



Keystone Flex Subscription FAQ

NetApp Keystone

NetApp
January 15, 2021

Table of Contents

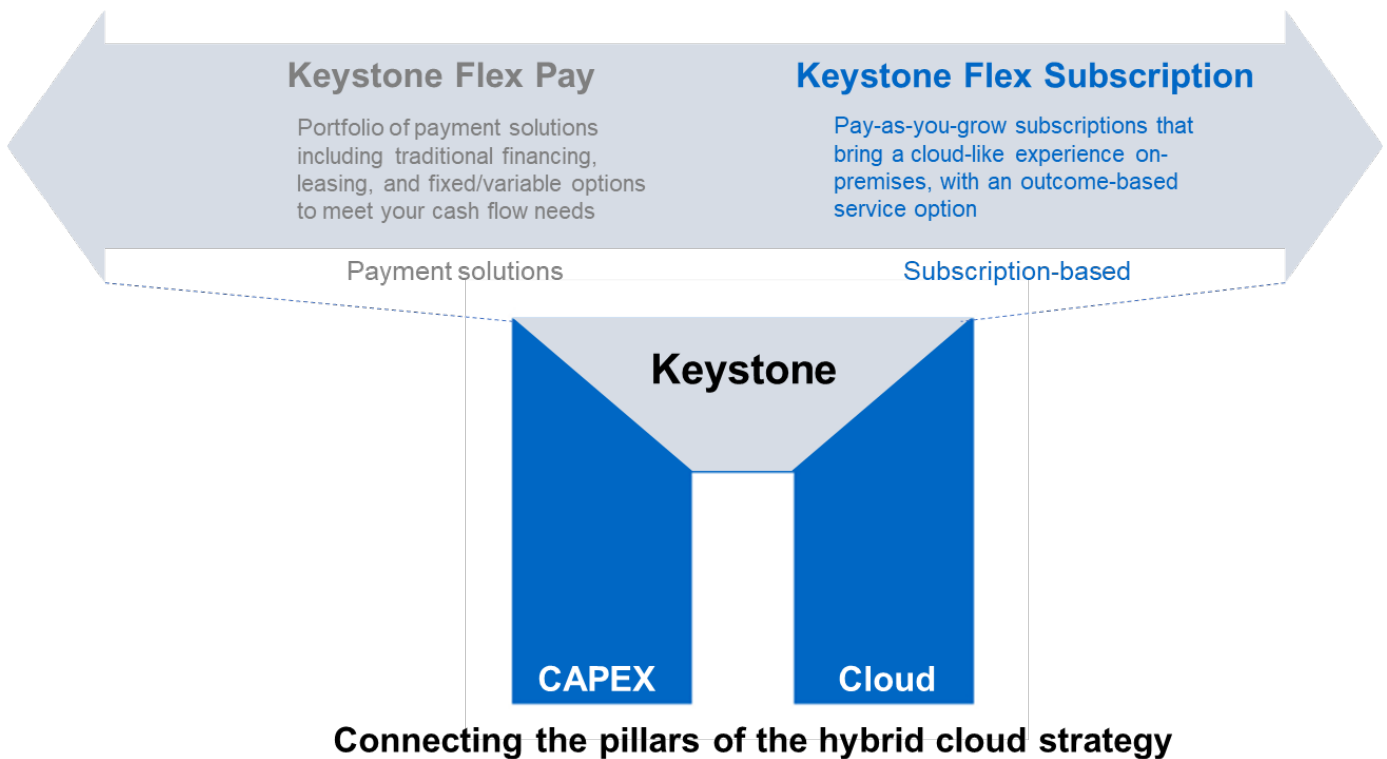
- Overview 1
- Service Offer Details 3
- Keystone Subscription 5
- Keystone Pricing and Billing 6
- Operating Models 8
- Operations and Support 9
- NetApp Service Engine/Self-Service Access Portal 11

Overview

What is NetApp Keystone?

