NetApp®

Keystone® Storage-as-a-Service Service Description

1.   General

This Service Description describes the on-premises, consumption-based, STaaS Services that are available to End User pursuant to the Keystone STaaS Terms.

1.1   Definitions.

The following additional defined terms apply to this Service Description.

- a) "**Additional STaaS Services**" means the optional STaaS features and services that are available as part of the STaaS Services, subject to additional Fee amounts, conditions, and availability, with further details provided in Section 3.
- b) "**Burst Capacity**" means the amount of Consumed Capacity that exceeds the Committed Capacity, per Performance Level, per Order, with further details provided in Section 2.2.
- c) "**Burst Capacity Limit**" means the amount of Usable Capacity, beyond Committed Capacity, per Performance Level, per Order, for which NetApp provides Performance and Service Levels, with further details provided in Section 2.2.
- d) "**Burst Waiver Period**" means the number of days, from the Start Date, for which Burst Capacity usage will be metered and reported, but not charged, with further details provided in Section 2.2.
- e) "**Capacity Report**" means the NetApp generated report providing the Consumed Capacity, with further details provided in Section 5.1.
- f) "**CVO**" means NetApp's Cloud Volumes ONTAP® software.
- g) "**Commingling**" means the incorporation of STaaS Products and non-STaaS Products in the same ONTAP cluster or StorageGRID® grid.
- h) "**Committed Capacity**" means the amount of capacity (in TiB), per Performance Level, per Order that is minimally invoiced each billing period, with further details provided in Section 2.2.
- i) "**Consumed Capacity**" means the amount of capacity (in TiB) in use to store End User data, per Performance Level, per Order, with further details provided in Section 2.2 and the Supplement.
- j) "**Data Infrastructure Insights**" means NetApp's Data Infrastructure Insights, a hybrid multi-cloud infrastructure monitoring, analysis, insights, and optimization tool, as described in https://docs.netapp.com/us-en/data-infrastructure-insights/.
- k) "**Effective Capacity**" means the amount of storage capacity equal to the Physical Capacity multiplied by a data efficiency factor (>, = 1).
- l) "**Hybrid Cloud Service**" means On-Premises Service and, optionally, CVO ordered on a single, co-termed Order and charged on single invoice, with ability to reallocate spend from On-Premises Service to CVO.
- m) "**IOPs**" means input/output operations per second.
- n) "**Logical Capacity**" means the amount of storage capacity required to store End User data before Storage Array data efficiencies.
- o) "**Monitoring Tool**" means the required NetApp tool(s) that meter, monitor and transmit STaaS Services' consumption and STaaS Products' capacity, health, performance, and support metrics, with further details provided in Section 8.
- p) "**Minimum Payment**" means amount payable during the applicable billing period for Committed Capacities for each Performance Level, Additional STaaS Services (if applicable), and CVO (if applicable), identified in the Order.
- q) "**Non-compliant Volume(s)**" means an ONTAP volume that does not have a required Adaptive QoS (AQoS) policy applied.
- r) "**On-Premises Service**" means Keystone STaaS delivered through STaaS Products deployed at Site.
- s) "**Performance Level(s)**" means one of the storage Performance Levels, with further details provided in Section 2.3.
- t) "**Physical Capacity**" means the amount of data storage capacity based on quantity and size of physical media blocks.
- u) "**Provisioned Capacity**" means the amount of Physical or Logical capacity allocated for use.
- v) "**Service Level(s)**" means any of the service levels described in Section 2.4.
- w) "**Start Date**" has the meaning ascribed to it in Section 4.3.
- x) "**Storage Array(s)**" means a data storage device consisting of storage controller(s) and internal and/or externally attached storage media.
- y) "**Target Start Date**" means date on which End User is targeting start of STaaS Services.
- z) "**Usable Capacity**" means the amount of Physical or Logical Capacity available to store End User data.

1.2   Partners.

STaaS Services described in this Service Description may be provided by NetApp directly or resold to End User by a Partner. Partner may also assume some of the responsibilities of NetApp under this Service Description, as noted below.

2.   STaaS Features and Services

2.1   Storage types.

- a) **File and Block** storage type is delivered on NetApp ONTAP AFF, ASA and/or FAS platforms.
- b) **Object** storage type is delivered on NetApp StorageGRID platform.

