NetApp

Keystone STaaS SLA

Keystone

NetApp
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Keystone STaaS SLA

Availability SLA

Availability SLA targets an uptime of 99.999% during a billing period for all NetApp ONTAP flash storage arrays deployed to deliver the Keystone order.

> (i)　SLAs and guarantees are available on a nomination basis.

Metrics

- **Monthly uptime percentage** = [(number of eligible seconds in a month - average of number of seconds of downtimes for all AFF storage arrays deployed to deliver the Keystone order in that month) / number of eligible seconds in a month] x 100%

- **Downtime**: The period of time when both controllers in a pair within a storage array are not available, as determined by NetApp.

- **Eligible number of seconds**: These are seconds in a month that count towards the uptime calculation. It does not include the time period when the STaaS services are not available because of planned maintenance, upgrades, support activities agreed upon with NetApp, or due to circumstances that are beyond control or responsibility of NetApp or Keystone services.

Service levels

All service levels that ONTAP flash storage arrays support are eligible for Availability SLA. To learn more, refer to Service levels in Keystone.

Service credits

If the availability of ONTAP flash storage arrays for eligible subscriptions falls below the 99.999% monthly uptime target within a billing period, then NetApp issues service credits as follows:

Monthly uptime (less than)	Service credit
99.999%	5%
99.99%	10%
99.9%	25%
99.0%	50%

Service credit calculation

Service credits are determined using the following formula:

Service credits = (impacted capacity / total committed capacity) X capacity fees X credit percentage

Where:

- **impacted capacity**: The amount of stored capacity affected.
- **total committed capacity**: The committed capacity for the service level for the Keystone order.
- **capacity fees**: The fees for the affected service level for the month.
- **credit percentage**: The predetermined percentage for service credit.

Example

The following example shows the method of calculation for service credits:

1. Calculate monthly uptime to determine the service credit percentage :

   - Eligible seconds in a 30-day month: 30 (days) X 24 (hours/day) X 60 (minutes/hour) X 60 (seconds/minute) = 2,592,000 seconds

   - Downtime in seconds: 95 seconds

     Using the formula:
     Monthly uptime percentage = [(2,592,000 - 95)/(2,592,000)] X 100

     Based on calculation, the monthly uptime will be 99.996%, and the service credit percentage will be 5%.

2. Calculate service credits:

Service level	Impacted capacity	Total committed capacity	Capacity fees	Credit percentage
Extreme	10 Tib for 95 seconds	100 Tib	$1000	5%

Using the formula:
Service credits = (10 / 100) X 1000 x 0.05

Based on calculation, the service credits will be $5.

Service credit request

If a breach of the SLA is detected, open a priority 3 (P3) support ticket with Keystone Global Services and Support Center (GSSC).

- The following details are required:
  a. Keystone subscription number
  b. Volumes and storage controller details
  c. Site, time, date, and description of the issue
  d. Calculated time duration of latency detection
  e. Measurement tools and methods
  f. Any other applicable document
- Provide the details in the excel sheet as shown below for a P3 ticket opened with Keystone GSSC.

	A	B	C	D	E
1	Subscription_No	Service_level	Volume_uuid	Date	Is_SLA_Breached
2	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx5	2024-01-01	Yes
3	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx6	2024-01-02	Yes
4	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx7	2024-01-03	Yes
5	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx8	2024-01-06	Yes
6	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx9	2024-01-17	Yes

(i)
- A service credit request should be initiated within six weeks after GSSC has validated a breach. All service credits should be acknowledged and approved by NetApp.
- Service credits may be applied to a future invoice. Service credits do not apply to expired Keystone subscriptions. To learn more, refer to NetApp Global Services Support Center.

Performance SLA

NetApp Keystone offers latency-based SLA per service level, as described in the Keystone order for consumed capacity up to the burst limit, according to the following listed terms and conditions.

(i) SLAs and guarantees are available on a nomination basis.

Metrics

- **Degraded performance**: The amount of time, in minutes, per incident, during which the 90th percentile latency target is not met.
- The **90th percentile latency** is measured per volume, per performance level, for all volumes within a Keystone Order. Latency is sampled every five minutes, and the 90th percentile value calculated over a 24-hour period is used as the daily measure, considering the following points:
  - The volumes that record at least five IOPS at the time of metrics collection are considered for a sample.
  - Volumes with greater than 30% write operations at the time of metrics collection are excluded from the sample.
  - Latency added by AQoS for requested IOPS/TiB that is greater than target IOPS/TiB are excluded from the sample.
  - Latency added by AQoS to maintain minimum IOPS per volume are excluded from the sample.
  - For volumes that have FabricPool enabled, the latency incurred due to the transfer of data to and from the target (cold) storage is not counted.
  - Latency caused by the application, host, or customer network outside of the ONTAP cluster is not counted.
  - When using the advanced data protection add-on service, the target latency includes only IO operations to and from the local storage array.
  - During a 24-hour period, at least ten valid metrics should be available. If not, the metrics will be

discarded.

- If one or more volumes on a storage array do not have a valid AQoS policy applied, then number of IOPS available to other volumes may be affected, and NetApp will not be responsible for targeting or meeting performance levels on that storage array.

- In FabricPool configurations, performance levels are applicable when all requested data blocks are on FabricPool source (hot) storage and the source storage is not in a SnapMirror Synchronous relationship.

Service levels

All service levels that ONTAP flash storage arrays support are eligible for Performance SLA and guarantee meeting the following target latency:

Service level	Extreme	Premium	Performance	Standard
Target 90th percentile latency	<1ms	<2ms	<4ms	<4ms

To learn more about the latency requirements of the service levels, refer to Service Levels in Keystone.