NetApp Keystone is a portfolio of on-premises capital expenditure (capex) alternatives, consisting of Keystone Flex Pay, and Keystone Flex Subscription.

- **Keystone Flex Pay.** A portfolio of payment solutions including traditional financing, leasing, and fixed/variable options to meet your customer's cash flow needs.
- **Keystone Flex Subscription (formerly On-Premises Cloud Consumption (OPCC)).** Pay-as-you-grow subscription-based service that brings a cloud-like experience on premises, with an outcome-based service option (NetApp-operated), as shown in the figure below.



How does NetApp Keystone benefit my customers?

NetApp Keystone is the bridge that connects the pillars of our capex and hybrid cloud strategy— delivering agility, financial flexibility, and reduced financial risk that helps customers meet their cash flow and business needs.

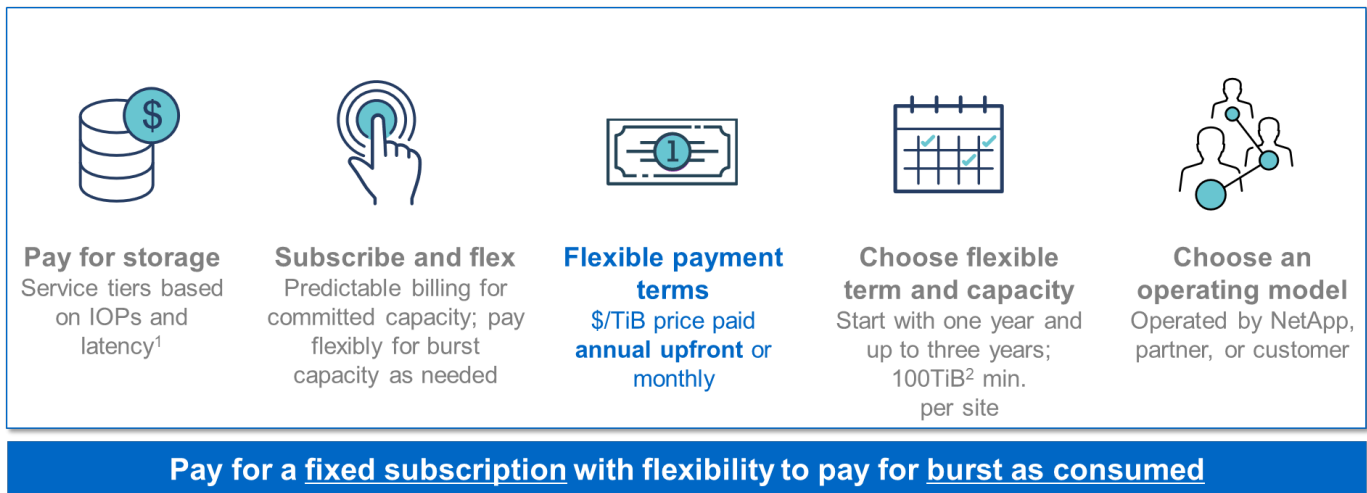
The NetApp Keystone brand offers a portfolio of flexible payment solutions that include traditional financing, leasing, and fixed/variable options for cash-conscious customers along with Keystone Flex Subscription. Here is how to position each of the offerings:

- **Keystone Flex Pay (financial flexibility, payment solutions):**
 - Prefer to own the asset title, but need payment/financial flexibility (rental model, lease, loan, installments)
 - Stringent security requirements with no external data connectivity options to enable subscription
 - Workloads have predictable capacity growth and aligns with capex budgets

- Well-managed infrastructure with high asset utilization
- Prefer to procure storage on a raw-capacity basis and retain efficiency benefits
- **Keystone Flex Subscription (OPEX, cloud-like experience):**
 - Prefer 100% OPEX, so assets will not end up on your customer's balance sheet
 - Internal/external Service Providers looking to align costs with usage/revenue
 - Workloads with unpredictable capacity growth
 - Reallocated IT resources from typical storage tasks (migrations, tech refresh, upgrades, and so on)
 - Short-term solution before migrating workloads to the cloud
 - Repatriating workloads back from the cloud to on- premises

What is Keystone Flex Subscription?