2.2   Capacity.

- a) **Committed Capacity**

      i. Use of the STaaS Services requires subscription to a certain amount of Committed Capacity per Performance Level selected, per Order, subject to minimum Committed Capacities and capacity increase increments as set forth in Section 2.3.

   b) **Consumed Capacity**

      i. **ONTAP File and Block.** Consumed Capacity is the amount of metered Logical Capacity in use to store all instances and types (e.g. copies, mirrored copies, versions, clones) of End User data, plus Physical Capacity in use to store differential data of Snapshot™ copies, plus any allocated Physical Capacity.

      ii. **StorageGRID Object.** Consumed Capacity is the amount of metered Physical Capacity in use to store all instances and types of End User data on all nodes based on information lifecycle management (ILM) policy(ies) configured.

      iii. **Cloud Volumes ONTAP.** Consumed Capacity is the amount of metered Provisioned Capacity of all CVO volumes.

   c) **Burst Capacity**

      i. **Burst Capacity Limit.** STaaS Services provide Burst Capacity Limit of 20% of Committed Capacity, per Performance Level selected, per Order.

      ii. **Burst Rate.** Burst Capacity consumption will be invoiced at the specified Committed Capacity rate corresponding to the Performance Level selected.

      iii. **Burst Waiver Period.** STaaS Services provides a Burst Waiver Period of sixty (60) days, from the Start Date.

2.3 Performance Levels.

File and Block storage type Performance Levels are defined in terms of maximum user IOPs per Logical TiB stored per volume, target user IOPs per Logical TiB allocated per volume, and 90th percentile latency. One or more Performance Levels can be selected per Order.

   a) **On-Premises Service**

Storage Type	ONTAP File and Block					Object
Supported protocols	NFS, SMB, CIFS, iSCSI, FC, S3* [* for FabricPool use only]					S3
Performance Level	**Extreme**	**Premium**	**Performance**	**Standard**	**Value**	**N/A**
Max IOPs/Logical TiB stored per volume @ 32K block size	12,288	4,096	2,048	512	128	N/A
Target IOPs/Logical TiB allocated per volume @ 32K block size	6,144	2,048	1,024	256	64	N/A
Max MBps/ Logical TiB stored per volume @ 32K block size	384	128	64	16	4	N/A
Target 90th percentile Latency	<1ms	<2ms	<4ms	<4ms	<17ms	N/A
Platform	ONTAP	ONTAP	ONTAP	ONTAP	ONTAP	StorageGRID
Min Committed Capacity per Order	25 TiB			100 TiB		500 TiB
Committed Capacity increase increment	1 TiB					1 TiB
Committed and Metered Capacity type	Logical					Physical

   b) **Cloud Volumes ONTAP**

Storage Type	Cloud Volumes ONTAP
Supported Protocols	NFS, CIFS, iSCSI, S3* (*AWS & Azure only)
Platform	CVO
Min Committed Capacity per Order	4 TiB
Capacity Increase Increment	1 TiB
Committed and Metered Capacity type	Logical

2.4 Service Levels.

   a) **Availability Service Level Objective (SLO)**. ONTAP File and Block STaaS Services provide an uptime SLO of 99.999%.

   b) **Performance Service Level Objective (SLO)**. ONTAP File and Block STaaS Services provide a target 90th percentile latency SLO for Target IOPs/Logical TiB allocated per volume, per Performance Levels selected, for Consumed Capacity up to Committed Capacity plus Burst Capacity Limit.

   c) **Service Parts Delivery and Replacement Service Level Objective (SLO)**. STaaS Services provide delivery of service parts and authorized on-site resources SLO of four hours from time need is determined by Keystone Support, where geographically available.

   d) **Sustainability Service Level Agreement (SLA)**. Subject to NetApp eligibility approval, STaaS Services provide maximum watts consumption per ONTAP A-/C- Series Storage Array SLO.

   e) **Technical Support Service Level Objective (SLO)**. STaaS Services provide SLO of the following Time to Respond (TTR) targets, after receipt of incident ticket by Keystone support, based on incident priority level assigned by Keystone support:

Priority	Time to Respond Target	Service Window

P1 Business operations severely impacted.	30 minutes	24x7x365
P2 Business operations degraded.	2 hours	24x7x365
P3 Little or no business impact.	8 hours	8x5 local business hours
P4 Informational or administrative inquiries.	24 hours	8x5 Local business hours

2.5   Features.

a) File and Block Performance Levels include use of the following ONTAP software features, subject to change, depending on ONTAP version deployed and services subscribed to.

    i. **Protocols:** NAS Protocols (NFS, CIFS), SAN Protocols (FCP, iSCSI, NVMe), S3 (for FabricPool tiering use only).

    ii. **Data Management:** FlexVol® volumes, FabricPool (to supported NetApp data storage targets), FlexGroups, Snapshot™ copies, FlexClone® volumes, SnapRestore® software.

    iii. **Data Protection:** SnapCenter® software, SnapManager® software, SnapMirror® Asynchronous replication, SnapVault® software.

    iv. **Encryption:** Volume encryption, Trusted Platform Module (TPM), data-at-rest encryption.

    v. **Security and Compliance:** Fpolicy, multi-tenant key management, SnapLock® Enterprise software, Autonomous Ransomware Protection.

b) Object Performance Level includes use of all StorageGRID features.