Service credits

NetApp issues service credits for the degraded performance:

Performance threshold	Service credit
90th percentile latency > target latency	3% for each calendar day of occurrence

Service credit calculation

Service credits are determined using the following formula:

Service credits = (impacted capacity / total committed capacity) X capacity fees X affected days X credit percentage

Where:

- **impacted capacity**: The amount of stored capacity affected.
- **total committed capacity**: The committed capacity for the service level for the Keystone order.
- **capacity fees**: The fees for the affected performance level as per the Keystone order.
- **affected days**: The number of calendar days impacted.
- **credit percentage**: The predetermined percentage for service credit.

Example

The following example shows the method of calculation for service credits:

Service level	Impacted capacity	Total committed capacity	Capacity fees	Affected calender days	Credit percentage

Extreme	10 Tib	50 Tib	$1000	2	3%

Using the formula:
Service credits = (10 / 50) X 1000 x 2 x 0.03

Based on calculation, the service credits will be $12.

Service credit request

If a breach of the SLA is detected, open a priority 3 (P3) support ticket with Keystone Global Services and Support Center (GSSC).

- The following details are required:
  a. Keystone subscription number
  b. Volumes and storage controller details
  c. Site, time, date, and description of the issue
  d. Calculated time duration of latency detection
  e. Measurement tools and methods
  f. Any other applicable document
- Provide the details in the excel sheet as shown below for a P3 ticket opened with Keystone GSSC.

	A	B	C	D	E
1	Subscription_No	Service_level	Volume_uuid	Date	Is_SLA_Breached
2	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx5	2024-01-01	Yes
3	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx6	2024-01-02	Yes
4	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx7	2024-01-03	Yes
5	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx8	2024-01-06	Yes
6	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxxx9	2024-01-17	Yes

- A service credit request should be initiated within six weeks after GSSC has validated a breach. All service credits should be acknowledged and approved by NetApp.
- Service credits may be applied to a future invoice. Service credits do not apply to expired Keystone subscriptions. To learn more, refer to NetApp Global Services Support Center.

Sustainability SLA

NetApp Keystone delivers a guaranteed measurement of maximum number of actual watts per tebibyte (W/TiB) for storage services based on ONTAP flash storage arrays with Sustainability SLA. Sustainability SLA defines the maximum consumption of W/TiB for each eligible service level, helping organizations meet their sustainability goals.

> ⓘ SLAs and guarantees are available on a nomination basis.

Metrics

- **Watts**: The power consumption reported from daily AutoSupport, including the usage by the controller and attached disk shelves.

- **Tebibyte**: The maximum of:

  - the committed capacity + allocated burst capacity for the service level, or

  - the effective deployed capacity, assuming a storage efficiency factor of `2:1`.

  To learn more about storage efficiency ratio, refer to Analyze capacity and storage efficiency savings.

Service levels

Sustainability SLA is based on the following consumption criteria:

Service level	SLA criteria	Minimum committed capacity	Platform
Extreme	⇐8 W/TiB	200 TiB	AFF A800 and AFF A900
Premium	⇐4 W/TiB	300 TiB	AFF A800 and AFF A900
Performance	⇐4 W/TiB	300 TiB	AFF A800 and AFF A900

To learn more, refer to Service levels in Keystone.

Service credits

If W/TiB consumption during a billing period fails to meet the SLA criteria, then NetApp issues service credits as follows:

Days SLA missed in billing period	Service credit
1 to 2	3%
3 to 7	15%
14	50%

Service credit request

If a breach of the SLA is detected, open a priority 3 (P3) support ticket with Keystone Global Services and Support Center (GSSC), and provide the details as requested in the excel sheet as shown below:

	A	B	C	D	E
1	Subscription_No	Service_level	Volume_uuid	Date	Is_SLA_Breached
2	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxx5	2024-01-01	Yes
3	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxx6	2024-01-02	Yes
4	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxx7	2024-01-03	Yes
5	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxx8	2024-01-06	Yes
6	192037XXX	premium	fxxxxxb1-fxxb-xxed-axxx-dxxxexxxxxx9	2024-01-17	Yes

ⓘ
- A service credit request should be initiated within six weeks after GSSC has validated a breach. All service credits should be acknowledged and approved by NetApp.
- Service credits may be applied to a future invoice. Service credits do not apply to expired Keystone subscriptions. To learn more, refer to NetApp Global Services Support Center.

Ransomware Recovery Guarantee

NetApp guarantees the recovery of Snapshot data from SnapLock Compliance volumes in the event of a ransomware attack with the Ransomware Recovery Guarantee program. NetApp Ransomware Recovery Assurance Service is required to support the Ransomware Recovery Guarantee program and should be purchased separately from the associated Keystone order.

ⓘ
SLAs and guarantees are available on a nomination basis.

Service levels

Ransomware Recovery Assurance Service is required for all hardware supporting the Keystone subscription for the duration of the applicable subscription term.

Service credits

If SnapLock Compliance is deployed as per best practices, and NetApp professional services either configure it or validate it upon the purchase of Ransomware Recovery Assurance Service, then NetApp issues the service credits if the data protected by SnapLock is not recoverable. The criteria for these credits are as follows:

- Service credits can be applied to future invoices. The credits are capped at 10% of the Committed Contract Value (CCV) and are paid out on a per-subscription basis.
- Credits are provided during the active subscription term of the relevant Keystone order.
- For subscriptions with monthly billing, the credits will be divided over the next 12 months and can be used for any future Keystone invoices until the end of the subscription term. If the subscription ends in less than 12 months, it can be renewed to continue using the credits, or the credits can be applied to other NetApp invoices.
- For annual subscriptions, the credits will be applied to the next Keystone invoice, if available. If there are no future Keystone invoices, the credits can be applied to other NetApp invoices.