



Swordfish Property Guide

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

SNIA Approved Publication

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USAGE

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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.

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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	v 1.2.3	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.
22 January 2024	1.2.6	Release as Working Draft Copyrights updated to 2024.
9 April 2024	1.2.6	Release as SNIA Standard

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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 Description 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 (enum). Number types state units, where used.

2 Property Index

Property Name	Definition	Type	Description
Access Capabilities	File System	array	An array of supported IO access capabilities.
	Data Storage Elements	array	Required access capabilities.
	Volume	array	Supported IO access capabilities.
Access Capability	Storage Group (Mapped Volumes)	string (enum)	Supported IO access capability.
	• IOConectionality Services	array	SupportedAccessProtocols.
	**		

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • <code>AccessState</code> 	<ul style="list-style-type: none"> • StorageGroup 	string (enum)	AccessState for this storage group.
<ul style="list-style-type: none"> • <code>Actions</code> 	<ul style="list-style-type: none"> • <code>AvailableActions</code> 	object	The available actions for this resource.

Property Name	Definition(s)	Type	Description
<ul style="list-style-type: none"> Storage Pool (Activations) 		object	This action is used to add an additional drive, or set of drives, to a capacity source for the storage pool.
Allocated Bytes	Capacity Source (Provided Capacity > Data), Capacity Source (Provided Capacity > Metadata), Capacity Source (Provided Capacity > Snapshot)	integer (bytes)	The number of bytes currently allocated by the storage system in this data store for this data type.

Property Name	Definition	Type	Description
AllocatedStoragePools	StoragePool	object	A reference to the collection of storage pools allocated from this storage pool.
AllocatedVolumes	Volume	object	An array of references to StoragePools allocated from this Volume.
AllocatedVolumes	StoragePool	object	A reference to the collection of volumes allocated from this storage pool.
ALUA	Volume	object	ALUA properties for this volume.
ANAGroupId	NVMe Domain	number	The ANA group id for all namespaces within the domain.
ANAGroupId	Volume (ALUA)	number	The ANA group id for this volume.
AntiVirusEngineProvider	DataSecurityLinuxFileService	string	AntiVirus provider.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Antivirus Scan Policies 	Data Array		Policy for triggering an AntiVirus scan.
Antivirus Scan Trigger	Data String (enum)		Types of antivirus scan triggers.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> *Assigment (Action) 	ConsistencyGroup	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.
n)			
**	Volume (Action)	object	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.
<ul style="list-style-type: none"> *Association (Links) 	NVMe	array	An array of links to associated domains.
**			

Property Name	Definition	Type	Description
Associated Features Registry	Volume (Operations)	object	A reference to the task associated with the operation if any.
Authentication Method	StorageGroup	string (enumeration)	The Authentication method used for the Endpoints involved in this StorageGroup.
Authentication Type	DataSecurityLevel (Supported Authentication Types), DataSecurityLevel (Supported User Authentication Types)	string (enumeration)	Enumeration of authentication algorithms.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> NVMe Firmware Images** 		array	A collection of available firmware images.
Average Bytes	IO Performance (bytes/s)	integer	Average I/O Size for this component.

Property Name	Defined In Schema(s)	Type	Description
•	IO Performance	integer (unsigned)	Expected average IO latency.
BlockSizeBytes	File System	integer (bytes)	Block size of the file system in bytes.
	Storage Pool	integer (bytes)	Maximum Block size in bytes.
	Volume	integer (bytes)	The size of the smallest addressable unit (Block) of this volume in bytes.
CacheDataVolumes	Volume (Links)	array	A pointer to the data volumes this volume serves as a cache volume.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> Volume (Links) Source 		object	A pointer to the cache volume source for this volume.
Capacity	File System	object	Capacity allocated to the file system.
	Storage Pool, Volume	object	Capacity utilization.
<ul style="list-style-type: none"> Capacity (bytes) 		integer (bytes)	The size in bytes of this Volume.
Capacity Source	Storage Pool (Actions > Add Drives (Action))	object	The capacity source to be extended.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> File System Capacity Units 	File System	array	An array of capacity sources for the file system.
Storage Pool	File System	array	An array of space allocations to this store.
Volume	File System	array	An array of space allocations to this volume.
<ul style="list-style-type: none"> Case Preserved 	File System	boolean	The case of file names is preserved by the file system.
<ul style="list-style-type: none"> Case Sensitive 	File System	boolean	Case sensitive file names are supported by the file system.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> FileShareASupported** 		boolean	Continuous Availability is supported. Client/Server mediated recovery from network and server failure with application transparency.
Change RAID Layout (Action)	Volume (Actions)	object	Request system change the RAID layout of the volume.
<ul style="list-style-type: none"> DataSecurityLevelOnStorageEncryption** 		string (enum)	Key size for transport channel encryption.
StorageGroup Info	StorageGroup	array	The credential information used to authenticate the endpoints in this StorageGroup.

Property Name	Definition	Type	Description
CHAP Password	StorageGroup (ChapInfo)	string	The password for CHAP authentication.
CHAP User	StorageGroup (ChapInfo)	string	The username for CHAP authentication.
CharacterCodeSet	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.
CheckConsistency (Action)	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.
ChildStorageGroups	StorageGroup (Links)	array	Child StorageGroups.
ClassesOfService	StoragePool	object	The ClassesOfService supported by this storage pool.

Property Name	Definition	Type	Description
	StorageService	object	The ClassesOfService that all storage in this StorageService can support.
ClassOfService	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.
•	ClassOfService	string	The value identifies the current version of this class of service definition.
ClientEndpoints	StorageGroup	array	Groups of client endpoints in this storage group.

Property Name	Definition	Type	Description
	StorageService	object	Client endpoint groups.
	<ul style="list-style-type: none"> VolumeLinks 	array	An array of references to the client Endpoints associated with this volume.
ClusterSizeBytes	File System	integer (bytes)	A value indicating the minimum file allocation size imposed by the file system.
Components	IO Performance Scalability (Supported IO Workloads)	array	An array of IO workload component descriptions.
Compressed	Storage Pool	boolean	Indicator of whether or not the StoragePool has compression enabled.
	Volume	boolean	Indicator of whether or not the Volume has compression enabled.

Property Name	Defined In Schema(s)	Type	Description
CompressionEnabled	StoragePool	boolean	Indicates whether or not compression is enabled on the storage pool.
• Connections	Volume	array	An array of references to Connections that includes this volume.
• StorageService	StoragePool	object	An array of references to Connections that includes this volume.
• ConsistencyCheckCount	Volume	number	The number of consistency checks completed over the lifetime of the volume.
ConsistencyCheckErrorCount	StoragePoolMetrics, VolumeMetrics	number	The number of consistency check errors of the volume.

