

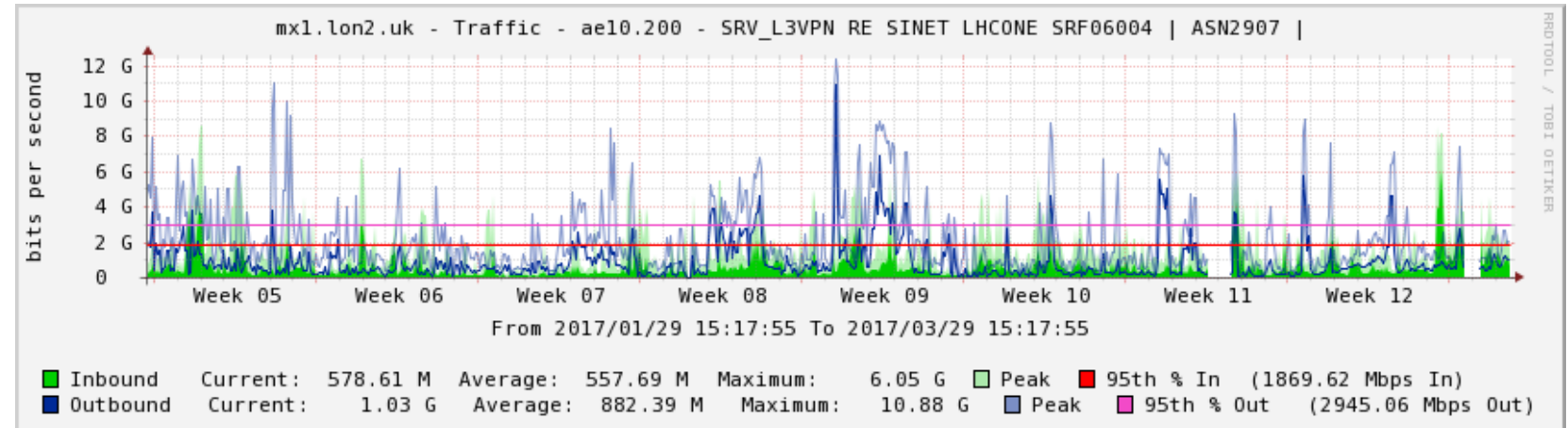
LHCONE L3VPN

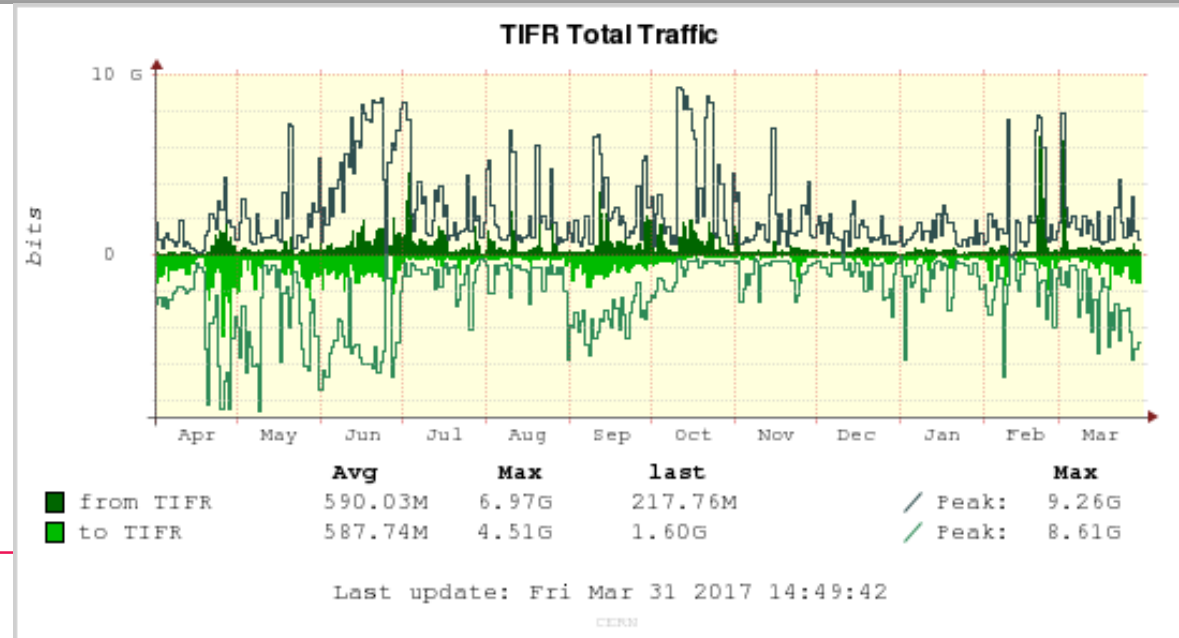
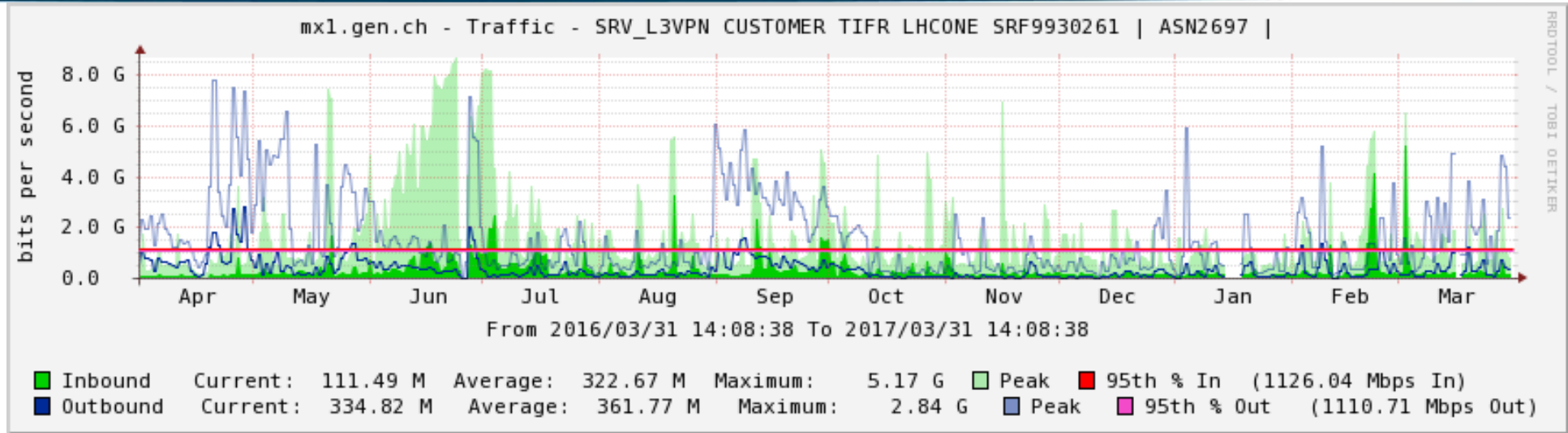
Status update

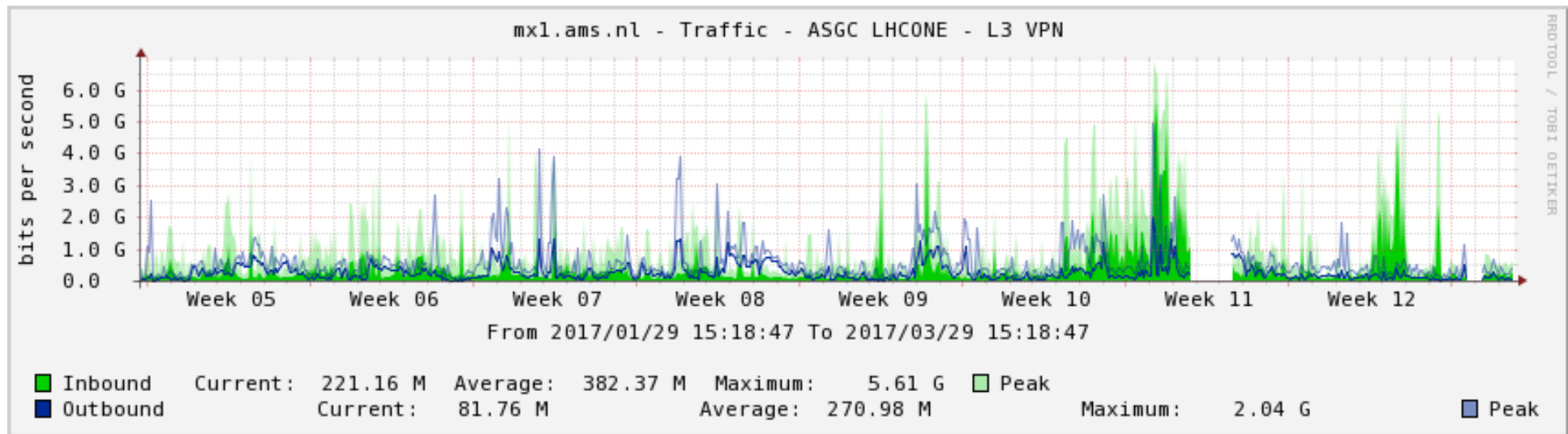
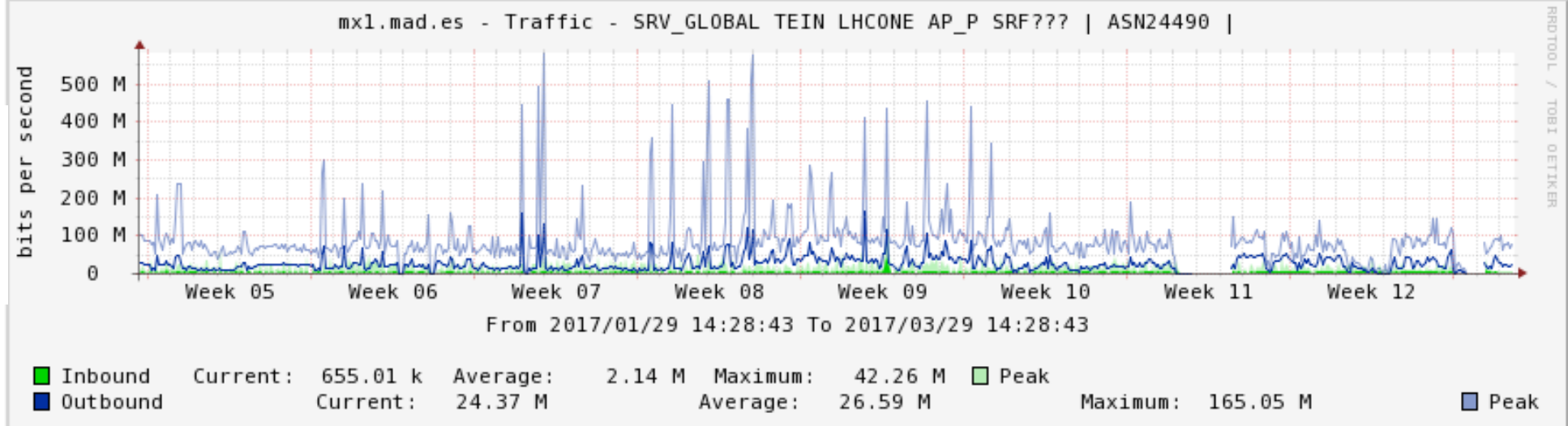
Enzo Capone

