

NetApp Keystone Storage-as-a-Service (STaaS)

Service Description (On Premises)

1. Scope of Subscription Services

1.1 General. This Service Description describes the Keystone® Storage-as-a-Service (“STaaS”) suite of consumption-based Subscription Services that are available to Customer pursuant to the Agreement. Upon delivery by Customer and acceptance by NetApp of a Keystone Order for Subscription Services, the terms of the Keystone Order will incorporate by reference the Agreement and this Service Description for Keystone STaaS.

1.2 Definitions. Capitalized terms used but not defined in this Service Description have the meanings ascribed to them in the Agreement. The following additional defined terms apply to this Service Description.

- (a) “**Additional STaaS Service**” is defined in Section 7 of this Service Description.
- (b) “**Burst**” means, for each Performance Level, the amount by which the Consumed Capacity exceeds the Committed Capacity during a billing period.
- (c) “**Burst Limit**” is identified in Section 5.1 for each Performance Level (expressed as a percentage of Committed Capacity), and represents the maximum amount of Usable Capacity available for which NetApp is committed to meet associated Service Level Objectives as described in Section 5.3.
- (d) “**Capacity Report**” means the report generated by NetApp from the Metering Tool summarizing the Consumed Capacity for the prior billing period.
- (e) “**Committed Capacity**” is defined in Section 2.1 of this Service Description.
- (f) “**Consumed Capacity**” is defined in Section 2.2 of this Service Description.
- (g) “**Logical Capacity**” means the number of bytes required to store customer data on Subscription Products without any system data efficiencies applied to those data.
- (h) “**Metering Tool**” means one or more of NetApp’s proprietary tools that measure and report consumption of Subscription Services. The term “Metering Tool” replaces the term “Portal” as originally defined in the Agreement, and references to Portal therein will be construed to mean the Metering Tool.
- (i) “**Performance Level**” refers to the performance levels defined in Section 5.1 of this Service Description. Performance Levels related to the File and Block data type may be further defined with max input/output operations per second per logical terabyte (TiB) stored and latency.
- (j) “**Physical Capacity**” means the storage media bytes required to store Customer data.
- (k) “**Service Level Objective**” means any of the service levels described in Section 5.3 of this Service Description.
- (l) “**Start Date**” is defined in Section 4.2 of this Service Description.
- (m) “**Usable Capacity**” means the capacity (as measured by NetApp in increments of TiB) made available to Customer for data to be written.

2. Metering

2.1 Committed Capacity. Use of the Subscription Services requires Customers to subscribe to a certain amount of capacity (“**Committed Capacity**”) for each Performance Level selected in a Keystone Order. Minimum Committed Capacity thresholds for each Performance Level are set forth in Section 5.1 of this Service Description.

- (a) For ONTAP File and Block -- the amount of Logical Capacity plus Physical Capacity consumed by snapshots. Where applicable, such as with use of Advanced Data Protection, mirrored copies of data need to be included.
- (b) For StorageGrid Object -- the amount of Physical Capacity to store customer data.

2.2 Consumed Capacity. For each Performance Level, “Consumed Capacity” is measured in increments of TiB, and means:

- (a) For ONTAP File and Block -- the amount of Logical Capacity in use to store Customer data, plus Physical Capacity consumed by snapshots. Where applicable, such as with use of Advanced Data Protection, mirrored copies of data are also included in the measurement of Consumed Capacity.
- (b) For StorageGrid Object -- the amount of Physical Capacity in use to store customer data.

2.3 Metering Tool; Capacity Reports. The Subscription Services are monitored, and Consumed Capacity is recorded not less than daily through the Metering Tool. For each billing period, NetApp will generate a Capacity Report and NetApp will either provide Customer with such Capacity Report through the Metering Tool or with each invoice. NetApp will use the Capacity Reports to calculate the Fees due under each invoice for Subscription Services and such Capacity Reports will be deemed to contain the final and conclusive summary of the Consumed Capacity used by Customer during the applicable billing period, unless Customer can establish that such Capacity Report contains a material error.

