



新世代儲存架構， 成就真正智慧商機！

【2020企業儲存趨勢論壇—高雄場】



台灣廣告業客戶環境現況與面臨挑戰

客戶環境現況

- 客戶為台灣某跨國廣告公司，員工人數 110 人。
- 客戶既有的儲存系統是使用 Open Source FreeNAS solution。
- 有做 HA 備份(兩台機器資料量大約 80TB)，容量目前用了4成左右，資料量持續快速成長中。



面臨挑戰

- 因為廣告業人員流動快，資料權限的管理設定移除，每次一有調動就牽一髮動全身，處理起來耗時繁瑣，可能需要統一控管的 Dashboard，同時也希望做到資料的 Tiering & Lifecycle Management。
- 因為有很多圖檔和影音檔需要與內部團隊和外部客戶分享存取，未來檔案傳輸效能瓶頸和容量擴充彈性，結構化和非結構化的資料整合管理也是他們面臨挑戰的議題。
- 過去效能與檔案存取出問題時找過 SI，但由於 Open Source solution 缺少原廠支持，出問題 SI 也不熟，都得自己來，服務和專業度皆不滿意。因此尋求有原廠和 SI 支援的解決方案。

專案目標

汰換現有 FreeNAS 設備，建構由原廠與 SI 支援且高效的儲存系統。

維持既有運作方式，不需大幅更動既有作業流程。

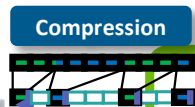
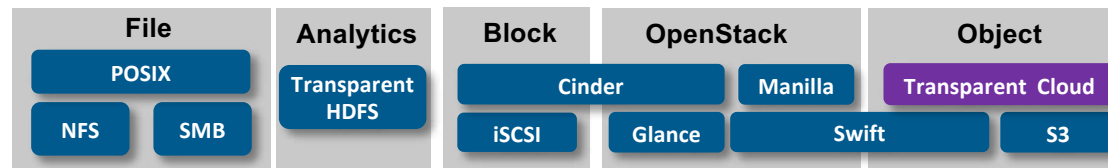
複製既有資料至新儲存系統，完成後切換至新系統運作。

儲存系統保有後續效能和容量彈性擴充能力。

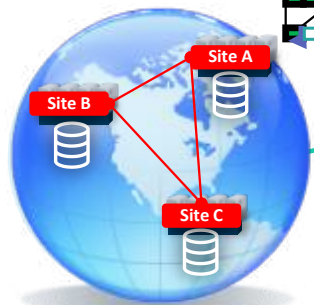


IBM

Spectrum Scale is...



GLOBAL Namespace



Worldwide Data Distribution (R/W)



Flash



Disk



Tape



Shared Nothing Cluster



JBOD/JBOF



Transparent Cloud Tier

IBM Cloud Object Storage

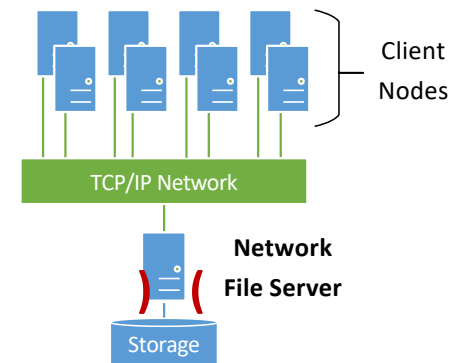
SOFTLAYER an IBM Company S3



IBM Spectrum Scale is not another NAS

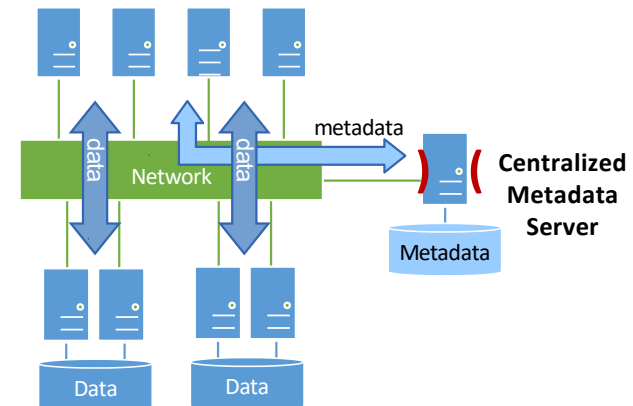
- **No single-server performance and bottleneck scaling limits**