LHCOPN-LHCONE Meeting
BNL (US), 4th April 2017

- Asia
- Europe
- North America
- Latin America







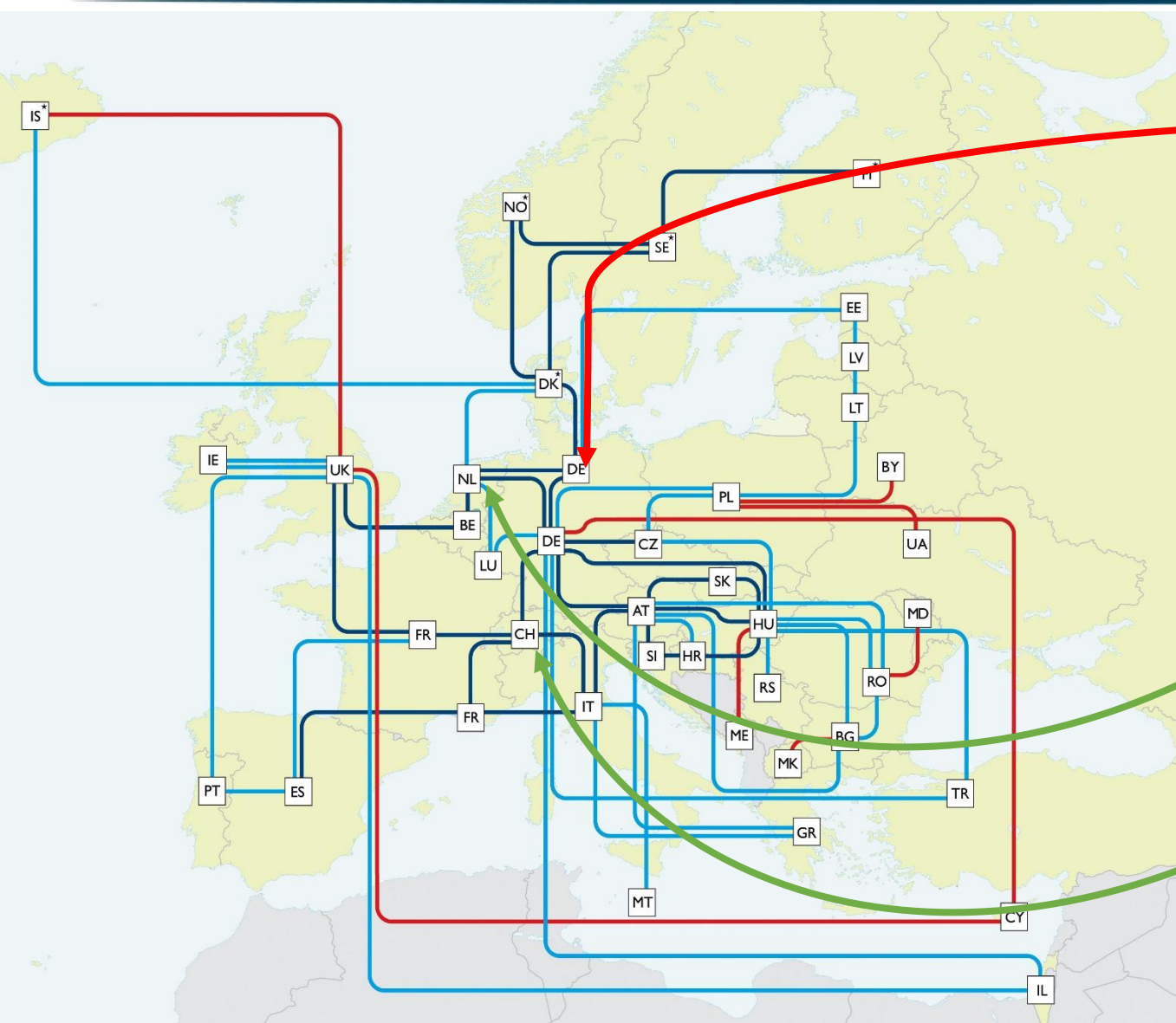
- LHCONE VPN Service in Europe is deployed in:

- ARNES (Slovenia)
- CERN/CERNLight (Switzerland)
- CESnet (Czech Republic)
- DFN (Germany)
- GARR (Italy)
- GÉANT
- JISC (UK)
- NORDUnet
- RENATER (France)
- RedIRIS (Spain)
- RoEduNet (Romania)
- SURFnet (Netherlands)
- *Belnet (Belgium) – temporarily not using LHCONE*
- URAN (Ukraine)
- PIONIER (Poland)

- RENs in these countries connect:

- Six Tier 1s in Europe to LHCONE
- 31 Tier 2s in Europe to LHCONE
- Indian T2s (via TIFR)
- Russian T1s and T2s (now establishing direct peering with GÉANT)

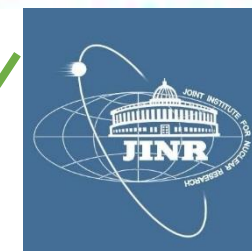
Russian connections to GÉANT



RUNNet
Informika

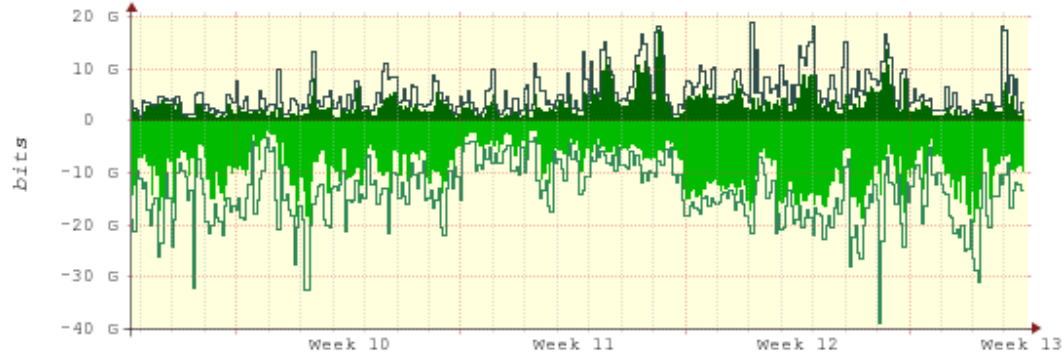


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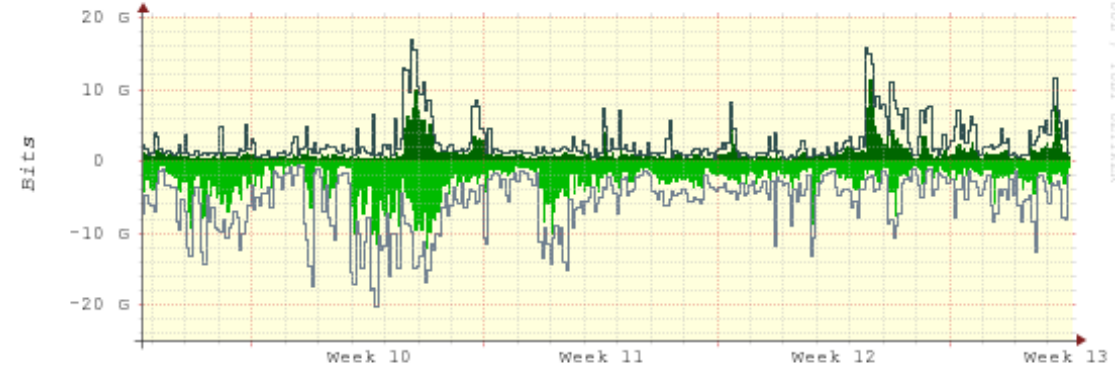
GEANT LHCONE access



	Avg	Max	last	Max	
From Geant	3.24G	17.32G	2.23G	2.23G	Peak: 18.76G
To Geant	9.16G	20.88G	9.92G	9.92G	Peak: 38.78G

Last update: Wed Mar 29 2017 16:09:10

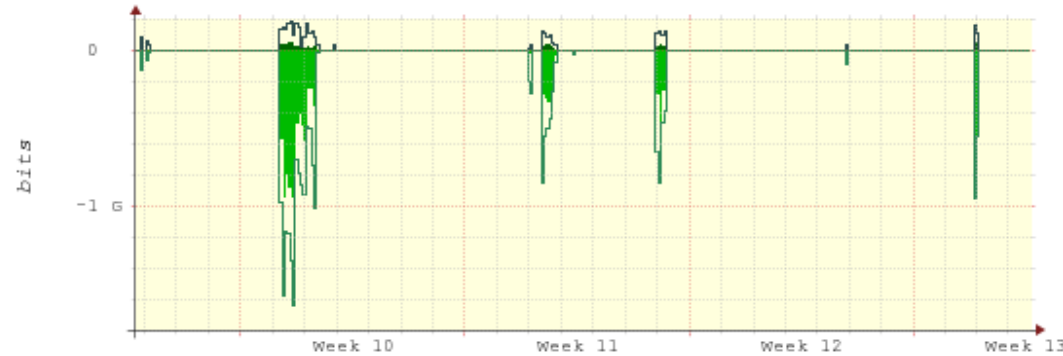
ESnet LHCONE total



	Avg	Max	Last	Max	
from ESnet	1.27G	11.28G	698.61M	698.61M	Peak: 16.89G
to ESnet	3.03G	12.14G	841.10M	841.10M	Peak: 20.28G

