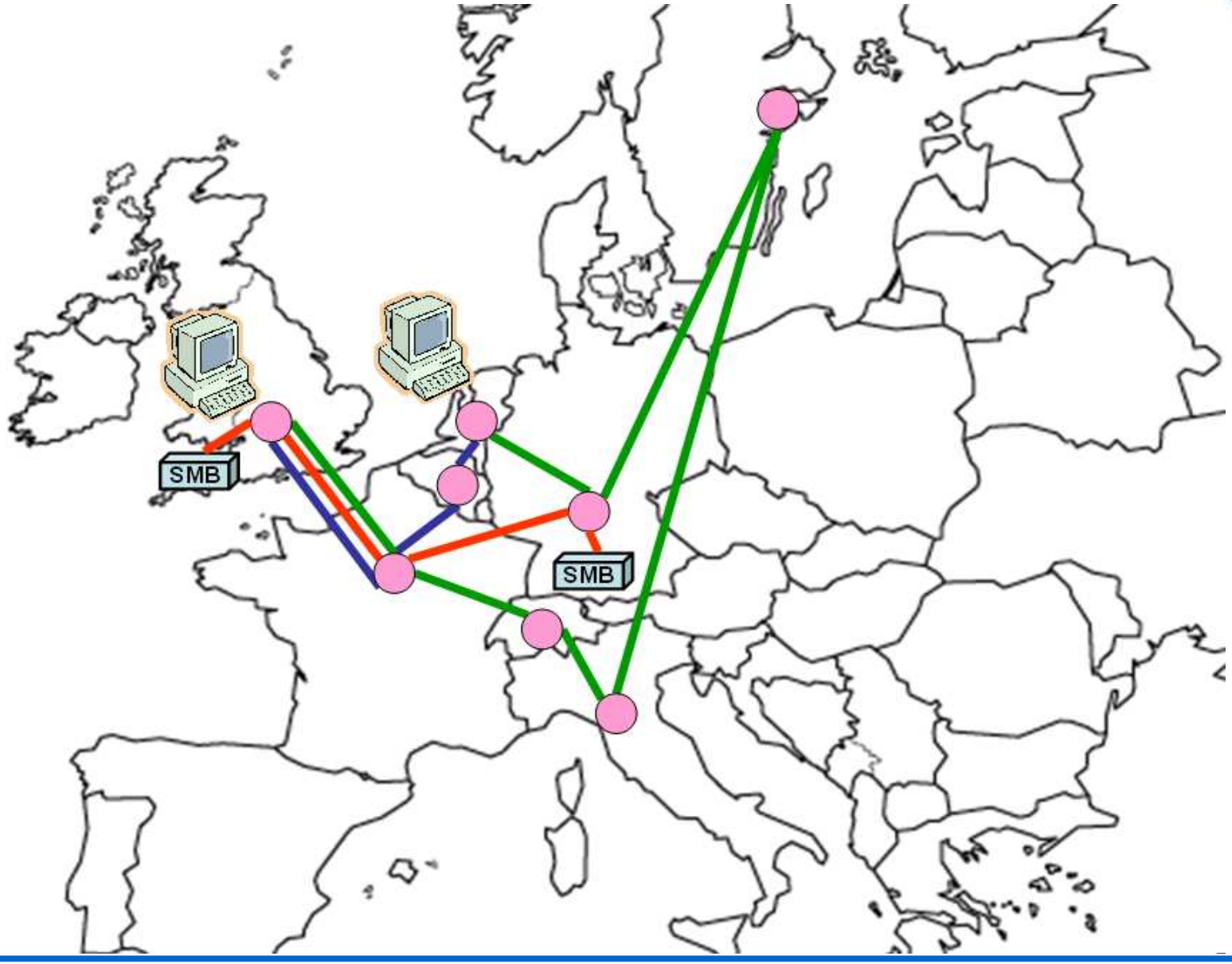
GEANT Test campaign

Started last week … ongoing until end of October

- Large scope of network tests :
  - Network Quality Of Service (LBE, IP Premium)
  - High-Throughput Transfers (Standard and advanced TCP stacks)
- Close collaboration with DANTE
  - Set-up of the testbed
  - Access granted to all internal GEANT monitoring tools
  - Analysis of results



WP7 Geant Testbed



Beyond EDG…

- GEANT and NRENs are almost all over provisioned … only in term of bandwidth.
- All future potential European network projects (GN2, GRANDE, GARDEN, INVITED…) will concentrate effort on network services
  - Layer 2/3 VPNs
  - Secure channels
  - Inter-domains QOS
  - End-to-end monitoring
- Next grid projects will be the major consumers of these network services
  - Large collaboration between EGEE, GN2 and others.