Keystone Flex Subscription is a new, flexible, on-premises subscription-based procurement model. It enables customers to accelerate time to value by removing the hurdles around managing the resources and going through the lengthy procurement cycle. Keystone Flex Subscription allows customers to align economics to their business priorities, as shown in the figure below.



¹ This is an "as-a-service" model; underlying hardware choices abstracted away.

² Applies to NetApp direct sell-based deals; starts with 15TiB (Extreme) for channel-led deals.

What does on-premises mean?

On-premises is defined as a customer-owned data center or customer-owned space in a colocation facility. The customer is responsible for the space, power, and cooling.

What are the benefits of Keystone Flex Subscription services?

Some benefits of Keystone Flex Subscription services are:

- Frees up IT staff from complicated storage-related tasks and allows them to focus on application management
- Reduces upfront capital investment
- Allows customers to meet their demands without overprovisioning
- Aligns data storage costs with business needs/activity

- Simplifies infrastructure provisioning by bypassing complex organizational procurement procedures
- Keeps data secure on their premises
- Enables proper control over compliance, performance, and security

Service Offer Details

What is offered as part of Keystone Flex Subscription?

Keystone Flex Subscription is a subscription-based service offering for block, file, and object data services that can be deployed on-premises and can be operated by NetApp, a partner, or a customer.

What storage service offers are provided as part of Keystone Flex Subscription?

The following chart shows the data storage performance tiers offerings.

	Keystone File and Block						Keystone Object	Keystone Block		
	Extreme	Extreme w/ Data Tiering ²	Premium	Premium w/ Data Tiering ²	Standard	Value	Object	Extreme	Premium	Standard
Workload type	Analytics, databases		VDI, virtualization apps, SW dev		File shares, web servers	Backup target	Media repository, archiving	HPC	Video surveillance	Backup
Target IOPS/TiB	6,144	6,144 ¹	2,048	2,048 ¹	128	n/a	n/a	n/a	n/a	n/a
Max. IOPS/TiB	12,288	12,288 ¹	4,096	4,096 ¹	512	n/a	n/a	5,500	4,000	n/a
Max. throughput MBps (32KB/IOP)	384	384 ¹	128	128 ¹	16	n/a	n/a	43	31	n/a
Latency	<1 ms	<1 ms ¹	< 2 ms	< 2 ms ¹	<17 ms	n/a	n/a	< 0.5 ms	<0.5 ms	n/a
Minimum capacity	100TiB**^						1PiB	100TiB	100TiB	300TiB
Protocols	NFS, CIFS, iSCSI, FC						S3	FC, iSCSI		

* Minimum one-year term and 100TiB of storage.
 ^Channel led opportunities: starts with 15TiB for Extreme.

¹ Performance SLAs are applicable for data in hot tier
² Max. allowed data in hot tier: 25%

What add-on services are supported?

Advanced data protection (backup and disaster recovery) and Hybrid Cloud Tiering with FabricPool are add-on services that can be chosen at an additional cost.

What service levels does NetApp guarantee with the service?

In a NetApp operated scenario, NetApp Keystone guarantees IOPS/TiB for the storage that is provisioned and the latency for each service level.

What is the typical length of term of a NetApp Keystone Flex Subscription agreement?

The NetApp Keystone Flex Subscription offers 12-, 24-, and 36-month term periods.

How does the customer access the storage?

The customer can only provision storage and change provisioned storage to available settings, either through a management portal or through APIs. The customer cannot directly log in to the storage equipment. For example, the customer is not provided with NetApp ONTAP System Manager or administrative access to the

systems.

How do customers manage the service?

NetApp Service Engine is the orchestration and management tool that the customer can use to provision storage and get reports on the service usage.

