



## Swordfish Property Guide

Version: 1.2.5a

**Abstract:** The Swordfish Property Guide provides a high-level reference of property usage throughout the Swordfish schema and object model.

## SNIA Approved Publication

*This document has been released and approved by the SNIA. The SNIA believes that the ideas, methodologies, and technologies described in this document accurately represent the SNIA goals and are appropriate for widespread distribution. Suggestion for revision should be directed to <http://www.snia.org/feedback/>.*

*Last Updated: 20 June 2023*

## Contents

USAGE . . . . .	4
DISCLAIMER . . . . .	5
Current Revision . . . . .	5
Contact SNIA . . . . .	5
FEEDBACK AND INTERPRETATIONS . . . . .	5
INTENDED AUDIENCE . . . . .	5
VERSIONING POLICY . . . . .	5
Revision History . . . . .	6
About SNIA . . . . .	6
Acknowledgements . . . . .	6
<b>1 Introduction</b>	<b>8</b>
1.1 Overview . . . . .	8
1.2 Who should read this document? . . . . .	8
1.3 Using this guide . . . . .	8
<b>2 Property Index</b>	<b>10</b>

## List of Tables

1	Revision History . . . . .	6
2	Contributors . . . . .	7
3	Property-level details . . . . .	8

## USAGE

Copyright (c) 2023 SNIA. All rights reserved. All other trademarks or registered trademarks are the property of their respective owners.

The SNIA hereby grants permission for individuals to use this document for personal use only, and for corporations and other business entities to use this document for internal use only (including internal copying, distribution, and display) provided that:

1. Any text, diagram, chart, table or definition reproduced must be reproduced in its entirety with no alteration, and,
2. Any document, printed or electronic, in which material from this document (or any portion hereof) is reproduced must acknowledge the SNIA copyright on that material, and must credit the SNIA for granting permission for its reuse.

Other than as explicitly provided above, you may not make any commercial use of this document, or any portion thereof, or distribute this document to third parties. All rights not explicitly granted are expressly reserved to SNIA.

Permission to use this document for purposes other than those enumerated above may be requested by emailing [tcmd@snia.org](mailto:tcmd@snia.org). Please include the identity of the requesting individual and/or company and a brief description of the purpose, nature, and scope of the requested use.

All code fragments, scripts, data tables, and sample code in this SNIA document are made available under the following license:

BSD 3-Clause Software License

Copyright (c) 2023, SNIA

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of SNIA nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS 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.

## **DISCLAIMER**

The information contained in this publication is subject to change without notice. The SNIA makes no warranty of any kind with regard to this publication, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The SNIA shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use.

Suggestions for revisions should be directed to <http://www.snia.org/feedback/>.

## **Current Revision**

SNIA is actively engaged in expanding and refining the Swordfish documentation. The most current revision can be found on the SNIA web site at [https://www.snia.org/tech\\_activities/standards/curr\\_standards/swordfish](https://www.snia.org/tech_activities/standards/curr_standards/swordfish).

## **Contact SNIA**

Current SNIA practice is to make updates and other information available through their web site at <http://www.snia.org>.

## **FEEDBACK AND INTERPRETATIONS**

Requests for interpretation, suggestions for improvement and addenda, or defect reports are welcome. They should be sent via the SNIA Feedback Portal at <http://www.snia.org/feedback/> or by mail to SNIA, 5201 Great America Parkway, Suite 320, Santa Clara, CA 95054.

## **INTENDED AUDIENCE**

This document is intended for use by individuals and companies engaged in storage management.

## **VERSIONING POLICY**

This document is versioned material. Versioned material shall have a three-level revision identifier, comprised of a version number 'v', a release number 'r' and an errata number 'e'. Future publications of this document are subject to specific constraints on the scope of change that is permissible from one revision to the next and the degree of interoperability and backward compatibility that should be assumed between products designed to this standard. This versioning policy applies to all SNIA Swordfish versioned materials.

Version Number: Versioned material having version number ‘v’ shall be backwards compatible with all of revisions of that material that have the same version number ‘v’. There is no assurance of interoperability or backward compatibility between revisions of a versioned material with different version numbers.

Release Number: Versioned material with a version number ‘v’ and release number ‘r’ shall be backwards compatible with previous revisions of the material with the same version number, and a lower release number. A minor revision represents a technical change to existing content or an adjustment to the scope of the versioned material. Each minor revision causes the release number to be increased by one.

Errata Number: Versioned material having version number ‘v’, a release number ‘r’, and an errata number ‘e’ should be backwards compatible with previous revisions of the material with the same version number and release number (“errata versions”). An errata revision of versioned material is limited to minor corrections or clarifications of existing versioned material. An errata revision may be backwards incompatible, if the incompatibility is necessary for correct operation of implementations of the versioned material.

## Revision History

The evolution of this document is summarized in Table 1.

**Table 1:** Revision History

Date	Rev	Notes
2 March 2021	Initial Version	Released as v1.2.2 to match bundle version
30 August 2021	v1.2.3	Updated with latest property definitions.
5 December 2021	1.2.3	Release as SNIA Approved Publication
12 April 2022	1.2.4	Release as Working Draft
12 July 2022	1.2.4a	Release as SNIA Standard.

## About SNIA

SNIA is a non-profit organization made up of member companies spanning information technology. A globally recognized and trusted authority, SNIA’s mission is to lead the storage industry in developing and promoting vendor-neutral architectures, standards and educational services that facilitate the efficient management, movement and security of information.

## Acknowledgements

The SNIA Scalable Storage Management Technical Work Group, which developed and reviewed this work in progress, would like to recognize the significant contributions made by the following members listed in Table 2.

**Table 2:** Contributors

---

Member	Representatives (* – prior employer)
Intel Corporation	Richelle Ahlvers

---

# 1 Introduction

## 1.1 Overview

The Swordfish Scalable Storage Management API (“Swordfish”) defines a RESTful interface and a standardized data model to provide a scalable, customer-centric interface for managing storage and related data services. It extends the Redfish Scalable Platforms Management API Specification to manage block storage, file systems, object storage, and storage network infrastructure, with a focus on common operational and business concerns of storage management.

The Swordfish API is defined using CSDL, JSON, and/or YAML schema. However, Swordfish is a REST-based API and can be used by clients without requiring an explicit knowledge of the underlying schema.

This document provides a comprehensive reference for the properties defined within the schema that can be provided by the Swordfish API.

## 1.2 Who should read this document?

This document is intended primarily for end users and other consumers of Swordfish data to look up property definitions, without requiring a detailed knowledge of the schema as a whole. Schema authors may also use this document to locate existing property definitions within the Swordfish Schema.

## 1.3 Using this guide

Every Redfish API response consists of a JSON payload containing properties that are strictly defined by a Schema for that Resource. The Schema defining a particular Resource can be determined from the value of the “@odata.type” property returned in every Redfish response. This guide details the definitions for every Redfish standard property defined in the DMTF-published Redfish Schemas.

The property-level details summarized in Table 3 include:

**Table 3:** Property-level details

Column	Purpose
Property Name	The name of the JSON property as it appears, case sensitive, in the JSON payload.
Description	The description of the property, as copied directly from the Schema <small>Description</small> definition, or, for properties that appear in multiple Schemas, a general description of its usage in any of the listed Schemas.
Defined in Schemas	The names of the Redfish Schemas where this property is defined, and therefore in which Resources it may appear. For properties that appear within embedded JSON objects, the object name appears in parentheses.



---

Column	Purpose
Type	The JSON data types for the property, which can include boolean, number, string, or object. String types that use defined enumerations state <small>(enum)</small> . Number types state units, where used.