3. Burst

3.1 Burst; No Commitment Over Burst Limit. The Subscription Services are designed to allow Customer's Consumed Capacity to exceed the Committed Capacity up to the Burst Limit. Customer may in its discretion use the Subscription Services to exceed the Burst Limit, provided that: (i) NetApp makes no commitment to Customer that there will be capacity available in excess of the Burst Limit, and (ii) NetApp is not responsible for meeting, and will have no liability with respect to, the Service Level Objectives described below during any such time that Customer's use of the Subscription Services exceeds the Burst Limit. Customer acknowledges that Burst is measured independently for each Performance Level, and that more than one Customer workload may be distributed across multiple Performance Levels. Exceeding the Burst Limit within one Performance Level may impact Usable Capacity and available performance of other Performance Levels.

3.2 Rates. All Burst consumption will be invoiced at the specified Rate corresponding to the applicable Performance Level.

4. Fees

4.1 Minimum Payment. Each Committed Capacity selected via a Keystone Order is subject to a minimum payment amount for the Performance Level that is payable during the applicable billing period identified in the Keystone Order ("**Minimum Payment**"). Minimum Payments may include a portion of the amounts payable for Additional STaaS Services.

4.2 Total Fees; Start Date. The total Fees payable for a billing period may consist of usage-based consumption charges (e.g., the Minimum Payment, amounts attributable to Burst), and/or fixed rate charges (e.g., Additional STaaS Service charges that are based either on flat rates or variable amounts determined in reference to the usage-based charges). Fees are determined for each billing period by Performance Level and will include Minimum Payments for the Committed Capacity together with any additional amounts payable for any Bursts as described in Section 3.1 above and any Additional STaaS Services defined in Section 7 below. Fees will begin to accrue as of the earlier of: (i) the date on which NetApp notifies Customer that NetApp has made the Subscription Services available for access and use by Customer; or (ii) Customer has commenced use of the Subscription Services ("**Start Date**"), provided that the determination of the Start Date is subject to Section 9.2(b) below.

4.3 Invoicing.

(a) Fees payable for a billing period will be included in a single invoice, but the invoice will identify the components of such Fees. Customer will be invoiced in accordance with the billing frequency selected in the Keystone Order.

Fees	Monthly (in Arrears)	Annual (in advance)
Minimum Payment	Invoices issued following the month for which the Subscription Service is delivered.	First invoice due and payable on the Start Date
Burst		Subsequent invoices due and payable on the anniversary of the Start Date for each 12-month period of the Subscription Term
		Invoices issued at the end of each 3-month period of the Subscription Term (commencing on the Start Date)

5. Performance Levels; Service Level Objectives.

5.1 Performance Levels. The table below defines the available Performance Levels for the Subscription Services:

Data Type	File and Block					Object
Performance Level	Extreme	Premium	Performance	Standard	Value	N/A
Maximum IOPS/ logical TiB stored	12,228	4,096	2,048	512	128	N/A
Maximum MBps/ logical TiB stored	384	128	64	16	4	N/A
Average Latency	<1ms	<1ms	<1ms	<17ms	<17ms	N/A
Media Type	SSD	SSD	SSD	NL-SAS	NL-SAS	NL-SAS
Platform	ONTAP®	ONTAP®	ONTAP®	ONTAP®	ONTAP®	StorageGRID®
Minimum Committed Capacity per Keystone Order	25 TiB			100 TiB		500 TiB
Capacity Increase Increment	25 TiB					100 TiB
Protocols	NFS, SMB, CIFS, iSCSI, FC					S3
Burst Limit	120% of Committed Capacity					

5.2 IOPS per TiB. Subject to the terms of this Service Description and the applicable Keystone Order, Performance Levels are defined in terms of max input/output operations per second ("IOPS") per tebibyte ("TiB") stored ratio and latency. The performance characteristics specified in the table in Section 5.1 above are subject to the following conditions:

- (a) IOPS/TiB and latency values for Performance Levels are based on amount of logical data stored, 32KB block size, Random 70% Read/30% Write IO Mix
- (b) Actual IOPS/TiB and/or MBps/TiB may vary based on workload and usage pattern
- (c) Latency does not include application, host, or customer network latency to or from the controller ports or overhead associated with data transfer to the object store in the case of FabricPool, or latency automatically applied by QoS to keep IO within service level maximums
- (d) When using the Advanced Data Protection Additional STaaS Service, target latency applies to servicing IO requests from local Keystone Products only
- (e) See Documentation at <https://docs.netapp.com> for more information

5.3 Service Level Objectives.

(a) *Consumption-Based Performance.* NetApp will use reasonable commercial efforts to provide the targeted IOPS/TiB, per the related Performance Level set forth in the Keystone Order ("SLO"), for Consumed Capacity up to the Committed Capacity.

(b) *Data Access Availability.* NetApp will use commercially reasonable efforts to provide access to Usable Capacity with a monthly uptime percentage of at least 99.999% during any monthly billing period ("SLO"). For purposes of this SLO:

- monthly uptime percentage = [(maximum available minutes – downtime) / maximum available minutes] x 100%
- maximum available minutes = total number of minutes in a billing period
- downtime = total accumulated minutes that a client which is directly connected to a controller data point has no volume connectivity in a given system, excluding a period when the Subscription Services are not available due to scheduled or mutually agreed upon time for NetApp maintenance and upgrades

6. Standard STaaS Features. Subscription Services for File and Block Performance Levels include the following standard STaaS features at no additional cost. Except as noted, all consumption attributable to standard features used by Customer will count towards Consumed Capacity. Customer-specific design, deployment, configuration, testing or documentation is not included.

6.1 Data Management. FlexVol® volumes, FlexClone® volumes, FlexGroups, Snapshot™ copies, SnapLock® software, SnapRestore® software, SnapCenter® software

6.2 Data Protection. SnapMirror® unified replication, SnapVault® backup

6.3 Data Tiering to NetApp Targets. FabricPool (limited to tiering data from Extreme, Premium, Performance, Standard, and Value Performance Levels to NetApp targets, as described below)

- Data that is tiered to a NetApp target do not count towards Consumed Capacity
- "NetApp targets" include NetApp's ONTAP® software or StorageGRID® solutions platforms, whether the subject of Keystone STaaS or otherwise
- Tiering to targets other than NetApp targets requires the "Data Tiering to Non-NetApp Targets" Additional STaaS Service described in Section 7

7. Optional STaaS Features and Services. The following optional features and services (each, an "Additional STaaS Service") are available as part of the Subscription Services, subject to additional Fee amounts, conditions and availability:

7.1 Advanced Data Protection

- Provides MetroCluster™ configurations (MCC-IP) between two Customer Sites
- Supported only on File and Block Performance Levels
- Consumed Capacity is measured as the amount of Logical Capacity in use to store primary mirrored, primary unmirrored, and all mirrored copies of Customer data
- See the Documentation for MetroCluster for more information (<https://www.netapp.com/support-and-training/documentation/metrocluster/>).

7.2 Data Tiering to Non-NetApp Targets

- Provides FabricPool for tiering data to supported 3rd party object storage platforms
- Supported only on File and Block Performance Levels
- Consumed Capacity for Data Tiering to Non-NetApp Targets is measured as the Physical Capacity in use to store Customer data tiered from a File and Block Performance Level to a non-NetApp target

7.3 SnapLock Compliance

- Provides SnapLock Compliance for ONTAP platforms
- NR-NVC Additional STaaS Service is required
- Supported only on File and Block Performance Levels