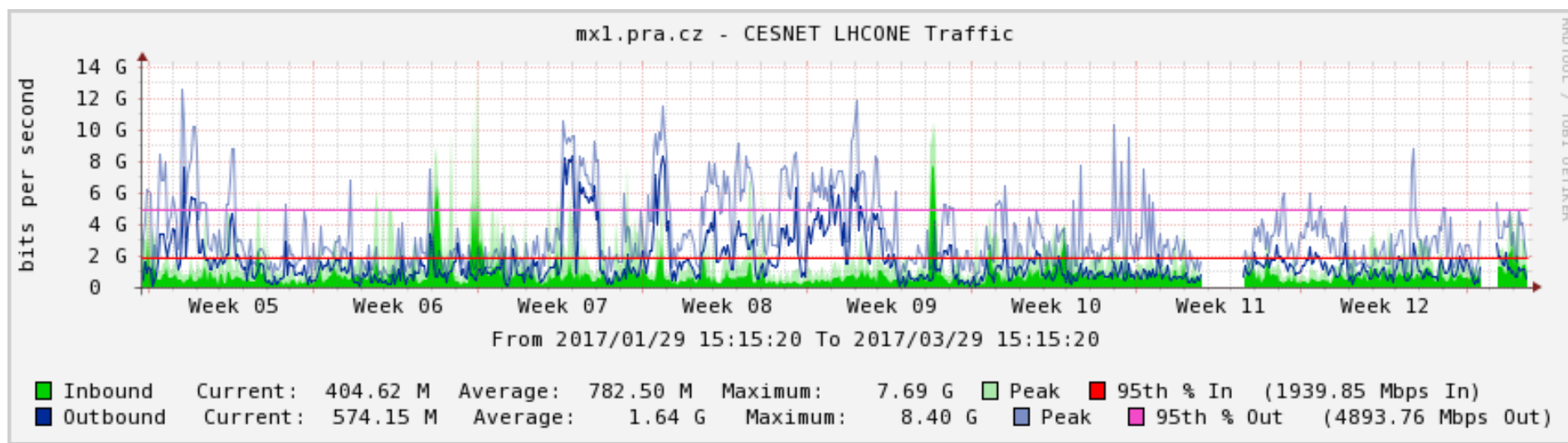
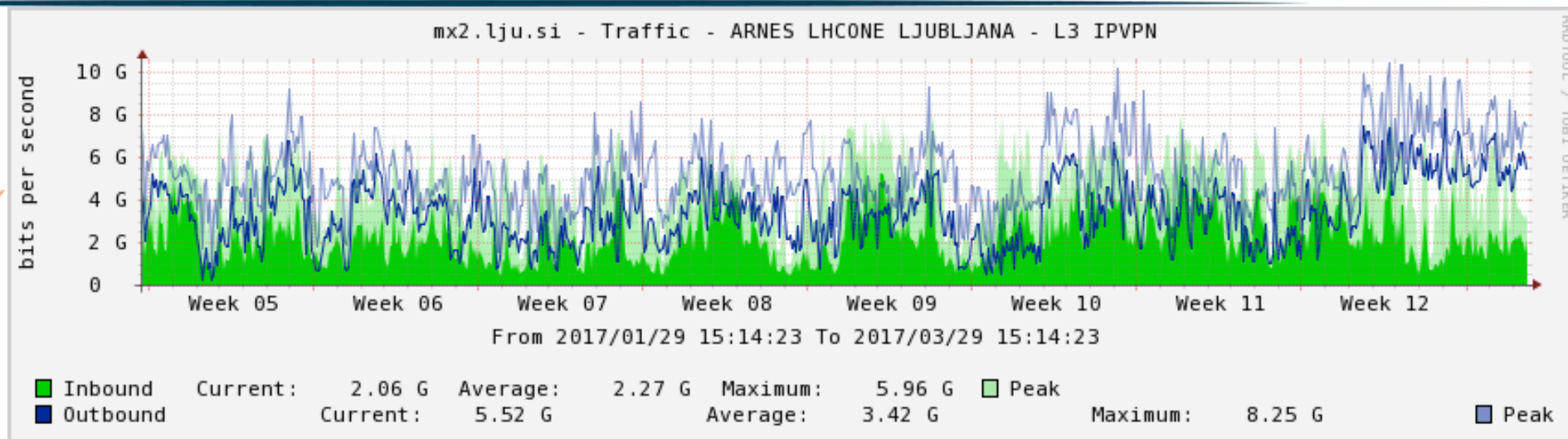
Last update: Wed Mar 29 2017 16:08:29

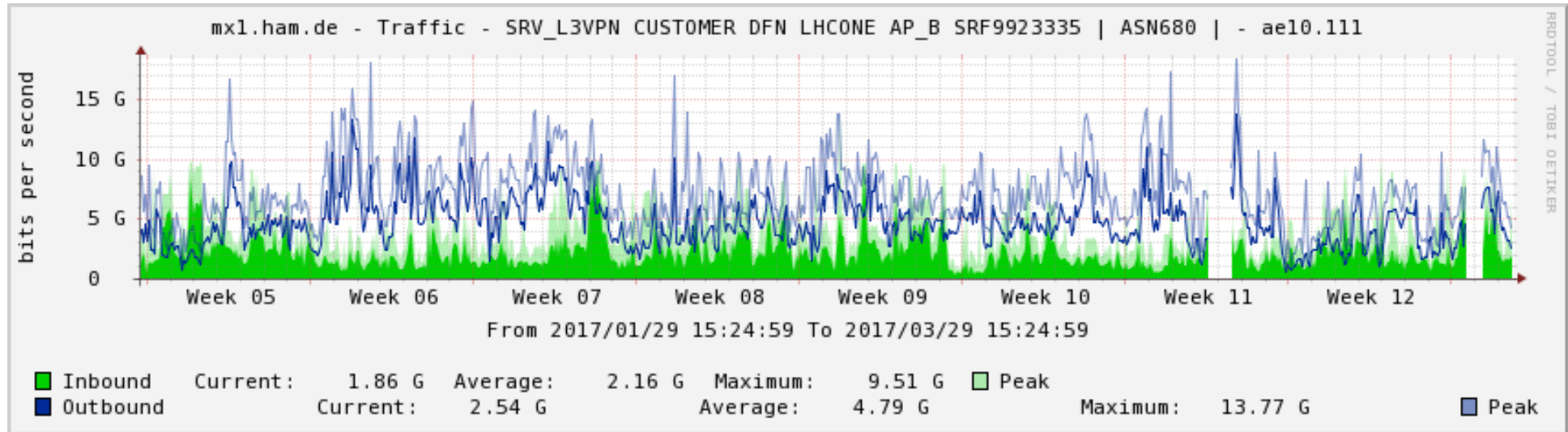
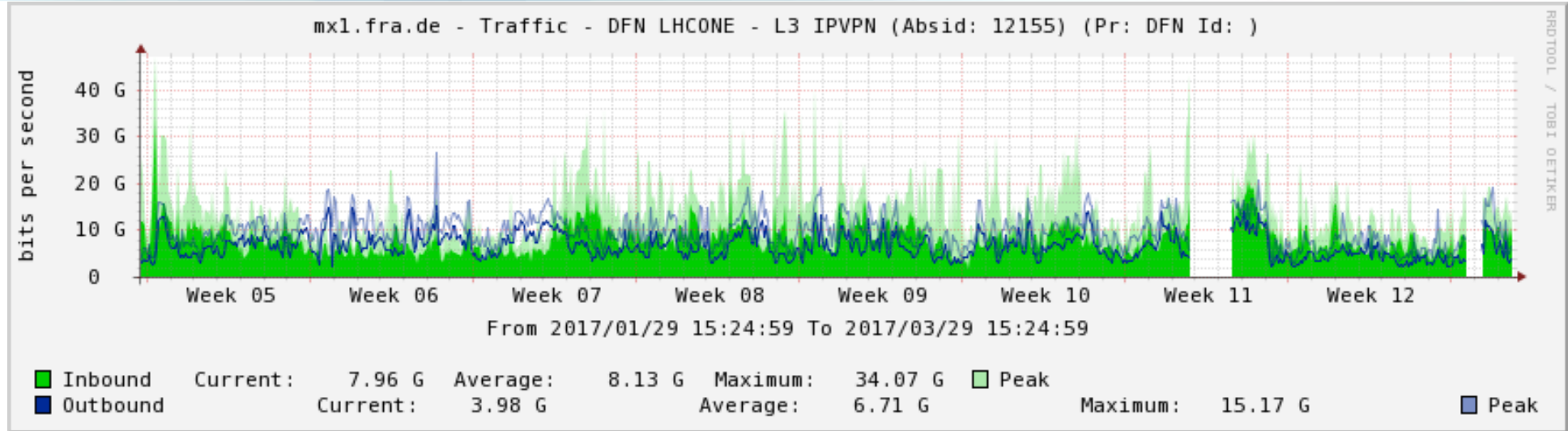
NORDUnet LHCONE