---

## 2 Property Index

Property Name	Defined In Schema(s)	Type	Description
<b>AccessCapabilities</b>	FileSystem	array	An array of supported IO access capabilities.
	DataStorageLineOfService	array	Required access capabilities.
	Volume	array	Supported IO access capabilities.
<b>AccessCapability</b>	StorageGroup (MappedVolumes)	string (enum)	Supported IO access capability.
<b>AccessProtocols</b>	IOConnectivityLineOfService	array	SupportedAccessProtocols.
<b>AccessState</b>	StorageGroup	string (enum)	AccessState for this storage group.
<b>Actions</b>	<i>various</i> (CapacitySource, ClassOfService ...)	object	The available actions for this resource.
<b>AddDrives (Action)</b>	StoragePool (Actions)	object	This action is used to add an additional drive, or set of drives, to a capacity source for the storage pool.
<b>AllocatedBytes</b>	CapacitySource (ProvidedCapacity > Data), CapacitySource (ProvidedCapacity > Metadata), CapacitySource (ProvidedCapacity > Snapshot)	integer (bytes)	The number of bytes currently allocated by the storage system in this data store for this data type.
<b>AllocatedPools</b>	StoragePool	object	A reference to the collection of storage pools allocated from this storage pool.
	Volume	object	An array of references to StoragePools allocated from this Volume.
<b>AllocatedVolumes</b>	StoragePool	object	A reference to the collection of volumes allocated from this storage pool.
<b>AntivirusEngineProvider</b>	DataSecurityLineOfService	string	AntiVirus provider.
<ul style="list-style-type: none"> <li>*AntivirusScanPolicies**</li> </ul>	DataSecurityLineOfService	array	Policy for triggering an AntiVirus scan.

Property Name	Defined In Schema(s)	Type	Description
<b>AntiVirusScanTrigger</b>	DataSecurityLineOfService (AntivirusScanPolicies), DataSecurityLoSCapabilities (SupportedAntivirusScanPolicies)	string (enum)	Types of antivirus scan triggers.
<b>AssignReplicaTarget (Action)</b>	ConsistencyGroup (Actions)  Volume (Actions)	object  object	This action is used to establish a replication relationship by assigning an existing consistency group to serve as a target replica for an existing source consistency group.  This action is used to establish a replication relationship by assigning an existing volume to serve as a target replica for an existing source volume.
<b>AssociatedDomains</b>	NVMeDomain (Links)	array	An array of links to associated domains.
<b>AssociatedFeaturesRegistry</b>	Volume (Operations)	object	A reference to the task associated with the operation if any.
<b>AuthenticationMethod</b>	StorageGroup	string (enum)	The Authentication method used for the Endpoints involved in this StorageGroup.
<b>AuthenticationType</b>	DataSecurityLoSCapabilities (SupportedHostAuthenticationTypes), DataSecurityLoSCapabilities (SupportedUserAuthenticationTypes)	string (enum)	Enumeration of authentication algorithms.
<b>AvailableFirmwareImages</b>	NVMeDomain	array	A collection of available firmware images.
<b>AverageIOBytes</b>	IOPerformanceLoSCapabilities (SupportedIOWorkloads > Components)	integer (bytes)	Average I/O Size for this component.
<b>AverageIOOperationLatencyMicroseconds</b>	IOPerformanceLineOfService	integer (us)	Expected average IO latency.

Property Name	Defined In Schema(s)	Type	Description
<b>BlockSizeBytes</b>	FileSystem	integer (bytes)	Block size of the file system in bytes.
	StoragePool	integer (bytes)	Maximum Block size in bytes.
	Volume	integer (bytes)	The size of the smallest addressable unit (Block) of this volume in bytes.
<b>CacheDataVolumes</b>	Volume (Links)	array	A pointer to the data volumes this volume serves as a cache volume.
<b>CacheVolumeSource</b>	Volume (Links)	object	A pointer to the cache volume source for this volume.
<b>Capacity</b>	FileSystem	object	Capacity allocated to the file system.
	StoragePool, Volume	object	Capacity utilization.
<b>CapacityBytes</b>	Volume	integer (bytes)	The size in bytes of this Volume.
<b>CapacitySource</b>	StoragePool (Actions > AddDrives (Action))	object	The capacity source to be extended.
<b>CapacitySources</b>	FileSystem	array	An array of capacity sources for the file system.
	StoragePool	array	An array of space allocations to this store.
	Volume	array	An array of space allocations to this volume.
<b>CasePreserved</b>	FileSystem	boolean	The case of file names is preserved by the file system.
<b>CaseSensitive</b>	FileSystem	boolean	Case sensitive file names are supported by the file system.
<b>CASupported</b>	FileShare	boolean	Continuous Availability is supported. Client/Server mediated recovery from network and server failure with application transparency.
<b>ChangeRAIDLayout (Action)</b>	Volume (Actions)	object	Request system change the RAID layout of the volume.
<b>ChannelEncryptionStrength</b>	DataSecurityLineOfService	string (enum)	Key size for transport channel encryption.

Property Name	Defined In Schema(s)	Type	Description
<b>ChapInfo</b>	StorageGroup	array	The credential information used to authenticate the endpoints in this StorageGroup.
<b>CHAPPassword</b>	StorageGroup (ChapInfo)	string	The password for CHAP authentication.
<b>CHAPUser</b>	StorageGroup (ChapInfo)	string	The username for CHAP authentication.
<b>CharacterCodeSet</b>	FileSystem	array	An array of the character sets or encodings supported by the file system.
	FileSystem (CharacterCodeSet)	string (enum)	Supported character code standards for different alphabets and languages.
<b>CheckConsistency (Action)</b>	Volume (Actions)	object	This action is used to force a check of the Volume's parity or redundant data to ensure it matches calculated values.
<b>ChildStorageGroups</b>	StorageGroup (Links)	array	Child StorageGroups.
<b>ClassesOfService</b>	StoragePool	object	The ClassesOfService supported by this storage pool.
	StorageService	object	The ClassesOfService that all storage in this StorageService can support.
<b>ClassOfService</b>	FileShare (Links)	object	A link to the ClassOfService for this file share.
	FileSystem (Links)	object	The ClassOfService of this file system.
	StorageGroup (Links)	object	The ClassOfService that all storage in this StorageGroup conforms to.
	Volume (Links)	object	The ClassOfService that this storage volume conforms to.
	• *ClassOfServiceVersion**	ClassOfService	string
<b>ClientEndpointGroups</b>	StorageGroup	array	Groups of client endpoints in this storage group.
	StorageService	object	Client endpoint groups.

Property Name	Defined In Schema(s)	Type	Description
<b>ClientEndpoints</b>	Volume (Links)	array	An array of references to the client Endpoints associated with this volume.
<b>ClusterSizeBytes</b>	FileSystem	integer (bytes)	A value indicating the minimum file allocation size imposed by the file system.
<b>Components</b>	IOPerformanceLoSCapabilities (SupportedIOWorkloads)	array	An array of IO workload component descriptions.
<b>Compressed</b>	StoragePool	boolean	Indicator of whether or not the StoragePool has compression enabled.
	Volume	boolean	Indicator of whether or not the Volume has compression enabled.
<b>CompressionEnabled</b>	StoragePool	boolean	Indicates whether or not compression is enabled on the storage pool.
<b>ConsistencyGroupName</b>	ConsistencyGroup (Actions > CreateReplicaTarget (Action))	string	The Name for the new target consistency group.
<b>ConsistencyGroups</b>	Volume (Links)	array	An array of references to the ConsistencyGroups associated with this volume.
	StorageService	object	ConsistencyGroups.
<b>ConsistencyMethod</b>	ConsistencyGroup	string (enum)	The consistency method used by this group.
<b>ConsistencyType</b>	ConsistencyGroup	string (enum)	The consistency type used by this group.
<b>ConsumedBytes</b>	CapacitySource (ProvidedCapacity > Data), CapacitySource (ProvidedCapacity > Metadata), CapacitySource (ProvidedCapacity > Snapshot)	integer (bytes)	The number of bytes consumed in this data store for this data type.
<b>CorrespondingProfileDefinition</b>	FeaturesRegistry (Features)	string	The profile definition that defines the feature.

