



storage path commands

ONTAP 9.10.1 commands

NetApp

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Table of Contents

- storage path commands 1
 - storage path quiesce 1
 - storage path resume 2
 - storage path show-by-initiator 3
 - storage path show 5

storage path commands

storage path quiesce

Quiesce I/O on a path to array

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage path quiesce` command quiesces I/O on one path to a LUN. It also quiesces the given entire path immediately or can monitor the given path for error threshold before quiesce. After the I/O has been quiesced, no new I/O is sent on the path unless the [storage path resume](#) command is issued to continue I/O.

Parameters

-node {<nodename>|local} - Node name

The name of the clustered node for which information is being displayed.

-initiator <initiator name> - Initiator Port

Initiator port that the clustered node uses.

-target-wwpn <wwpn name> - Target Port

Target World Wide Port Name. Port on the storage array that is being used.

{ [-lun-number <integer>] - LUN Number

Logical Unit number. The range is: [0...65535]. If this parameter is not specified, Data ONTAP resumes the entire path to an array.

| [-path-failure-threshold <integer>] - Max Number of Path Failures Acceptable During wait-duration

The path failure count, exceeding this value within wait duration will quiesce the path.

[-wait-duration <integer>] - Wait Duration in minutes }

The time duration(minutes) in which path is monitored for path failures.

Examples

The following example suspends I/O between node vbv3170f1b, port 0a and the array port 50001fe1500a8669, LUN 1.

```
node::> storage path quiesce -node vbv3170f1b -initiator 0a -target-wwpn
50001fe1500a8669 -lun-number 1
```

The following example suspends I/O immediately between node vbv3170f1b, port 0a and the array port 50001fe1500a8669.

```
node::> storage path quiesce -node vbv3170f1b -initiator 0a -target-wwpn
50001fe1500a8669
```

The following example suspends I/O between node vbv3170f1b, port 0a and the array port 50001fe1500a8669 after reaching 10 or more errors in duration of 5 mins.

```
node::> storage path quiesce -node vbv3170f1b -initiator 0a -target-wwpn
50001fe1500a8669 -path-failure-threshold 10 -wait-duration 5
```

Related Links

- [storage path resume](#)

storage path resume

Resume I/O on a path to array

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage path resume` command continues I/O flow to an array LUN on a path or the entire path that was previously quiesced. It also disables the path failures monitoring feature, if it was enabled using the [storage path quiesce](#) `-path-failure-threshold`count`` command.

Parameters

-node {<nodename>|local} - Node name

The name of the clustered node for which information is being displayed.

-initiator <initiator name> - Initiator Port

Initiator port that the clustered node uses.

-target-wwpn <wwpn name> - Target Port

Target World Wide Port Name. Port on the storage array that is being used.

[-lun-number <integer>] - LUN Number

Logical Unit number. The range is: [0...65535]. If this parameter is not specified, Data ONTAP resumes the entire path to an array.

Examples

The following example resumes I/O between node vbv3170f1b, port 0a and the array port 50001fe1500a8669, LUN 1

```
node::> storage path resume -node vbv3170f1b -initiator 0a -target-wwpn
50001fe1500a8669 -lun-number 1
```

The following example resumes I/O between node vbv3170f1b, port 0a and the array port 50001fe1500a8669

```
node::> storage path resume -node vbv3170f1b -initiator 0a -target-wwpn
50001fe1500a8669
```

Related Links

- [storage path quiesce](#)

storage path show-by-initiator

Display a list of paths to attached arrays from the initiator's perspective

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage path show-by-initiator` command displays path based statistics. The output is similar to the [storage path show](#) command but the output is listed by initiator.

Parameters

{ [-fields <fieldname>,...]

If you specify the `-fields <fieldname>, ...` parameter, the command output also includes the specified field or fields. You can use `'-fields ?'` to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Controller name

The name of the clustered node for which information is being displayed.

[-initiator <text>] - Initiator Port

Initiator port that the clustered node uses.

[-target-wwpn <text>] - Target Port

Target World Wide Port Name. Port on the storage array that is being used.

[-initiator-side-switch-port <text>] - Initiator Side Switch Port

Switch port connected to the clustered node.

[-target-side-switch-port <text>] - Target Side Switch Port

Switch port connected to the array.

[-array-name <array name>] - Array Name

Name of the storage array that is connected to the cluster.

[-tpgn <integer>] - Target Port Group Number

TPGN refers to the target port group to which the target port belongs. A target port group is a set of target ports which share the same LUN access characteristics and failover behaviors.

[-port-speed <text>] - Port Speed

Port Speed of the specified port.