Property Name	Definition	Type	Description
ConsistencyGroup Name	ConsistencyGroup Name CreateReplicaTarget (Action))	string	The Name for the new target consistency group.
• ConsistencyGroups	Volume Links ConsistencyGroups	array of ConsistencyGroups	An array of references to the ConsistencyGroups associated with this volume.
	StorageService	object	ConsistencyGroups.
• ConsistencyGroup Method	ConsistencyGroup	string (enum)	The consistency method used by this group.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> ConsistencyType 	<ul style="list-style-type: none"> ConsistencyType 	string (enum)	The consistency type used by this group.
<ul style="list-style-type: none"> CapacityConsumed 	<ul style="list-style-type: none"> CapacityConsumed 	integer (bytes)	The number of bytes consumed in this data store for this data type.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> Volume Controller 		array	An array of the Controllers associated with this volume.
NVMe Domain Controller		array	Contains the current controllers that are part of this domain. These can be IO, Admin, or discovery controllers.
<ul style="list-style-type: none"> Storage Pool Correctable IO Read Error Count 		integer	The number of the correctable read errors for the lifetime of the storage pool.
Volume Correctable Read Errors		integer	The number of the correctable read errors for the lifetime of the volume.

Property Name	Definition	Type	Description
Correctable IOW Error Count	Storage Pool Metrics	Integer	The number of the correctable write errors for the lifetime of the storage pool.
Correctable Volume Metrics	Volume Metrics	Integer	The number of the correctable write errors for the lifetime of the volume.
Feature Profile Definition	Features Registry (Feature Maps), Features Registry (Features)	String	The profile definition that defines the feature.
Create Replica (Action)	Data Protection Lifecycle Services (Actions)	Object	This action creates an on-demand replica.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> ConsistencyGroupRelationshipTarget (Action) 		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.
n)			**
	Volume (Action)	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.
Data	CapacitySource (ProvidedCapacity)	object	The capacity information relating to the user data.
Data Protection Line of Service	ClassOfService	array	A collection of DataProtection line of service elements.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> Storage Service, Provider Service (Links) 		object	The data protection capabilities of this service.
Data Sanitization Policy		string (enum)	Data sanitization policy.
		string (enum)	Types of data sanitization policies.

Property Name	Definition	Type	Description
Data Security Line of Service	Class of Service	array	A collection of DataSecurity line of service elements.
<ul style="list-style-type: none"> Storage Object 	<ul style="list-style-type: none"> *Data Service, Storage Service (Links) 		The data security capabilities of this service.
	<ul style="list-style-type: none"> Capabilities 		
	<ul style="list-style-type: none"> Resources 		
	<ul style="list-style-type: none"> ** 		

Property Name	Definition(s)	Type	Description
<ul style="list-style-type: none"> Class *DataStorageLineSOFSer at vice aS to ra ge Li ne sO fS er vi ce ** 	array	A collection of DataStorage line of service elements.	
Data Storage Capabilities	Storage Service, Storage Service (Links)	object	The data storage capabilities of this service.
<ul style="list-style-type: none"> *DataUnitsReadProperties > EndGroupIf et ime) 	integer	The property contains the total number of data units read from this endurance group.	

Property Name	Defined In Schema(s)	Type	Description
Data Units Written	StoragePool (NVMe EnduranceGroup Properties > EndGroupLifetime)	integer	The property contains the total number of data units written from this endurance group.
Dedicated Spares Drives	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.
Deduplicated	StoragePool	boolean	Indicator of whether or not the StoragePool has deduplication enabled.
	Volume	boolean	Indicator of whether or not the Volume has deduplication enabled.
DeduplicationEnabled	StoragePool	boolean	Indicates whether or not deduplication is enabled on the storage pool.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • <code>FileShareDefaultAccessCapabilities**</code> 		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"> • <code>StorageServiceDefaultStoragePoolClass(es)SOFServer**</code> 		object	The default class of service for entities allocated by this storage service.
	<ul style="list-style-type: none"> • <code>StoragePoolStoragePoolClass(es)SOFServer**</code> 	object	The default class of service for entities allocated from this storage pool.

Property Name	Defined In Schema(s)	Type	Description
Default Compression Behavior	Storage Pool	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.
Default Duplication Behavior	Storage Pool	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.
• Default Encrypted Behavior**	Storage Pool	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.

Property Name	Definition	Type	Description
Delete Target ConsistencyGroup	ConsistencyGroup (Action)	boolean	Indicate whether or not to delete the target consistency group as part of the operation.
Delete Target Volume	Volume (Action)	boolean	Indicate whether or not to delete the target volume as part of the operation.
DHCHAP Info	StorageGroup	array	The credential information used to authenticate the endpoints in this StorageGroup for DHCHAP.
• *Display Name**	Volume	string	A user-configurable string to name the volume.

Property Name	Definition	Type	Description
Domain Objects	NV Meta Domain	object	Contains the members of the domain.
•	NV Meta Domain *Domain members	array	The members of the domain.
Drives	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 > Change RAID Layout (Action))	array	An array of the drives to be used by the volume.
	Storage Pool (Actions > Add Drives (Action))	array	The drive(s) to be added.

Property Name	Definition	Type	Description
	Storage Pool (Actions > Remove Drives (Action))	array	The drive(s) to be removed.
	StorageService	object	The set of drives managed by this storage service.
Duration	IO Performance OS Capabilities (Supportable Workloads > Components)	string (seconds)	Duration that this component is active.
Enable	Storage Pool (Actions > Set CompressionState (Action))	boolean	This property indicates the desired compression state of the storage pool.

Property Name	Definition(s)	Type	Description
	StoragePool (Actions > SetDuplicateAction)	boolean	This property indicates the desired deduplication state of the storage pool.
	StoragePool (Actions > SetEncryptionState (Action))	boolean	This property indicates the desired encryption state of the storage pool.
• *Encrypted**	StoragePool	boolean	Indicator of whether or not the StoragePool has encryption enabled.
	Volume	boolean	Is this Volume encrypted.

Property Name	Defined In Schema(s)	Type	Description
*EncryptionEnabled	StoragePool	boolean	Indicates whether or not encryption is enabled on the storage pool.
*EncryptionKey	StorageService (Actions > SetEncryptionKey (Action))	string	The encryption key to set on the storage subsystem.
*EncryptionTypes	Volume	array	The types of encryption used by this Volume.

