



nvmf events

ONTAP EMS reference

NetApp
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nvmf events

nvmf.graceperiod events

nvmf.graceperiod.active

Severity

ALERT

Description

This message occurs daily while the NVMe over Fabrics (NVMe-oF) protocol is in use and the license grace period is active. NVMe-oF functionality requires a license in this version of ONTAP® software after the license grace period expires.

Corrective Action

Contact your sales representative to obtain an NVMe-oF license and add it to the cluster, or remove all NVMe-oF configuration from the cluster.

Syslog Message

The NVMe-oF feature requires a license in this version of ONTAP. NVMe-oF functionality will be disabled in %d days (%s) unless a license is added to the cluster.

Parameters

days_remaining (INT): Days until the license grace period expires.

expiration_date (STRING): Date the license grace period expires.

object_type (STRING): Type of resource object under notification. For this EMS, the object_type is CLUSTER.

object_uuid (STRING): UUID of the resource object. For this EMS, the UUID is that of the cluster.

nvmf.graceperiod.expired

Severity

ALERT

Description

This message occurs when the NVMe over Fabrics (NVMe-oF) license grace period expires and NVMe-oF functionality is disabled. NVMe-oF functionality requires a license in this version of ONTAP® software after the license grace period expires.

Corrective Action

Contact your sales representative to obtain an NVMe-oF license, and then add it to the cluster.

Syslog Message

The NVMe-oF feature requires a license in this version of ONTAP and the grace period has expired. NVMe-oF functionality will be disabled until a license is added to the cluster.

Parameters

object_type (STRING): Type of resource object under notification. For this EMS, the object_type is CLUSTER.

object_uuid (STRING): UUID of the resource object. For this EMS, the UUID is that of the cluster.

nvmf.graceperiod.start

Severity

ALERT

Description

This message occurs when an NVMe over Fabrics (NVMe-oF) configuration is detected during upgrade to ONTAP® 9.5 software. NVMe-oF functionality requires a license in this version of ONTAP after the license grace period expires.

Corrective Action

Contact your sales representative to obtain an NVMe-oF license, and then add it to the cluster.

Syslog Message

The NVMe-oF feature requires a license in this version of ONTAP. NVMe-oF functionality will be disabled in %d days (%s) unless a license is added to the cluster.

Parameters

days_remaining (INT): Days until the license grace period expires.

expiration_date (STRING): Date the license grace period expires.

object_type (STRING): Type of resource object under notification. For this EMS, the object_type is CLUSTER.

object_uuid (STRING): UUID of the resource object. For this EMS, the UUID is that of the cluster.

nvmf.mgmt events

nvmf.mgmt.op.failed

Severity

EMERGENCY

Description

This message occurs when a management operation fails in an NVMe-oF subsystem. The NVMe-oF subsystem on this node will be out of sync with the subsystems on the other nodes in the cluster. This can result in the failure of administrative commands and IO.

Corrective Action

To recover from this condition in HA pair configurations, take over the node with the problem by using the "storage failover takeover" command, and then give back the node by using the "storage failover giveback" command. To recover from this condition in non-HA configurations, reboot the nodes having this condition by using the "system node reboot" command.

Syslog Message

NVMe-oF operation "%s" failed (reason=%s).

Parameters

operation (STRING): Management operation that failed.

reason (STRING): Reason for the failure.

nvmf.mgmt.port.cmd.full

Severity

ERROR

Description

This message occurs when the NVMe-oF command fan-in on a physical port exceeds the port's capabilities. At this point, NVMe-oF I/O throughput and latency could severely degrade.

Corrective Action

To recover from this condition, evaluate the host fan-in on the port, and then take one of the following actions: - Reduce the number of hosts that are logging in to this port. - Reduce the number of NVMe-oF subsystems that are being accessed by the hosts. - Reduce the queue depths and number of queues for hosts connecting to this port. After completing the appropriate mitigation step, you can see the number of command slots currently being used via the fcp_port CM object. Example: statistics show -object fcp_port -counter nvmf_command_slots -instance port.portname -raw

Syslog Message

NVMe-oF port name "%s" command slots full (current number provisioned = %d).

Parameters

portname (STRING): Port name on which the command slots are full.

command_slots (INT): Current number of command slots provisioned on the port.

nvmf.mgmt.port.cmd.threshold

Severity

NOTICE

Description

This message occurs when the NVMe-oF command fan-in on a physical port starts approaching levels close to the port's capabilities.

Corrective Action

Consider adding more NVMe-oF ports or access the NVMe-oF subsystems via other ports instead of using this port. You can see the number of command slots currently being used via the fcp_port CM object. Example: statistics show -object fcp_port -counter nvmf_command_slots -instance port.portname -raw

Syslog Message

NVMe-oF port name "%s" command slots high threshold reached (current number provisioned = %d).

Parameters

portname (STRING): Port name on which the command slots are being filled up.

command_slots (INT): Current number of command slots provisioned on the port.

nvmf.mgmt.roce.port.cq.full

Severity

ERROR

Description

This message occurs when the NVMe/RoCE completion queue entry utilization exceeds the port's capabilities. At this point, NVMe/RoCE I/O throughput and latency could severely degrade.

Corrective Action

To recover from this condition, evaluate the host fan-in on the port, and then take one of the following actions: - Reduce the number of hosts that are logging in to this port. - Reduce the number of NVMe-oF subsystems that are being accessed by the hosts. - Reduce the queue depths and number of queues for hosts connecting to this port.

Syslog Message

Completion queue entries on NVMe/RoCE port "%s" are exhausted (current number used is %d).