[-path-io-kbps <integer>] - Kbytes of I/O per second on Path (Rolling Average)

Rolling average of I/O per second on the path.

[-path-iops <integer>] - Number of IOPS on Path (Rolling Average)

Rolling average of Kbytes of I/O per second on the path

[-initiator-io-kbps <integer>] - Kbytes of I/O per second on Initiator (Rolling Average)

Rolling average of I/O per second on the initiator port.

[-initiator-iops <integer>] - Number of IOPS on Initiator (Rolling Average)

Rolling average of Kbytes of I/O per second on the initiator port.

[-target-io-kbps <integer>] - Kbytes of I/O per second to Target (Rolling Average)

Rolling average of I/O per second on the target port.

[-target-iops <integer>] - Number of IOPS to Target (Rolling Average)

Rolling average of Kbytes of I/O per second on the target port.

Examples

```

vnx3070f20b::> storage path show-by-initiator
Node: vnx3070f20b
      Initiator I/O      Initiator Side      Path I/O      Target
Side      Target I/O
Initiator      (KB/s)      Switch Port      (KB/s)      Switch
Port      (KB/s)      Target Port Array Name
-----
0a          3 vnbr3850s4:4          3
vnbr3850s5:15          3 200600a0b819e16f IBM_1722_1
                                0
vnbr3850s5:12          0 50060e80004291c0 HITACHI_DF600F_1
0c          35 vnci9124s54:1-6          35
vnci9124s54:1-24          35 200700a0b819e16f IBM_1722_1
                                0
vnci9124s54:1-22          0 50060e80004291c2 HITACHI_DF600F_1
4 entries were displayed.

```

Related Links

- [storage path show](#)

storage path show

Display a list of paths to attached arrays.

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `storage path show` command displays path based statistics. The default command shows:

- Node name
- Initiator port
- Target port
- Target IQN
- TPGN
- Port speeds
- Path I/O in Kbytes/sec
- IOPs

Parameters

{ [-fields <fieldname>,...]

If you specify the `-fields <fieldname>, ...` parameter, the command output also includes the specified field or fields. You can use `'-fields ?'` to display the fields to specify.

| [-array]

Using this option displays:

- Array name
- Target port
- Target IQN
- Target I/O in Kbytes/sec
- Target side switch port
- Path I/O in Kbytes/sec
- Initiator side switch port
- Initiator I/O in Kbytes/sec
- Initiator port

| [-by-target]

Using this option displays the same information as the array option, but grouped by target port.

| [-detail]

Using this option displays the same information as the array and by-target options, but adds the following:

- Target IOPs
- Target LUNs
- Path IOPs
- Path errors
- Path quality
- Path LUNs
- Initiator IOPs
- Initiator LUNs

| [-switch]

Using this option adds switch port information to the default display.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Controller name

The name of the clustered node for which information is being displayed.

[-array-name <array name>] - Array Name

Name of the storage array that is connected to the cluster.

[-target-wwpn <text>] - Target Port

Target World Wide Port Name. Port on the storage array that is being used.

[-initiator <text>] - Initiator Port

Initiator port that the clustered node uses.

[-initiator-side-switch-port <text>] - Initiator Side Switch Port

Switch port connected to the clustered node.

[-tpgn <integer>] - Target Port Group Number

TPGN refers to the target port group to which the target port belongs. A target port group is a set of target ports which share the same LUN access characteristics and failover behaviors.

[-port-speed <text>] - Port Speed

Port Speed of the specified port.

[-path-io-kbps <integer>] - Kbytes of I/O per second on Path (Rolling Average)

Rolling average of I/O per second on the path.

[-path-iops <integer>] - Number of IOPS on Path (Rolling Average)

Rolling average of Kbytes of I/O per second on the path

[-initiator-io-kbps <integer>] - Kbytes of I/O per second on Initiator (Rolling Average)

Rolling average of I/O per second on the initiator port.

[-initiator-iops <integer>] - Number of IOPS on Initiator (Rolling Average)

Rolling average of Kbytes of I/O per second on the initiator port.

[-target-io-kbps <integer>] - Kbytes of I/O per second to Target (Rolling Average)

Rolling average of I/O per second on the target port.

[-target-iops <integer>] - Number of IOPS to Target (Rolling Average)

Rolling average of Kbytes of I/O per second on the target port.

[-target-side-switch-port <text>] - Target Side Switch Port

Switch port connected to the array.

[-path-link-errors <integer>] - Link Error count on path

Fibre Channel link error count.

[-path-quality <integer>] - Percentage of weighted error threshold

A number representing the threshold of errors that is allowed on the path. Path quality is a weighted error value. When the error weight of a path exceeds the threshold, I/O is routed to a different path.

