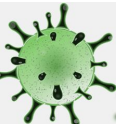
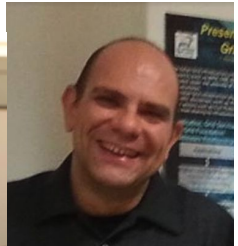
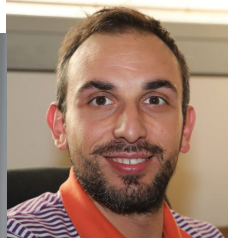


State of Storage

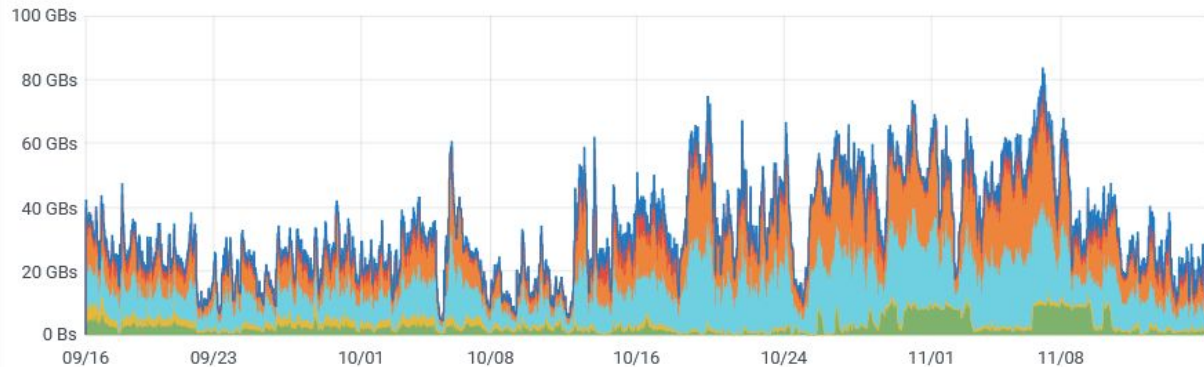
CdG 20th November 2020



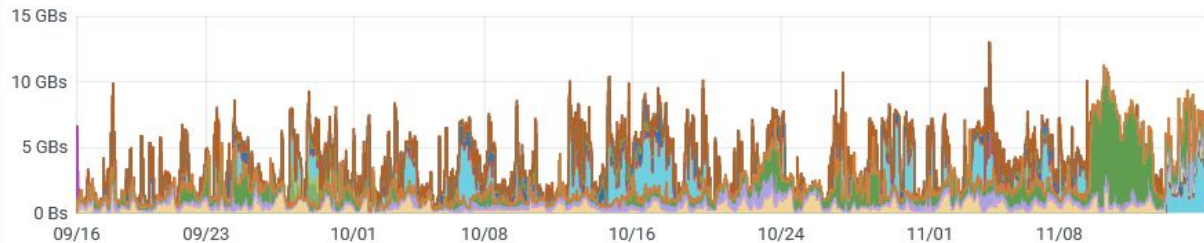
Business as usual

Saturazione (quasi) link
400Gb CINECA-CNAF

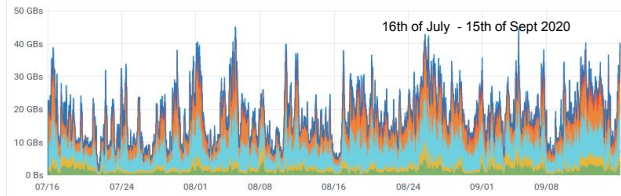
All servers network traffic out (reading)



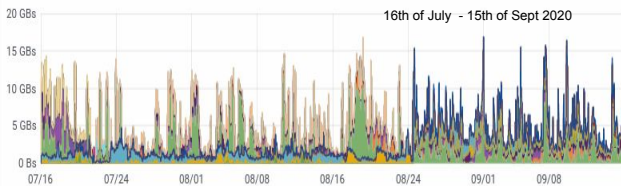
Gateway traffic out (non POSIX reading)



All servers network traffic out (reading)



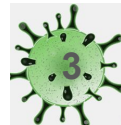
Gateway traffic out (non POSIX reading)



Disk storage in produzione

Installed: 41.07 PB Pledge 2020: 45 PB Used: **32.6 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 (3 over 4) xrootd servers
 - Changed configuration to use 1 redirector in front of 4 servers (yesterday)
 - Lower load but still service restart

- CMS

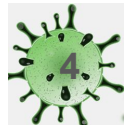
- Transfer problems related to srmReleaseFile failures (GGUS tickets [149104](#), [149144](#), [149155](#))
- A StoRM bug with xattr libraries in CentOS7, solved with StoRM release 1.11.19
- FTS failures in case of srmReleaseFile with expired token (GGUS ticket [149215](#))
 - FTS will not report the transfer as failed in next release

- ATLAS

- jobs failing due to failed to transfer files using rucio (GGUS tickets [149474](#))
 - The experiment workflow here is not clear, i.e. the reason why they do not directly access fs from wn
 - Waiting for reply

- ARGO

- 77TB in 3.2M files: to be archived (trying to decide how to group them) and moved to tape

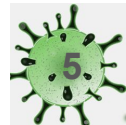


File di dimensione 0

Da controllo di settembre:

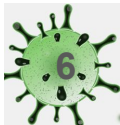
	Tot files	Size 0 files	% size 0 files
ALICE disk	241735401	41169	0,02
ALICE tape	6535492	75805	1,16
ATLAS disk	19321176	58486	0,30
ATLAS tape	15009688	22897	0,15
CMS disk	2919436	3189	0,11
CMS tape	7761359	192	0,00
LHCb disk	42524169	912470	2,15
LHCb tape	4467837	488	0,01
gpfs_data	128254660	2137662	1,67
gpfs_archive	22521838	140909	0,63
TOTAL	491051056	3393267	0,69