Parameters

portname (STRING): Port name on which the completion queue entries are exhausted.

cq_entries (INT): Current number of completion queue entries used on the port.

nvmf.qos events

nvmf.qos.mismatch.policy.r2

Severity

ERROR

Description

This message occurs when an NVMe over Fabrics (NVMe-oF) target subsystem contains namespaces that have different quality of service (QoS) policies which might affect the I/O of the namespaces with higher QoS policies. It is best practice to have the same QoS policy across all namespaces within a subsystem.

Corrective Action

Determine which namespaces exist within the subsystem NQN by using the "vserver nvme subsystem map show" command. Verify that these namespaces share the same QoS policy by using the "vserver nvme namespace show -fields path,qos-policy-group" command.

Syslog Message

NVMe-oF target subsystem NQN %s contains %d namespaces that do not have the same QoS policy.

Parameters

subsystem_nqn (STRING): NVMe Qualified Name (NQN) of the subsystem.

ns_count (INT): Number of namespaces that do not match.

nvmf.qos.mismatched.policy

Severity

ERROR

Description

This message occurs when an NVMe-oF target subsystem contains namespaces that have different QoS policies.

Corrective Action

Determine which volumes exist within the named subsystem NQN by using the "vserver nvme subsystem map show" command. Verify that these volumes share the same QoS policy by using the "volume show -fields name,qos-policy-group" command.

Syslog Message

NVMe-oF target subsystem NQN %s contains %d namespaces that do not have the same QoS policy.

Parameters

subsystem_nqn (STRING): NVMe Qualified Name (NQN) of the subsystem.
ns_count (INT): Number of namespaces that do not match.

nvmf.qos.viodet.regfail

Severity

ERROR

Description

This message occurs when the Quality-of-Service (QoS) subsystem fails to register for updates during initialization due to an internal error (e.g. there is not enough system memory available). As a result, workloads might not meet their minimum throughput or their service-level objectives (SLOs).

Corrective Action

The registration will continue to be retried. If this message continues to occur, perform a planned takeover/giveback sequence to reset the reporting node nondisruptively by using the "takeover -ofnode (reporting_node)" and "giveback -ofnode (reporting_node)" commands. If the problem persists, contact Contact NetApp technical support..

Syslog Message

Failed to register for violation detection updates. QoS min-throughput might operate in a limited capacity.

Parameters

errorCode (INT): Error code that was returned during registration.

nvmf.remote events

nvmf.remote.status.cb

Severity

NOTICE

Description

This message occurs when NVMe over Fabric(NVMeOF) receives a status callback from the connection manager for the Cluster Session Manager(CSM) session is used for remote IO.

Corrective Action

(None).

Syslog Message

NVMeOF remote status callback endpoint=%s, status=%s.

Parameters

endpoint (STRING): CSM session endpoint on which the status callback is received.

status (STRING): Reason for the status callback.

nvmf.roce events

nvmf.roce.lif.create.failed

Severity

ERROR

Description

This message occurs when there was an internal error while creating a NVMe over RoCE logical network interface (LIF).

Corrective Action

To recover from this condition, use the "network interface modify" command to change the status-admin of the LIF to "down" and then back to "up" again.

Syslog Message

NVMe/RoCE LIF "%s" create operation failed because of an internal error.

Parameters

lifname (STRING): Name of the NVMe/RoCE LIF that encountered the failure.

nvmf.subsystem events

nvmf.subsystem.hidden

Severity

ALERT

Description

This message occurs when a NVMe-oF target subsystem is hidden due to a SnapMirror® Active Synchronous relationship going out of sync. The NVMe-oF target subsystem is no longer accessible from the host.

Corrective Action

Restore NVMe-oF target subsystem access to the host by using the "snapmirror resync" command to bring the out-of-sync relationship back in sync. If "snapmirror resync" does not fix the issue, contact NetApp technical support.

Syslog Message

NVMe-oF target subsystem NQN %s is hidden and reason code is %d.

Parameters

subsystem_nqn (STRING): NVMe Qualified Name (NQN) of the subsystem.

reason_code (INT): Reason code for NVMe-oF target subsystem hiding.

nvmf.subsystem.unhidden

Severity

NOTICE

Description

This message occurs when a previously hidden NVMe-oF target subsystem is now unhidden.

Corrective Action

(None).

Syslog Message

NVMe-oF target subsystem NQN %s is unhidden.

Parameters

subsystem_nqn (STRING): NVMe Qualified Name (NQN) of the subsystem.

nvmf.tcp.events

nvmf.tcp.lif.create.fail

Severity

ERROR

Description

This message occurs when there is an internal error while creating a NVMe-over-TCP (NVMe/TCP) logical network interface (LIF).

Corrective Action

To recover from this condition, use the "network interface modify" command to change the state of "status-admin" of the LIF to "down" and then back to "up" again.

Syslog Message

NVMe/TCP LIF "%s" create operation failed because of the following internal error: "%d".

Parameters

lifname (STRING): Name of the NVMe/TCP LIF that encountered the failure.

errorCode (INT): Error code returned during the creation of the LIF.

nvmf.tcp.trans.init.fail

Severity

ERROR

Description

This message occurs when there is an internal error during the NVMe-over-TCP (NVMe/TCP) transport initialization.

Corrective Action

NVMe-oF logs at "/mroot/etc/log/rastrace" need to be collected for further analysis. Trigger an ALL AutoSupport@ message by using the following command: "autosupport invoke -node * -message

"nvmf.tcp.transport.init.failed" -type all". Also trigger the diagnostic AutoSupport function by using the following command "autosupport invoke-diagnostic -node * -message "nvmf.tcp.transport.init.failed" -subsystems nvmf". Then contact NetApp technical support support.

Syslog Message

NVMe/TCP transport initialization failed because of the following internal error: "%d".

Parameters

errorCode (INT): Error code returned during transport initialization.

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