Property Name	Definition	Type	Description
Endurance Group Lifetime	Storage Pool (NVMe Endurance Group Properties)	object	This property contains the Endurance Group Lifetime properties.
Endpoint Groups	Storage Service	object	Client and Server endpoint groups. <ul style="list-style-type: none"> Storage Service Endpoints.
Endurance Group Lifetime	Storage Pool (NVMe Endurance Group Properties)	integer	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.

Property Name	Definition	Type	Description
EnduranceGroupIdentifier	Storage Pool (NVMe Set Properties)	string	A 16-bit hex value that contains the endurance group identifier.
*ErrorInformationLogEntryCount**	Storage Pool (NVMe Endurance Group Lifetime)	integer	This property contains the number of error information log entries over the life of the controller for the endurance group.
EthernetInterfaces	FileShare	object	A link to the collection of Ethernet interfaces that provide access to this file share.
ExecuteSupport	FileShare	boolean	Execute access is supported by the file share.

Property Name	Definition	Type	Description
Exported Shares	File System	object	An array of exported file shares of this file system.
	<ul style="list-style-type: none"> Storage Element (Accession) 	object	Expose the storage volumes of this group.
Failure Domain Scope	Data Protection (OS Capability) (Support over Geographic Objects)	string (enumeration)	Values of this enumeration represent a geographic scope of a failure domain.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> *Feature Registry Mapping 	Feature Registry	array	The pattern property indicates that a free-form string is the unique identifier for the feature within the registry.
<ul style="list-style-type: none"> *Feature Registry (Feature Mapping Names), Feature Registry (Features) 	Feature Registry	string	The Name of the feature.
Features	Feature Registry	array	The pattern property indicates that a free-form string is the unique identifier for the feature within the registry.
Features Used	Feature Registry	array	An array containing all the standard feature names defined in the registry.
File Protocol	FileShare (FileSharing Protocols)	string (enum)	The file sharing protocols supported by the file system.

Property Name	Defined In Schema(s)	Type	Description
*FileSharePath**	FileShare	string	A path to an exported file or directory on the file system where this file share is hosted.
FileShareQuotaType	FileShare	string (enum)	Specifies the type of quota enforcement.
FileShareRemainingQuotaBytes	FileShare	integer (bytes)	The number of remaining bytes that may be used by this file share.
FileShareTotalQuotaBytes	FileShare	integer (bytes)	The maximum number of bytes that may be used by this file share.
FileSharingProtocols	FileShare	array	An array of file sharing protocols supported by this file share.
FileSystemLink	FileShare (Links)	object	A link to the file system containing the file share.

Property Name	Defined In Schema(s)	Type	Description
		Storage object	FileSystems.
	*FileService		**
Firmware Images	NVMe Domain	array	Contains an array of pointers to available firmware images.
		NVMe string	The firmware version of the available NVMe firmware image.
	*FirmwareImageVersion		**
	Volume (Actions)	object	Request system force the volume to an enabled state regardless of data loss.
	*Volume (Actions)		**

Property Name	Definition	Type	Description
Format LBA Size	Volume Name space properties	string	The LBA data size and metadata size combination that the namespace has been formatted with.
• *G ra nt ee dB yt es **	Capacity Source (Provided Capacity > Metadata), Capacity Source (Provided Capacity > Namespace)	integer (bytes)	The number of bytes the storage system guarantees can be allocated in this data store for this data type.

Property Name	Definition	Type	Description
	<ul style="list-style-type: none"> Hide the storage volumes of this group. 	Storage object	
Host Authentication	Authentication type for hosts (servers) or initiator endpoints.	Data string (enumeration)	
	<ul style="list-style-type: none"> The hosting system or storage controller hosting this storage service. 	Storage service (Link)	

Property Name	Definition	Type	Description
Host Read Command Count	Storage Pool (NVMe Endurance Group Properties > Endurance Group Lifetime)	Integer	This property contains the number of read commands completed by all controllers in the NVM subsystem for the Endurance Group.
*Host Write Command Count**	Storage Pool (NVMe Endurance Group Properties > Endurance Group Lifetime)	Integer	This property contains the number of write commands completed by all controllers in the NVM subsystem for the Endurance Group.
Identifier	File System (Identifiers), Volume (Identifier)	Object	Any additional identifiers for a resource.

Property Name	Definition	Type	Description
	Class Of Service, Data Protection Location, Scalability, Data Security Location, Scalability, Data Storage Location, Scalability, IO Connectivity Location, Scalability, Performance Location, Scalability, Storage Pool, Storage Service	object	The value identifies this resource.

Property Name	Defined In Schema(s)	Type	Description
*I	Volume	array	The Durable names for the volume.
de	File System	array	The durable names for this file system.
nt			
if			
ie			
rs			
**			
Imported Shares	File System	array	An array of imported file shares.
Initialize (Action)	Volume (Action s)	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.
Initialize Method	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.
Initialize Type	Volume (Actions > Initialize (Action))	string (enum)	The type of initialization to be performed.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> *Initiator Shared Secret 	<ul style="list-style-type: none"> String 	<ul style="list-style-type: none"> string 	<ul style="list-style-type: none"> The shared secret for Mutual (2-way) CHAP authentication by the initiator.
<ul style="list-style-type: none"> *Initiator Username 	<ul style="list-style-type: none"> String 	<ul style="list-style-type: none"> string 	<ul style="list-style-type: none"> The Initiator username for Mutual (2-way) CHAP authentication by the initiator.
<ul style="list-style-type: none"> *IOS Access Pattern 	<ul style="list-style-type: none"> IO Performed 	<ul style="list-style-type: none"> string (enumeration) 	<ul style="list-style-type: none"> Expected access pattern for this component.

Property Name	Definition	Type	Description
IOConnectivityLineService	Class of Service	array	A collection of IOConnectivity line of service elements.
<ul style="list-style-type: none"> • *Limiting Storage Object Service (Links) Capability 		object	The IO connectivity capabilities of this service.
<ul style="list-style-type: none"> • *Limiting IOPS Capability 		boolean	Limiting IOPS is supported.

Property Name	Definition	Type	Description
IO Performance Limited	IO Performance Limited Service	boolean	Limit the IOPS.
• *IOPerformanceLimited	Volume	boolean	Indicates the IO performance mode setting for the volume.
• *IOPSPerformanceLineOfService	Class of Service	array	A collection of IOPerformance line of service elements.