7.4 Non-Returnable Non-Volatile Components ("NR-NVC")

- Provides ability for Customer to retain failed/defective non-volatile components during Subscription Term
- Provides ability for Customer to retain production non-volatile components at expiration of the Subscription Term
- Non-volatile components include: Storage media (hard drives and SSDs), Non-volatile memory
- Retained components cannot be used for any other purpose, and a certificate of destruction of the retained non-volatile components must be submitted to NetApp
- Charged as a % of the total storage service (includes Minimum Payments and other consumption-based Fees, Fees for Additional STaaS Services)
- Supported on all Performance Levels

8. **Permitted Changes to Subscription Services.**

8.1 Committed Capacity Changes

(a) Subject to Section 8.1(c), Customer may increase the amount of Committed Capacity at any time during the Subscription Term, up to 90 days prior to the scheduled expiration of the Subscription Term, by providing a written request to NetApp. NetApp will provide Customer with a confirmation of such increase; provided that NetApp will have no obligation to confirm such increase if such increase would require the addition of Subscription Products within 90 days of the expiration of the Subscription Term, unless the Parties have agreed in writing to renew or otherwise extend the Subscription Term prior to or during such final 90 day period. 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 new agreed upon Committed Capacity. Where Customer has selected annual billing and increases Committed Capacity during the Subscription Term in accordance with this Section, NetApp will promptly invoice Customer for any increases in Minimum Payments owed for the remainder of the Subscription Term.

(b) In addition to the right to increase the Committed Capacity at any time described in Section 8.1(a) above, where Customer has selected annual billing and a Subscription Term of at least 24 months, Customer may also decrease the Committed Capacity for each 12-month period following the initial 12 months of the Subscription Term, subject to Section 8.1(c) and the following: (i) Customer requests for decreases must be in writing and received by NetApp not less than 60 days prior to the start of the 12-month period for which the adjustment will apply; (ii) no such decrease may reduce the Committed Capacity by an amount greater than 25% of the then-current Committed Capacity, and such decrease will be effective only on the commencement of the subsequent 12-month period; (iii) the 90 day restriction relating to the addition of Subscription Products described in Section 8.1(a) applies; and (iv) any reduction under this Section 8.1(b) is subject to written NetApp approval.

(c) Changes to the Committed Capacity are subject to the Capacity Increase / Decrease Increment for each applicable Performance Level as specified in Section 5.1.

9. **Responsibilities**

9.1 NetApp Responsibilities. In delivering the Subscription Services, NetApp will provide: (a) required Subscription Products; (b) deployment of the Subscription Services; (c) remote capacity, performance, and health monitoring; (d) technical support; (e) capacity, performance, and health management; (f) a Keystone Success Manager.

(a) Subscription Products

- (i) NetApp will determine the required Subscription Products to deliver Subscription Services.

(b) Deployment Service

- (i) NetApp will provide the following deployment deliverables:

- Project management
- Validate Customer's Site readiness for deployment
- Installation, configuration, and testing of Subscription Products for delivery of Subscription Services

- (ii) Deployment excludes:

- Design or documentation of customer specific solutions, including integration of Customer applications, and migration of Customer data
- Services not expressly included in the Subscription Services, such as Disaster Recovery (DR) or Network topology or performance assessment
- Configuration of non-NetApp provided equipment for the Subscription Services

- Installation, configuration, or testing of VMs, hosts or other workloads
- Configuration of client computers, client or VM networks, backup and recovery

(c) Monitoring

- (i) Health: NetApp, through the Metering Tool, will monitor the health of Subscription Services, notify Customer of incidents that may affect the delivery of Subscription Services, and collaborate with the Customer on remediation of the same.
- (ii) Capacity: NetApp, through the Metering Tool, will monitor the Consumed Capacity, notify Customer if Committed Capacity needs to be increased, or if additional Subscription Products are required to support delivery of the current Subscription Services.
- (iii) Performance: NetApp, through the Metering Tool, will monitor the performance metrics of Subscription Services, notify Customer of incidents that may affect delivery of Subscription Services, and collaborate with Customer on remediation of the same.

