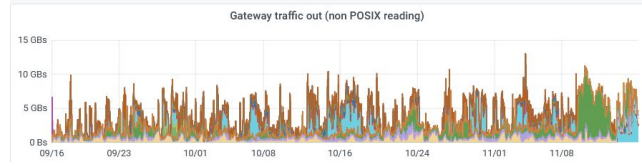
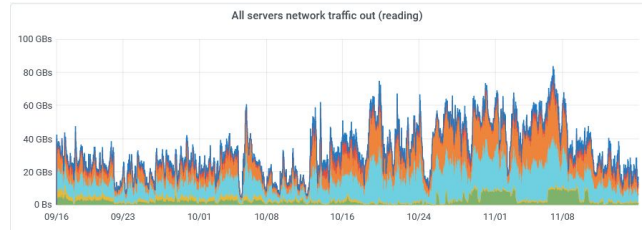
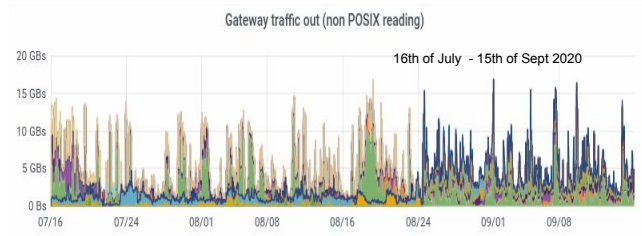
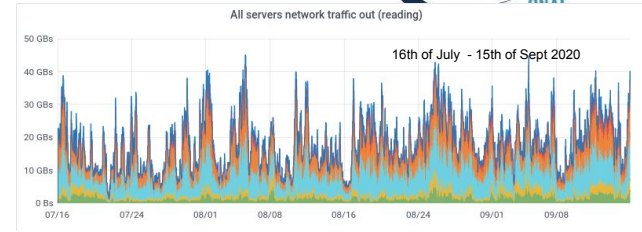
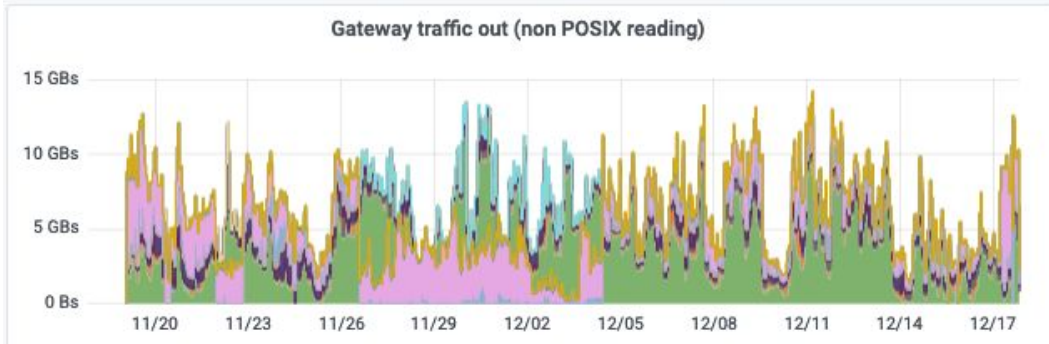
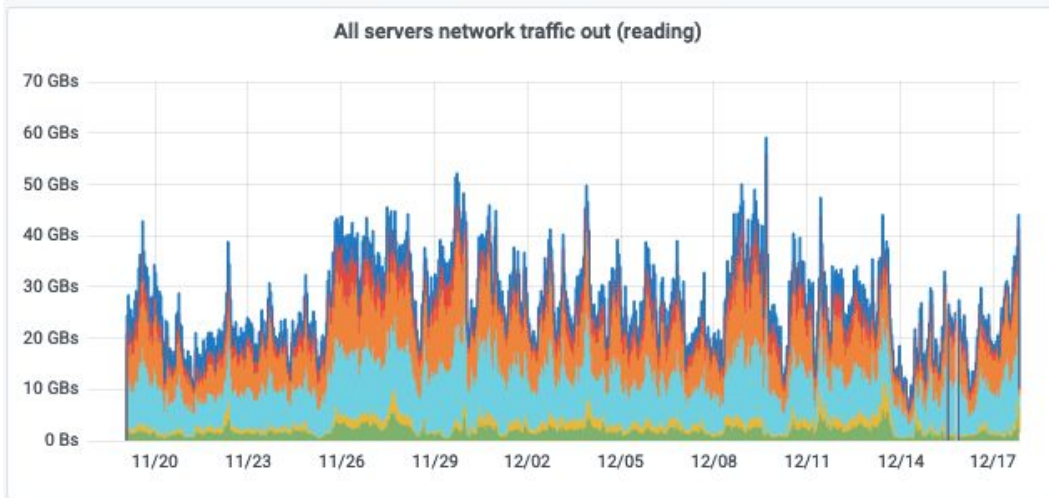


# State of Storage

CdG 18th December 2020



# Business as usual



# Disk storage in produzione

Installed: 41.07 PB    Pledge 2020: 45 PB    Used: **34.3 PB**

Sistema	modello	Capacita', TB	esperimenti	scadenza
ddn-10, ddn-11	DDN SFA12k	10752	Atlas, Alice, AMS	03/2021
os6k8	Huawei OS6800v3	3400	ALICE, GR2	2022
md-1,md-2,md-3,md-4	Dell MD3860f	2308	DS, Virgo, Archive	11/2021
md-7	Dell MD3820f	20	Metadati, home, SW	04/2021
md-5, md-6	Dell MD3820f	8	metadati	06/2021
os18k1, os18k2	Huawei OS18000v5	7800	LHCb, ALICE	2023
os18k3, os18k5, os18k5	Huawei OS18000v5	11700	ATLAS, CMS	2024
ddn-12, ddn-13	DDN SFA 7990	5060	GR2,GR3	2025
ddn-14, ddn-15	DDN SFA 2000NV	24	metadati	2025