Property Name	Definition	Type	Description
IO PerformanceCapabilities	StorageServiceLink(s)	object	The IO performance capabilities of this service.
IO Statistics	FileSystemMetrics	object	Statistics for this file system.
	FileSystem	object	Statistics for this FileSystem.
	StoragePoolMetrics	object	Statistics for this storage pool.
	StorageServiceMetrics	object	Statistics for this storage service.
	StoragePool	object	Statistics for this StoragePool.
	StorageService	object	Statistics for this StorageService.
	Volume, VolumeMetrics	object	Statistics for this volume.

Property Name	Definition	Type	Description
IO workload	IO Performance	object	A description of the expected workload.
• *I sB oo tC ap ab le **	Volume	boolean	This property indicates whether or not the Volume contains a boot image and is capable of booting.
Is Consistent	Consistency Group	boolean	This value is true when the consistency group is in a consistent state.
Is Isolated	Data Protection in the environment	boolean	The replica is in a separate fault domain.
• *I sS ha re ab le **	Volume (Namespace)	boolean	Indicates the namespace is shareable.
Is Space Efficient	Data Storage in the environment	boolean	True implies compression or deduplication of storage.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> *I sT hi nP ro dC ap vi ac it y) si on ed ** 	Capacity So ur ce (P ro vi de dC ap ac it y)	boolean	Marks that the capacity is not necessarily fully allocated.
<ul style="list-style-type: none"> *J ou rn al in gM ed ia ** 	Volume (Li nk s)	object	A pointer to the Resource that serves as a journaling media for this volume.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • *Key Size (Supported Channels Encryption Strengths), Data Security Capabilities (Supported Media Encryption Strengths) 		string (enum)	Enumeration of Key sizes in a symmetric encryption algorithm, (see NIST SP 800-57 part 1 (http://csrc.nist.gov/publications/nistpubs/800-57/sp800-57_part1_rev3_general.pdf)).
Language	Features Registry	string	This is the RFC 5646 compliant language code for the registry.

Property Name	Definition	Type	Description
LBA Data Size	Volume Namespace Properties > LBA Format), Volume Namespace Properties > LBA Format s)	Integer	The LBA data size in bytes.
LBA Format	Volume Namespace Properties > LBA Format s)	Object	Describes the current LBA format ID and detailed properties.
LBA Formats	Volume Namespace Properties > LBA Format s)	Array	Describes the LBA format IDs and detailed properties.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • <code>*LBAFormatTypes</code> 	<ul style="list-style-type: none"> • <code>VolumeNamespaces</code> 	array	A list of the LBA format types supported for the namespace, or potential namespaces.
<ul style="list-style-type: none"> • <code>*LBAFormatTypes</code> 	<ul style="list-style-type: none"> • <code>NVMeNamespaces</code> 	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.

Property Name	Definition(s)	Type	Description
	Volume Namespace Properties > LBA Format), Volume Namespace Properties > LBA Format(s)	string (enum)	The LBA format type.

Property Name	Definition	Type	Description
LBA Metadata Size Bytes	Volume (NVM) namespace Properties > LBA Format), Volume (NVM) namespace Properties > LBA Formats)	Integer	The LBA metadata size in bytes.
LinesOfService	Storage Service	Array	The LinesOfService defined for this StorageService.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> *L in ks ** 	Consideration Groups, Data Protection Location Scenarios, Files, System, Spare Resources, Sets, Ranges, Groups, Storage Services	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.
File Share Pool		object	The links object contains the links to other resources that are related to this resource.
NVMe Domain		object	The links to other resources that are related to this resource.

Property Name	Definition(s)	Type	Description
<ul style="list-style-type: none"> • *L eG ro oc up (D al HC ha DH pl nf o) CH AP Au th Se cr et ** 		st ri ng	The local DHCHAP auth secret for DHCHAP authentication.
<ul style="list-style-type: none"> • *L me og ic al Un it Nu mb er ** 		i nt eg er	Indicates the host-visible LogicalUnitNumber assigned to this Volume.
	St or ag eG ro up (Ma pp ed Vo lu me s)	st ri ng	A SCSI Logical Unit Number for a Volume.

Property Name	Definition	Type	Description
LowSpaceWarningThresholdPercents	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.
Manufacturer	Volume	string	The manufacturer or OEM of this storage volume.
	StorageGroup	array	Mapped Volumes in this storage group.

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Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • MaximumBlockSize 		integer (bytes)	Max Block size in bytes.
<ul style="list-style-type: none"> • StoragePool 		integer (bytes)	Maximum Block size in bytes.
<ul style="list-style-type: none"> • MaximumIOConnectivity 		integer (Bytes)	The maximum Bandwidth in bytes per second that a connection can support.
MaximumFilenameLength	File System	integer (bytes)	A value indicating the maximum length of a file name within the file system.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> *Maximum NVMe Domain Capacity per Endurance Group Bytes** 		integer (bytes)	The maximum capacity per endurance group in bytes of this NVMe Domain.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> Maximum number of capacity source resources for the purpose of recovery from a failure. 	Data Storage Capacity Resilience	Integer	Maximum number of capacity source resources for the purpose of recovery from a failure.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> *Maximum IO Operations per second supported by the IO controller 	IO Performance (1/seconds)	Integer	The amount of IOPS a volume of a given committed size can support.
<ul style="list-style-type: none"> *Maximum IO PS per second 	IO Connection Limit (IO/s)	Integer	The maximum supported IOs per second that the connection will support for the selected access protocol.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • NVMe Domain Namespace Identifier <ul style="list-style-type: none"> *Maximum ** 		number	The maximum number of namespace attachments of this NVMe Domain.
<ul style="list-style-type: none"> • IO Performance Sampling Period <ul style="list-style-type: none"> *Maximum ** 		string (seconds)	Maximum sampling period over which average values are calculated.