2.6   Services.

STaaS Services include the following services, which will be performed by NetApp or NetApp authorized partner or sub-contractor, as applicable:

a) **Design**. Design STaaS Services solution and determine STaaS Products required to deliver STaaS Services.

b) **STaaS Products**. Provide the STaaS Products, including power cords, SR SFPs for, and network cabling between STaaS Products.

c) **Site Requirements**. Provide End User Site preparation requirements.

d) **Shipping**. Provide initial and final return shipping of STaaS Products.

e) **Installation**. Provide installation for initial, add-on, and updates of STaaS Products.

f) **Activation**. Enable monitoring, metering, invoicing, and support and make STaaS Services available for use.

g) **Metering/Monitoring**. Perform capacity consumption metering and basic health and performance monitoring of STaaS Products and STaaS Services using the Monitoring Tool.

h) **Reporting**. Generate a basic consumption Report and provide it through the Monitoring Tool or with each invoice.

i) **Notification**. Notify End User of basic incidents that may affect delivery or use of STaaS Services.

j) **Technical Support.** Provide technical support by email or telephone.

k) **On-Site Parts Delivery, Replacement, Support**. Deliver parts and/or send authorized engineers to End User Site, if/as required.

l) **Capacity, Health, and Performance management**. Manage STaaS Products to deliver STaaS Services.

m) **Updates**. Identify, plan, and install, in coordination with End User, STaaS Services required updates and patches.

n) **Return**. At Subscription Term expiration, provide packaging (if required), deinstall STaaS Products and arrange for return to NetApp, and sanitize media and reset STaaS Products to factory settings upon return to NetApp facility.

2.7   Keystone Success Manager.

STaaS Services include remote Keystone Success Manager ("KSM") service, available during local business hours, providing the following:

a) Conduct, as needed, STaaS Services specific review calls that may include:

    i. General questions regarding STaaS services.

    ii. Capacity & Performance level requirements and planning.

    iii. Maintenance and update planning.

    iv. Consumption and invoice review.

    v. Incident review.

b) STaaS escalation management.

3.   Additional STaaS Services

The following optional STaaS Services features and services (each, an "**Additional STaaS Service**") are available, for additional Fees:

3.1   Advanced data protection feature.

a) Provides symmetric MetroCluster™ IP synchronous mirroring feature.

b) Supported on ONTAP File and Block Performance Levels.

3.2   Data tiering to non-NetApp targets feature.

a) Provides FabricPool data tiering feature to supported non-NetApp data storage targets.

b) Supported on ONTAP File and Block Performance Levels.

3.3 <u>Non-returnable non-volatile components ("NR-NVC") feature.</u>
   a) Provides option for End User to retain defective non-volatile memory components during Subscription Term.
   b) Provides option for End User to retain functional non-volatile memory components at expiration of the Subscription Term.
   c) Non-volatile components include storage media (hard drives and SSDs) and non-volatile memory components that contain End User data and whose contents cannot be erased or sanitized by removing power or discharging battery or executing firmware or software commands.

3.4 <u>Data Infrastructure Insights (DII) for Keystone feature.</u>
   a) Provides DII for Keystone environment only.

3.5 <u>US citizen support (USCS) service.</u>
   a) Provides installation, parts replacement, support, and KSM services from U.S. citizens on U.S. soil, where geographically available.

4. Order

4.1 <u>Order type.</u>
STaaS Services provide two, non-convertible order types:
   a) **On-Premises Service**.
   b) **Hybrid Cloud Service** providing On-Premises Service and, optionally, CVO that can be added to the Order at any time up to 90-days before end of Subscription Term.

4.2 <u>Subscription Term.</u>
   a) STaaS On-Premises Service offers up to 5 years Subscription Term.
   b) STaaS Hybrid Cloud Service offers up to 3 years Subscription Term with co-termination of On-Premises Service and CVO.

4.3 <u>Start Date.</u>
Subscription Term starts and Fees begin to accrue on the Start Date that is the earlier of, either:
   a) The date on which End User has commenced use of the STaaS Services; or
   b) The date on which NetApp notifies End User that NetApp has made STaaS Services available for End User use; or
   c) 30 days from Subscription Products ship date, if STaaS Services cannot be activated within 30 days after product shipment due to End User delays.

5. Fees

5.1 <u>Capacity Reports</u>
NetApp will use the Capacity Reports to calculate the Fees due under each invoice for STaaS Services and such Capacity Reports will be deemed to contain the final and conclusive summary of the Consumed Capacity used by End User during the applicable billing period, unless End User can establish that such Capacity Report contains a material error.