Are APIs provided to integrate with customer tools?

Yes, RESTful APIs are available to integrate into the customer's own applications.

Who does the monitoring and operations?

For the NetApp-operated service, NetApp is responsible for monitoring the infrastructure remotely so that the service is delivered according to the agreed expectations.

For the partner-operated service, partner is responsible for monitoring the infrastructure remotely so that the service is delivered according to the agreed expectations.

For the customer-operated service, customer is responsible for monitoring the infrastructure and raise any issues to NetApp.

What type of support is included in the offer?

For the NetApp-operated model, SupportEdge Expert is offered. For the customer-operated model, Support Edge Advisor is offered. For the partner-operated model, either SupportEdge Expert or Advisor is offered.

What happens if the customer terminates early?

The minimum service commitment is 12 months. If the customer cancels the service early, the residual value needs to be paid up upfront.

Is there an opportunity to convert into a purchase after the initial term is completed?

No. The offer does not include an option to convert into a purchase. Additionally, previously purchased NetApp products are outside the scope of this program.

What are the responsibilities of NetApp and the customer?

The responsibilities are outlined in the table below.

Action (RACI = Responsible, Accountable, Consulted, Informed)	NetApp	Customer
Provide storage performance SLAs, data protection SLAs, and provisioning API SLAs	R, A, C, I	–
Provide and manage hardware, software, and labor to provide the SLAs	R, A, C, I	–
Storage SLA reports, dashboards, and billings reports	R, A, C	I

Action (RACI = Responsible, Accountable, Consulted, Informed)	NetApp	Customer
Availability of 20% burst capacity over committed capacity	R, A, I	C
Provide storage request and incident management (service SLA)	R, A	C, I
All other storage service management including events, problems, changes, assets, and all other operations processes	R, A, C, I	
Provide data center power, space, and cooling per NetApp specifications	C, I	R, A
Provide customer network connection to service router per NetApp specifications	C, I	R, A
Respond to data center and customer network incidents and problems (data center failure)	C, I	R, A
Manage customer network, compute, and application events, incidents, problems, changes, assets, and other operations processes	–	R, A, C, I
Provide provisioning automation and orchestration to storage API	–	R, A, C, I
Perform data and application recovery and restoration	–	R, A, C, I
Report storage SLA violation claims	C, I	R, A

Keystone Subscription

What is the minimum committed capacity?

The minimum committed capacity for a NetApp Keystone Subscription is 100 TiB, per site across one or more service tiers.

What does a NetApp Keystone subscription map to?

A NetApp Keystone Subscription maps to a single site or a single data center and it can comprise of different performance service levels.

How does the customer increase the committed capacity in a subscription?

Customers can submit a capacity addition request through the NetApp Service Engine management tool or through their NetApp Keystone success manager.

Does increasing the capacity extend the term?

All the additions are co-term to the existing term period, except if the request is made in the last 90 days of the subscription, in which case the term must extend for at least 12 months.

Does a new subscription have flexibility to come with a new yearly term?

Yes, new subscriptions can have new terms separate from any existing subscriptions.

Can a customer mix multiple subscriptions on the same ONTAP cluster?

No, each cluster is assigned to a particular subscription.

Can the customer reduce the committed capacity?

No. During a term, the committed capacity can only be increased but not decreased.

What is burst capacity?

The customer can increase and decrease usage up to 20% above the committed capacity. The burst capacity usage is measured on a daily basis and billed only when used.

For example, if the committed capacity is 100 TiB, customers can burst up to 120 TiB.

Is there a premium charge for using burst?

The burst capacity usage up to 20% of committed capacity is billed at the same rate as committed capacity, any usage above 20% of committed capacity is billed at 50% premium.

What is the benefit of burst capacity?

Burst capacity gives the customer flexibility to consume storage on demand versus committing for the long term.

Where can the customer see the committed and burst capacity usage?