Property Name	Definition	Type	Description
Maximum Supported Byte Spans	IO ConnectionivityLoS Capabilities	Integer (Bytes)	The maximum Bandwidth in bytes per second that a connection can support.
Maximum IOPS	IO ConnectionivityLoS Capabilities	Integer ([IO]/s)	The maximum IOPS that a connection can support.
*Managed Endurance Group Properties	Storage Pool (NVMe Endurance Group Properties)	Integer	This property contains the number of occurrences where the controller detected an unrecovered data integrity error for the Endurance Group.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Data Security Element Encryption Strength** 	Data Security Element Encryption Strength**	string (enum)	Key size for media encryption.
MediaSpanCount	Volume	integer	Indicates the number of media elements used per span in the secondary RAID for a hierarchical RAID type.
	Volume (Actions > Change RAID Layout (Action))	integer	The requested number of media elements used per span in the secondary RAID for a hierarchical RAID type.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> StoragePool (NVMe Endurance Group) HostedStorageServices 	integer	The property contains the total number of data units written from this endurance group.	
<ul style="list-style-type: none"> HostedStorageServices 	array	The value of each member references a StorageService resource.	
Members@odata.nextLink	HostedStorageServices	string	The URI to the resource containing the next set of partial members.
MembersAreConsistent	StorageGroup	boolean	Members are kept in a consistent state.
Metadata	CapacitySource (ProvidedCapacity)	object	The capacity information relating to metadata.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • *MetadataAttributes (MetadataAttributes) 	Volume	boolean	This property indicates whether or not the metadata is transferred at the end of the LBA creating an extended data LBA.
<ul style="list-style-type: none"> • *Metrics (Metrics) 	File System	object	The link to the metrics for this file system.
	Storage Pool	object	The link to the metrics for this storage pool.
	Storage Service	object	The link to the metrics for this storage service.
	Volume	object	The link to the metrics for this volume.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Data Protection Lifetime 	<ul style="list-style-type: none"> • Data Protection Lifetime 	string	Minimum lifetime (seconds) that replica must be maintained.
<ul style="list-style-type: none"> • IO Performance Sampling Period 	<ul style="list-style-type: none"> • IO Performance Sampling Period 	string (seconds)	Minimum sampling period over which average values are calculated.
Minimum supported IO latency	IO Performance	integer (us)	Minimum supported average IO latency.
<ul style="list-style-type: none"> • Volume Model 	<ul style="list-style-type: none"> • Volume Model 	string	The model number for this storage volume.

Property Name	Defined In Schema(s)	Type	Description
		Volume Object	This property contains a set of Namespace Features.
	*Namespace (NVMe Namespace Properties Feature Set)		
	**		
		Volume String	The NVMe Namespace Identifier for this namespace.
	*Namespace (NVMe Namespace Properties Identifier)		
	**		
Namespaces	NVMe Domain (NVMe Namespace)	Array	Contains the current namespaces that are part of this domain. These can be IO, Admin, or discovery controllers.
	**		
		Volume String (enum)	Identifies the type of namespace.
	*Namespace (NVMe Namespace Properties Type)		
	**		

Property Name	Definition	Type	Description
Number of LBA For mats	Volume (NVMe Namespace properties)	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.
NVMe Device Type	NVMe Firmware Image	string (enum)	The type of NVMe Device this image is associated with.
NVMe Endurance Group Properties	Storage Pool	object	This property contains properties to use when StoragePool is used to describe an NVMe Endurance Group.
	<ul style="list-style-type: none"> Volume *NVMe Namespace Properties** 	object	This property contains properties to use when Volume is used to describe an NVMe Namespace.

Property Name	Definition	Type	Description
NVMe Pool Type	Storage Pool (NVMe Properties)	string (enum)	Indicates whether the StoragePool is used as an EnduranceGroup or an NVMeSet.
NVMe Properties	Storage Pool	object	NVMe properties for this storage pool.
	<ul style="list-style-type: none"> Storage Pool VM eS et Properties** Volume (NVMe Namespace) Properties** 	object	<ul style="list-style-type: none"> This property contains properties to use when StoragePool is used to describe an NVMe Set. The version of the NVMe Base Specification supported.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • *OEM Features 	FeatureRegistryEM	array	An array containing all the OEM feature names defined in the registry.
On Hand Location	SparesResourceSet	object	Location where this set of spares is kept.
On Hand Spares	SparesResourceSet(Links)	array	The type of resources in the set.
Online	SparesResourceSet	boolean	This set is available online.
<ul style="list-style-type: none"> • *Operation Types 	VolumeOperations	string (enum)	The type of the operation.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • Volume Operations Name 		string	The name of the operation.
<ul style="list-style-type: none"> • Operations 		array	The operations currently running on the Volume.
<ul style="list-style-type: none"> • Optimal Write Size 		integer (bytes)	This property contains the Optimal Write Size in Bytes for this NVMe Set.
<ul style="list-style-type: none"> • Optimum IO Size 		integer (bytes)	The size in bytes of this Volume's optimum IO size.
<ul style="list-style-type: none"> • Ownership Entity 		string	This is the organization or company that publishes this registry.

Property Name	Defined In Schema(s)	Type	Description
StoragePool	StoragePool	object	A pointer to the Storage resource that owns or contains this StoragePool.
		StoragePool	A pointer to the Storage resource that owns or contains this volume.
OwnershipService	OwnershipService	object	A pointer to the StorageService that owns or contains this volume.
		StorageGroup	Parent StorageGroups.

Property Name	Definition	Type	Description
Peer DHCHAP Auth Secret	Storage Group (DHCHAP info)	string	The peer DHCHAP auth secret for DHCHAP authentication.
Percentage Complete	Volume (Operations)	integer	The percentage of the operation that has been completed.
IO Performance of Data Support**	IO Performance of Data Support (OW or > Components)	integer (%)	Percent of data for this workload component.

Property Name	Definition(s)	Type	Description
<ul style="list-style-type: none"> IO Performance of OS Capabilities (IO Support Percentage) ** OW or loads > Component(s) 	integer (%)		Percent of total IOPS for this workload component.
<ul style="list-style-type: none"> *Percentage (NVM Endurance Usage) ** Properties > End Group Lifetime 	integer		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.
Pool Type	Storage Pool	array	Pool usage type for this storage pool.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> Storage Performance Metrics Group Properties 	Storage Performance Metrics Group Properties	Number (%)	The percentage of reads and writes that are predicted to be available for the media.
Provided Capacity	Capacity Source	Object	The amount of space that has been provided from the ProvidingDrives, ProvidingVolumes, ProvidingMemory or ProvidingPools.
Provided Class of Service	Capacity Source	Object	The ClassOfService provided from the ProvidingDrives, ProvidingVolumes, ProvidingMemoryChunks, ProvidingMemory or ProvidingPools.
<ul style="list-style-type: none"> Providing Drives 	Capacity Source	Object	The drive or drives that provide this space.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> Capacity Storage 	Capacity Storage	object	The memory that provides this space.
<ul style="list-style-type: none"> Capacity Storage 	Capacity Storage	object	The memory chunks that provide this space.
Providing Pools	Capacity Storage	object	The pool or pools that provide this space.
Providing Storage Pools	Volume (Links)	object	The StoragePool resource that provides this volume resource.
Providing Volumes	Capacity Storage	object	The volume or volumes that provide this space.

