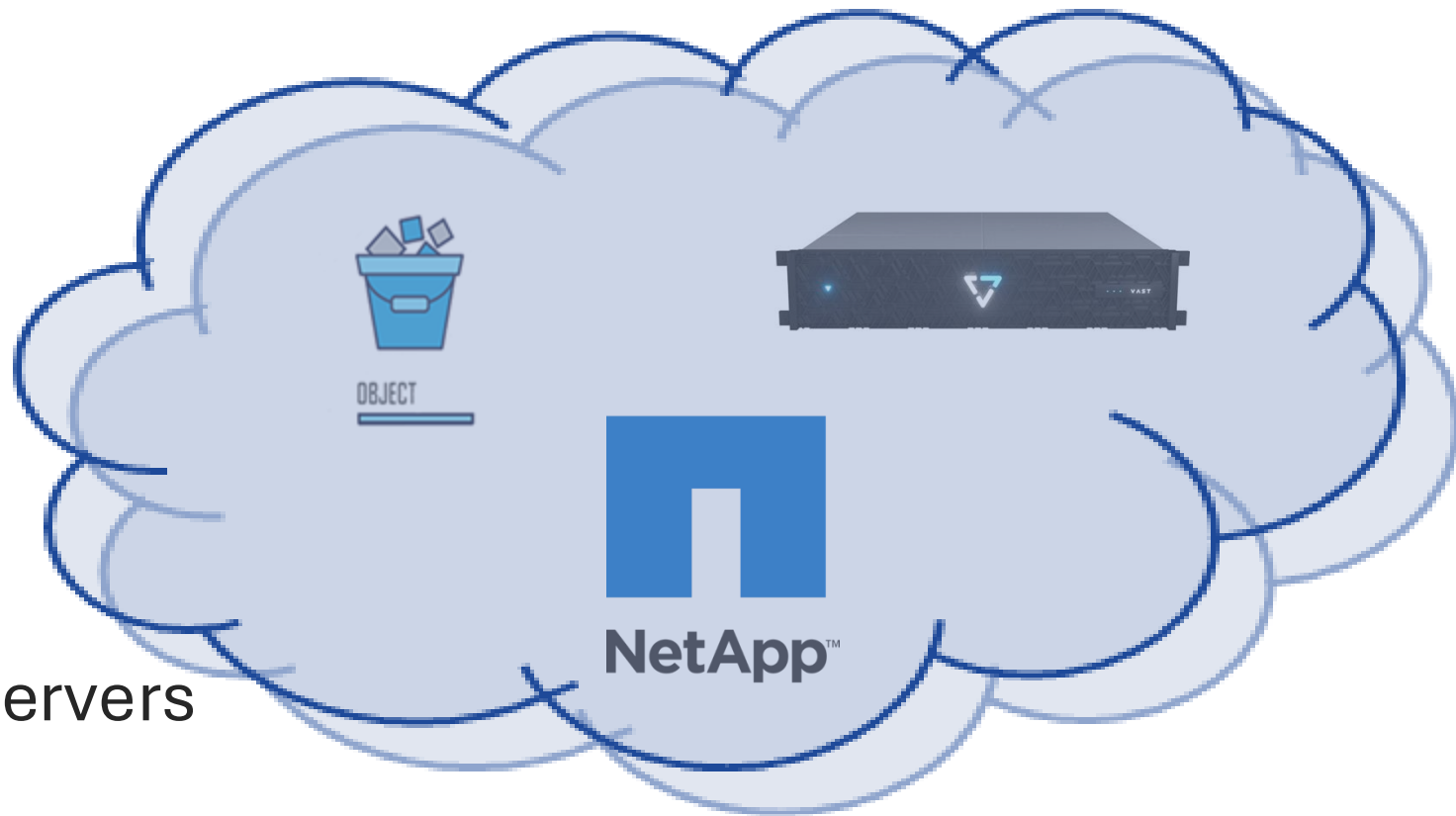# LC NAS Services
March 2025

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New and Update Storage Services