Property Name	Defined In Schema(s)	Type	Description
<b>CreateReplicas (Action)</b>	DataProtectionLineOfService (Actions)	object	This action creates an on-demand replica.
<b>CreateReplicaTarget (Action)</b>	ConsistencyGroup (Actions)	object	This action is used to create a new consistency group resource to provide expanded data protection through a replica relationship with the specified source consistency group.
	Volume (Actions)	object	This action is used to create a new volume resource to provide expanded data protection through a replica relationship with the specified source volume.
<b>Data</b>	CapacitySource (ProvidedCapacity)	object	The capacity information relating to the user data.
<b>DataProtectionLineOfService</b>	ClassOfService	array	A collection of DataProtection line of service elements.
<b>DataProtectionLoSCapabilities</b>	StorageService, StorageService (Links)	object	The data protection capabilities of this service.
<b>DataSanitizationPolicy</b>	DataSecurityLineOfService	string (enum)	Data sanitization policy.
	DataSecurityLoSCapabilities (SupportedDataSanitizationPolicies)	string (enum)	Types of data sanitization policies.
<b>DataSecurityLineOfService</b>	ClassOfService	array	A collection of DataSecurity line of service elements.
<b>DataSecurityLoSCapabilities</b>	StorageService, StorageService (Links)	object	The data security capabilities of this service.
<b>DataStorageLineOfService</b>	ClassOfService	array	A collection of DataStorage line of service elements.
<b>DataStorageLoSCapabilities</b>	StorageService, StorageService (Links)	object	The data storage capabilities of this service.
<b>DataUnitsRead</b>	StoragePool (NVMeEnduranceGroupProperties > EndGrpLifetime)	integer	The property contains the total number of data units read from this endurance group.

Property Name	Defined In Schema(s)	Type	Description
<b>DataUnitsWritten</b>	StoragePool (NVMeEnduranceGroupProperties > EndGrpLifetime)	integer	The property contains the total number of data units written from this endurance group.
<b>DedicatedSpareDrives</b>	StoragePool (Links)	array	An array of references to the drives which are dedicated spares for this StoragePool.
	Volume (Links)	array	An array of references to the drives which are dedicated spares for this volume.
<b>Deduplicated</b>	StoragePool	boolean	Indicator of whether or not the StoragePool has deduplication enabled.
	Volume	boolean	Indicator of whether or not the Volume has deduplication enabled.
<b>DeduplicationEnabled</b>	StoragePool	boolean	Indicates whether or not deduplication is enabled on the storage pool.
<b>DefaultAccessCapabilities</b>	FileShare	array	An array of default access capabilities for the file share. The types of default access can include Read, Write, and/or Execute.
	<ul style="list-style-type: none"> <li>*DefaultClassOfService**</li> </ul>	StorageService, StorageService (Links)	object
<b>DefaultCompressionBehavior</b>	StoragePool, StoragePool (Links)	object	The default class of service for entities allocated from this storage pool.
	StoragePool	boolean	Indicates the default dedupe behavior applied to the child resource (E.g., volume or storage pool) created out of the storage pool if the 'Compressed' property is not set on the create request.



Property Name	Defined In Schema(s)	Type	Description
<b>DefaultDeduplicationBehavior</b>	StoragePool	boolean	Indicates the default deduplication behavior applied to the child resource (E.g., volume or storage pool) created out of the storage pool if the 'Deduplicated' property is not set on the create request.
<b>DefaultEncryptionBehavior</b>	StoragePool	boolean	Indicates the default dedupe behavior applied to the child resource (E.g., volume or storage pool) created out of the storage pool if the 'Encrypted' property is not set on the create request.
<b>DeleteTargetConsistencyGroup</b>	ConsistencyGroup (Actions > RemoveReplicaRelationship (Action))	boolean	Indicate whether or not to delete the target consistency group as part of the operation.
<b>DeleteTargetVolume</b>	Volume (Actions > RemoveReplicaRelationship (Action))	boolean	Indicate whether or not to delete the target volume as part of the operation.
<b>DHChapInfo</b>	StorageGroup	array	The credential information used to authenticate the endpoints in this StorageGroup for DHCHAP.
<b>DisplayName</b>	Volume	string	A user-configurable string to name the volume.
<b>DomainMembers</b>	NVMeDomain	array	The members of the domain.
<b>Drives</b>	Volume (Links)	array	An array of references to the drives which contain this volume. This will reference Drives that either wholly or only partly contain this volume.
	Volume (Actions > ChangeRAIDLayout (Action))	array	An array of the drives to be used by the volume.
	StoragePool (Actions > AddDrives (Action))	array	The drive(s) to be added.
	StoragePool (Actions > RemoveDrives (Action))	array	The drive(s) to be removed.
	StorageService	object	The set of drives managed by this storage service.

Property Name	Defined In Schema(s)	Type	Description
<b>Duration</b>	IOPerforman ceLoSCapabilities (Sup portedIOWorkloads > Components)	s tring (sec onds)	Duration that this component is active.
<b>Enable</b>	StoragePool (Actions > Se tCompressionState (Action))	bo olean	This property indicates the desired compression state of the storage pool.
	StoragePool (Actions > SetD eduplicationState (Action))	bo olean	This property indicates the desired deduplication state of the storage pool.
	StoragePool (Actions > S etEncryptionState (Action))	bo olean	This property indicates the desired encryption state of the storage pool.
• *Encrypted**	StoragePool	bo olean	Indicator of whether or not the StoragePool has encryption enabled.
	Volume	bo olean	Is this Volume encrypted.
<b>Encrypt ionEnabled</b>	StoragePool	bo olean	Indicates whether or not encryption is enabled on the storage pool.
<b>Enc ryptionKey</b>	StorageService (Actions > SetEncryptionKey (Action))	s tring	The encryption key to set on the storage subsystem.
<b>Enc ryptionTypes</b>	Volume	array	The types of encryption used by this Volume.
<b>EndG rpLifetime</b>	StoragePool (NVMeEnduran ceGroupProperties)	o bject	This property contains the Endurance Group Lifetime properties.
<b>Endp ointGroups</b>	StorageService	o bject	Client and Server endpoint groups.
• *Endpoints**	StorageService	o bject	Endpoints.
<b>Enduran ceEstimate</b>	StoragePool (NVMeEnduran ceGroupProperties > EndGrpLifetime)	in teger	This property contains an estimate of the total number of data bytes that may be written to the Endurance Group over the lifetime of the Endurance Group assuming a write amplification of 1.
<b>En duranceGroup Identifier</b>	StoragePool (N VMesetProperties)	s tring	A 16-bit hex value that contains the endurance group identifier.