Property Name	Definition	Type	Description
Provisioned Capacity	Capacity Source (Provided Capacity > Data), Capacity Source (Provided Capacity > Metadata), Capacity Source (Provided Capacity > Snapshot)	Integer (bytes)	The maximum number of bytes that can be allocated in this data store for this data type.
Provisioning Policy	Data Storage Element Service	String (enum)	Provisioning policy for storage.

Property Name	Definition	Type	Description
	Data Storage Capacities (Supported Provisioning Policies), Storage Pool (Supported Provisioning Policies)	string (enum)	Space provisioning policy.
	Volume	string (enum)	This property specifies the volume's storage allocation, or provisioning policy.
RAID Type	Volume	string (enum)	The RAID type of this volume.
	Volume (Actions > Change RAID Layout (Action))	string (enum)	The requested RAID type for the volume.

Property Name	Definition(s)	Type	Description
RANDOM 4k READ IOPS	Storage Pool (NVM Set Properties)	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.
*Read Cache Policy**	Volume	String (enum)	Indicates the read cache policy setting for the Volume.
*Rebuild Metrics**	Storage Pool	Number	The number of rebuild errors over the lifetime of the storage pool.
Volume Metrics	Volume	Number	The number of rebuild errors over the lifetime of the volume.

Property Name	Definition	Type	Description
Recommended Capacity Source Volume Count	File System, Storage Pool, Volume	Integer	Current number of capacity source resources that are available as replacements.
	Data Storage Element Offset Service	Integer	Required minimum number of available capacity source resources.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Geographic Distribution Scopes 	<ul style="list-style-type: none"> • DataP ro te ct io nL in eO fS er er vi ce yG eo gr ap hi cO bj ec ti ve ** 	string (enumeration)	Geographic distribution scopes.
<ul style="list-style-type: none"> • Recovery Point Objective Time 	<ul style="list-style-type: none"> • DataP ro te ct io nL in eO fS er er vi ce yT im eO bj ec ti ve ** 	string (enumeration)	Time interval defining how much source data that can be lost on failure.
<ul style="list-style-type: none"> • Alternate Replica 	<ul style="list-style-type: none"> • DataP ro te ct io nL in eO fS er er vi ce yT im eO bj ec ti ve ** 	string (enumeration)	An enumeration value that indicates the expected time to access an alternate replica.

Property Name	Definition	Type	Description
Recovery Time Objectives	Data Storage Element of Service	string (enum)	Expectations for time to access the primary store after disaster recover.
Redundancy	Storage Service	array	Redundancy information for the storage subsystem.
Registry Prefix	Feature Registry	string	This is the single word prefix used to form a Feature ID structure.
• *Registry Version**	Feature Registry	string	This is the feature registry version which is used in the middle portion of a Feature ID.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • *Relative Performance (NAMESpace Properties > LBA Formatted), Volume (NAMESpace Properties > LBA Formats) 	<ul style="list-style-type: none"> • The LBA Relative Performance type. 	string (enum)	The LBA Relative Performance type.
<ul style="list-style-type: none"> • *Remaining Capacity 	<ul style="list-style-type: none"> • File System 	object	Remaining capacity allocated to the file system.
Remaining Capacity Percentage	FileShare	integer	The percentage of the capacity remaining in the FileShare.

Property Name	Definition	Type	Description
	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.
Remote Replicas	Consistency Group, Volume	array	URLs to the resources that are remote target replicas of this source.
Remove Drives (Action)	StoragePool (Actions)	object	This action is used to remove drive(s) from the capacity source for the StoragePool.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> ConsistencyGroupRelationship (ActiveRelationships) 	<ul style="list-style-type: none"> 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.
<ul style="list-style-type: none"> Volume (ActiveRelationships) 	<ul style="list-style-type: none"> 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.
ReplacementSpareSets	<ul style="list-style-type: none"> SpareReservoirs (eSet (Links)) 	array	Other spare sets that can be utilized to replenish this spare set.

Property Name	Definition	Type	Description
*ReplicationLocation	Location that supplies data access to the replica.	object	
*ReplicationClass	The replica's class of service.	object	
*ReplicationFileSystem	An array of links to replicas for this file system.	array	

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Consistency Group, Storage Group 		object	Describes this storage group in its role as a target for replication.
*Replication		object	Describes this storage volume in its role as a target replica.
File System		object	This value describes the replica attributes if this file system is a replica.
Repl ical eofs ervice	Data Protection Line of Service (Actions > Create Replicas (Action))	object	The data protection line of service this action is bound to.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • <code>DataReplicationServiceName</code> <code>> CreateReplicas</code> <code>(Action)</code> <code>> ReplicaRequests</code> 		string	The name of the new replica.
<ul style="list-style-type: none"> • <code>DataReplicationServiceResources</code> <code>> CreateReplicas</code> <code>(Action)</code> 		array	Specifies the resources to replicate and a name for the replica.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • DataReplicationServiceSource * ReplicationServiceSource ** Replicas 	<ul style="list-style-type: none"> • A resource to be replicated. 	object	A resource to be replicated.
ReplicaTargets	Consistency Group, FileSystem, StorageGroup, Volume	array	The resources that are target replicas of this source.
ReplicationEnabled	FileShare	boolean	Indicates whether or not replication is enabled on the file share.
	FileSystem	boolean	Indicates whether or not replication is enabled on the file system.
	StoragePool	boolean	Indicates whether or not replication is enabled on the storage pool.
	Volume	boolean	Indicates whether or not replication is enabled on the volume.

Property Name	Definition	Type	Description
*ReplicationTarget (Action)	Consistent Group (Action)	string (enum)	The type of replica relationship to be created (e.g., Clone, Mirror, Snap).
**CreateReplicationTarget (Action)	Consistent Group (Action)	string (enum)	The type of replica relationship to be created (e.g., Clone, Mirror, Snap).

Property Name	Definition	Type	Description
	Volume (Actions), Volume (Actions > CreateReplicaTarget (Action))	string (enum)	The type of replica relationship to be created.
	DataProtectionLevelService	string (enum)	Type of replica.
	DataProtectionLevel (SupportedReplicaTypes)	string (enum)	Values of ReplicaType describe the intended outcome of the replication.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> *Replication Consistency Group (Active Sessions > Assign Replication Target Action), ** Consistency Group (Active Sessions > Create Replication Target Action), Volume (Active Sessions > Assign Replication Target Action), Volume (Active Sessions > Create Replication Target Action) 		string (enum)	The replica update mode (synchronous vs asynchronous).