- NAS filers can be a bottleneck and significantly impacts system performance



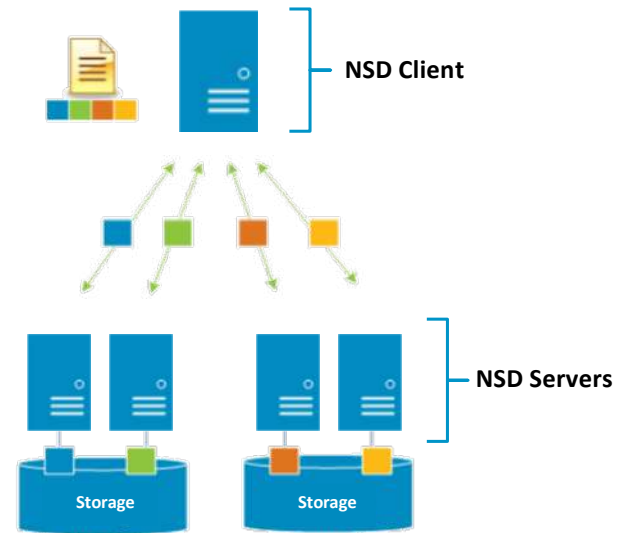
- **No centralized metadata server**

- Centralized metadata server can be a performance bottleneck for metadata intensive operations



Spectrum Scale Parallel Architecture

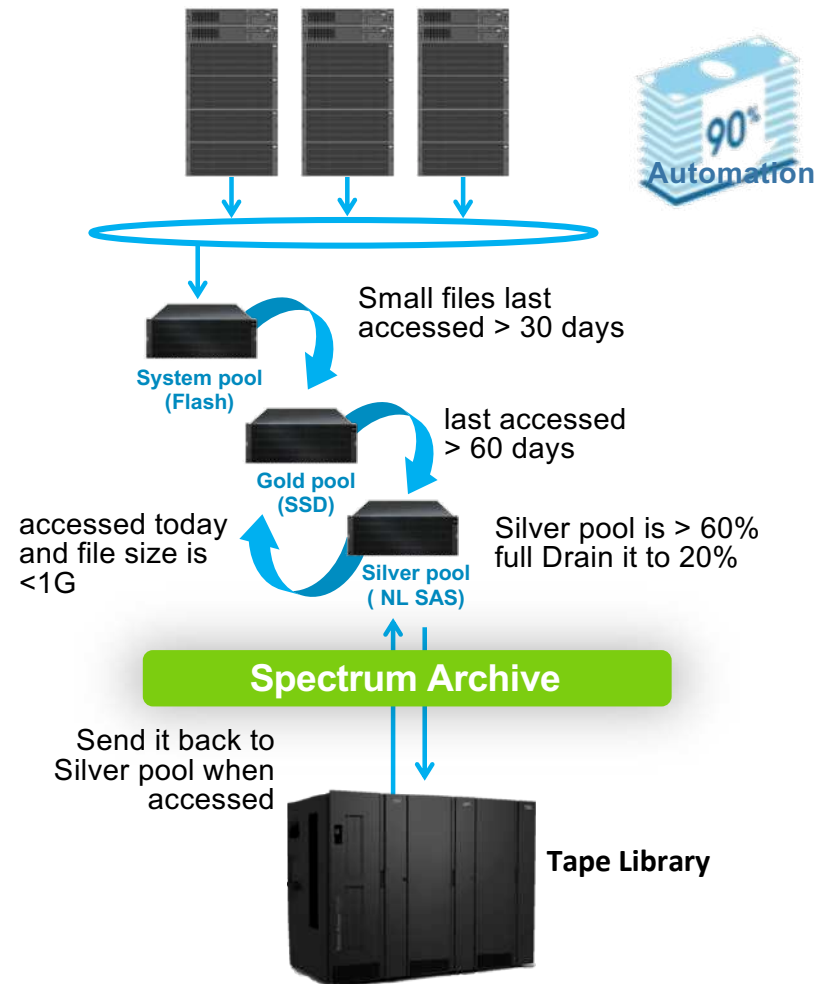
- All NSD (Network Shared Disk) servers export to all clients in active-active mode
- Spectrum Scale **stripes** files across NSD servers and NSDs in units of file-system block-size
- File-system **load spread evenly**
- Easy to **scale** file-system **capacity** and **performance** while keeping the architecture balanced



NSD Client does real-time parallel I/O to all the NSD servers and storage volumes/NSDs

