

Google Distributed Cloud air-gapped appliance

Overview

Google Distributed Cloud (GDC) air-gapped appliance is a new configuration of Google Distributed Cloud that brings Google's cloud and AI capabilities to tactical edge environments.

The GDC air-gapped appliance uses software defined storage to create a storage pool with the disks in the compute nodes to offer object and block storage.



Key benefits



Department of Defense (DoD) Impact Level 5 (L5) accreditation

The software-defined storage has achieved L5 accreditation, the highest level of security controls and protection for unclassified information that is considered highly sensitive and mission-critical. The software-defined storage is also designed to meet Impact Level 6 and higher accreditations, and these accreditation processes are underway for GDC air-gapped appliance.



Lower TCO

Lowers Storage TCO (total cost of ownership) for your GDC air-gapped deployments:

- Storage lifecycle management and software upgrades
- Storage service with health monitoring, logs, alerts, dashboards and metrics
- Integrated data deduplication and compression to realize a higher effective capacity.



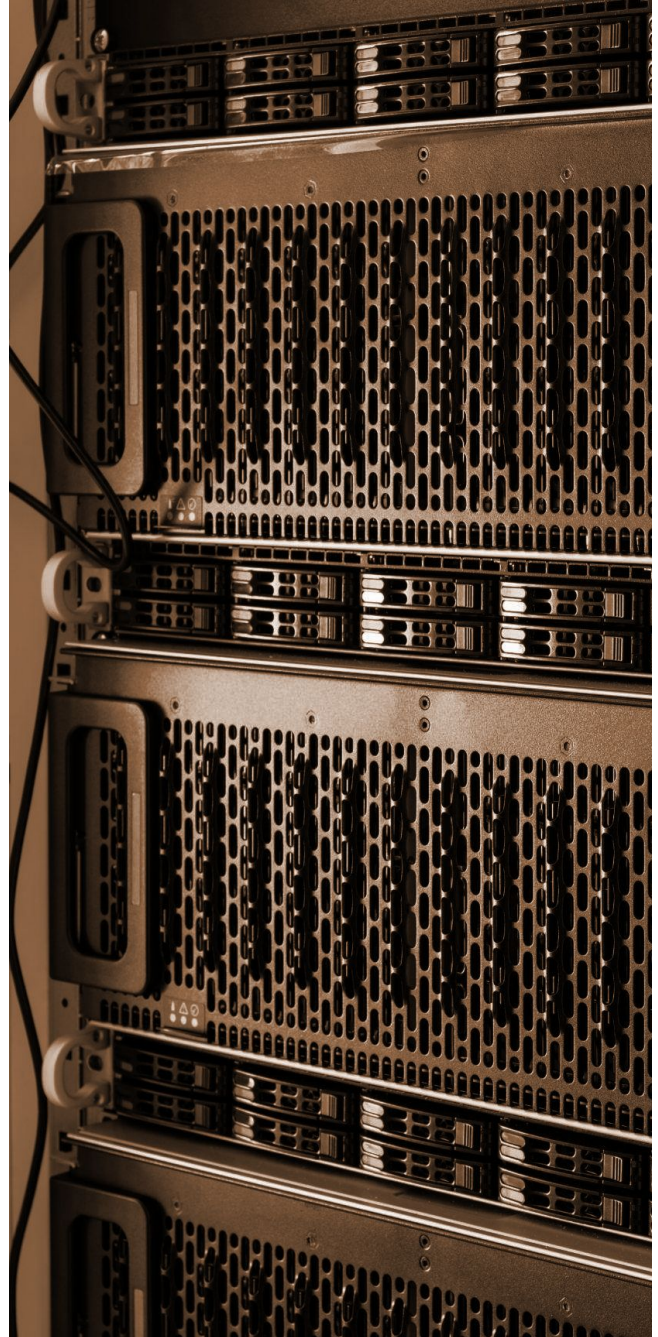
E2E Google-certified

Storage services with SW specified down to disk microcode versions that is guaranteed by Google to be secure, scale, and perform as per specifications



Data protection

Storage data transfer between local PVCs/buckets to and from remote buckets



Kubernetes Resource Model (KRM) for storage

GDC-integrated KRM enables provisioning and management of block and object storage for VM and container-based workloads



Hardened data security

Double encrypted data at rest for Block&Object data where the encryption is not only FIPS-compliant but also meets Google Cloud security standards; mandatory data encryption in transit for Block/Object data transfers;

	Block storage service	Object storage service
Capability summary	GDC air-gapped appliance block storage service offered with a target of 99.99% availability while supporting both VM & container workloads, offering data deduplication and compression.	GDC air-gapped appliance object storage service with S3 API support offered with single storage class mapping to GCS standard with a target of 99.99% availability while offering data deduplication and compression
Resilience	<p>Block storage service SKUs are designed with the following resiliency features:</p> <ul style="list-style-type: none"> • Loss of 1 disk with no impact to data availability • Loss of 1 node with no impact to data availability 	<p>Object storage service SKUs are designed with the following resiliency features:</p> <ul style="list-style-type: none"> • Loss 1 disk with no impact to data availability • Loss of 1 node with no impact to data availability
Usable capacity (TB)	10.5TB usable shared between block and object storage	
Usable capacity for the subscription tier (TB)	10.5TB usable shared between block and object storage	



Security capabilities of GDC air-gapped appliance storage services

Capability summary

All GDC Storage Services are designed ground up with security in mind, offering robust operational and data security features.

Security elements

GDC air gapped appliance services have the following storage security architectural elements by design:

- Double encryption of data at rest
 - Support for external hardware security module (HSM)
 - Periodic rotation of secrets
 - Encryption of data in transit
 - Object versioning
 - Certificate management
 - Audit logs
-

Hardening

GDC storage services deliver the following business outcomes:

- Privacy & data integrity protection against man-in-the-middle attacks
- Prevent unauthorized data access
- VM and container access to authenticated storage services
- Privacy of stored business-critical data
- Defense in depth via security audits & policies
- Meet regulatory requirements that stipulate customer self-managed encryption