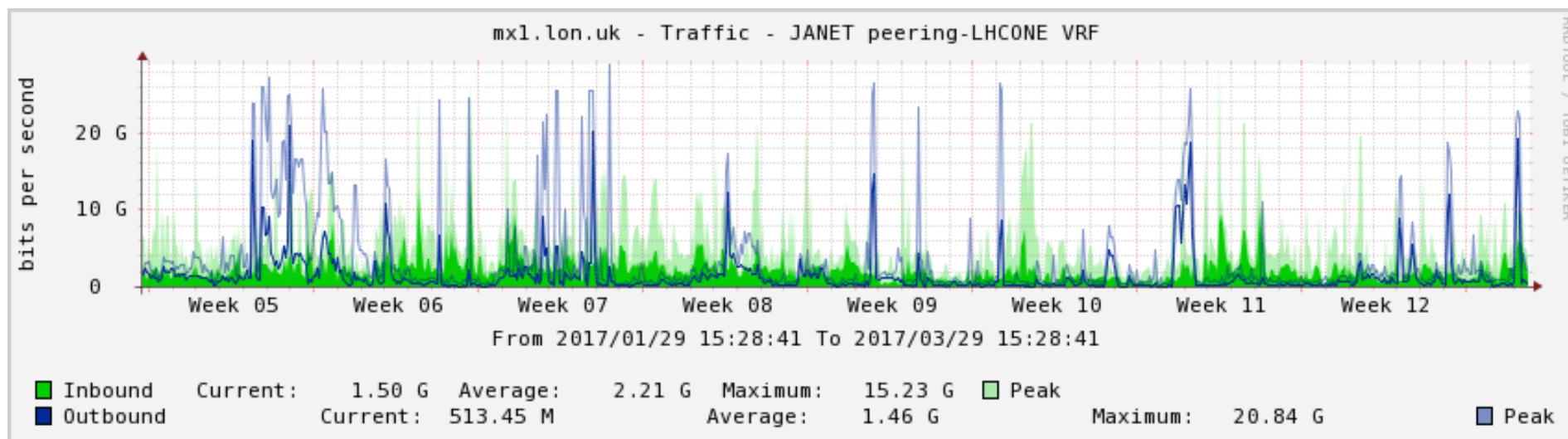
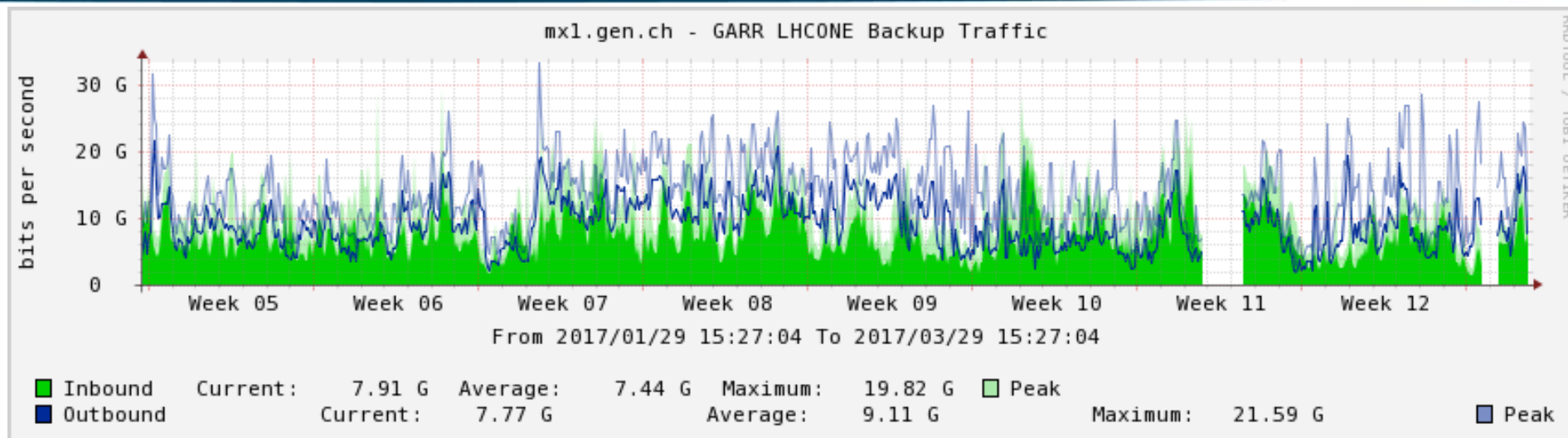


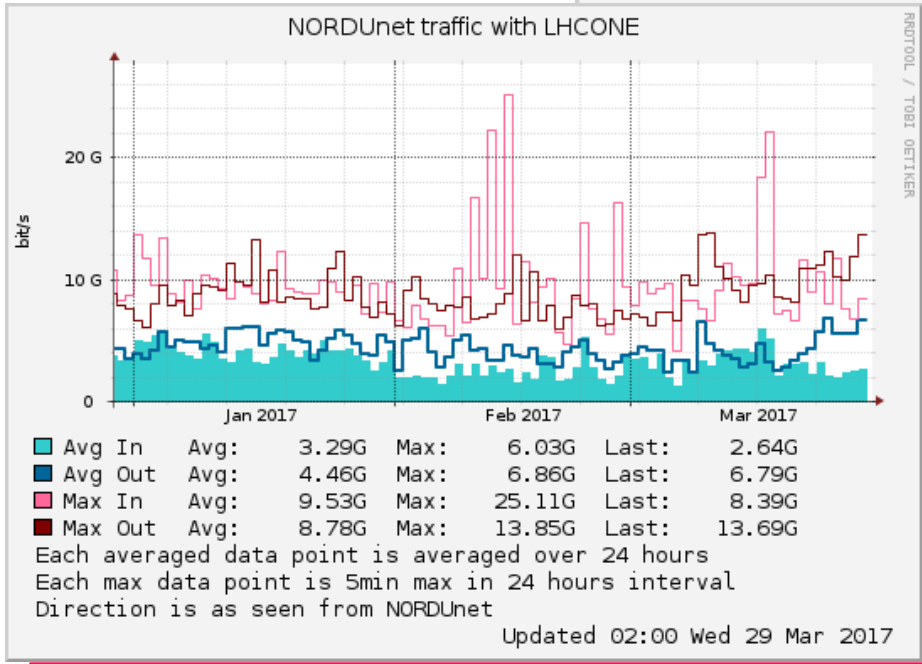
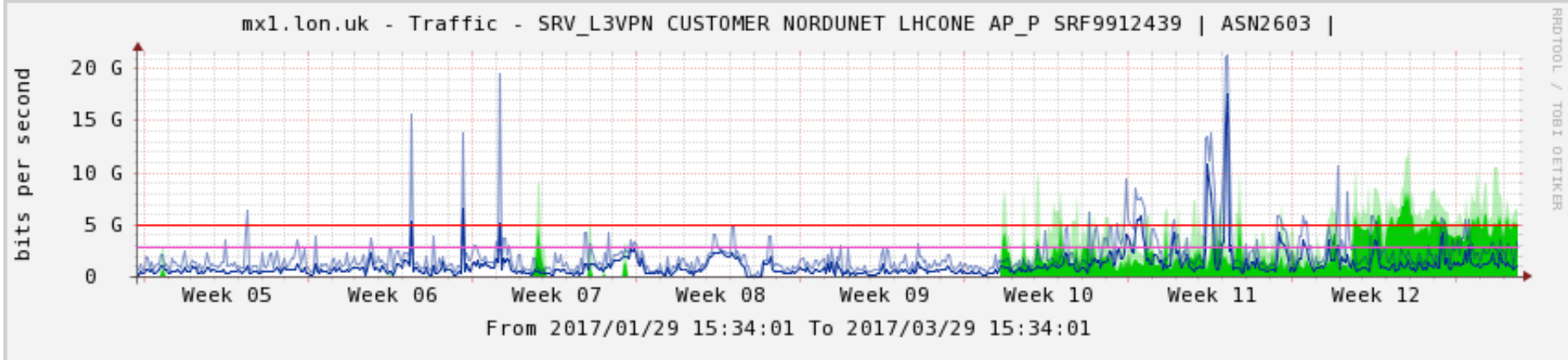
	Avg	Max	last	Max	
From NORDUnet	2.77M	58.65M	240.55k	240.55k	Peak: 183.27M
To NORDUnet	35.49M	963.42M	167.40	167.40	Peak: 1.64G