# Recent problems

- ALICE
  - High load on 4 xrootd servers
    - Status improved with 7 servers
- CMS
  - SRM endpoint failing SAM test(GGUS ticket [149759](#))
    - Increased the memory available to StoRM backend and restarted the service
    - The StoRM developers planned a few actions which could improve the way in which the connections between StoRM backend and StoRM DB works
    - In the meantime, a new Sensu check restarts the backend in case 3 PtP checks fail in a row
- ARGO
  - 77TB in 3.2M files: to be archived (trying to decide how to group them) and moved to tape

# Novità sui servizi

- 4 GridFTP/WebDAV servers per storm-archive (xfer-archive.cr.cnaf.infn.it)
  - Configurata area di test StoRM WebDAV per Juno
  - In corso la migrazione sui server WebDAV delle storage area che venivano esposte con Apache e che fanno autenticazione OIDC con gruppi iam-t1-computing: Asfin, ~~Ntof~~, Newsdm, ~~Fazia~~, Ex4cov
  - 2 server sono anche XrootD per Padme (lettura) con alias xrootd-padme.cr.cnaf.infn.it
    - 1 è anche XrootD per Juno (lettura e scrittura, area di test, no storm)
- Stress test per ESCAPE (endpoint StoRM WebDAV xfer.cr.cnaf.infn.it condivisi con ATLAS) a inizio dicembre: ok
- ATLAS ha HTTP PTC in produzione e SRM+HTTP in produzione (GGUS ticket [149954](#))

# Globus retirement, Brian Bockelman @GDB

## Proposed Timelines

We all work better with a strawman to argue against:

- **March 2021:** Baseline services for WLCG sites includes HTTP-TPC endpoint.
- **July 2021:** IAM services available, including VOMS endpoint.
- **October 2021:** All WLCG pilot factories have the ability to submit to CE using WLCG tokens.
- **December 2021:** VOMS-Admin shutoff; IAM becomes authoritative identity provider endpoint (including VOMS endpoint).
- **January 2022:** OSG ends support for Grid Community Toolkit. Globus GridFTP support no longer required at WLCG sites.
- **March 2022:** Baseline services for WLCG sites include token support for HTTP endpoints.
- **October 2022:** Rucio transfers performed with token auth in production.
- **March 2023:** Experiments stageout performed via tokens.
- **March 2024:** X.509 client auth becomes optional.
- 2025 serves for schedule contingency.
- **Token transition must be done by 2025** to allow for experiments to complete their other HL-LHC activities.

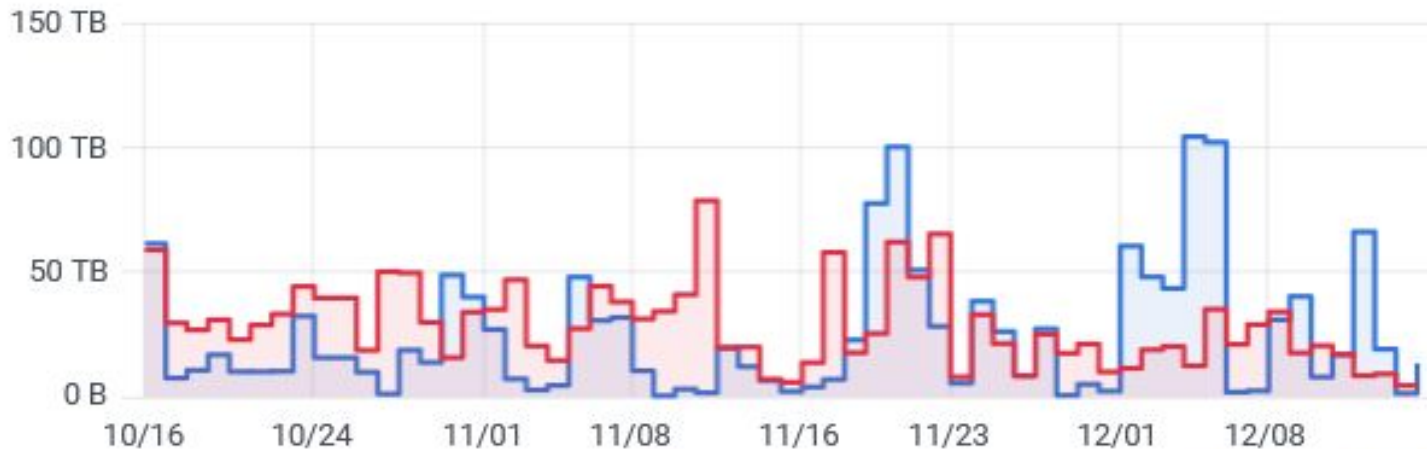
I don't claim this must be our schedule – but it is along the lines of what we need to coordinate the community.



# Stato tape

15 October - 15 December 2020

MSS bytes in/out (per day)



	<b>min</b>	<b>max</b>	<b>avg</b>	<b>current</b>	<b>total</b>
— out traffic (recalls)	380 GB	104.2 TB	24.6 TB	13.4 TB	1.4736 PB
— in traffic (migrations)	4.5 TB	78.6 TB	27.9 TB	4.5 TB	1.6717 PB

- 13 PB liberi (complessivamente sulle 2 librerie). Usati 83 PB
  - Installati 8 PB su nuova libreria questa settimana
  - Solo no-LHC scrivono ora su vecchia (2 PB spazio libero)
    - A breve sposteremo scrittura di alcuni esperimenti su nuova libreria
- Valutazioni in corso su futuro della vecchia libreria
  - In vista dello spostamento al tecnopolo