NetApp Service Engine has built-in dashboards to report consumed capacity against committed capacity.

Will there be any notifications if the customer reaches a certain percentage in committed capacity usage?

Yes, the management tools provide notifications on capacity usage through the NetApp Service Engine dashboard.

Keystone Pricing and Billing

What is the list price for each service level?

The list price is defined at \$/GB/month for each performance level and add-on software. Please work with deal support expert for the rate card and the quotes. Reference the rate card and the pricing calculator in the field portal.

Is migration service included?

No. Data migration must be done as a separate statement of work (SOW) through a partner or NetApp

Professional Services.

What is included as part of the \$/GB monthly payment?

The monthly storage costs include:

- Discovery services before service deployment.
- Installation of the hardware and software required to meet the service levels.
- (Optional) Continuous management and operations of the hardware and software.
- Customer success manager services. The customer success manager is the primary NetApp point of contact for the customer. That manager is responsible for capacity planning and monitoring the capacity, performance, and data protection service levels.
- Storage cost and any add-on software.

What software licenses and services are not part of the offering and are billed separately?

No additional software licenses to manage the storage are required. Migration and any API integration with existing business process are billed separately.

Can the service price be discounted?

Please work with deal desk for discount rates and quotes.

What is the unit of billing?

Billing is based on the total amount of committed (also called “reserved”) capacity. For example, if the customer subscribes for 100 TiB at the highest performance service level—Extreme—which is priced at \$117/TiB/month, then the monthly bill is 100 TiB x \$117 = \$11,700/month.

The price used in the example is for illustration purposes only; it is not the final price.

Is the billing done on the capacity consumed or committed?

Consumption billing has two parts:

- Fixed payment based on the committed capacity
- Variable payment matched to capacity used in excess of committed capacity (burst)

What is the billing frequency?

By default, the billing frequency is monthly. In certain cases, there is flexibility for the customer to negotiate a quarterly or a yearly upfront payment.

Who do we contact for billing questions?

NetApp Keystone Success Manager or ng-keystone-escalations can be contacted for billing enquiries

What information is included on the invoice?

The invoice includes the charges for the committed capacity, any charges for using burst capacity plus any applicable taxes.

Who is responsible for data center costs?

The customer is responsible for data center costs, which includes space, power, and cooling.

Operating Models

What are the different operating models and who is responsible for the major activities?

The following chart is an overview of the three operating models that a customer can select: NetApp Operated, Partner Operated, and Customer Operated. For each of the operating models, the chart below shows the roles and responsibilities across the service lifecycle.

Roles and Responsibilities across Service Lifecycle

	NetApp Operated	Partner Operated	Customer Operated	
	NetApp	Partner	NetApp	Customer
Build	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Install	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Configure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Deploy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Onboard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Monitor & Administer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Monitor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Alert	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Administer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Report	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Operate & Optimize	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Manage capacity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Manage performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
• Manage SLA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Support customer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• HW break fix	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• SW support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
• Upgrades and patches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

What is a NetApp-operated model?

This operating model allows the customer to subscribe to the offered services, according to the selected performance tiers and storage service types and selects the NetApp operated option at an extra cost. NetApp defines the architecture and products, installs at the customer premises, and NetApp manages the day-to-day infrastructure management operations using our storage and IT resources. Available storage service types are file, block (iSCSI), and object.

What is a partner-operated model?

The operating model for the partner is similar to the NetApp-operated model, but with the partner operating the service for their end customer. In this model, the partner is the referenced contracted party.

What is a customer-operated model?

This operating model allows the customer to subscribe to an offered service, according to the selected performance tiers and storage service types. NetApp defines the architecture and products and installs at the customer premises and allows customers to manage the infrastructure using their storage and IT resources. Available storage service types are file, block (iSCSI), and object. In this model, the customer referenced the contracted party, and this can be an end-user or partner.

Who owns the equipment?