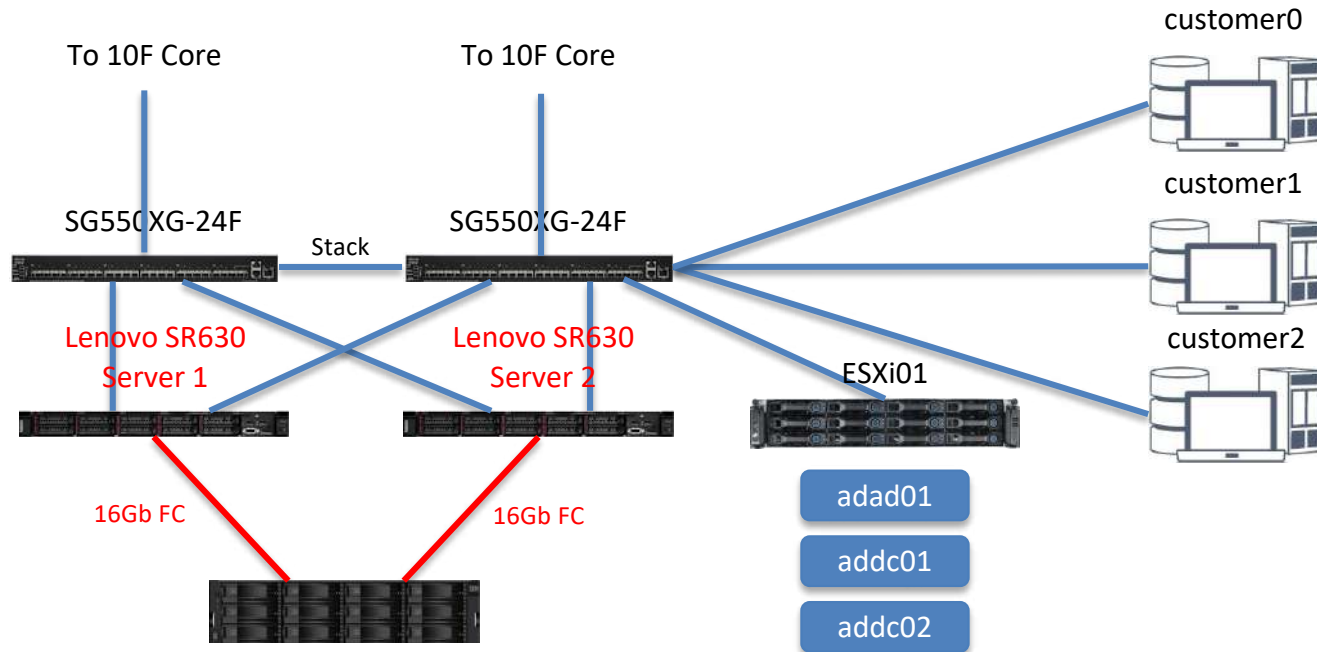
Data Aware Cost Optimization

- Powerful Policy Engine
 - **Information Lifecycle Management (ILM)**
 - Fast metadata scanning and data movement
 - Automated **data migration** based on threshold
- Users will not be affected by data migration
 - **Single Namespace**
- Example: Online storage reaches 90% full then move all 1GB or larger files that are 60 days old to offline to free up space
- Integrated with Spectrum Archive



IBM

專案架構簡示



IBM V5030E
42TB Usable
Sharing: smb: customer0
Sharing: smb: customer1
Sharing: smb: customer2
Sharing: NFS: esxi01

V5030E 設備規格說明

- IBM Storwize V5030E (三年原廠保固)
- Dual Controller (Active/Active)
- 64GB Cache Memory
- 16Gb FC Port *4
- RAID levels 0,1,10 with distributed RAID 5 and 6
- Hot Swap FAN & Power
- 6TB NL-SAS 3.5" HDD *12 (Usable 42TB up)
- Maximum 760 HDD Drive
- Web base GUI interface



IBM

Why IBM Spectrum Scale + V5K?

- Spectrum Scale 是效能頂級的分散式平行檔案儲存系統
 - 9 x 10¹⁸ Files per File System
 - 250 PB Production File System
 - 16,384 Nodes
- Spectrum Scale 支援各種協定，因應客戶將來業務成長所需
 - NFS, SMB, S3, POSIX, HDFS, SWIFT, iSCSI... etc.
- Spectrum Scale 台灣有眾多使用者
- Spectrum Scale 同時具備容量擴充性與效能擴充性特點
 - 增加 x86 Protocol 節點增加效能
 - 增加網路頻寬提升效能
 - 透過 IBM V5030E 增加硬碟擴充櫃

The bottom of the slide features a dark blue banner with the IBM logo on the left. The background of the banner shows a server rack with glowing blue and green lights, suggesting a data center environment.

IBM

英國媒體業客戶成功案例



Business challenge

To keep audiences spellbound with their output, media and entertainment companies must be able to share, store and access huge files—but traditional infrastructure solutions were failing to deliver.

Transformation

Pixit Media put consistent performance and chart-topping scalability in the limelight, through software-defined solutions based on IBM Spectrum Storage technology that help clients create hit after hit.



Barry Evans
Chief Technology Officer
and Co-Founder
Pixit Media

Business benefits:

Up to 98%
performance and capacity
efficiency drives up
resource utilization

Offers
greater control of costs,
helping clients cope with
pressure on profit margins

Enables
clients to embrace new
opportunities, confident they
can scale resources fast

Pixit Media Takes the media and entertainment industry by storm with solutions that keep the action rolling

Established in 2010, UK-based Pixit Media creates highly scalable, enterprise-class storage, network and archive solutions for the post-production and broadcast industries. Deployed by leading content creation and distribution organizations around the world, the company's solutions have supported commercially successful Oscar, BAFTA and Emmy award-winning television programs, film visual effects, computer-generated imagery, sports broadcasts, commercials and music videos.

"With Spectrum Scale there's no guesswork: you can use capacity to its full potential and scale up with predictable pricing. In the competitive media and entertainment sector, this is a real advantage."

Barry Evans
Chief Technology Officer and Co-Founder
Pixit Media

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