Last update: Wed Mar 29 2017 16:06:06

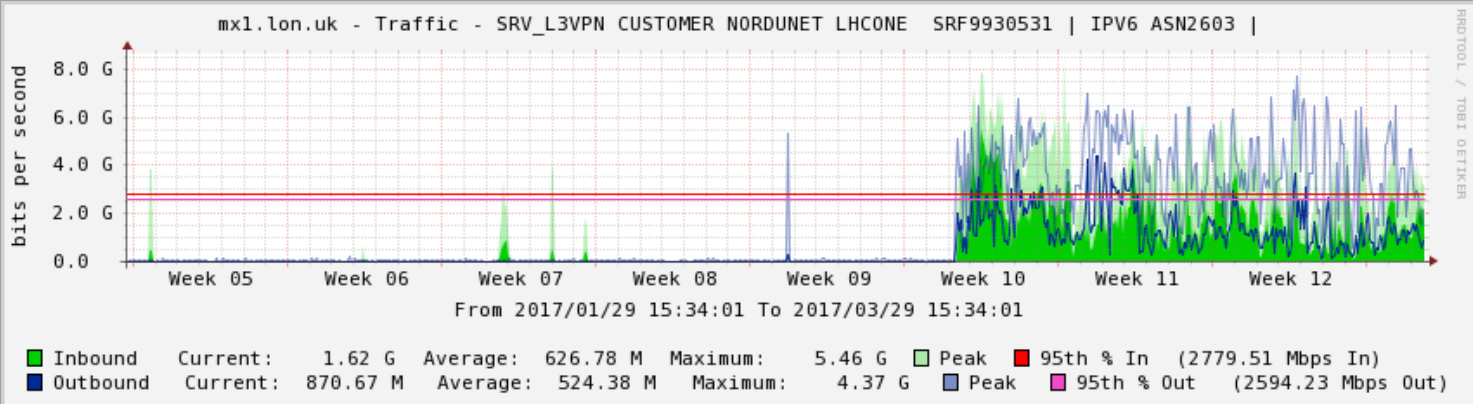






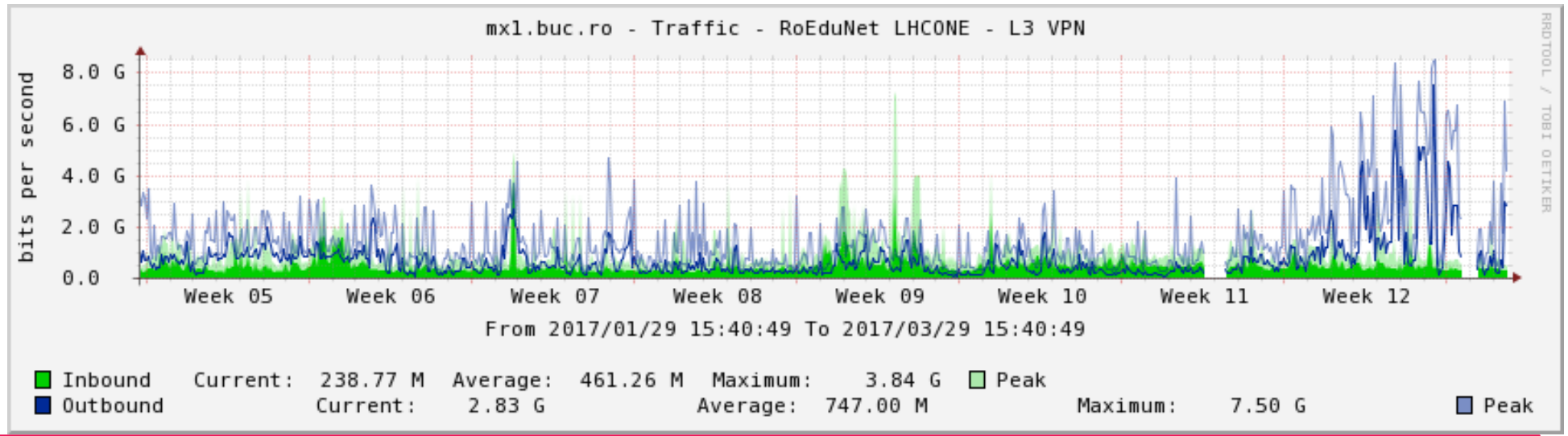
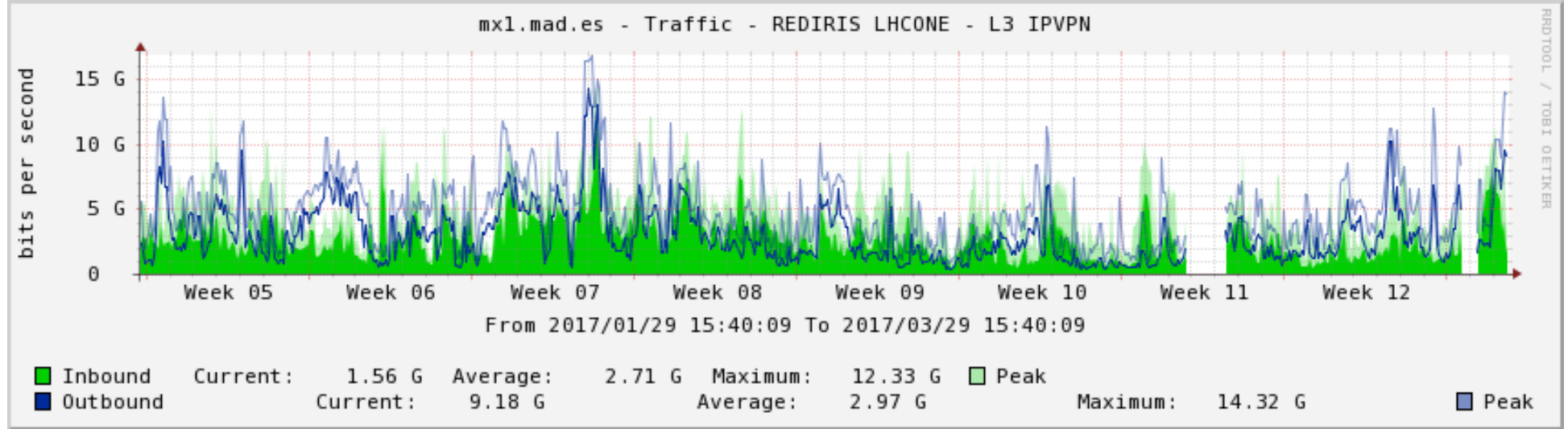


5.08 G Average: 1.02 G Maximum: 8.08 G Peak 95th % In (4988.32 Mbps In)
 1.09 G Average: 1.10 G Maximum: 17.63 G Peak 95th % Out (2820.22 Mbps Out)



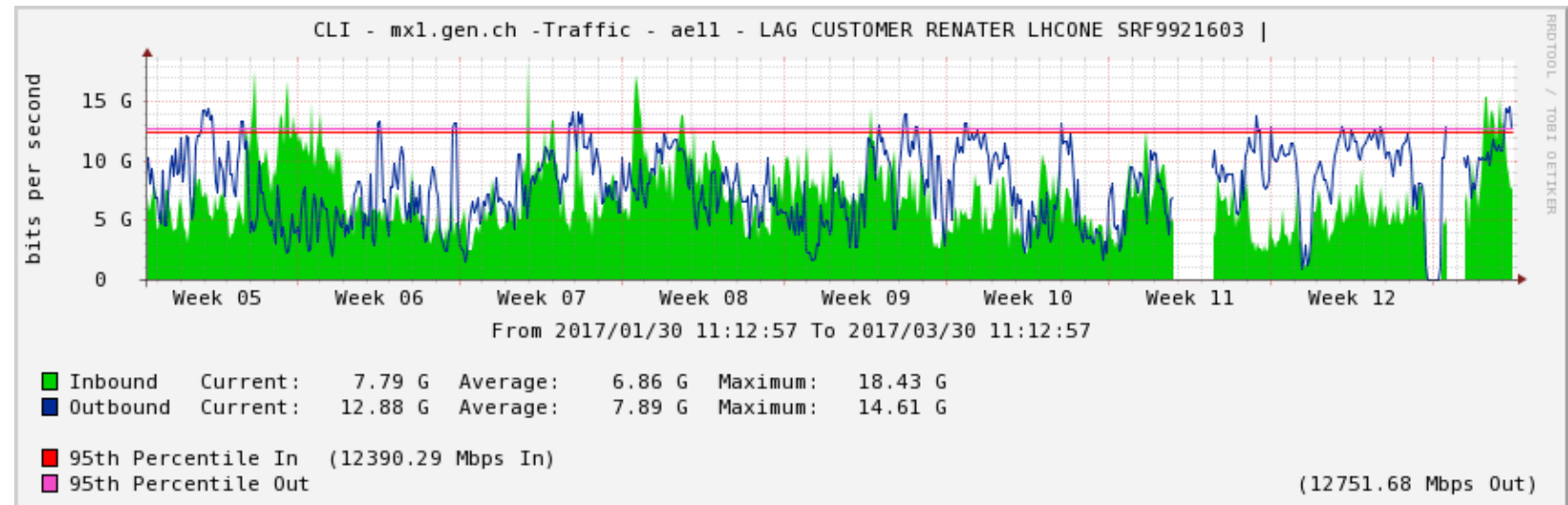
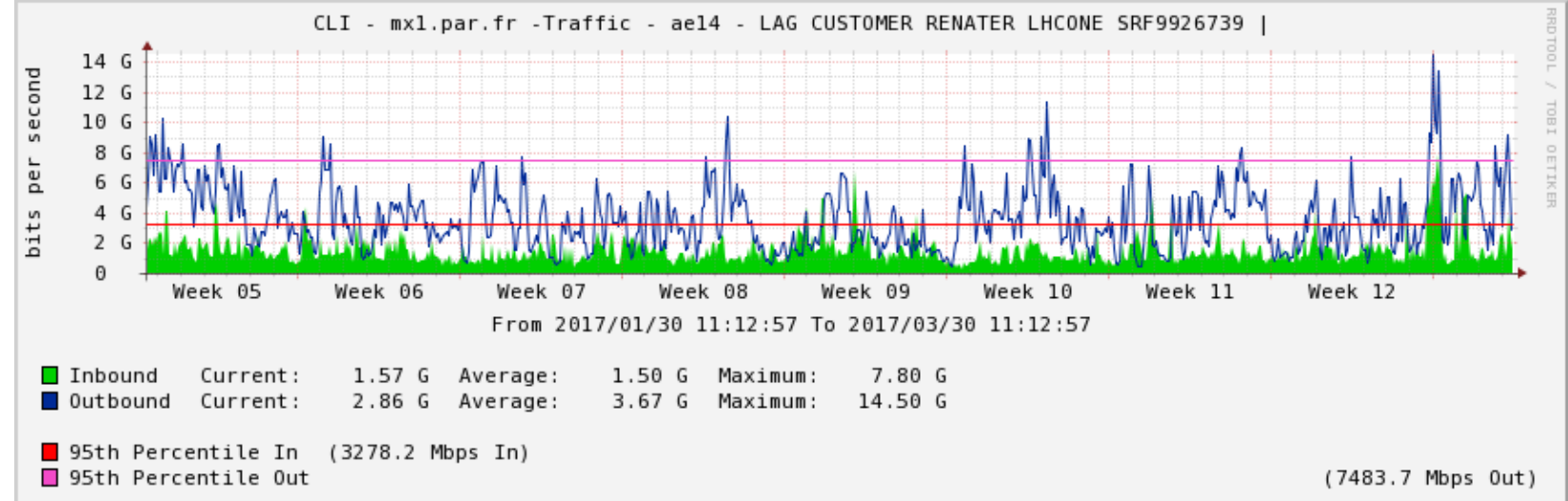