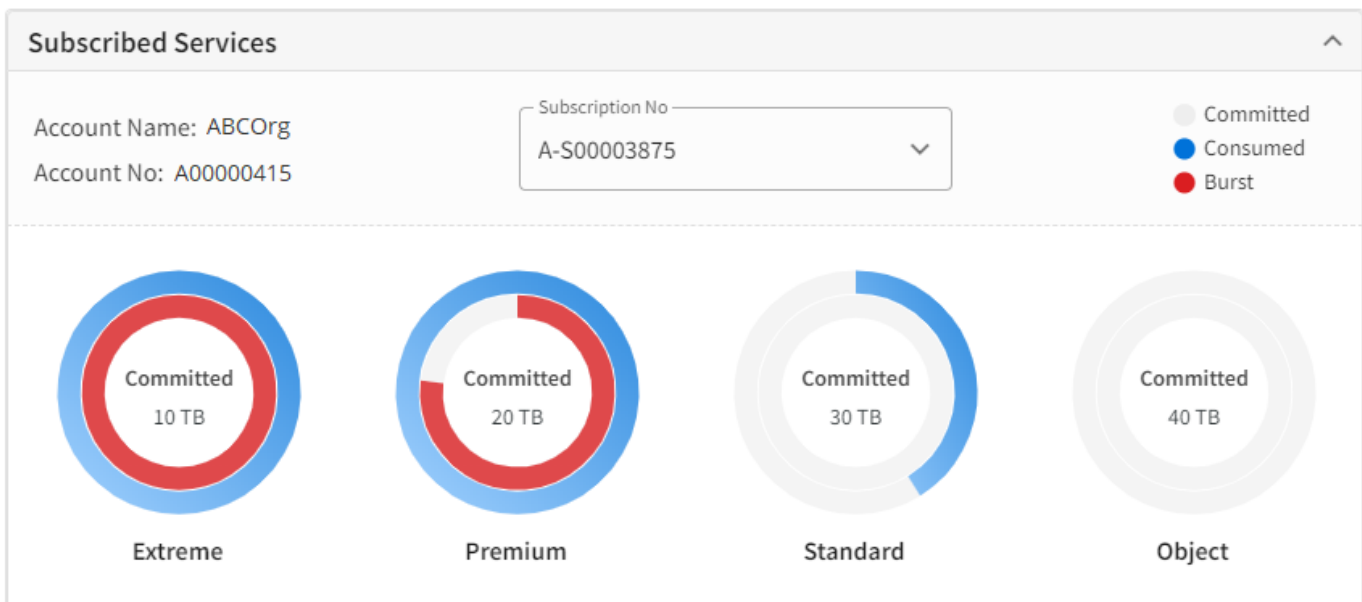
In all three operating models, NetApp owns the title to all the hardware and software installed at the customer premises.

Operations and Support

How do I view the subscription usage?

NetApp Service Engine provides a dashboard view, with information on all the services that are subscribed to and how much is consumed, as shown in the figure below.

For details about NetApp Service Engine, see [here](#).



How do I report any issues with the service?

NetApp Keystone support can be reached through these various channels:

- Support email: keystone.services@netapp.com
- Escalations email: keystone.escalations@netapp.com
- Telephone (24/7):
 - 888.4.NETAPP (US and Canada)(888.463.8277)

- 00.800.44.638277 (EMEA/Europe)
- +800.800.80.800 (Asia/Pacific)

Follow IVR Options for direct NetApp Keystone Support – 2 - 2 – 5 and enter keystone code <7003 >

Can I order new storage service?

Yes, new storage service or expansion to storage service can be requested from the NetApp Service Engine portal. The request is processed by the NetApp Keystone operations team before making it available for use.

Are increases to storage commitments available immediately?

Depending the amount of capacity requested, a determination is made whether the capacity is already deployed, or it requires additional equipment to be shipped and installed.

Can workloads be moved between the tiers?

