Data ONTAP GX

Solutions for High Performance Technical Computing

November 16, 2006

Data ONTAP GX Architecture (Internal)

▸ **No client code changes**

▸ **Standard IP cluster fabric**

▸ **Linear performance scaling**

▸ **"NAS Switch"**

Client Access (NFS or CIFS)

GigE

N-Blade
- TCP termination
- Translation to SpinNP protocol
- VLDB lookup

D-Blade
- Caching
- Locking

GigE Switch

2Gb FC

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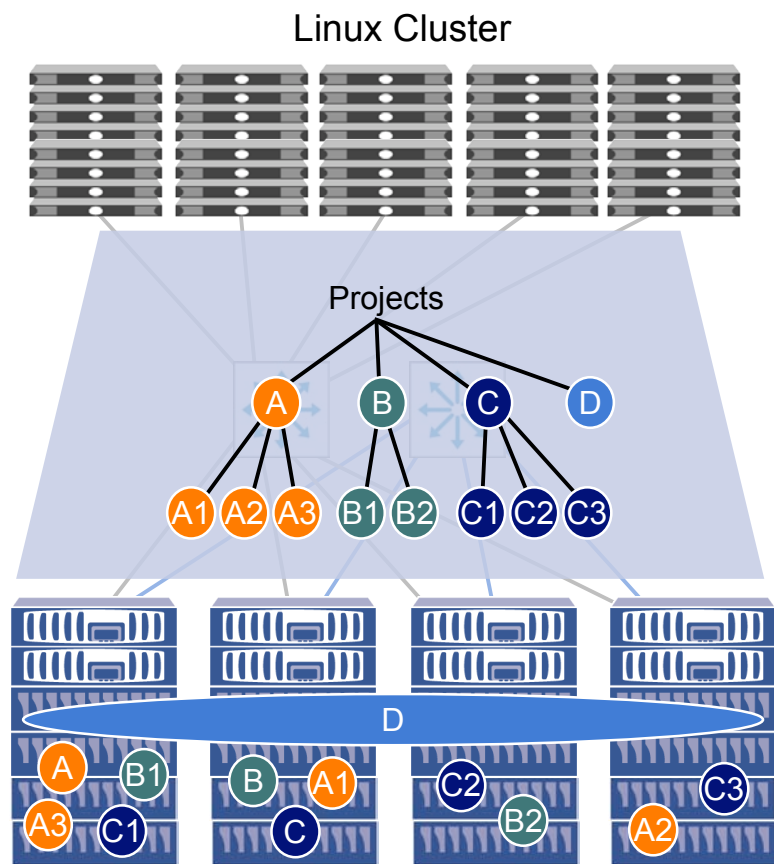
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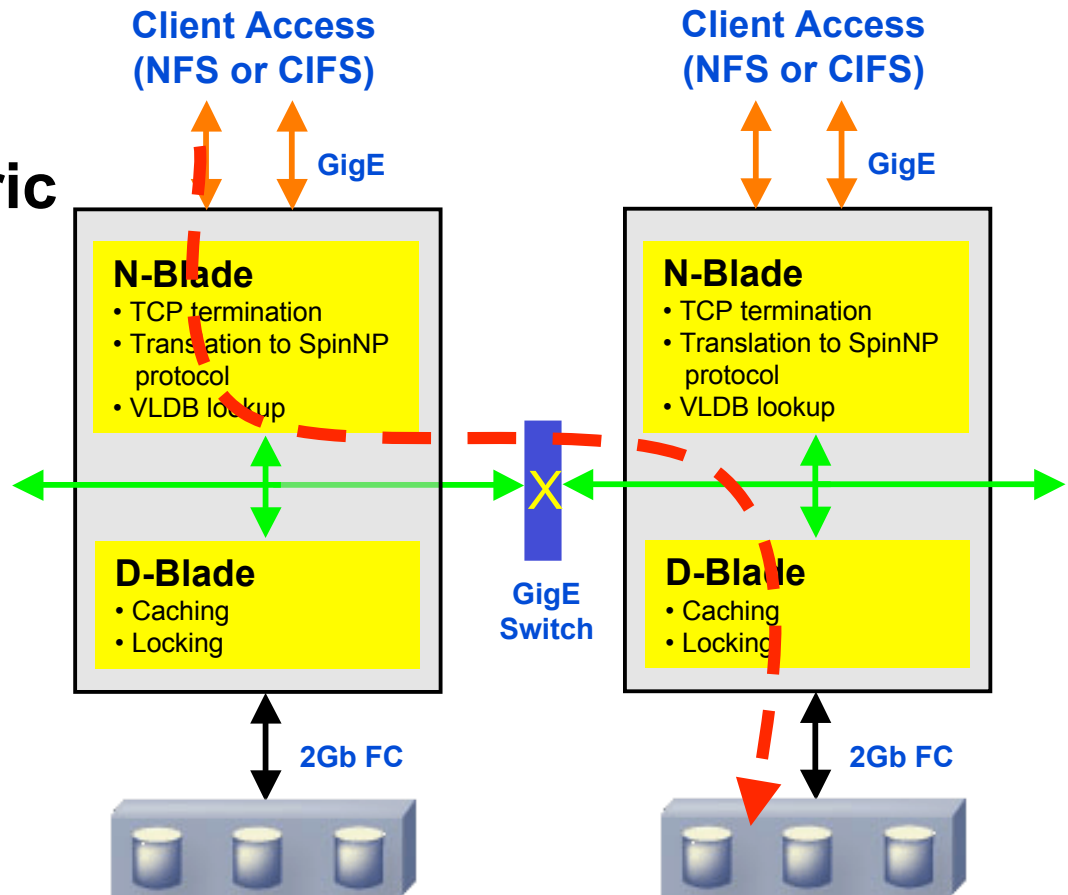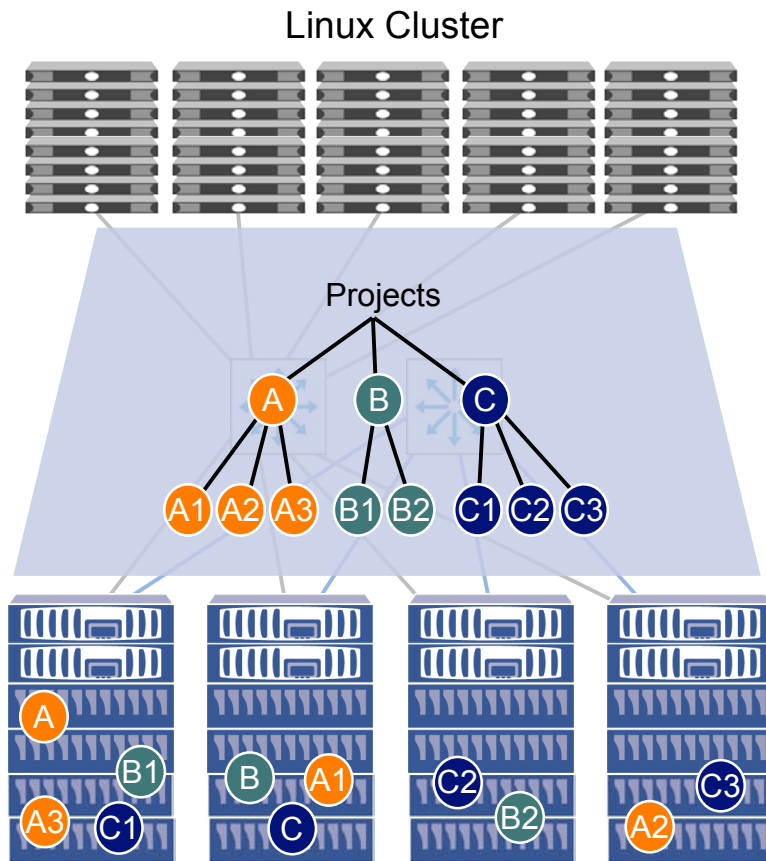
Use cases

– Optimize performance

– Eliminate "hot spots"

– Maximize disk utilization

While application is running

No need to touch clients

"Take back your nights and weekend"

Linux Cluster

Projects

Optimize performance for project A

FlexVol HPO (High Performance Option)

Linux Cluster

Projects

▸ **FlexVols span many nodes**
  – Multi-GB/s performance
  – Hundreds of TB capacity

▸ **Scale performance for critical files and directories**

▸ **Online expansion across add-on nodes**

▸ **Management simplicity preserved**

▸ **BOTH Striped and Switched storage options on same Storage Grid**

▸ **With HPO**

– **each read/write switched to actual data store**

– **very high aggregate read/write rates**

▸ **With pNFS**

– **each read/write goes directly to actual data store**

  • **switching overhead eliminated**

– **single client can manage multiple data paths**

  • **faster single stream performance**