

Introduzione

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Stato Tier1

- CPU – a pledge 2020
 - In produzione CPU 2019 (→ slide Andrea)
 - CPU 2020-21 disponibili fine Q1 2021 (+240 kHS06)
- Disco 2020 in consegna
 - 40.5 PB netti installati (pledge 2020: ~45.5 PB netti)
 - Tape a pledge 2020
- Intervento su router di frontiera non completato
 - Problemi con versione sistema operativo
 - In attesa soluzione da parte di Cisco
- Intervento su blindosbarre previsto per settimana 21/3
 - Ancora da definire se possibile sostituire ambedue le linee in una settimana o se necessari due interventi separati
 - Alimentazione da KS durante il giorno
 - 1! linea elettrica durante la notte
 - Tutti i servizi AT-RISK

Datalakes

Definition of “datalake” in our context: an infrastructure where CPU and storage capacity are loosely coupled (not necessarily co-located).

- Storages in the datalake needs to be connected by a fast and reliable network
- Storage might offer different QoS classes
- A content delivery system might help serving data from storage to CPUs

Mixed statements and experiences from the experiments about caching, latency hiding and remote data access.

All experiments declare interest in QoS but today we prototyped very little (except for disk/tape)

Regional datalake implementation ideas have been presented at DOMA meetings. Focus in 2021 is to prototype those ideas. DOMA ACCESS and QoS WG will merge into a “datalakes WG”, looking after that.

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.

Brian Bockelman
GDB 9/12/2020

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FEARLESS SCIENCE

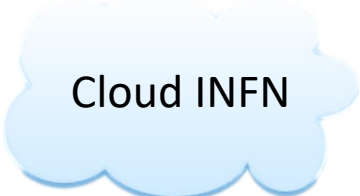


MORGRIDGE
INSTITUTE FOR RESEARCH

Problema router di frontiera

- Edge router (GPN)
 - Installato 8/7
 - Aggiornato 1/10 su consiglio di Cisco per risolvere problema di sporadica perdita di pacchetti
 - Durante aggiornamento riscontrati problemi peggiori (perdita di pacchetti quasi totale).
 - Riscontrato problema HW sul componente sospetto (dopo lungo troubleshooting con la casa madre).
 - Componente guasto fornito in sostituzione consegnato e configurato (ora in scorta fredda).
 - In attesa di secondo sw-router da affiancare a quello sostituito per fare la transizione più smooth possibile.
 - Non interessa LHCOPN/ONE
 - Impatto su Tier-1 limitato ad accessi su bastion e trasferimenti via GPN