Yes, workloads can be moved between tiers, provided the user has subscribed to the tier the workload is moving to. However, we do not recommend moving from a higher tier to a lower tier because it can cause a performance degradation. The process is achieved by simply editing the file share and changing the service level setting.

What software version (for example, ONTAP) is installed as default?

Depending on the service tier subscribed (for example, ONTAP with File and Block services, SANtricity for Block, and StorageGrid for Object) NetApp Keystone installs the latest stable release with no security or feature issues.

How often does the NetApp Keystone team update the software version?

There is no defined frequency. The NetApp Keystone team selects the right stable version and for security patches, bug fixes, or feature additions, decides to update. The Keystone Success Manager is engaged with the Customer Data Centre team to get window on when we can do that.

Can the customer request a particular software version?

No. NetApp Keystone has standardized the software version across all its customer base.

Will the customer be informed about software upgrades?

Yes. All maintenance/upgrade activities are communicated to and scheduled at a mutually agreeable time with the customer by the NetApp Keystone Success Manager.

Who ensures customer applications are compatible with the NetApp Keystone environment?

The NetApp Keystone team does not have any visibility into customer application. It is up to the customer to ensure they work with the NetApp Keystone Success Manager to share their application requirements.

What triggers an expansion of the environment?

Additional equipment is added by the NetApp Keystone team for the following scenarios:

- To meet the agreed upon SLAs
- To satisfy the customer request to increase the capacity or add on a new service

What happens if the service levels are not met?

The following table lists the service level information.

Category	Descriptions/Details
Data access availability SLA	<ul style="list-style-type: none">• Monthly uptime percentage of at least 99.999% (five 9s) during any monthly billing cycle• Only covers systems comprised of NetApp AFF products
Performance SLO	<ul style="list-style-type: none">• Targeted IOPS/TB at the specified block sizes and configured Volume size, per the related performance level
Claims process	<ul style="list-style-type: none">• Customer inquiries regarding the SLXs should be directed to NetApp technical support, or email xdl-americas-revenue@netapp.com
Service credits/remediation	<ul style="list-style-type: none">• NetApp will evaluate all claims to determine service credits (if any) to apply against future charges
Contractual limitations	<ul style="list-style-type: none">• Customer must initiate a case with NetApp technical support within four weeks of the incident• Customer is only eligible to receive one service credit per month per account• The service credit (not to exceed 20% of minimum payment for initial committed capacity) can only be applied to toward customer's future charges• Availability will be measured and reported separately for each service

NetApp Service Engine/Self-Service Access Portal

What is NetApp Service Engine?

NetApp Service Engine is a self-service portal that is available in the NetApp-operated model for customers to log into and provision storage based on their subscription. The tool also provides reports on what their consumption levels are against their subscription and initiate any service requests or subscription changes.

NetApp Service Engine required in the customer-operated model?

In a customer-operated model, NetApp Service Engine is required. It provides basic reports on the consumption details and is required to collect and report the billing information.

Where is NetApp Service Engine installed?

In a NetApp-operated model, NetApp Service Engine is installed locally on the NetApp provided compute resources. In a customer-operated model, NetApp Service Engine is installed on the customer-provided compute resources.

Who can log into NetApp Service Engine?

Users can be authenticated against NetApp SSO or local users configured in NetApp Service Engine.

How is access controlled?

NetApp Service Engine provides role-based access control (RBAC), and each user can be associated to a role, which defines what actions they can perform. The RBAC assignment is done by the customer using NetApp Service Engine.

What access controls are available?

The following access controls are available:

- **Customer Admin.** An administrative person from the customer side who has rights to create file services (which defines Active Directory authentication servers, networking, and so on), changes to subscription, create new users, and so on.
- **Read-only.** Has access to portal but cannot create any storage or change anything.
- **User.** Has rights to provision storage, resize, view reports, but cannot perform any administrative job like creating file servers, change subscription, etc.,
- **App.** Specific results depend on each customer's installation in accordance with published specifications.

Copyright Information

Copyright © 2021 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.