- Quasi tutti i file vuoti eliminabili sono stati eliminati
 - manca risposta di Juno
- Motivi diversi
 - ATLAS e LHCb: PrepareToPut che ha successo e poi nessun trasferimento
 - LHCb: fallimenti causati dal restart di GridFTP da parte di Puppet (poi risolto)
- Controllo da ripetere a medio termine



Ceph Testbed Deployment

- Ceph test cluster installed
- Hardware
 - 8 nodes
 - 4 jbods (SAS) 60 X 8TB disks → total 1920TB RAW space
- Further test performed:
 - Single client long lasting tests: resolved issue on a single disk → test successful
 - Test using multiple clients (55 Worker nodes) → successful (bandwidth and stability)
 - Setup of Storm WebDAV using CephFS as storage backend:
 - Storage Area setup OK
 - Proxy auth OK
 - Token auth OK



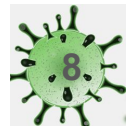
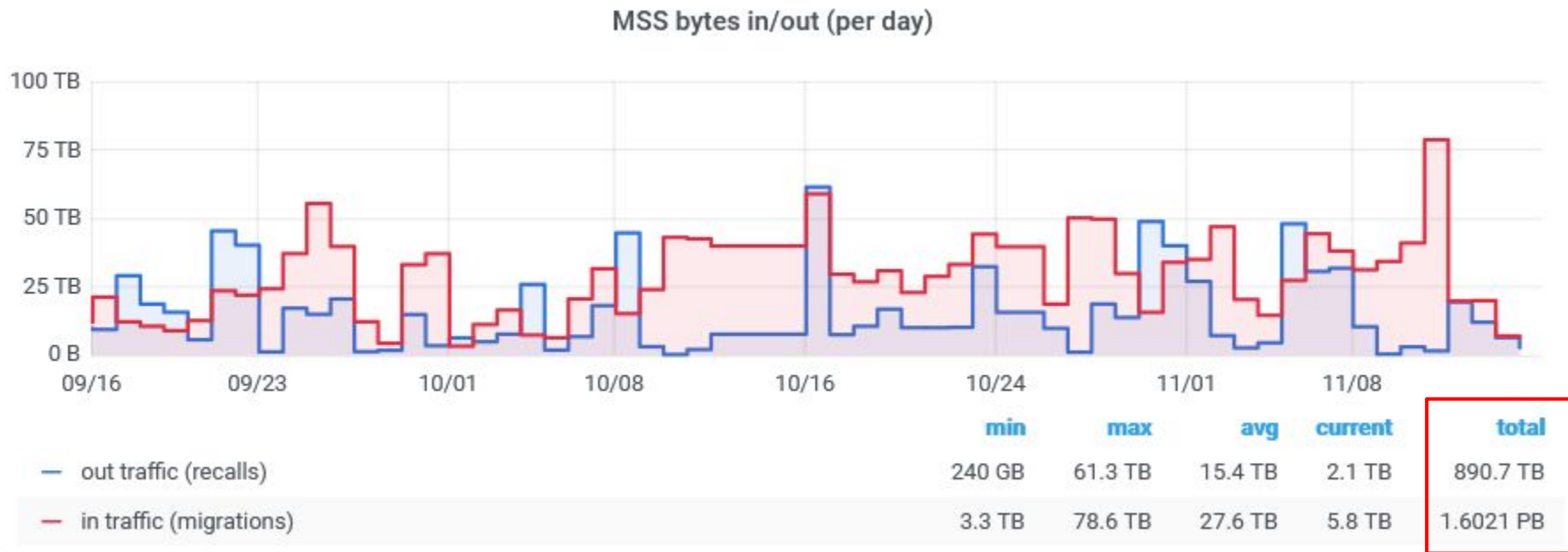
Novità sui servizi

- Migrazione a CentOS7 e GPFS 5 completata
- 4 nuovi gridftp/webdav servers per storm-archive
- VO muoncoll.infn.it abilitata su storm-archive
- VO cta-lst (IAM) abilitata su storm-archive per trasferimento dati da PIC
- XRootD in lettura per Padme: xrootd-padme.cr.cnaf.infn.it (2 host)
- StashCache aggiornata a XRootD 5 per Virgo su ds-914.cr.cnaf.infn.it
- XRootD origin e cache per il progetto ESCAPE su xs-404.cr.cnaf.infn.it (container) con fs dedicato.
 - Token + HTTP requests
- Settimana di stress test per ESCAPE (endpoint StoRM WebDAV xfer.cr.cnaf.infn.it condivisi con ATLAS)
- Da lunedì ATLAS HTTP-TPC in produzione



Stato tape

16 September - 15 November 2020



Stato tape

- 4.5 PB liberi (complessivamente sulle 2 librerie). Usati 85 PB
 - Scritture CMS spostate su nuova libreria
 - Solo no-LHC scrivono ora su vecchia (1.5 PB spazio libero)
 - Negli ultimi mesi poca scrittura no-LHC (500 TB in 5 mesi), ma previsione di invio dati almeno di Icarus e Xenon
 - All'occorrenza scritture verranno spostate su nuova libreria
 - In arrivo 8 PB su nuova libreria per arrivare a (e superare) pledge 2020 (95 PB)
- Valutazioni in corso su futuro della vecchia libreria
 - In vista dello spostamento al tecnopolo

