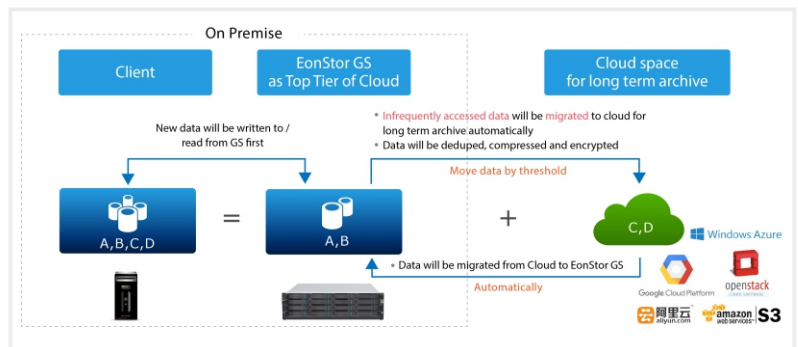# Infortrend Solution Brief – Cloud Functions

The cloud has become an increasingly pervasive resource over the past few years. As such, it is estimated that 80% of cloud storage gateway functionality will exist as native features in storage products such as NAS and object storage by 2019.

By integrating Intelligent Cloud Gateway Engine and supporting a wide range of both private cloud and public cloud services including Amazon, Azure, and Google, the EonStor GS Family offers various cloud functions such as Cloud Tiering, Cloud Cache, and Cloud Backup to make the most of the cloud's advantages. These functions perfectly combine local and cloud storage, automatically and optimally allocating data, all while saving setup and maintenance costs in the process, so that the best of both worlds is available to users.
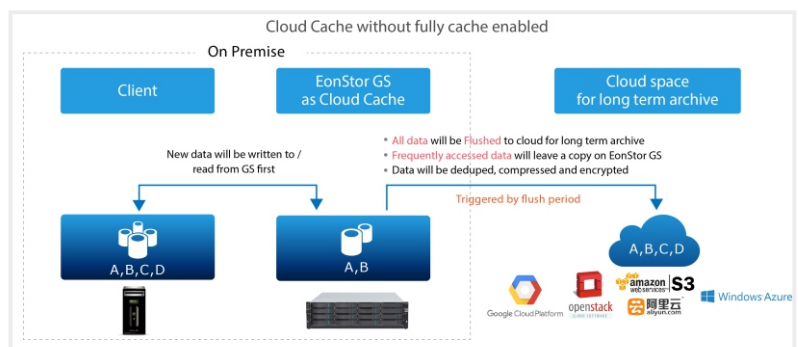
Cloud Tiering

Cloud Tiering perfectly combines local storage and cloud by keeping only the hot data (most accessed data) in local high performance storage systems and migrating cold data (less accessed data) to the cloud for long term archive. A great amount of setup effort and maintenance costs can be saved with cloud integration, while data archived on the cloud can have the highest level of security.
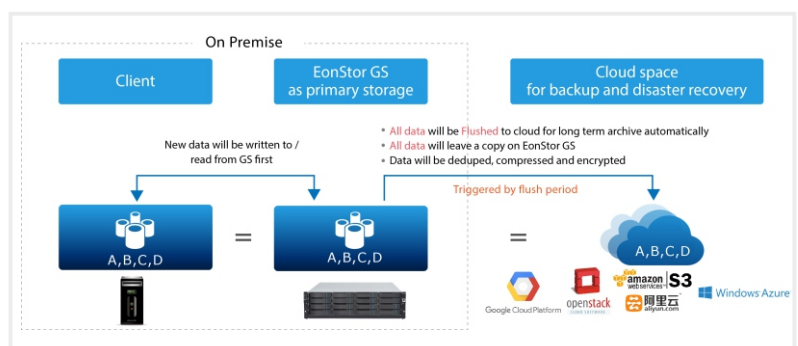

Cloud Cache

Cloud Cache perfectly combines local storage and cloud by keeping only the hot data (most accessed data) in local high performance storage systems and backing up all data to the cloud. A great amount of setup effort and maintenance costs can be saved with cloud integration, while data backed up on the cloud can have the highest level of security. The objective of cloud cache is to improve the speed of cloud data access. Data backed up to the cloud can also be accessed as well.