Property Name	Defined In Schema(s)	Type	Description
<b>ErrorIn formationLog EntryCount</b>	StoragePool (NVMeEnduran ceGroupProperties > EndGrpLifetime)	in te ger	This property contains the number of error information log entries over the life of the controller for the endurance group.
<b>Ethernet Interfaces</b>	FileShare	o b ject	A link to the collection of Ethernet interfaces that provide access to this file share.
<b>Exec uteSupport</b>	FileShare	bo olean	Execute access is supported by the file share.
<b>Expo rtedShares</b>	FileSystem	o b ject	An array of exported file shares of this file system.
<b>E xposeVolumes (Action)</b>	StorageGroup (Actions)	o b ject	Expose the storage volumes of this group.
<b>FailedD omainScope</b>	DataProtecti onLoSCapabilities (Supp ortedRecoveryGeog raphicObjectives)	s tring ( enum)	Values of this enumeration represent a geographic scope of a failure domain.
<b>F eatureName</b>	FeaturesRegistry (Features)	s tring	The Name of the feature.
<b>Features</b>	FeaturesRegistry	array	The pattern property indicates that a free-form string is the unique identifier for the feature within the registry.
<b>Fi leProtocol</b>	FileShare (File SharingProtocols)	s tring ( enum)	The file sharing protocols supported by the file system.
<b>Fil eSharePath</b>	FileShare	s tring	A path to an exported file or directory on the file system where this file share is hosted.
<b>FileShar eQuotaType</b>	FileShare	s tring ( enum)	Specifies the type of quota enforcement.
<b>FileSh areRemaining QuotaBytes</b>	FileShare	in te ger (b ytes)	The number of remaining bytes that may be used by this file share.
<b>Fi leShareTotal QuotaBytes</b>	FileShare	in te ger (b ytes)	The maximum number of bytes that may be used by this file share.
<b>FileSharin gProtocols</b>	FileShare	array	An array of file sharing protocols supported by this file share.

Property Name	Defined In Schema(s)	Type	Description
<b>FileSystem</b>	FileShare (Links)	object	A link to the file system containing the file share.
<b>FileSystems</b>	StorageService	object	FileSystems.
<b>FirmwareVersion</b>	NVMeFirmwareImage	string	The firmware version of the available NVMe firmware image.
<ul style="list-style-type: none"> <li>• <b>*ForceEnable (Action)**</b></li> </ul>	Volume (Actions)	object	Request system force the volume to an enabled state regardless of data loss.
<b>FormattedLBASize</b>	Volume (NVMeNamespaceProperties)	string	The LBA data size and metadata size combination that the namespace has been formatted with.
<b>GuaranteedBytes</b>	CapacitySource (ProvidedCapacity > Data), CapacitySource (ProvidedCapacity > Metadata), CapacitySource (ProvidedCapacity > Snapshot)	integer (bytes)	The number of bytes the storage system guarantees can be allocated in this data store for this data type.
<ul style="list-style-type: none"> <li>• <b>*HideVolumes (Action)**</b></li> </ul>	StorageGroup (Actions)	object	Hide the storage volumes of this group.
<b>HostAuthenticationType</b>	DataSecurityLineOfService	string (enum)	Authentication type for hosts (servers) or initiator endpoints.
<b>HostingSystem</b>	StorageService (Links)	object	The hosting system or storage controller hosting this storage service.
<b>HostReadCommandCount</b>	StoragePool (NVMeEnduranceGroupProperties > EndGrpLifetime)	integer	This property contains the number of read commands completed by all controllers in the NVM subsystem for the Endurance Group.
<ul style="list-style-type: none"> <li>• <b>*HostWriteCommandCount**</b></li> </ul>	StoragePool (NVMeEnduranceGroupProperties > EndGrpLifetime)	integer	This property contains the number of write commands completed by all controllers in the NVM subsystem for the Endurance Group.

Property Name	Defined In Schema(s)	Type	Description
<b>Identifier</b>	FileSystem (Identifiers), Volume (Identifiers)	object	Any additional identifiers for a resource.
	ClassOfService, DataProtectionLoSCapabilities, DataSecurityLoSCapabilities, DataStorageLoSCapabilities, IOConnectivityLoSCapabilities, IOPerformanceLoSCapabilities, StorageGroup, StoragePool, StorageService	object	The value identifies this resource.
<b>Identifiers</b>	Volume	array	The Durable names for the volume.
	FileSystem	array	The durable names for this file system.
<b>ImportedShares</b>	FileSystem	array	An array of imported file shares.
<b>Initialize (Action)</b>	Volume (Actions)	object	This action is used to prepare the contents of the volume for use by the system. If InitializeMethod is not specified in the request body, but the property InitializeMethod is specified, the property InitializeMethod value should be used. If neither is specified, the InitializeMethod should be Foreground.
<b>InitializeMethod</b>	Volume	string (enum)	Indicates the Initialization Method used for this volume. If InitializeMethod is not specified, the InitializeMethod should be Foreground.
	Volume (Actions > Initialize (Action))	string (enum)	The type of initialization to be performed.
<b>InitializeType</b>	Volume (Actions > Initialize (Action))	string (enum)	The type of initialization to be performed.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> <li>*InitiatorCHAPPassword**</li> </ul>	StorageGroup (ChapInfo)	string	The shared secret for Mutual (2-way) CHAP authentication by the initiator.
<b>InitiatorCHAPUser</b>	StorageGroup (ChapInfo)	string	The Initiator username for Mutual (2-way) CHAP authentication by the initiator.
<b>IOAccessPattern</b>	IOPerformanceLoSCapabilities (SupportedIOWorkloads > Components)	string (enum)	Expected access pattern for this component.
<b>IOConnectivityLinesOfService</b>	ClassOfService	array	A collection of IOConnectivity line of service elements.
<b>IOConnectivityLoSCapabilities</b>	StorageService, StorageService (Links)	object	The IO connectivity capabilities of this service.
<ul style="list-style-type: none"> <li>*IOLimitingIsSupported**</li> </ul>	IOPerformanceLoSCapabilities	boolean	Limiting IOPS is supported.
<b>IOOperationsPerSecondIsLimited</b>	IOPerformanceLineOfService	boolean	Limit the IOPS.
<b>IOPerformanceModeEnabled</b>	Volume	boolean	Indicates the IO performance mode setting for the volume.
<b>IOPerformanceLinesOfService</b>	ClassOfService	array	A collection of IOPerformance line of service elements.
<b>IOPerformanceLoSCapabilities</b>	StorageService, StorageService (Links)	object	The IO performance capabilities of this service.
<b>IOStatistics</b>	FileSystem	object	Statistics for this FileSystem.
	StoragePool	object	Statistics for this StoragePool.
	StorageService	object	Statistics for this StorageService.
	Volume	object	Statistics for this volume.

Property Name	Defined In Schema(s)	Type	Description
<b>IOWorkload</b>	IOPerform anceLineOfService	object	A description of the expected workload.
<b>IsBootCapable</b>	Volume	boolean	This property indicates whether or not the Volume contains a boot image and is capable of booting.
<b>IsConsistent</b>	ConsistencyGroup	boolean	This value is true when the consistency group is in a consistent state.
<b>IsIsolated</b>	DataProtectionLineOfService	boolean	The replica is in a separate fault domain.
<b>IsShareable</b>	Volume (NVMeNamespaceProperties)	boolean	Indicates the namespace is shareable.
<b>IsSpaceEfficient</b>	DataStorageLineOfService	boolean	True implies compression or deduplication of storage.
<b>IsThinProvisioned</b>	CapacitySource (ProvidedCapacity)	boolean	Marks that the capacity is not necessarily fully allocated.
<b>JournalingMedia</b>	Volume (Links)	object	A pointer to the Resource that serves as a journaling media for this volume.
<b>KeySize</b>	DataSecurityLoSCapabilities (SupportedChannelEncryptionStrengths), DataSecurityLoSCapabilities (SupportedMediaEncryptionStrengths)	string (enum)	Enumeration of Key sizes in a symmetric encryption algorithm, (see NIST SP 800-57 part 1 ( <a href="http://csrc.nist.gov/publications/nistpubs/800-57/sp800-57_part1_rev3_general.pdf">http://csrc.nist.gov/publications/nistpubs/800-57/sp800-57_part1_rev3_general.pdf</a> )).
<b>Language</b>	FeaturesRegistry	string	This is the RFC 5646 compliant language code for the registry.
<b>LBAFormatsSupported</b>	Volume (NVMeNamespaceProperties)	array	A list of the LBA format types supported for the namespace, or potential namespaces.
<b>LBAFormatType</b>	Volume (NVMeNamespaceProperties > LBAFormatsSupported)	string (enum)	LBAFormatType is defined in the NVMe specification set. This field indicates the LBA data size supported; implementations may report up to 16 values. For more details refer to the appropriate NVMe specification.
<b>LinesOfService</b>	StorageService	array	The LinesOfService defined for this StorageService.