[-path-lun-in-use-count <integer>] - Number of LUNs in the in-use state on this path

Number of LUNs on this path.

[-initiator-lun-in-use-count <integer>] - Number of LUNs in the in-use state on this initiator

Number of LUNs on this initiator.

[-target-lun-in-use-count <integer>] - Number of LUNs in the in-use state on this target

Number of LUNs on this target.

[-vmdisk-device-id <integer>] - Virtual disk device ID

Common device identifier, shared by a VM and its hypervisor, of a virtual disk. On ESX servers, this is the Disk ID component of a virtual device node, with a value of 0 to 15.

[-path-failure-threshold <integer>] - Max number of path failures acceptable in wait-duration

The path failure count, exceeding this value within wait duration will quiesce the path.

[-wait-duration <integer>] - Wait Duration in minutes

The time duration(minutes) in which path is monitored for path failures.

Examples

The following example shows the default display.

```
vbv3170f2a::> storage path show
```

Path Node (KB/s)	I/O IOPS	Initiator	Array Target	Port	TPGN	Speed
vbv3170f2a-01 6	2	0b	50001fe1500a866c		2	2 Gb/S
vbv3170f2a-01 0	0	0b	50001fe1500a866d		2	2 Gb/S
vbv3170f2a-01 0	0	0c	50001fe1500a866e		4	4 Gb/S
vbv3170f2b-03 3	1	0a	50001fe1500a866d		1	2 Gb/S
vbv3170f2b-03 3	1	0c	50001fe1500a866f		4	4 Gb/S

5 entries were displayed.

The following example shows how the information is displayed with the array option.

```
vnv3070f20b::> storage path show -array
```

```
Node: vnv3070f20b
```

Path I/O	Initiator Side	Target I/O	Target Side
Array Name	Target Port	Initiator I/O	Initiator
(KB/s)	Switch Port	(KB/s)	Switch Port
Port		Port	
HITACHI_DF600F_1	50060e80004291c0	0	vnbr3850s5:12
0	vnbr3850s4:4	3	0a
	50060e80004291c2	0	vnci9124s54:1-22
0	vnci9124s54:1-6	26	0c
IBM_1722_1	200600a0b819e16f	3	vnbr3850s5:15
3	vnbr3850s4:4	3	0a
	200700a0b819e16f	26	vnci9124s54:1-24
26	vnci9124s54:1-6	26	0c

4 entries were displayed.

The following example shows how the information is displayed when grouped by target.

```

vnv3070f20b::> storage path show -by-target
Node: vnv3070f20b
Array Name: HITACHI_DF600F_1

```

Initiator Side	Target I/O (KB/s)	Initiator I/O (KB/s)	Target Side Initiator	Path I/O (KB/s)
Target Port			Switch Port	
Switch Port	(KB/s)	Port		
50060e80004291c0	0		vnbr3850s5:12	0
vnbr3850s4:4	3	0a		
50060e80004291c2	0		vnci9124s54:1-22	0
vnci9124s54:1-6	26	0c		

```

Node: vnv3070f20b
Array Name: IBM_1722_1

```

Initiator Side	Target I/O (KB/s)	Initiator I/O (KB/s)	Target Side Initiator	Path I/O (KB/s)
Target Port			Switch Port	
Switch Port	(KB/s)	Port		
200600a0b819e16f	3		vnbr3850s5:15	3
vnbr3850s4:4	3	0a		
200700a0b819e16f	26		vnci9124s54:1-24	26
vnci9124s54:1-6	26	0c		

4 entries were displayed.

The following example shows how the information is displayed with the switch option.

```
vbv3170f2b::> storage path show -switch
```

Initiator Side			Path I/O	Target Side
Node	Initiator	Array	Target Port	Switch Port
Switch Port	TPGN	Speed	(KB/s)	IOPS
-----	-----	-----	-----	-----

vbv3170f2a-01	0b	50001fe1500a866c		vbbr300s1:6
vbbr300s1:2	2	2 Gb/S	9	3
vbv3170f2a-01	0b	50001fe1500a866d		vbbr300s1:7
vbbr300s1:2	2	2 Gb/S	0	0
vbv3170f2a-01	0c	50001fe1500a866e		vbc19124s2:1-7
vbc19124s2:1-3	4	4 Gb/S	0	0
vbv3170f2b-03	0a	50001fe1500a866d		vbbr300s1:7
vbbr300s1:3	1	2 Gb/S	4	1
vbv3170f2b-03	0c	50001fe1500a866f		vbc19124s2:1-8
vbc19124s2:1-4	4	4 Gb/S	4	1

5 entries were displayed.

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