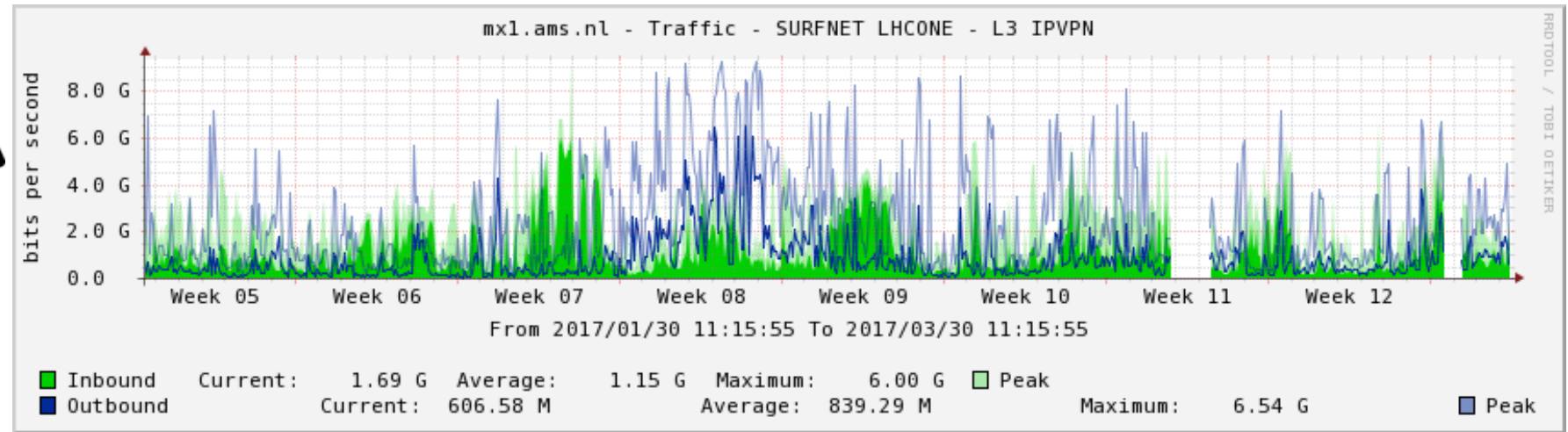
- Added a new T2
- Upgrading 20G->30G

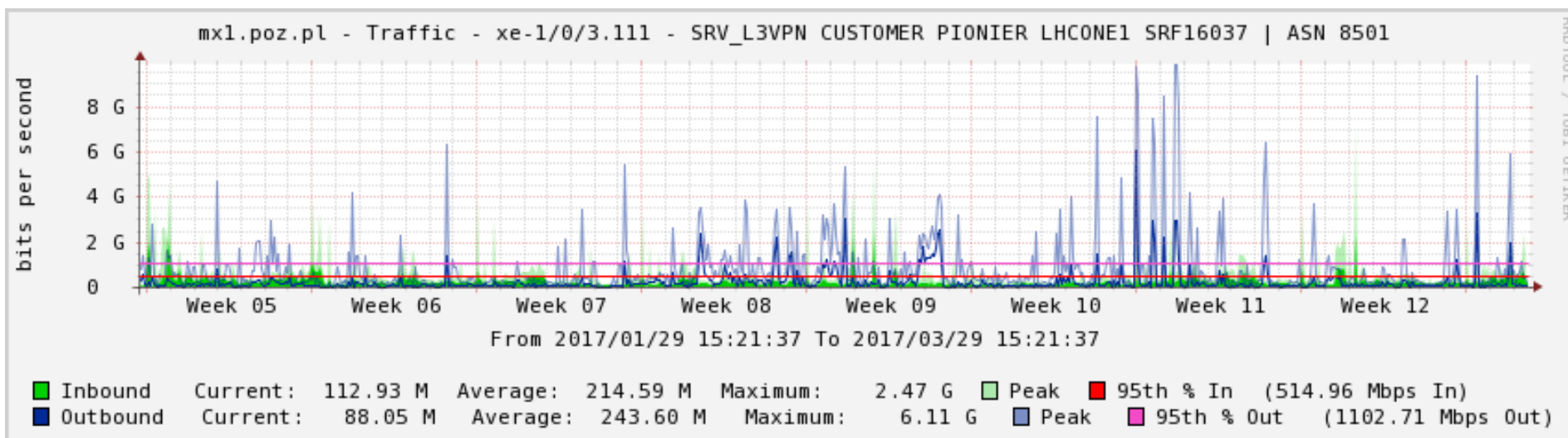
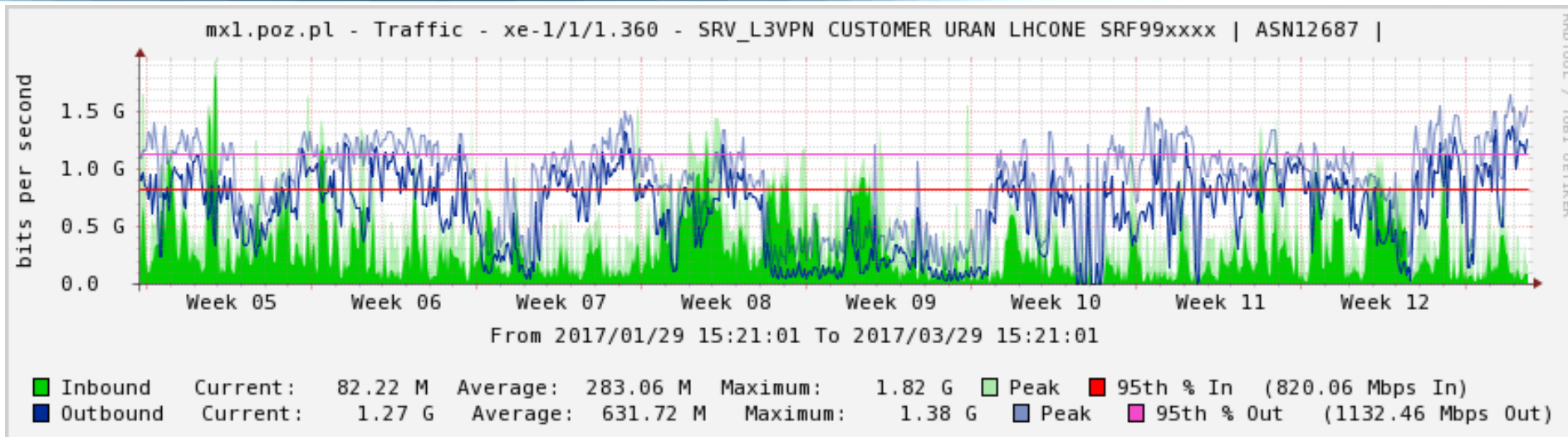




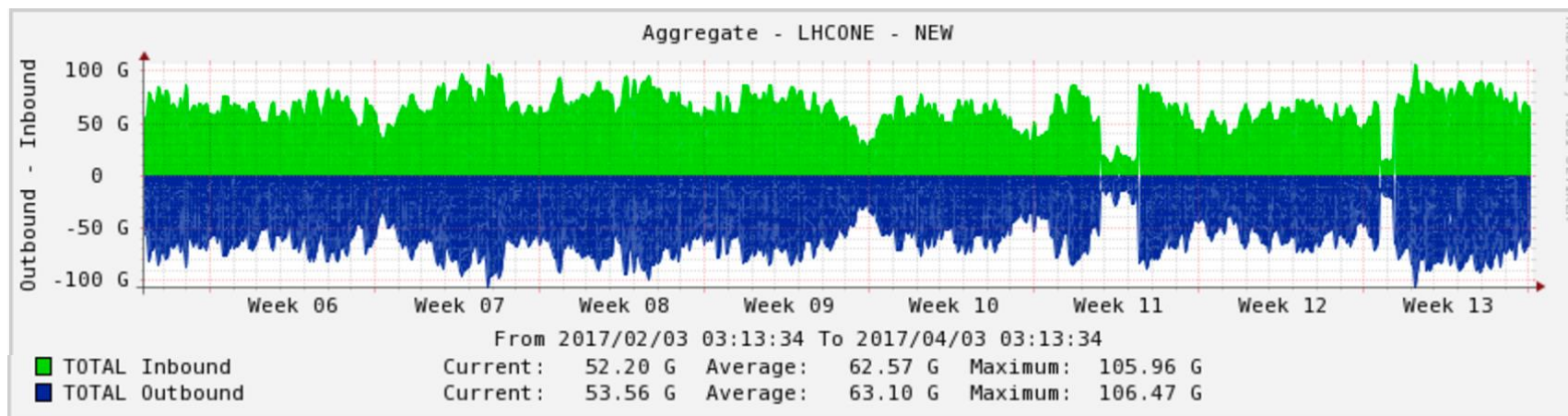
CONNECTEUR DE SAVOIRS



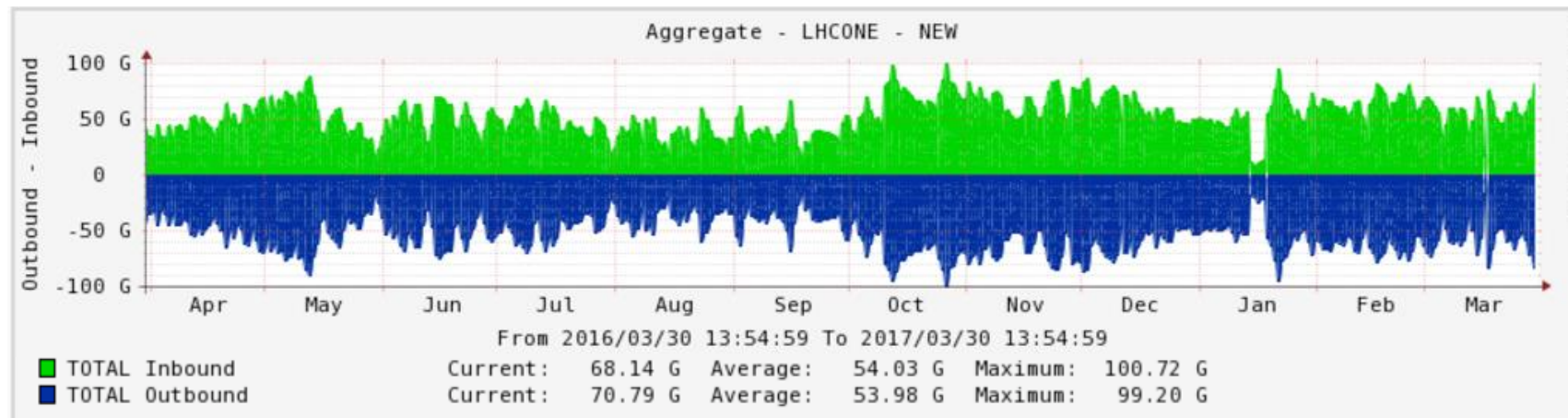


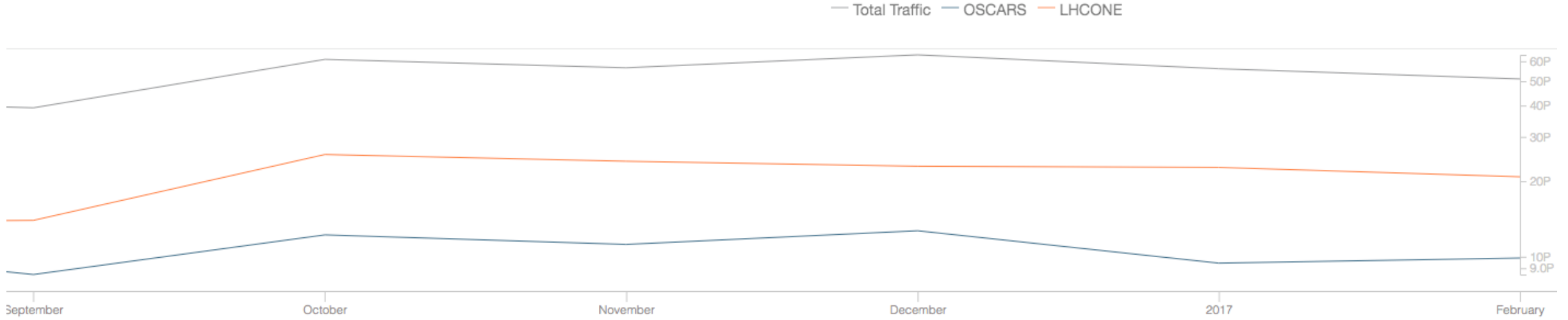


2 months



Last year





◀ February 2017 ▶

	Bytes	Percent of Total	One Month Change	One Year Change
OSCARS	9.88PB	19.4%	+4.77%	-5.55%
LHCONE	20.80PB	40.8%	-8.25%	+85.5%
Normal traffic	20.34PB	39.9%	-15.0%	+2.66%
Total	51.03PB		-8.94%	+23.0%

[ATLAS Great Lakes Tier 2](#)

[ATLAS Northeast Tier 2](#)

[Brookhaven National Laboratory](#)

[CERN](#)

[California Institute of Technology](#)

[Duke University](#)

[Fermi National Accelerator Laboratory](#)

[Indiana GigaPOP](#)

[Indiana University](#)

[Pacific Northwest National Laboratory](#)

[Purdue University](#)

[SLAC National Accelerator Laboratory](#)

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[University of California San Diego](#)

[University of Chicago](#)