Property Name	Defined In Schema(s)	Type	Description
<b>Links</b>	ConsistencyGroup, DataProtectionLoSCapabilities, FileSystem, SpareResourceSet, StorageGroup, StorageService	object	Contains links to other resources that are related to this resource.
	Volume	object	Contains references to other resources that are related to this resource.
	FileShare, StoragePool	object	The links object contains the links to other resources that are related to this resource.
	NVMeDomain	object	The links to other resources that are related to this resource.
• *LocalDHCHAPAuthSecret**	StorageGroup (DHChapInfo)	string	The local DHCHAP auth secret for DHCHAP authentication.
<b>LogicalUnitNumber</b>	Volume	integer	Indicates the host-visible LogicalUnitNumber assigned to this Volume.
	StorageGroup (MappedVolumes)	string	A SCSI Logical Unit Number for a Volume.
<b>LowSpaceWarningThresholdPercents</b>	FileShare	array (%)	An array of low space warning threshold percentages for the file share.
	FileSystem	array (%)	An array of low space warning threshold percentages for the file system.
	StoragePool	array (%)	Low space warning threshold specified in percents.
	Volume	array (%)	Low space warning.
<b>Manufacturer</b>	Volume	string	The manufacturer or OEM of this storage volume.
<b>MappedVolumes</b>	StorageGroup	array	Mapped Volumes in this storage group.
<b>MaxBlockSizeBytes</b>	Volume	integer (bytes)	Max Block size in bytes.



Property Name	Defined In Schema(s)	Type	Description
	StoragePool	integer (bytes)	Maximum Block size in bytes.
<b>MaxBytesPerSecond</b>	IOConnectivityLineOfService	integer (By/s)	The maximum Bandwidth in bytes per second that a connection can support.
<b>MaxFilenameLengthBytes</b>	FileSystem	integer (bytes)	A value indicating the maximum length of a file name within the file system.
<b>MaximumCapacityPerEnduranceGroupBytes</b>	NVMeDomain	integer (bytes)	The maximum capacity per endurance group in bytes of this NVMe Domain.
<b>MaximumRecoverableCapacitySourceCount</b>	DataStorageLoSCapabilities	integer	Maximum number of capacity source resources for the purpose of recovery from a failure.
<b>MaxIOOperationsPerSecondPerTerabyte</b>	IOPerformanceLineOfService	integer (1/s /TBy)	The amount of IOPS a volume of a given committed size can support.
<b>MaxIOPS</b>	IOConnectivityLineOfService	integer ([IO]/s)	The maximum supported IOs per second that the connection will support for the selected access protocol.
<b>MaxSamplePeriod</b>	IOPerformanceLoSCapabilities	string (seconds)	Maximum sampling period over which average values are calculated.
<b>MaxSupportedBytesPerSecond</b>	IOConnectivityLoSCapabilities	integer (By/s)	The maximum Bandwidth in bytes per second that a connection can support.
<b>MaxSupportedIOPS</b>	IOConnectivityLoSCapabilities	integer ([IO]/s)	The maximum IOPS that a connection can support.
<b>MediaAndDataIntegrityErrorCount</b>	StoragePool (NVMeEnduranceGroupProperties > EndGrpLifetime)	integer	This property contains the number of occurrences where the controller detected an unrecovered data integrity error for the Endurance Group.
<b>MediaEncryptionStrength</b>	DataSecurityLineOfService	string (enum)	Key size for media encryption.
<b>MediaSpanCount</b>	Volume	integer	Indicates the number of media elements used per span in the secondary RAID for a hierarchical RAID type.

Property Name	Defined In Schema(s)	Type	Description
	Volume (Actions > ChangeRAIDLAYOUT (Action))	integer	The requested number of media elements used per span in the secondary RAID for a hierarchical RAID type.
<b>MediaUnitsWritten</b>	StoragePool (NVMeEnduranceGroupProperties > EndGrpLifetime)	integer	The property contains the total number of data units written from this endurance group.
<b>Members</b>	HostedStorageServices	array	The value of each member references a StorageService resource.
<b>Members@odata.nextLink</b>	HostedStorageServices	string	The URI to the resource containing the next set of partial members.
<b>MembersAreConsistent</b>	StorageGroup	boolean	Members are kept in a consistent state.
<b>Metadata</b>	CapacitySource ( ProvidedCapacity)	object	The capacity information relating to metadata.
• *MetadataTransferredAtEndOfDataLBA**	Volume (NVMeNamespaceProperties)	boolean	This property indicates whether or not the metadata is transferred at the end of the LBA creating an extended data LBA.
<b>MinLifetime</b>	DataProtectionLineOfService	string	Minimum lifetime (seconds) that replica must be maintained.
<b>MinSamplePeriod</b>	IOPerformanceLoSCapabilities	string (seconds)	Minimum sampling period over which average values are calculated.
<b>MinSupportedIoOperationLatencyMicroseconds</b>	IOPerformanceLoSCapabilities	integer (us)	Minimum supported average IO latency.
<b>Model</b>	Volume	string	The model number for this storage volume.
<b>NamespaceFeatures</b>	Volume (NVMeNamespaceProperties)	object	This property contains a set of Namespace Features.
<b>NamespaceId</b>	Volume (NVMeNamespaceProperties)	string	The NVMe Namespace Identifier for this namespace.

Property Name	Defined In Schema(s)	Type	Description
<b>Number LBAFormats</b>	Volume (NVMeNamespaceProperties)	integer (bytes)	The number of LBA data size and metadata size combinations supported by this namespace. The value of this property is between 0 and 16.
<b>NVMe DeviceType</b>	NVMeFirmwareImage	string (enum)	The type of NVMe Device this image is associated with.
<b>NVMeEnduranceGroupProperties</b>	StoragePool	object	This property contains properties to use when StoragePool is used to describe an NVMe Endurance Group.
<b>NVMeNamespaceProperties</b>	Volume	object	This property contains properties to use when Volume is used to describe an NVMe Namespace.
<b>NVMePoolType</b>	StoragePool (NVMeProperties)	string (enum)	Indicates whether the StoragePool is used as an EnduranceGroup or an NVMeSet.
<b>NVMeProperties</b>	StoragePool	object	NVMe properties for this storage pool.
<b>NVMeSetProperties</b>	StoragePool	object	This property contains properties to use when StoragePool is used to describe an NVMe Set.
<b>NVMeVersion</b>	Volume (NVMeNamespaceProperties)	string	The version of the NVMe Base Specification supported.
<b>OnHandLocation</b>	SpareResourceSet	object	Location where this set of spares is kept.
<b>OnHandSpares</b>	SpareResourceSet (Links)	array	The type of resources in the set.
<b>Online</b>	SpareResourceSet	boolean	This set is available online.
<b>OperationName</b>	Volume (Operations)	string	The name of the operation.
<b>Operations</b>	Volume	array	The operations currently running on the Volume.
• *OptimalWriteSizeBytes**	StoragePool (NVMeSetProperties)	integer (bytes)	This property contains the Optimal Write Size in Bytes for this NVMe Set.
<b>OptimumIOSizeBytes</b>	Volume	integer (bytes)	The size in bytes of this Volume's optimum IO size.