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • *Resources Registry (Outreach Mapping) 	Feature Array		An array of resources in the service containing the set that are related to support for the specified feature.
Resource Type	String		The type of resources in the set.
<ul style="list-style-type: none"> • *Resync Group (Action) 	Object		This action is used to resume the active data synchronization between a source and target consistency group, without otherwise altering the replication relationship.
<ul style="list-style-type: none"> • *Resume (Action) 	Object		This action is used to resume the active data synchronization between a source and target volume, without otherwise altering the replication relationship.

Property Name	Definition	Type	Description
Reverse Replication Relationship (Action)	Consistent Group (Action)	object	This action is used to reverse the replication relationship between a source and target consistency group.
	Volume (Action)	object	This action is used to reverse the replication relationship between a source and target volume.
Root Access	File Share	boolean	Root access is allowed by the file share.
Sample Period	IO Performance (Service)	string	Sampling period over which average values are calculated.
Schedule	Data Protection (Service)	object	A schedule for making periodic point in time replicas.

Property Name	Definition(s)	Type	Description
	IO Performance OS Capabilities (Supportable Workloads > Components)	object	Specifies when to apply this workload component.
• SecurityLevelServiceHandlerProtocol**	Data SecurityLevelServiceHandlerProtocol**	string (enum)	Protocol that provide encrypted communication.

Property Name	Definition	Type	Description
	Data Security Levels (Supported Secure Channel Protocols)	string (enum)	Types of Secure channel protocols.
Server Endpoint Groups	Storage Group	array	Groups of server endpoints in this storage group.
	Storage Service	object	Server endpoint groups.
	Volume Links	array	An array of references to the server Endpoints associated with this volume.
	*Server Endpoint Links**		

Property Name	Definition	Type	Description
StoragePool (Actions)	StoragePool (Actions)	object	This action is used to set the compression state of the pool.
StoragePool (Actions)	StoragePool (Actions)	object	This action is used to set the dedupe state of the pool.

Property Name	Definition	Type	Description
SetEncryptionKey (Action)	Storage Service (Actions)	object	This action is used to set the encryption key for the storage subsystem.
SetEncryptionState (Action)	Storage Pool (Actions)	object	This action is used to set the encryption state of the pool.
• *SetEncryptionCertificate	Storage Pool (NVMe Set Properties)	string	A 16-bit hex value that contains the NVMe Set group identifier.
Snapshot	Capacity Source (Provide Capacity)	object	The capacity information relating to snapshot or backup data.

Property Name	Definition	Type	Description
FileSystemPalettes	Array of references to SpareResourceSets.	array	An array of references to SpareResourceSets.
StorageService	Array of SpareResourceSets.	array	An array of SpareResourceSets.
SplitReplicationAction	ConsistencyGroup	object	This action is used to split the replication relationship and suspend data synchronization between a source and target consistency group.
SplitVolumeAction	Volume	object	This action is used to split the replication relationship and suspend data synchronization between a source and target volume.
StateChangesCount	StoragePoolMetrics	number	The number of state changes (changes in Status.State) for this storage pool.
StateChangesCount	VolumeMetrics	number	The number of state changes (changes in Status.State) for this volume.
Status	FileShare	object	Indicates the status of the file share.
Status	ConsistencyGroup	object	The property contains the status of the ConsistencyGroup.

Property Name	Definition(s)	Type	Description
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	Definition	Type	Description
<ul style="list-style-type: none"> • *S to ra ge Ac ce ss Ca pa bi li ty ** 	<ul style="list-style-type: none"> • Data Storage eL oS Ca pa bi li ty es (S up po rt ed Ac ce ss Ca pa bi li ti es), Fi le Sys tem (Ac ce ss Ca pa bi li ti es), Vo lu me (Ac ce sC ap ab il it ie s) 	string (enum)	Values of StorageAccessCapability describe abilities to read or write storage.

Property Name	Defined In Schema(s)	Type	Description
StoragePools	*StoragePools	array	An array of references to the StorageGroups associated with this volume.
		object	An array of references to Storage Groups that includes this volume.
		object	StorageGroups.
		object	StoragePools.
	*StoragePools	array	A reference to storage subsystems managed by this storage service.

Property Name	Definition	Type	Description
StripSizeBytes	Volume (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.
	Data array		Supported access capabilities.
SupportedAccessProtocols	Storage Classifications		SupportedAccessProtocols.
SupportedAccessProtocols	IO ConnectivityL oS Capabilities	array	SupportedAccessProtocols.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Supported Antivirus Providers 	Data Security Policy Capabilities	array	Supported AntiVirus providers.
Supported Antivirus Policies	Data Security Policy Capabilities	array	Supported policies that trigger an AntiVirus scan.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> *SecurityLossCapabilities ChannelEncryptionSchemes ** 		array	Supported key sizes for transport channel encryption.

Property Name	Definition(s)	Type	Description
<ul style="list-style-type: none"> • Data Security Policies 	<ul style="list-style-type: none"> • Data Security Policies 	array	Supported data sanitization policies.
Supported Authentication Types	<ul style="list-style-type: none"> • Data Security Policies 	array	Supported authentication types for hosts (servers) or initiator endpoints.
Supported Workloads	IO Performance Workload Scenarios	array	A collection of supported workloads.

Property Name	Definition(s)	Type	Description
<ul style="list-style-type: none"> *Supported DataProtectionCapabilitiesListSOFServices** 	DataProtectionCapabilitiesListSOFServices	array	Collection of known and supported DataProtectionLinesOfService.
	DataSecurityCapabilitiesListSOFServices	array	Collection of known and supported DataSecurityLinesOfService.
	DataStorageCapabilitiesListSOFServices	array	Collection of known and supported DataStorageLinesOfService.
	IOConnectivityCapabilitiesListSOFServices	array	Collection of known and supported IOConnectivityLinesOfService.

Property Name	Definition(s)	Type	Description
	IO PerformanceCapabilities	array	Collection of known and supported IOPerformanceLinesOfService.
• *SecurityCapabilities	MediaEncryptionSchemes**	array	Supported key sizes for media encryption.

