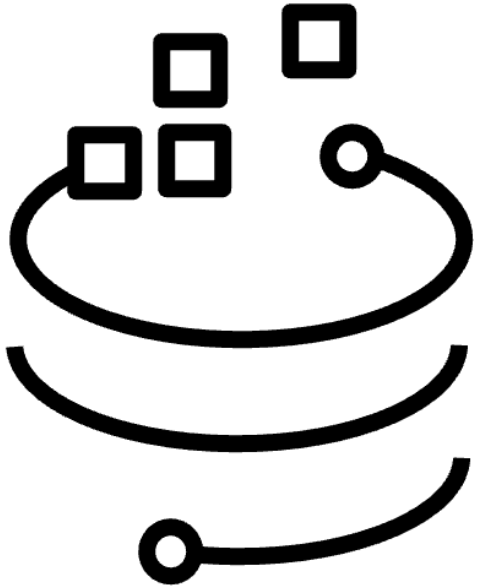
Storage Scale ECE and FS Core Optimizations for AI workload in CSP & Hyperscaler



Storage Scale

Storage Scale User Group Meeting @ SC23
Denver, CO – Nov 12, 2023

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Storage Scale and ECE Offerings in CSP & Hyperscaler

File Storage Service in CSP (Partner Managed)	Certified Storage Appliance (Pay As You Go)	Full Managed Storage Service (Pay As You Go)	Marketplace (BYOL)	Self Managed (BYOL)
• HPC • HA File Service	• ADAS • AIGC	• EDA, Video Rendering • Container	• HPC • HA File Service	• HPC • HA File Service
• Infrastructure resources are provisioned from public cloud • Support VM and bare metal • Leverage partners to deploy and maintain	• ECE on x86 server with local disk drive • For on-promises • All NVMe drive, hybrid mode, and high-density model	• Fully integrated and listed in CSP dashboard • As-a-service model from user perspective • Automated provision, deploy, maintain, service and charge	• Quick start • Easy to scale out and manage • Support VPC, multiple AZ • Support hybrid cloud storage through AFM	• Flexible to integrate • ECE support VMware
• Data replica or ECE • Terraform template • Ansible playbook	• ECE • Installation toolkit	• Data replica and/or ECE • Ansible playbook	• Data replica • Terraform template • Ansible playbook	• Data replica or ECE • Terraform template • Ansible playbook

ECE and FS Core Optimizations for AI in CSP and Hyperscaler

ECE updates highlight

New cloud and platform
- Support IBM Cloud and Oracle Cloud NEW
- Support VMware NEW

Performance improvement
- GNR checksum improvement for better server-side memory bandwidth in ECE NEW
- Rebuild/rebalance performance improvement

Flexible management
- Export/Impart ECE to new servers
- ECE merged with ESS through bi-directions
  - Add ESS into ESS cluster, and add ESS into ECE cluster

Hardware compatibility
- Support selected SATA disk drive by RPQ
- Support 10 GigE by RPQ
- Support high density server with 40 or even 60 (by RPQ) disk drives per node

Core FS updates highlight

New features
- Avoid Marking Disk Down in SNC Cluster NEW
  - In Cloud, node has much higher failure rate than disk
  - When the only NSD server fails, Scale FS will be panic, and NSD will be marked as down disk
  - Bring up down disk for a large FS is time consuming operation
  - In most of CSP or virtualization platform, reboot a NSD server is very fast, in seconds level
  - Introduce new parameter waitForNsdServer - to enable/disable wait on NSD server to come up instead of marking disk down
- AFM COS support for downloading objects by using outband method
- Control fileset access for remote cluster

Flexible deployment
- Storage Scale support shared-disk
- Storage Scale stretch cluster can be deployed across multiple AZ for HA
- Storage Scale ILM support to migrate data between storage pools derived from different type of volumes

NEW New in 5.1.8 & 5.1.9

Thank you for using IBM Storage Scale!