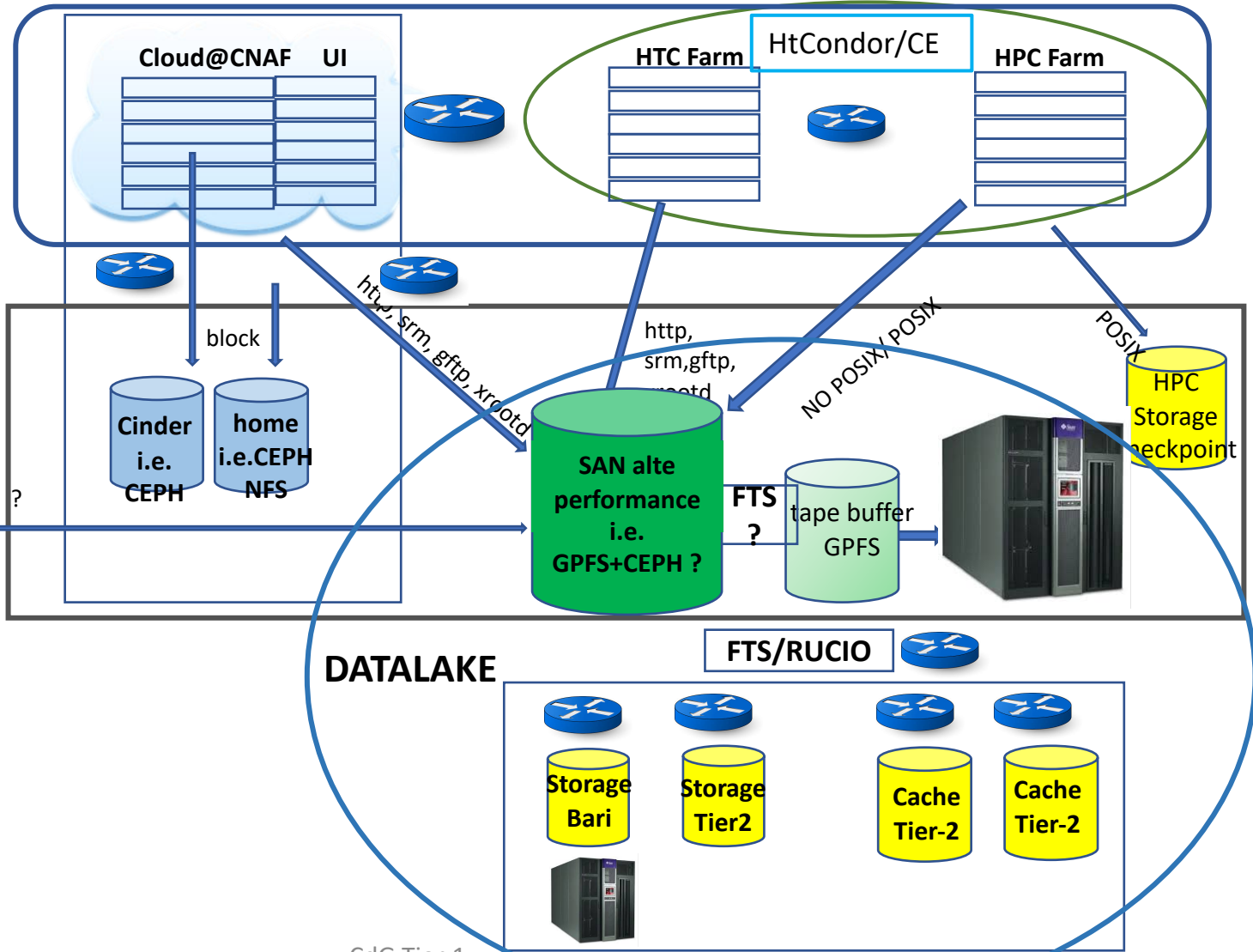
HTC TIER2 HTC Napoli HTC BARI



Cloud INFN



Leonardo



Experiment	2020			2021		
	CPU	DISCO	TAPE	CPU	DISCO	TAPE
	HS06	TB-N	TB	HS06	TB-N	TB
ALICE	73000	8823	11687	71400	8228	11948
ATLAS	95130	7920	19890	105300	9450	21150
CMS	84500	8840	28600	87100	10010	29900
LHCb	55760	6868	13362	97580	7633	12903
Total LHC TIER1	308390	32451	73539	361380	35321	75901
Belle2	16300	650	0	27133	650	250
CDF	0	0	4000	0	0	4000
FCC	0	33	3075	833	100	0
KLOE	11000	90	0	11000	33	3075
LCHF					100	0
Muon Collider				2500	150	150
NA62	3300	275	200	3300	275	200
PADME	4417	90	1780	4417	90	1780
LHCb Tier2	31708	0	0	50976	0	0
TOTALE GRUPPO I	66725	1138	9055	100159	1398	9455
AMS2	19300	2200	1000	21833	2400	1100
ARGO	0	120	1000			
AUGER	2908	615	0	3833	800	150
BOREX	2069	250	51	2069	338	56
CTA	5080	1500	400	5260	1565	400
CUORE	3650	400	0	3942	400	0
CUPID	433	15	10	906	25	10
CYGN0				167	20	20
DAMPE	13834	450	200	17306	550	200
DARKSIDE	4917	1590	300	4917	2290	1770
DUNE				500	15	10
ENUBET	500	10	0	500	10	0
EUCLID	0	1000	1000	0	1000	1000
FERMI/GLAST	833	15	40	833	15	40
GAPS				833	40	0
Gerda	40	50	45	40	60	90
Herd	4167	100	0	6111	200	0
Icarus	4000	1000	2000	4000	1000	2000
JUNO	3000	270	0	3833	620	100
KM3	300	250	200	300	250	200
LHAASO	300	60	0	300	60	0
LIMADOU	483	30	2	747	60	4
LITEBIRD				0	5	5
LSPE	1000	21	0	0	21	0
MAGIC	0	65	150			
NEWS	284	110	110	284	240	110
Opera	200	15	15	200	15	15
PAMELA	733	110	150	747	110	150
TRISTAN	500	10	0	583	40	0
Xenon100	1458	300	2000	1458	300	3000
TOTALE GRUPPO II	69989	10556	8673	81502	12449	10430
Virgo	40000	756	2468	40000	756	8673
TOTALE GRIP+Virgo	109989	11312	11141	121502	13205	19103
ASFIN	542	12	0	1042	212	0
EIC-NET				250	10	0
Famu	2932	23	15	2932	33	15
Fazia		50		0	50	0
FOOT	354	60	0	514	80	0
GAMMA/AGATA			1660	0	0	1710
JLAB12	5000	50		4167	50	0
n-TOF	7967	5		8390	10	0
NEWCHIM/FARCOS		30	510	0	30	610
Totale GRUPPO III	16795	230	2185	17295	475	2335
All experiments	501899	45131	95920	600336	50399	106794
All w/ overlap factor	418249	45131	95920	500280	50399	106794
CNAF TOTAL (PLAN)	460000	45131	95920	530000	50399	106794