(d) Technical Support

- (i) Customer may contact NetApp by telephone or web on a 24/7/365 basis to report an issue and receive a response from NetApp by remote means, subject to the Service Level Objectives in Section 5.3.
- (ii) NetApp sends authorized engineers to the installation location to work on the problem after NetApp has isolated the problem and deemed on-site support necessary.
- (iii) Time to Respond (TTR) Service Level Objectives:

<u>Metric</u>	<u>Issue Ticket Time to Respond (TTR)</u>	<u>Service Level Objective</u>
<p>TTR for P1 Incidents</p> <ul style="list-style-type: none"> Subscription Services unable to service customer IOs; service in a state of frequent or repeating “Panics” or “Hangs” or is in a state of degraded performance sufficient to prevent normal business operations. 	<p>7x 24x 15 Minutes from NetApp receiving ticket to NetApp acknowledging response to Customer.</p>	<p>98% of all P1 Incidents</p> <ul style="list-style-type: none"> P1 cases will be worked upon receipt. Customer needs to commit necessary personnel and system access until a mutually agreeable workaround is provided. Work will continue until a mutually agreeable workaround is provided and normal business operations are restored.
<p>TTR for P2 Incidents</p> <ul style="list-style-type: none"> Subscription Services experiencing an infrequent, isolated, or intermittent “Panics” or “Hangs” or is in a state of degraded performance that allows business operations to continue but at an inconsistent or less than optimal rate. 	<p>7x 24x 30 Minutes from NetApp receiving ticket to NetApp acknowledging response to Customer.</p>	<p>98% of all P2 Incidents</p> <ul style="list-style-type: none"> P2 issues will be evaluated for immediate work based on business impact. Issues with low impact will be worked during local NetApp business hours. Customer needs to commit necessary personnel and system access until a mutually agreeable workaround is provided. Work will continue until a mutually agreeable workaround is provided and normal business operations are restored.
<p>TTR for P3 Incidents</p> <ul style="list-style-type: none"> Subscription Services experiencing an issue, anomaly, or cosmetic defect that inflicts little or no business impact, and where a viable and mutually agreeable workaround or hardware/software upgrade exists to mitigate the problem. 	<p>7x 24x 45 Minutes from NetApp receiving ticket to NetApp acknowledging response to Customer.</p>	<p>95% of all P3 Incidents</p> <ul style="list-style-type: none"> P3 cases will be worked during local NetApp business hours. Customer needs to commit necessary personnel and system access until a mutually agreeable workaround is provided. Work will continue until a mutually agreeable workaround is provided and normal business operations are restored.

<p>TTR for P4 Incidents</p> <ul style="list-style-type: none"> Performance Level issues or concerns with the Subscription Services as well as normal requests for information regarding the installation, configuration, use and maintenance of NetApp equipment and software applications. This includes administrative inquiries and return material authorization. 	<p>7x 24x 120 Minutes from NetApp receiving ticket to NetApp acknowledging response to Customer.</p>	<p>80% of all P4 Incidents</p>
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(iv) NetApp will deliver and install replacement parts with target response time of 7x 24x 4hr, where available.

(v) Exclusions

- Troubleshooting for interconnectivity or compatibility incidents
- Services required due to Customer's failure to incorporate any system fix, repair, patch, or modification provided by NetApp
- Services required due to Customer's failure to take avoidance action previously advised by NetApp
- Services that, in NetApp's opinion, are required due to unauthorized attempts by non-NetApp personnel to install, repair, maintain, or modify hardware, firmware, or software
- Operational testing of applications, or additional tests requested or required by Customer
- Backup and recovery of the Customer's operating systems, applications, or user data
- Data Services that, in NetApp's opinion, are required due to improper treatment or use of the products or equipment