Property Name	Definition	Type	Description
	<ul style="list-style-type: none"> Supported minimum lifetime that replica must be maintained. 	array	
Supported Pool Types	Storage Pool	array	A collection of the Pool Types supported by the storage pool.
	<ul style="list-style-type: none"> Thin allows over allocation of storage. 	array	

Property Name	Definition(s)	Type	Description
	Storage Pool	array	This collection specifies all supported storage allocation properties for the Storage Pool.
Supported RAID Types	Storage Pool	array	A collection of the RAID Types supported by the storage pool.
	<ul style="list-style-type: none"> Data Protection Capabilities 	array	Supported types of failure domains.

Property Name	Definition(s)	Type	Description
Supported Recovery Point Objectives	Data Protection Objectives	array	Supported time intervals defining how much source information can be lost on failure.
•	Data Protection Objectives	array	Supported expectations for time to access an alternate replica.
**	Data Storage Objectives	array	Supported expectations for time to access the primary store after recovery.

Property Name	Definition	Type	Description
*SupportionPlatformObjects (Liveness)	Data Array	array	Collection of known and supported replica Classes of Service.
*SupportionPlatformObjects	Data Array	array	Supported replica types.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> Supported protocols that provide encrypted communication. 	Data Array	array	Supported protocols that provide encrypted communication.
Supported Authentication Types	Data Array	array	Supported authentication types for users (or programs).

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • *S up po rt sA to mi cT ra ns ac ti on Si ze ** 	VM namespace	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
<ul style="list-style-type: none"> • Support sD ea ll oc at ed Or Un wr ite nL BE rr or ** 	Volume Namespace Properties	Boolean	This property indicates that the controller supports deallocated or unwritten logical block error for this namespace.
Supports IO Performance	Volume Namespace Properties	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.

Property Name	Definition	Type	Description
	Volume Namespace Properties	boolean	Indicates whether the namespace supports IO performance hints.
Supported	Availability	boolean	Allocating a replica in a separate fault domain is supported.
Multiple Namespace Attachments	Volume Namespace Properties	boolean	Indicates whether the namespace may be attached to two or more controllers.
Supports NGUID	Volume Namespace Properties	boolean	This property indicates that the namespace supports the use of an NGUID (namespace globally unique identifier) value.

Property Name	Definition	Type	Description
<ul style="list-style-type: none"> • Data Storage Efficiency 	Boolean	Boolean	Allows compression or deduplication of storage.
Supports Thin Provisioning	Volume (Namespace Properties)	Boolean	This property indicates whether or not the NVMe Namespace supports thin provisioning.
Suspend Replication (Action)	Consistency Group (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	Definition	Type	Description
Target CHAP Password	Storage Group (Configuration)	string	The Target CHAP Secret for Mutual (2-way) CHAP authentication by the target.
Target CHAP Username	Storage Group (Configuration)	string	The Target CHAP Username for Mutual (2-way) CHAP authentication by the target.

Property Name	Definition	Type	Description
TargetPassword	Storage Group (Chaplin)	string	This property is deprecated in favor of TargetCHAPPassword.
	<ul style="list-style-type: none"> • TargetPassword (Active Directory Replication Target Volume (CreateReplicaTarget (Action))), ** Volume (Actions > CreateReplicaTarget (Action)) 	string	The Uri to the existing target Storage Pool.

Property Name	Definition	Type	Description
Target Volume	Volume (Actions > AssignReplicaTarget (Action)), Volume (Actions > RemoveReplicaRelationship (Action)), Volume (Actions > ResumeReplication (Action)), Volume (Actions > ReverseReplicationRelationship (Action)), Volume (Actions > SplitReplica	string	The Uri to the existing target volume.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • *T im eT oP ro vi si on ** • *T im eT oR ep le ni sh ** 	Spar eRes im ou rc eT eSet	string	Amount of time needed to make an on-hand resource available as a spare.
			Amount of time needed to get more on-hand resources.
To ta ID om ai nC ap ac it yB yt es	NV Me Do ma in	int eg er (by te s)	The total capacity in bytes of this NVMe Domain.
Type	Vo lu me (NV Me Na me sp ac eP ro pe rt ie s)	string (e nu m)	Identifies the type of namespace.

Property Name	Definition	Type	Description
Unallocated Domain Capacity Bytes	NVMe Domain	integer (bytes)	The total unallocated capacity in bytes of this NVMe Domain.
Unallocated NVMe Set Capacity Bytes	Storage Pool (NVMe Set)	integer (bytes)	Indicates the unallocated capacity of the NVMe Set in bytes.
*Uncorrectable Read Error Count**	Storage Pool	integer	The number of the uncorrectable read errors for the lifetime of the storage pool.
	Volume	integer	The number of the uncorrectable read errors for the lifetime of the volume.

Property Name	Definition(s)	Type	Description
Uncorrectable Error Count	Storage Pool Metrics	Integer	The number of the uncorrectable write errors for the lifetime of the storage pool.
	Volume Metrics	Integer	The number of the uncorrectable write errors for the lifetime of the volume.
User Authentication Type	Data Security Options Service	String (enum)	Authentication type for users (or programs).
Vendor	NVMe Firmware Image	String	The vendor or manufacturer associated with this NVMe firmware image.
• *Ves Registry (Feature Mappings), **	Feature Registry (Features)	String	The Version of the feature.

Property Name	Definition	Type	Description
Volume	Storage Group (Mapped Volumes)	object	A mapped Volume.
Volume Name	Volumes (Actions > Create Replica Target (Action))	string	The Name for the new target volume.
• *Volume Group, umes**	Consistency Group, Storage Group	array	Volumes in this storage group.
*Volume Service	Storage Service	object	Volumes.
• *Volume umes Ar eE xp os ed**	Storage Group	boolean	Storage volumes are exposed to paths defined by the client and server endpoints.

Property Name	Definition	Type	Description
VolumeType	Volume	string (enum)	The type of this volume.
• *VolumeUsage	Volume	string (enum)	Indicates the Volume usage type setting for the Volume.
WriteCachePolicy	Volume	string (enum)	Indicates the write cache policy setting for the Volume.
• *WriteCacheState	Volume	string (enum)	Indicates the WriteCacheState policy setting for the Volume.

Property Name	Defined In Schema(s)	Type	Description
<ul style="list-style-type: none"> • <code>*WriteHolePolicy**</code> 	Volume	string (enum)	The policy that the RAID volume is using to address the write hole issue.
<ul style="list-style-type: none"> • <code>*FileSharePolicy**</code> 	FileShare	string (enum)	Defines how writes are replicated to the shared source.