- SCF and RZ Vast system

- Vast DB

- LC's S3 service

- Refresh of /usr/workspace servers

Vast Systems

- CZ / RZ Vast
  - One set of servers
    - 16 Cnodes - client connections – 100Gb Ethernet
    - 14 Dnodes – data storage – 44 16TB SSD per HA node pair
  - **NEW** - RZ /p/vast1 just deployed last week ~ 1 PB

- SCF Vast ~ 2 PB
  - 24 Cnodes – client connections – 100Gb Ethernet
  - 24 Dnodes – data storage – 11 16TB SSD per HA node pair

- Default quota the same for all systems, 20TB and 1M files.

Vast DB

- Vast – more than just a storage server, they are delivering numerous data services.

- The VastDB interface is a SQL like interface to tables of data uploaded to the system. Not the normal POSIX files.

- Queries can be made with Python or Trino (open-source parallel query engine) - Center for Predictive Bioresilience

- Also testing S3 on Vast

- Let us know if you have any possible use cases
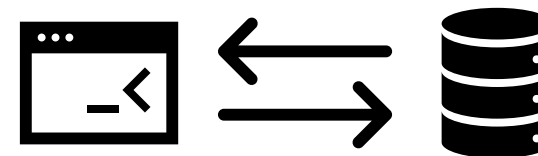
LC's S3 Service

- Amazon S3 compatible storage service deployed with the Persistent Data Services environment (see Learn more at: hpc.llnl.gov/cloud).

- Available in CZ, RZ, SCF.

- Open side is now enabled to allow S3 access from outside of LC, enables movement of data in/out of LC (ie image capture from an experiment into LC for analysis/ML), fully automated.

- In the future, plan to have S3 available from Vast and HPSS.

S3 object (get, put, delete) via https – keys managed via LaunchIT

Refresh of Workspace servers

FlexGroup volume
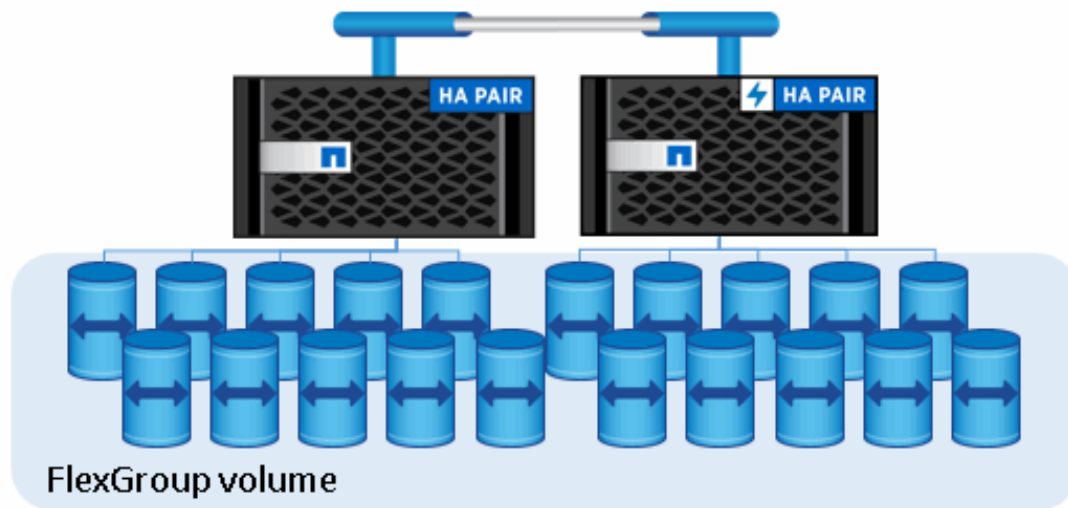
- Started CZ/RZ refresh last year 1 of 4 server pairs replaced.

- Waiting on budget approvals to do additional procurements

- New servers are all flash based