5.2 <u>Minimum Payment.</u>
Each Order is subject to a Minimum Payment amount that is payable during the applicable billing period identified in the Order.

5.3 <u>Non-Compliant volume charge.</u>
Capacity usage within Non-compliant Volumes will be billed at rate of highest Performance Level purchased under Order associated with the media type on which volume resides.

5.4 <u>Hybrid Cloud Service.</u>
   a) Minimum Payment for Hybrid Cloud Service may include an amount based on metered Provisioned Capacity of all CVO volumes.
   b) Fees payable by End User for Hybrid Cloud Service do not include AWS, Azure, or other cloud service provider charges, which must be paid by End User and cloud services connectivity maintained for so long as CVO is being used.

5.5 <u>Total Fees.</u>
The total Fees payable for a billing period are determined for each billing period and will include Minimum Payments, additional usage-based consumption charges and/or fixed rate charges for any Burst Capacity as described in Section 2.2, and Non-Compliant Volume amount (if applicable).

6. Invoicing
Fees payable for a billing period will be included in a single invoice and will identify the components of such Fees. End User will be invoiced in accordance with the invoice period selected in the Order.
   a) **Monthly, in arrears** (applicable to On-Premises Service or Hybrid Cloud Service).
   b) **Annual, in advance** (applicable to On-Premises Service, only).

7. Subscription Modifications

7.1 <u>Committed Capacity Increase.</u>
   a) End User may, up to 90 days prior to the scheduled expiration of the Subscription Term, increase Committed Capacity, in increment amount specified in Section 2.3, to an existing Performance Level or add a new Performance Level.

b) Once effective, any increases will remain in effect for the remainder of the Subscription Term and the corresponding Minimum Payment applicable to the new Committed Capacity will be adjusted in accordance with the newly agreed upon Committed Capacity.

c) Where End User has selected annual billing, NetApp will promptly invoice End User for any pro-rated increases in Minimum Payments owed for the remainder of the Subscription Term.

7.2 <u>Committed Capacity Decrease.</u>

Applicable to Keystone STaaS On-Premises Service only: If End User has selected a Subscription Term of not less than 24 months, End User may decrease the Committed Capacity subject to certain limits for capacity decrease amounts and Minimum Payments set forth in the Service Description Supplement.

7.3 <u>Reallocation.</u>

a) In Hybrid Cloud Service only, End User can reallocate On-Premises Service spend to CVO spend quarterly (up to 25% of then current ACV).

b) Post reallocation, On-Premises Service monthly Minimum Payment per Order must be greater than $16,666 (or US currency equivalent).

8. Monitoring Tool

STaaS Services require full and continuous enablement of:

a) Monitoring Tool on End User provided and managed VMs, at each Site.

b) NetApp ONTAP AutoSupport® (ASUP), on each ONTAP Storage Array, configured to send usage information daily.

9. End User Responsibilities

9.1 <u>Administration and operation.</u>

End User is responsible for the administration and operation of the STaaS Products, including, but not limited to the following.

a) Applying required AQoS policy to each ONTAP® volume.

b) End User specific patch identification and installation and coordination with Keystone Support.

c) ONTAP data SVM configuration.

d) Storage Provisioning.

e) Equipment moves during subscription term.

f) Enhanced reporting or monitoring of STaaS Products.

9.2 <u>Data protection, security, and management.</u>

End User is responsible for designing, configuring, administering, and maintaining:

a) Physical, network, and access security.

b) Data-at-rest and data-in-flight encryption.

c) All aspects of End User data backup and recovery and business continuity/disaster recovery.

d) Integration and/or automation of the STaaS Services with End User environment or applications.

e) Adherence to End User applicable industry or government compliance requirements.

f) Data migration to/from STaaS Products.

9.3 <u>Subscription expiration, cancellation, termination.</u>

By end of subscription term, End User must:

a) Discontinue use of STaaS Services (NetApp is not responsible for access to, availability, or loss of End User data on STaaS Products after end of subscription term).

b) Backup, migrate, delete, and/or sanitize media (without rendering media unusable), if and as required by End User.

c) Notify NetApp that STaaS Products and Services are no longer in use and are ready to be decommissioned and returned.

d) Transport packaged items to End User shipping area for return pickup.

End User may receive an extension of STaaS Services beyond the Subscription Term, for express purpose of an orderly transfer of End User data out of STaaS Services, contingent on NetApp approval. The following terms and conditions apply:

e) End User needs to provide written request to NetApp at least 90 days prior to expiration of the current Subscription Term.

f) Allowance is made for a period of one calendar month, at pro-rated Fees.

g) All effort, hardware, software, or services related to transferring End User data from STaaS Services are not included as part of Keystone services or Fees.