Property Name	Defined In Schema(s)	Type	Description
<b>Ow ningEntity</b>	FeaturesRegistry	s tring	This is the organization or company that publishes this registry.
• <b>*OwningStorageResource**</b>	StoragePool (Links)	o bject	A pointer to the Storage resource that owns or contains this StoragePool.
	Volume (Links)	o bject	A pointer to the Storage resource that owns or contains this volume.
<b>OwningStorageService</b>	Volume (Links)	o bject	A pointer to the StorageService that owns or contains this volume.
<b>ParentStorageGroups</b>	StorageGroup (Links)	array	Parent StorageGroups.
<b>PeerDHCHAPAuthSecret</b>	StorageGroup (DHChapInfo)	s tring	The peer DHCHAP auth secret for DHCHAP authentication.
<b>PercentageComplete</b>	Volume (Operations)	in te ger	The percentage of the operation that has been completed.
<b>Per centOfData</b>	IOPerforman ceLoSCapabilities (Sup portedIOWorkloads > Components)	in te ger (%)	Percent of data for this workload component.
<b>Per centOfIOPS</b>	IOPerforman ceLoSCapabilities (Sup portedIOWorkloads > Components)	in te ger (%)	Percent of total IOPS for this workload component.
<b>P ercentUsed</b>	StoragePool (NVMeEnduran ceGroupProperties > EndGrpLifetime)	in te ger	A vendor-specific estimate of the percent life used for the endurance group based on the actual usage and the manufacturer prediction of NVM life.
<b>PoolType</b>	StoragePool	array	Pool usage type for this storage pool.
<b>PredictedMediaLifeLeftPercent</b>	StoragePool (NVMeEnduranc eGroupProperties)	n umber (%)	The percentage of reads and writes that are predicted to be available for the media.
<b>Provid edCapacity</b>	CapacitySource	o bject	The amount of space that has been provided from the ProvidingDrives, ProvidingVolumes, ProvidingMemory or ProvidingPools.

Property Name	Defined In Schema(s)	Type	Description
<b>ProvidedClassesOfService</b>	CapacitySource	object	The ClassOfService provided from the ProvidingDrives, ProvidingVolumes, ProvidingMemoryChunks, ProvidingMemory or ProvidingPools.
<b>ProvidingDrives</b>	CapacitySource	object	The drive or drives that provide this space.
<b>ProvidingMemory</b>	CapacitySource	object	The memory that provides this space.
• *ProvidingMemoryChunks**	CapacitySource	object	The memory chunks that provide this space.
<b>ProvidingPools</b>	CapacitySource	object	The pool or pools that provide this space.
<b>ProvidingVolumes</b>	CapacitySource	object	The volume or volumes that provide this space.
<b>ProvisionedBytes</b>	CapacitySource (ProvidedCapacity > Data), CapacitySource (ProvidedCapacity > Metadata), CapacitySource (ProvidedCapacity > Snapshot)	integer (bytes)	The maximum number of bytes that can be allocated in this data store for this data type.
<b>ProvisioningPolicy</b>	DataStorageLineOfService	string (enum)	Provisioning policy for storage.
	DataStorageLoSCapabilities (SupportedProvisioningPolicies), StoragePool (SupportedProvisioningPolicies)	string (enum)	Space provisioning policy.
	Volume	string (enum)	This property specifies the volume's storage allocation, or provisioning policy.
<b>RAIDType</b>	Volume	string (enum)	The RAID type of this volume.
	Volume (Actions > ChangeRAIDLAYOUT (Action))	string (enum)	The requested RAID type for the volume.

Property Name	Defined In Schema(s)	Type	Description
<b>Random4kReadTypicalNanoSeconds</b>	StoragePool (N VMeSetProperties)	integer	Indicates the typical time to complete a 4k read in 100 nano-second units when the NVM Set is in a Predictable Latency Mode Deterministic Window and there is 1 outstanding command per NVM Set.
<b>ReadCachePolicy</b>	Volume	string (enum)	Indicates the read cache policy setting for the Volume.
<b>RecoverableCapacitySourceCount</b>	FileSystem, StoragePool, Volume	integer	Current number of capacity source resources that are available as replacements.
<b>RecoveryAccessScope</b>	DataStorageLineOfService	integer	Required minimum number of available capacity source resources.
<b>RecoveryGeographicObjective</b>	DataProtectionLineOfService	string (enum)	An enumeration that represents the relative time required to make a replica available as a source.
<b>RecoveryPointObjectiveTime</b>	DataProtectionLineOfService	string	Geographic distribution scopes.
<b>RecoveryTimeObjectives</b>	DataProtectionLineOfService	string	Time interval defining how much source data that can be lost on failure.
<b>Redundancy</b>	DataProtectionLineOfService	string (enum)	An enumeration value that indicates the expected time to access an alternate replica.
<b>RegistryPrefix</b>	StorageService	array	Expectations for time to access the primary store after disaster recover.
	FeaturesRegistry	string	Redundancy information for the storage subsystem.
			This is the single word prefix used to form a Feature ID structure.

Property Name	Defined In Schema(s)	Type	Description
<b>RegistryVersion</b>	FeaturesRegistry	string	This is the feature registry version which is used in the middle portion of a Feature ID.
<b>RemainingCapacity</b>	FileSystem	object	Remaining capacity allocated to the file system.
<b>RemainingCapacityPercent</b>	FileShare	integer	The percentage of the capacity remaining in the FileShare.
	FileSystem	integer	The percentage of the capacity remaining in the FileSystem.
	StoragePool	integer	The percentage of the capacity remaining in the StoragePool.
	Volume	integer	The percentage of the capacity remaining in the Volume.
<b>RemoteReplicaTargets</b>	ConsistencyGroup, Volume	array	URIs to the resources that are remote target replicas of this source.
<b>RemoveDrives (Action)</b>	StoragePool (Actions)	object	This action is used to remove drive(s) from the capacity source for the StoragePool.
<b>RemoveReplica Relationship (Action)</b>	ConsistencyGroup (Actions)	object	This action is used to disable data synchronization between a source and target consistency group, remove the replication relationship, and optionally delete the target consistency group.
	Volume (Actions)	object	This action is used to disable data synchronization between a source and target volume, remove the replication relationship, and optionally delete the target volume.
<b>ReplacementSpareSets</b>	SpareResourceSet (Links)	array	Other spare sets that can be utilized to replenish this spare set.
	<ul style="list-style-type: none"> <li>*ReplicaAccessLocation**</li> </ul>	DataProtectionLineOfService	object

Property Name	Defined In Schema(s)	Type	Description
• *ReplicaClassesOfService**	DataProtectionLineOfService	object	The replica's class of service.
<b>Replica Collection</b>	FileSystem (Links)	array	An array of links to replicas for this file system.
<b>ReplicaInfo</b>	ConsistencyGroup, StorageGroup	object	Describes this storage group in its role as a target for replication.
	Volume	object	Describes this storage volume in its role as a target replica.
	FileSystem	object	This value describes the replica attributes if this file system is a replica.
<b>ReplicaLineOfService</b>	DataProtectionLineOfService (Actions > CreateReplicas (Action))	object	The data protection line of service this action is bound to.
<b>ReplicaName</b>	DataProtectionLineOfService (Actions > CreateReplicas (Action) > ReplicaRequests)	string	The name of the new replica.
<b>ReplicaRequests</b>	DataProtectionLineOfService (Actions > CreateReplicas (Action))	array	Specifies the resources to replicate and a name for the replica.
<b>ReplicaSource</b>	DataProtectionLineOfService (Actions > CreateReplicas (Action) > ReplicaRequests)	object	A resource to be replicated.
<b>ReplicaTargets</b>	ConsistencyGroup, FileSystem, StorageGroup, Volume	array	The resources that are target replicas of this source.
<b>ReplicaType</b>	ConsistencyGroup (Actions > AssignReplicaTarget (Action)), ConsistencyGroup (Actions > CreateReplicaTarget (Action))	string (enum)	The type of replica relationship to be created (e.g., Clone, Mirror, Snap).