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[University of Illinois at Urbana-Champaign](#)

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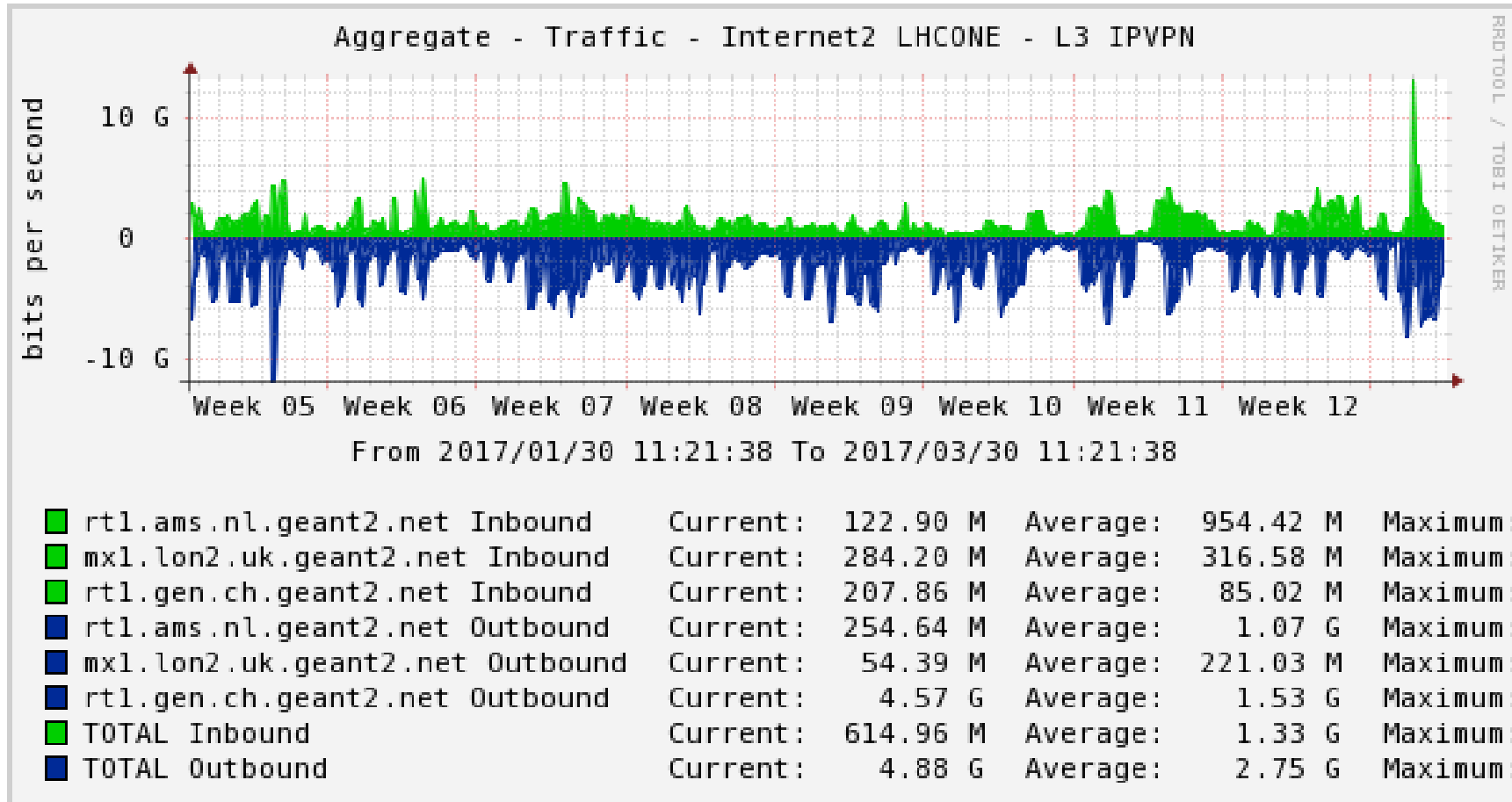
[University of Oklahoma](#)