(e) Management

(i) NetApp will perform firmware and software upgrades, including patches and hotfixes, as deemed necessary by NetApp to deliver Subscription Services in collaboration with Customer

(ii) NetApp will determine if additional or replacement of Subscription Products is required to deliver Subscription Services and collaborate with Customer on the deployment of such Subscription Products

(iii) Capacity management

(iv) Performance management

(v) Incident management

(f) Keystone Success Manager ("**KSM**"). Subscription Services include the assignment of a KSM having the following responsibilities:

(i) conduct periodic review calls that may include:

- capacity consumption, forecasting, planning review
- maintenance and update review
- incident review
- billing review
- best practices review

(ii) serve as escalation point of contact

(iii) serve as Customer advocate

9.2 Customer Responsibilities

(a) In addition to the obligations set forth in the Agreement, Customer is solely responsible for: (i) encryption; (ii) backup, recovery, business continuity and disaster recovery of its data and applications; (iii) conversion and migration of data to the Subscription Products; (iv) integration and or automation of the Subscription Services with Customer environment or applications; and (v) migration, deletion and wiping of data from the Subscription Products upon the expiration or termination of the Subscription Term and prior to returning the Subscription Products to NetApp.

(b) Customer represents and warrants to NetApp that, on or prior to delivery of the Subscription Products, the Customer Site will be prepared and ready for the prompt installation and deployment of the Subscription Products as required in Section 9.2(d). Chronic or sustained failure by Customer or any authorized agent to ensure and facilitate the prompt installation of any Subscription Products constitutes a material breach under the Agreement.

(c) In addition to the restrictions set forth in the Agreement, Customer may not: (i) modify ONTAP version; (ii) disable or turn OFF ASUP; (iii) remove NetApp's access to controller's management ports; (v) disable data efficiencies, including compression, compaction, deduplication, thin provisioning; or (vi) disable or remove NetApp's ability to monitor consumption or health.

(d) Following are items Customer is responsible for providing on or prior to delivery:

(i) Customer Sites (per Keystone specifications)

- Rack space
- Redundant power and PDUs
- Cooling
- Virtual machines for the deployment of the Metering Tool

(ii) Network

- Internet connectivity
- Customer data network connectivity
- Customer management network connectivity
- Outbound firewall access
- Inbound connection upon mutual agreement for remote support and management
- Network services configuration (e.g. DNS Server, NTP Server)
- Long distance SFPs

(iii) Customer specific solution

- Design
- Deployment
- Integration with customer tools or processes

(e) Other

(i) Data wiping prior to equipment return

(ii) Assigning purchased performance level AQoS policies to each ONTAP volume

(iii) Access for NetApp personnel to DC for install, deinstall, and service

(iv) Non-critical patch identification and informing NetApp KSM

(v) Non-critical patch installation coordinating with NetApp KSM

(vi) Storage Provisioning

(vii) Storage Administration

(viii) Backup & Recovery of customer data

(ix) Disaster Recovery of customer applications

(x) Data Migration of customer data to/from Keystone systems

(xi) Data Wiping of customer data on defective equipment to be returned or upon Service Termination prior to return shipment

(xii) Change control

10. Miscellaneous

10.1 Customer may request an extension for transition Subscription Services beyond the Subscription Term for a period of one calendar month to facilitate an orderly transfer of data out of Subscription Services. This request shall be made in writing and at least 90 days prior to expiration of the current Subscription Term and shall be effective upon acceptance by NetApp.

10.2 This Service Description, taken together with the Agreement and any exhibits and supplemental terms referenced therein, represents the entire agreement and understanding between the Parties with respect to the Subscription Products and Subscription Services made subject to a validly executed Keystone Order. Except as otherwise provided for in the Agreement, to the extent there is a conflict between this Service Description and the Agreement, this Service Description will control. Keystone Order(s) will be deemed to incorporate and be subject to this Service Description and the Agreement, except where the Parties expressly agree in writing to variations thereto.