Snapshot Backup

Snapshot Backup perfectly combines local storage and cloud by keeping all data in the local EonStor GS/GSe and backing up all snapshots to the cloud. A great amount of setup effort and maintenance costs can be saved with cloud integration, while data backed up on the cloud can have the highest level of security.

EonStor GS Family

The EonStor GS Family also provides excellent flexibility by supporting various features such as D2C and D2D2C. For D2C, data is backed up to the cloud from the local EonStor GS, while D2D2C first backups the data to another onsite storage, where a copy is then sent to a cloud storage. The advantages of D2D2C is that it will first store received data on a local disk so that the backup can be accessed with high speed, while the data is compressed, deduplicated, and encrypted before being transmitted to the cloud at a scheduled time to provide low latency, save bandwidth, and save on cloud storage costs. It is used primarily in conditions where the risk of uploading data via the Internet is high and/or the size of data is so large that Internet backup is difficult or impossible.

Benefits

- **Improved Availability.**
  With cloud-based storage solution, data is instantly available for recovery from the cloud. All you need is an Internet connection.

- **Affordable solution**.
  This will reduce the cost of ownership, and a scalable, pay-as-you-grow alternative.

- **Easy.**
  For small/medium companies that never considered an offsite strategy due to complexity or price, cloud storage can be an easy to implement and affordable solution. D2D2C addresses the complexity of offsite data protection and seamlessly moves data offsite without requiring additional data copy, tape export, and/or transport activities.

EonStor GS Model		1000 series	2000 series	3000 series	4000 series
Position		Cloud integrated unified storage with redundant controllers for block, file and object storage			
		Entry level	Mid-range		
Performance	IOPS (Read)	160K	320K	450K	
	MB/s(Read/Write)	5,700/2,400	11,000 / 6,400		
	Backup	up to 360 drives	up to 444 drives		
Form Factor	2U 12-bay		✓		
	2U 24-bay		✓		✓
	3U 16-bay		✓		✓
	4U 24-bay		✓		
Host Ports (Max.)	FC 16Gb/s[1]	4	8		16
	FC 8Gb/s[1]	8	16		32
	iSCSI 10Gb/s (SFP+)[1]	8	16		32
	iSCSI 10Gb/s (RJ-45)	4	8	12	8
	iSCSI 1Gb/s	16	24	20	16
	SAS 12Gb/s	4	8		
	SAS 6Gb/s	4	-		
	FCoE 10Gb/s[1]	-	16		32
Memory (Max.)	DDR3(GB)	32	-		
	DDR4(GB)	-	128	256	
Data Service	Local Replication (Standard license is defult included and advanced is an optional license)	**Snapshot** Snapshot images per source volume Standard License: 64 / Advanced License: 256 Snapshot images per system Standard License: 128 / Advanced License: 4096 **Volume Copy/Mirror** Source volumes per system Standard License: 16 / Advanced License: 32 Replication pairs per source volume Standard License: 4 / Advanced License: 8 Replication pairs per system Standard License: 64 / Advanced License: 256			
	Thin Provisioning (Default included)	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space			
	Self-Encrypting Drives	Unique factory encryption secures data plus makes deletion simple and complete			
	Remote Replication (Optional license)	Replication per source volume: 16 Replication pairs per source volume: 4 Replication pairs per system: 64			
	SSD Cache (Optional license)	Accelerating data access for random read-intensive environments, such as OLTP Supports up to four SSDs per controller Recommended DIMM capacity for SSD Cache pool: DRAM:8GB Max SSD Cache Pool Size: 300GB DRAM:16GB Max SSD Cache Pool Size: 400GB DRAM:32GB Max SSD Cache Pool Size: 800GB DRAM:64GB Max SSD Cache Pool Size: 1,600GB DRAM:128GB Max SSD Cache Pool Size: 3,200GB DRAM:256GB Max SSD Cache Pool Size: 3,200GB			
	Intelligent Drive Recovery(IDR)	The combined effect of auto detect-clone-replace protection by default-enabled S.M.A.R.T./ Media Scan/RAID 6 to provided unparalleled protection			

1. Converged host board.