Property Name	Defined In Schema(s)	Type	Description
	Volume (Actions > AssignReplicaTarget (Action)), Volume (Actions > CreateReplicaTarget (Action))	string (enum)	The type of replica relationship to be created.
	DataProtectionLineOfService	string (enum)	Type of replica.
	DataProtectionLossCapabilities (SupportedReplicaTypes)	string (enum)	Values of ReplicaType describe the intended outcome of the replication.
<b>Replica UpdateMode</b>	ConsistencyGroup (Actions > AssignReplicaTarget (Action)), ConsistencyGroup (Actions > CreateReplicaTarget (Action)), Volume (Actions > AssignReplicaTarget (Action)), Volume (Actions > CreateReplicaTarget (Action))	string (enum)	The replica update mode (synchronous vs asynchronous).
<b>ResourceType</b>	SpareResourceSet	string	The type of resources in the set.
<b>ResumeReplication (Action)</b>	ConsistencyGroup (Actions)	object	This action is used to resume the active data synchronization between a source and target consistency group, without otherwise altering the replication relationship.
	Volume (Actions)	object	This action is used to resume the active data synchronization between a source and target volume, without otherwise altering the replication relationship.
<b>ReverseReplication Relationship (Action)</b>	ConsistencyGroup (Actions)	object	This action is used to reverse the replication relationship between a source and target consistency group.
	Volume (Actions)	object	This action is used to reverse the replication relationship between a source and target volume.
<b>RootAccess</b>	FileShare	boolean	Root access is allowed by the file share.

Property Name	Defined In Schema(s)	Type	Description
<b>SamplePeriod</b>	IOPerform anceLineOfService	string	Sampling period over which average values are calculated.
<b>Schedule</b>	DataProtectionLineOfService	object	A schedule for making periodic point in time replicas.
	IOPerform anceLoSCapabilities (SupportedIOWorkloads > Components)	object	Specifies when to apply this workload component.
	• *SecureChannelProtocol**	string (enum)	Protocol that provide encrypted communication.
	DataSecurityLoSCapabilities (SupportedSecureChannelProtocols)	string (enum)	Types of Secure channel protocols.
<b>ServerEndpointGroups</b>	StorageGroup	array	Groups of server endpoints in this storage group.
	StorageService	object	Server endpoint groups.
<b>ServerEndpoints</b>	Volume (Links)	array	An array of references to the server Endpoints associated with this volume.
<b>SetCompressionState (Action)</b>	StoragePool (Actions)	object	This action is used to set the compression state of the pool.
<b>SetDeduplicationState (Action)</b>	StoragePool (Actions)	object	This action is used to set the dedupe state of the pool.
<b>SetEncryptionKey (Action)</b>	StorageService (Actions)	object	This action is used to set the encryption key for the storage subsystem.
<b>SetEncryptionState (Action)</b>	StoragePool (Actions)	object	This action is used to set the encryption state of the pool.
<b>Set Identifier</b>	StoragePool (NVMeSetProperties)	string	A 16-bit hex value that contains the NVMe Set group identifier.

Property Name	Defined In Schema(s)	Type	Description
<b>Snapshot</b>	CapacitySource ( ProvidedCapacity)	object	The capacity information relating to snapshot or backup data.
<b>SpareResourceSets</b>	FileSystem (Links), StoragePool (Links), Volume (Links)	array	An array of references to SpareResourceSets.
	StorageService	array	An array of SpareResourceSets.
<b>SplitReplication (Action)</b>	ConsistencyGroup (Actions)	object	This action is used to split the replication relationship and suspend data synchronization between a source and target consistency group.
	Volume (Actions)	object	This action is used to split the replication relationship and suspend data synchronization between a source and target volume.
<b>Status</b>	FileShare	object	Indicates the status of the file share.
	ConsistencyGroup	object	The property contains the status of the ConsistencyGroup.
	StorageGroup	object	The property contains the status of the StorageGroup.
	StoragePool	object	The property contains the status of the StoragePool.
	StorageService	object	The property contains the status of the StorageService.
	Volume	object	The property contains the status of the Volume.
	NVMeDomain	object	The status and health of the resource and its subordinate or dependent resources.

Property Name	Defined In Schema(s)	Type	Description
<b>StorageAccessCapability</b>	DataStorageLineOfService (AccessCapabilities), DataStorageLoSCapabilities (SupportedAccessCapabilities), FileShare (DefaultAccessCapabilities), FileSystem (AccessCapabilities), Volume (AccessCapabilities)	string (enum)	Values of StorageAccessCapability describe abilities to read or write storage.
<b>StorageGroups</b>	Volume (Links)	array	An array of references to the StorageGroups associated with this volume.
	Volume	object	An array of references to Storage Groups that includes this volume.
	StorageService	object	StorageGroups.
<b>StoragePools</b>	StorageService	object	StoragePools.
<b>StorageSubsystems</b>	StorageService	object	A reference to storage subsystems managed by this storage service.
<b>StripSizeBytes</b>	Volume (Actions > ChangeRAIDLAYOUT (Action))	integer	The number of blocks (bytes) requested for new strip size.
	Volume	integer (bytes)	The number of blocks (bytes) in a strip in a disk array that uses striped data mapping.
<b>SupportedAccessCapabilities</b>	DataStorageLoSCapabilities	array	Supported access capabilities.
<b>SupportedAccessProtocols</b>	IOConnectivityLoSCapabilities	array	SupportedAccessProtocols.
	DataSecurityLoSCapabilities	array	Supported AntiVirus providers.
	*SupportedAntivirusEngineProviders**		
<b>SupportedAntivirusScanPolicies</b>	DataSecurityLoSCapabilities	array	Supported policies that trigger an AntiVirus scan.

Property Name	Defined In Schema(s)	Type	Description
<b>SupportedChannelEncryptionStrengths</b>	DataSecurityLoSCapabilities	array	Supported key sizes for transport channel encryption.
<ul style="list-style-type: none"> <li>*SupportedDataSanitizationPolicies**</li> </ul>	DataSecurityLoSCapabilities	array	Supported data sanitization policies.
<b>SupportedHostAuthenticationTypes</b>	DataSecurityLoSCapabilities	array	Supported authentication types for hosts (servers) or initiator endpoints.
<b>SupportedIOWorkloads</b>	IOPerformanceLoSCapabilities	array	A collection of supported workloads.
<b>SupportedLinesOfService</b>	DataProtectionLoSCapabilities	array	Collection of known and supported DataProtectionLinesOfService.
	DataSecurityLoSCapabilities	array	Collection of known and supported DataSecurityLinesOfService.
	DataStorageLoSCapabilities	array	Collection of known and supported DataStorageLinesOfService.
	IOConnectivityLoSCapabilities	array	Collection of known and supported IOConnectivityLinesOfService.
	IOPerformanceLoSCapabilities	array	Collection of known and supported IOPerformanceLinesOfService.
<ul style="list-style-type: none"> <li>*SupportedMediaEncryptionStrengths**</li> </ul>	DataSecurityLoSCapabilities	array	Supported key sizes for media encryption.
<ul style="list-style-type: none"> <li>*SupportedMinimumLifetimes**</li> </ul>	DataProtectionLoSCapabilities	array	Supported minimum lifetime that replica must be maintained.
<b>SupportedPoolTypes</b>	StoragePool	array	A collection of the Pool Types supported by the storage pool.
<b>SupportedProvisioningPolicies</b>	DataStorageLoSCapabilities	array	Thin allows over allocation of storage.