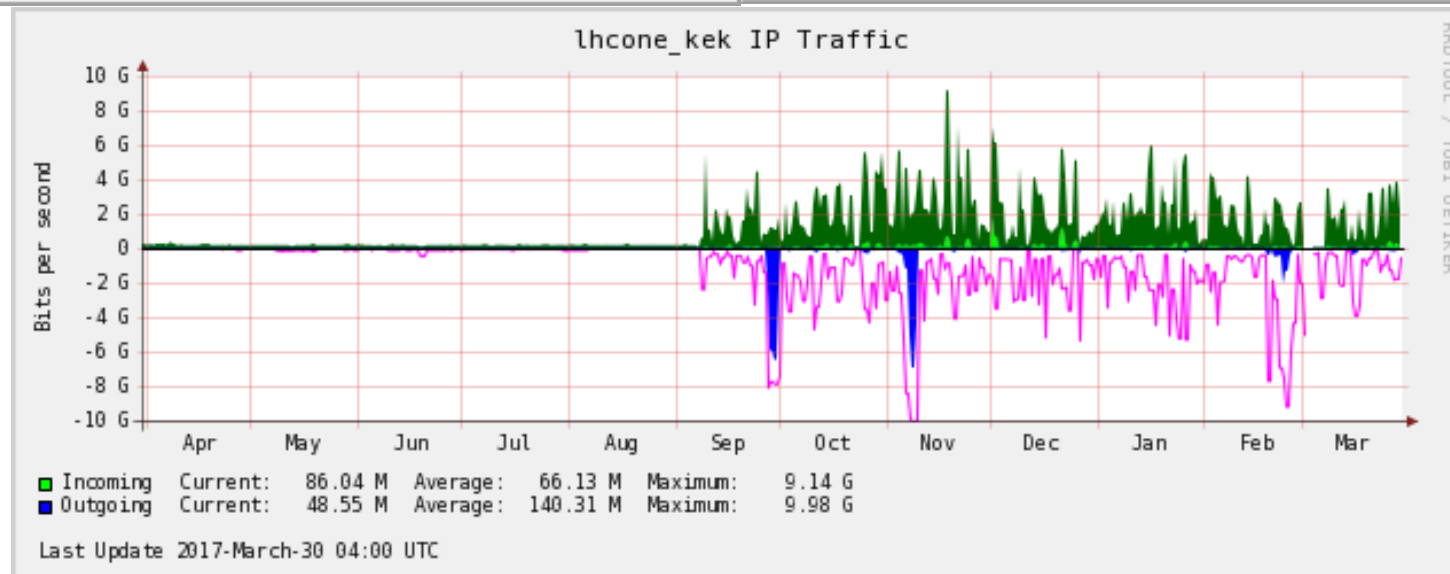
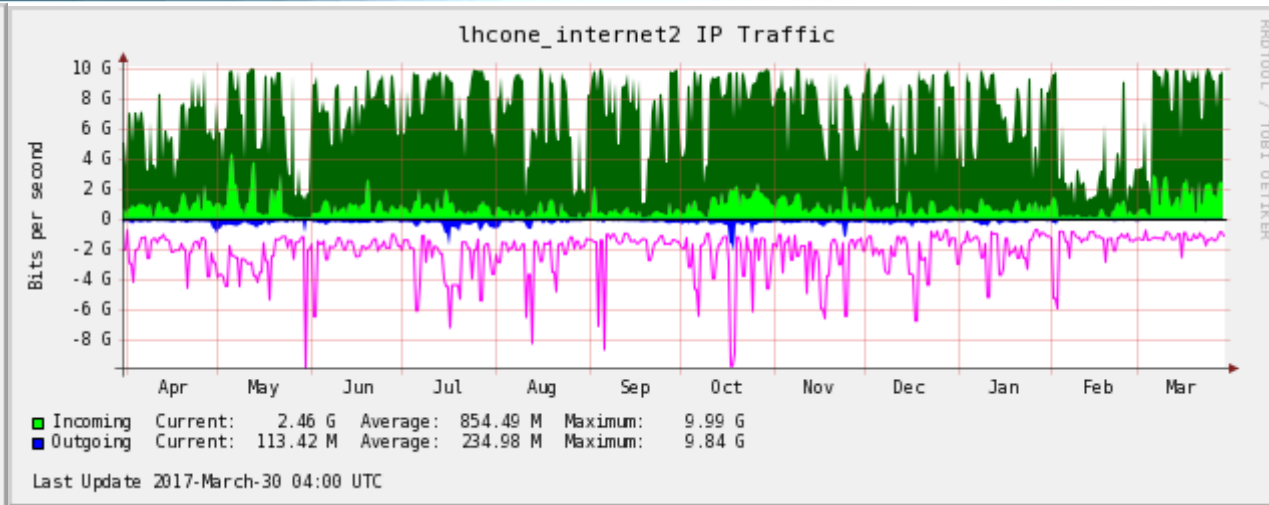
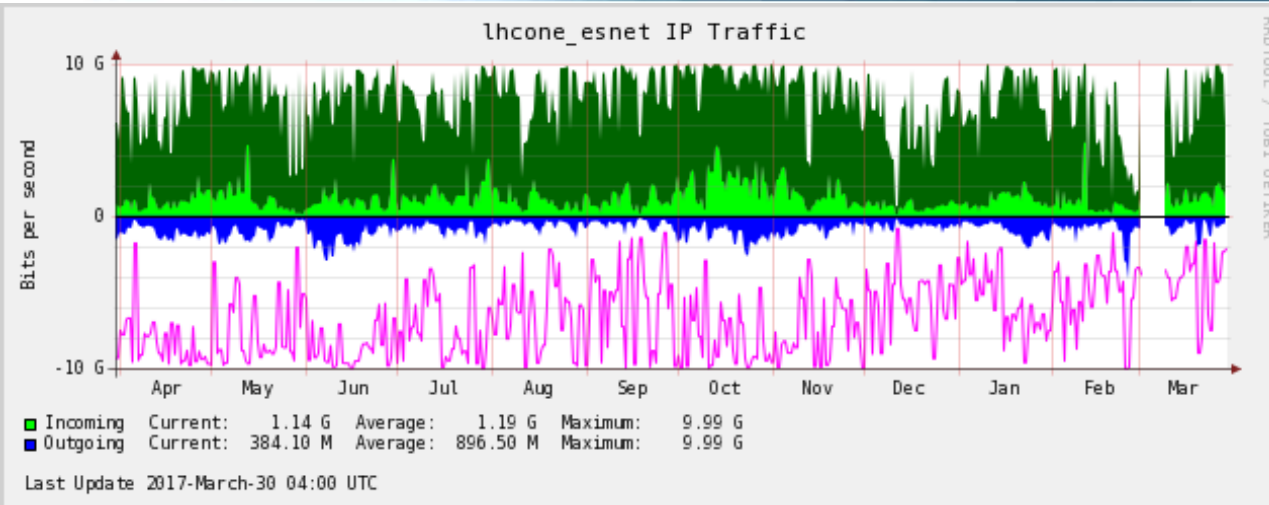
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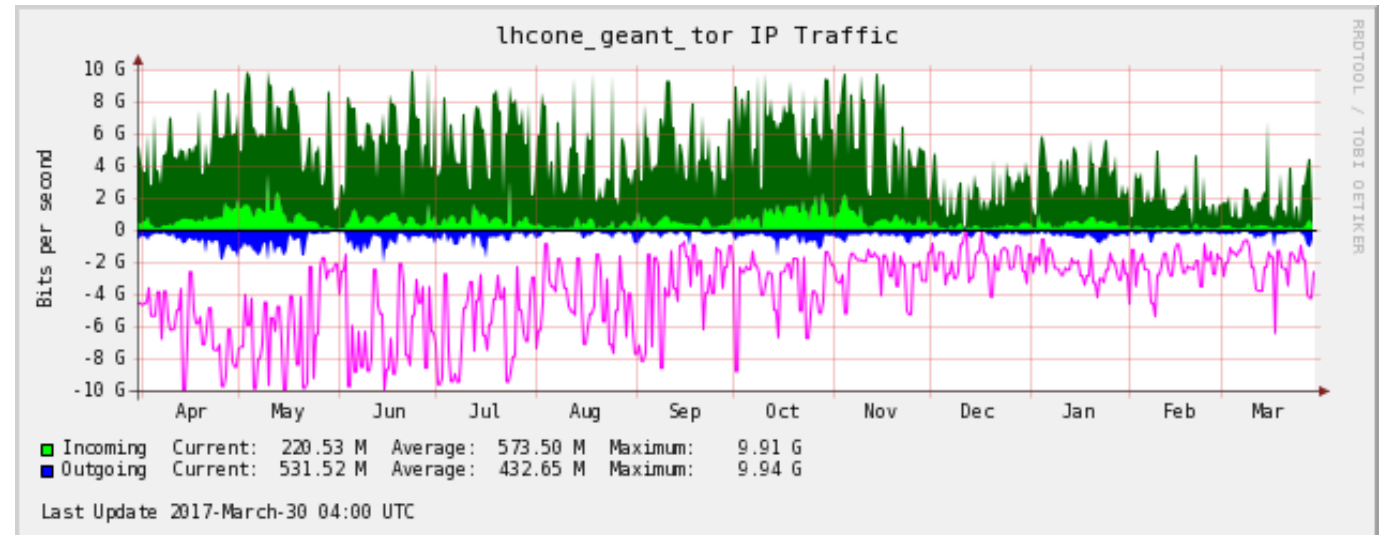
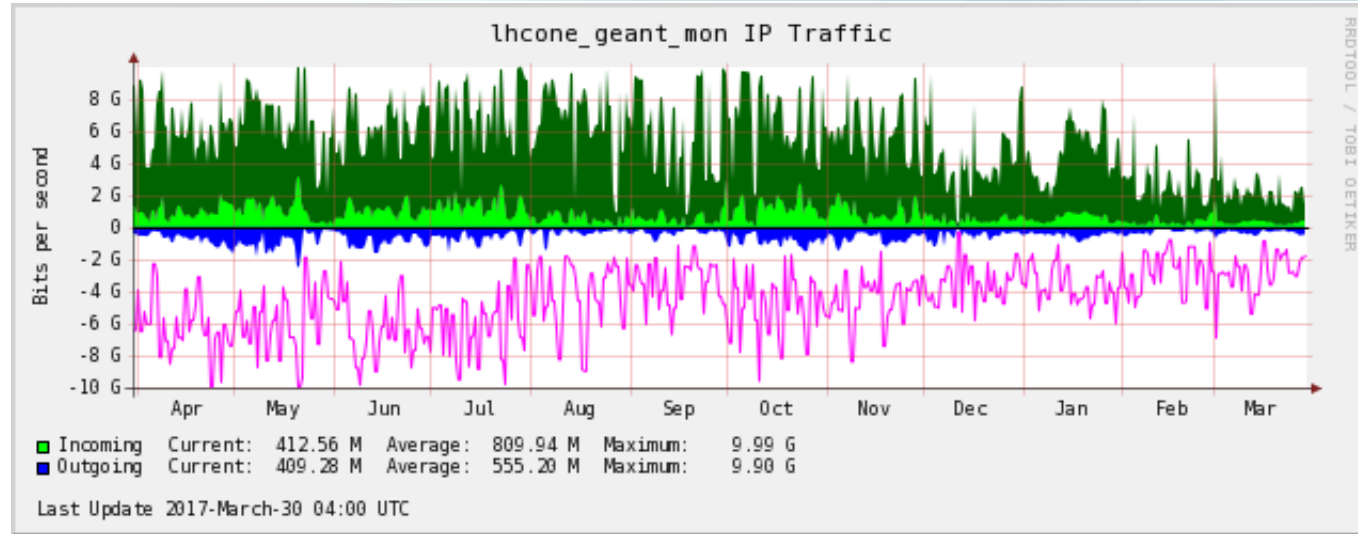
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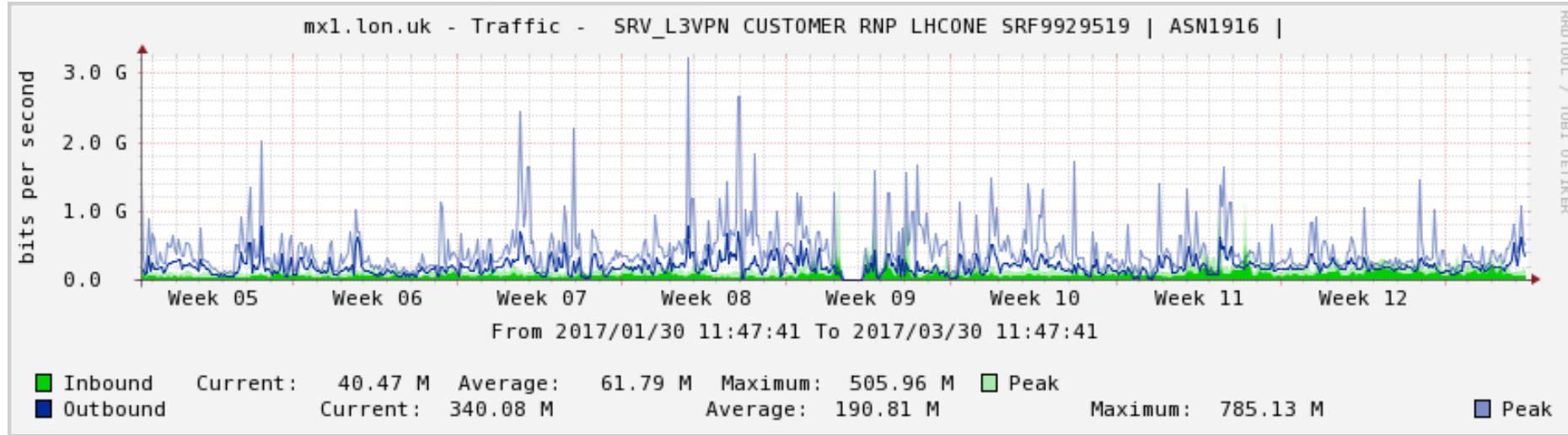
[Vanderbilt University](#)

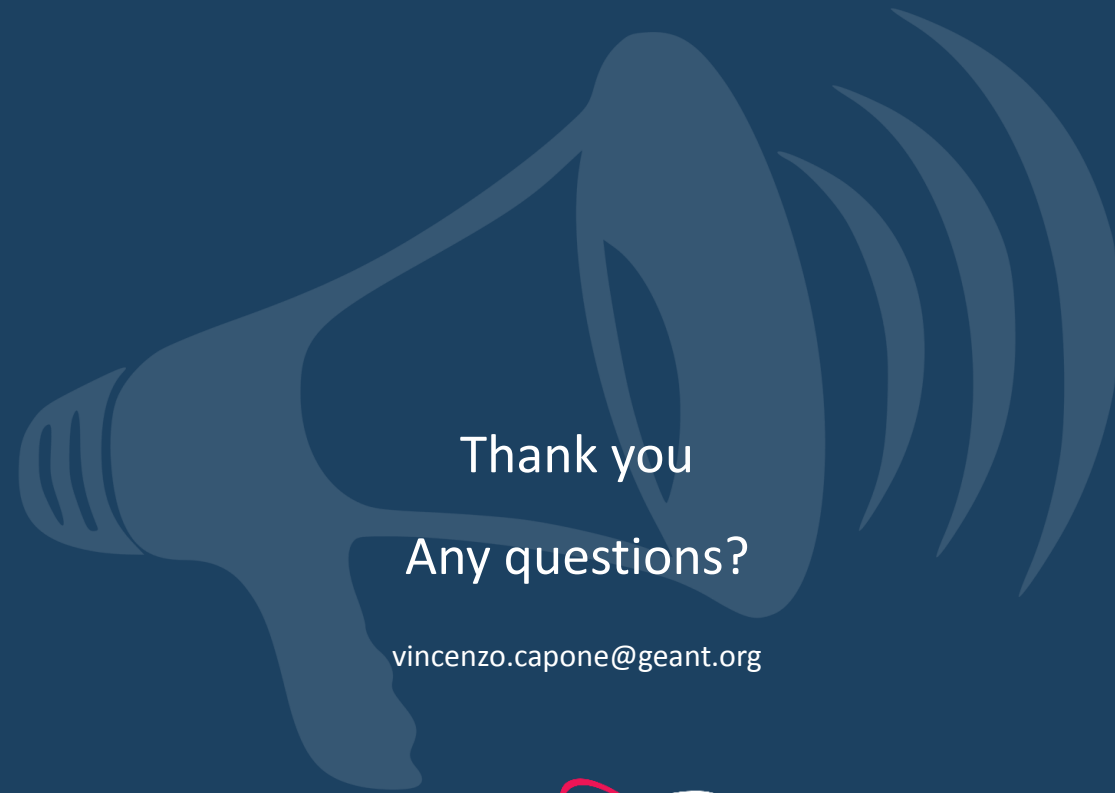
Traffic between Internet2 and GÉANT LHCONE VRFs











Thank you

Any questions?

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The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 691567 (GN4-1).