Property Name	Defined In Schema(s)	Type	Description
	StoragePool	array	This collection specifies all supported storage allocation properties for the Storage Pool.
<b>SupportedRAIDTypes</b>	StoragePool	array	A collection of the RAID Types supported by the storage pool.
<b>SupportedRecoveryGeographicObjectives</b>	DataProtectionLoSCapabilities	array	Supported types of failure domains.
<b>SupportedRecoveryPointObjectiveTimes</b>	DataProtectionLoSCapabilities	array	Supported time intervals defining how much source information can be lost on failure.
<b>SupportedRecoveryTimeObjectives</b>	DataProtectionLoSCapabilities	array	Supported expectations for time to access an alternate replica.
	DataStorageLoSCapabilities	array	Supported expectations for time to access the primary store after recovery.
<b>SupportedReplicaOptions</b>	DataProtectionLoSCapabilities (Links)	array	Collection of known and supported replica Classes of Service.
• *SupportedReplicaTypes**	DataProtectionLoSCapabilities	array	Supported replica types.
<b>SupportedSecureChannelProtocols</b>	DataSecurityLoSCapabilities	array	Supported protocols that provide encrypted communication.
<b>SupportedUserAuthenticationTypes</b>	DataSecurityLoSCapabilities	array	Supported authentication types for users (or programs).
<b>SupportAtomicTransactionSize</b>	Volume (NVMeNamespaces) > NamespaceFeatures	boolean	Indicates that the NVM fields for Namespace preferred write granularity (NPWG), write alignment (NPWA), deallocate granularity (NPDG), deallocate alignment (NPDA) and optimal write size (NOWS) are defined for this namespace and should be used by the host for I/O optimization.

Property Name	Defined In Schema(s)	Type	Description
<b>SupportsDeallocatedOrUnwrittenLBAError</b>	Volume (NVMeNamespaceProperties > NamespaceFeatures)	boolean	This property indicates that the controller supports deallocated or unwritten logical block error for this namespace.
<b>SupportsIOPerformanceHints</b>	Volume (NVMeNamespaceProperties > NamespaceFeatures)	boolean	Indicates that the Namespace Atomic Write Unit Normal (NAWUN), Namespace Atomic Write Unit Power Fail (NAWUPF), and Namespace Atomic Compare and Write Unit (NACWU) fields are defined for this namespace and should be used by the host for this namespace instead of the controller-level properties AWUN, AWUPF, and ACWU.
<b>SupportsIsolated</b>	DataProtectionLoSCapabilities	boolean	Allocating a replica in a separate fault domain is supported.
<b>SupportsNGUIDReuse</b>	Volume (NVMeNamespaceProperties > NamespaceFeatures)	boolean	This property indicates that the namespace supports the use of an NGUID (namespace globally unique identifier) value.
<b>SupportsSpaceEfficiency</b>	DataStorageLoSCapabilities	boolean	Allows compression or deduplication of storage.
<b>SupportsThinProvisioning</b>	Volume (NVMeNamespaceProperties > NamespaceFeatures)	boolean	This property indicates whether or not the NVMe Namespace supports thin provisioning.
<b>SuspendReplication (Action)</b>	ConsistencyGroup (Actions)	object	This action is used to suspend active data synchronization between a source and target consistency group, without otherwise altering the replication relationship.
	Volume (Actions)	object	This action is used to suspend active data synchronization between a source and target volume, without otherwise altering the replication relationship.

Property Name	Defined In Schema(s)	Type	Description
<b>TargetCHAPPASSWORD</b>	StorageGroup (ChapInfo)	string	The Target CHAP Secret for Mutual (2-way) CHAP authentication by the target.
<b>TargetCHAPUser</b>	StorageGroup (ChapInfo)	string	The Target CHAP Username for Mutual (2-way) CHAP authentication by the target.
<b>TargetConsistencyGroup</b>	ConsistencyGroup (Actions > AssignReplicaTarget (Action)), ConsistencyGroup (Actions > RemoveReplicaRelationship (Action)), ConsistencyGroup (Actions > ResumeReplication (Action)), ConsistencyGroup (Actions > ReverseReplicationRelationship (Action)), ConsistencyGroup (Actions > SplitReplication (Action)), ConsistencyGroup (Actions > SuspendReplication (Action))	string	The Uri to the existing target consistency group.
<b>TargetPassword</b>	StorageGroup (ChapInfo)	string	This property is deprecated in favor of TargetCHAPPASSWORD.
<b>TargetStoragePool</b>	ConsistencyGroup (Actions > CreateReplicaTarget (Action)), Volume (Actions > CreateReplicaTarget (Action))	string	The Uri to the existing target Storage Pool.



Property Name	Defined In Schema(s)	Type	Description
<b>TargetVolume</b>	Volume (Actions > AssignReplicaTarget (Action)), Volume (Actions > RemoveReplicaRelationship (Action)), Volume (Actions > ResumeReplication (Action)), Volume (Actions > ReverseReplicationRelationship (Action)), Volume (Actions > SplitReplication (Action)), Volume (Actions > SuspendReplication (Action))	string	The Uri to the existing target volume.
<b>TimeToProvision</b>	SpareResourceSet	string	Amount of time needed to make an on-hand resource available as a spare.
<b>TimeToReplenish</b>	SpareResourceSet	string	Amount of time needed to get more on-hand resources.
<b>TotalDomainCapacityBytes</b>	NVMeDomain	integer (bytes)	The total capacity in bytes of this NVMe Domain.
<b>UnallocatedDomainCapacityBytes</b>	NVMeDomain	integer (bytes)	The total unallocated capacity in bytes of this NVMe Domain.
<b>UnallocatedNVMeNamespaceCapacityBytes</b>	StoragePool (NVMeSetProperties)	integer (bytes)	Indicates the unallocated capacity of the NVMe Set in bytes.
<b>UserAuthenticationType</b>	DataSecurityLineOfService	string (enum)	Authentication type for users (or programs).
<b>Vendor</b>	NVMeFirmwareImage	string	The vendor or manufacturer associated with this NVMe firmware image.
<b>Version</b>	FeaturesRegistry (Features)	string	The Version of the feature.
<b>Volume</b>	StorageGroup (MappedVolumes)	object	A mapped Volume.
<b>VolumeName</b>	Volume (Actions > CreateReplicaTarget (Action))	string	The Name for the new target volume.

Property Name	Defined In Schema(s)	Type	Description
<b>Volumes</b>	ConsistencyGroup, StorageGroup	array	Volumes in this storage group.
	StorageService	object	Volumes.
<b>Volumes AreExposed</b>	StorageGroup	boolean	Storage volumes are exposed to paths defined by the client and server endpoints.
<b>VolumeType</b>	Volume	string (enum)	The type of this volume.
<b>VolumeUsage</b>	Volume	string (enum)	Indicates the Volume usage type setting for the Volume.
<b>WriteCachePolicy</b>	Volume	string (enum)	Indicates the write cache policy setting for the Volume.
<b>WriteCacheState</b>	Volume	string (enum)	Indicates the WriteCacheState policy setting for the Volume.
<b>WriteHoleProtectionPolicy</b>	Volume	string (enum)	The policy that the RAID volume is using to address the write hole issue.
<b>WritePolicy</b>	FileShare	string (enum)	Defines how writes are replicated to the shared source.