clam events

ONTAP EMS reference

NetApp
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Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) is disabled by either turning off the KCS capability or by setting the 'clam sysctl/bootarg' variable.

Corrective Action

If you want CLAM functionality disabled, no action is needed. Otherwise, reenable CLAM and reboot the node to make CLAM operational again.

Syslog Message

CLAM functionality is disabled.

Parameters

(None).

clam.disable.takeover

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) is disabled from initiating storage failover requests. This capability is automatically disabled in a NAS-only configuration. To control the setting of CLAM takeover, additional interfaces, such as sysctl bootarg, are provided.

Corrective Action

No action is needed.

Syslog Message

CLAM is disabled from performing storage failover.

Parameters

(None).

clam.enable events

clam.enable

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) is enabled to operate on this node. When all nodes in the cluster are upgraded to a KCS-available image, KCS capability gets turned on. This event is an indication that CLAM will be now begin to function.

Corrective Action

No action is needed.

Syslog Message

CLAM functionality is enabled.

Parameters

(None).

clam.enable.takeover

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) is enabled to initiate storage failover requests when the CLAM OOQ (Out Of Quorum) condition is detected on the partner node. This capability is automatically enabled in a scalable SAN configuration. To control the setting of CLAM takeover, additional interfaces, such as sysctl bootarg, are provided.

Corrective Action

No action is needed.

Syslog Message

CLAM is enabled to perform storage failover when partner node is OOQ.

Parameters

(None).

clam.failover events

clam.failover.event

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) receives a failover event from high-availability(HA) subsystem.

Corrective Action

(None).

Syslog Message

CLAM on node (id=%llu) received an HA failover event for partner (ID=%llu) indicating that %s.

Parameters

> **localnodeid** (LONGINT): Node ID of the local node.
> **partnernodeid** (LONGINT): Node ID of the partner node.
> **event_description** (STRING): Description of the event that CLAM received from the HA subsystem.

clam.heartbeat events

clam.heartbeat.state.change

Severity

> INFORMATIONAL

Description

> This message occurs when the Kernel Cluster Services Connectivity, Liveliness, Availability Monitor (CLAM) detects that the state of the heartbeats to a node changed(that is, either the heartbeats started succeeding or they started failing).

Corrective Action

> Take one or more of the following actions: - A repeated toggling of the heartbeat state indicates intermittent network issues. Check the connectivity of the node to the cluster interconnect and fix any problems. - In all the other cases, the heartbeat failure will eventually result in the node going out of quorum. If that happens, take the actions prescribed for "EMS_clam_node_ooq event".

Syslog Message

> Heartbeats to node (name=%s, ID=%llu) are %s.

Parameters

> **hostname** (STRING): Host name of the node.
> **nodeid** (LONGINT): Node ID of the node.
> **state** (STRING): New state of the heartbeats to this node.

clam.invalid events

clam.invalid.config

Severity

> ERROR

Description

> This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) determines that the local node is in an invalid configuration for providing CLAM functionality.

Corrective Action

> Take one or more of the following actions, as appropriate: - Enable failover on the node by running the 'storage failover modify -node node_name -enabled true' command. - If there is a version incompatibility between the local node and the other nodes in the cluster, upgrade the nodes as needed.

Syslog Message

> Local node (name=%s, id=%llu) is in an invalid configuration for providing CLAM functionality. CLAM cannot determine the identity of the HA partner.

Parameters

    localhostname (STRING): Host name of the local node.
    localnodeid (LONGINT): Node ID of the local node.

clam.mailbox events

clam.mailbox.initialized

Severity

    INFORMATIONAL

Description

    This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) has written to the high availability (HA) mailboxes that it has initialized and is ready to participate in CLAM quorum.

Corrective Action

    (None).

Syslog Message

    CLAM on local node has initialized its mailboxes and is ready to participate in quorum.

Parameters

    (None).

clam.node events

clam.node.disabled

Severity

    INFORMATIONAL

Description

    This message occurs when the local Connectivity, Liveliness and Availability Monitor (CLAM) concludes that the local node is now disabled.

Corrective Action

    This EMS is logged when the local node has lost connectivity with the rest of the nodes in the cluster and the connectivity has not been restored in time for the local node to participate in cluster quorum. Take the actions prescribed for "EMS_clam_node_ooq" event.

Syslog Message

    CLAM published an event indicating the local node is now disabled(reason: %s).

Parameters

    disabled_reason (STRING): Reason for the node getting disabled.

clam.node.inq

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) determines that a node in the cluster has transitioned to "cluster quorum".

Corrective Action

(None).

Syslog Message

Cluster node (name=%s, ID=%llu) is in "CLAM quorum".

Parameters

hostname (STRING): Host name of the cluster node that transitioned to quorum.
nodeid (LONGINT): Node ID of the cluster node that transitioned to quorum.

clam.node.ooq

Severity

EMERGENCY

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) determines that a node in the cluster is out of "cluster quorum".

Corrective Action

Take one or more of the following actions: - Follow the KB article 2022109 to troubleshoot the resolve the issue. - Check the connectivity of the node to the cluster interconnect and fix any problems. - If the local node is administratively disabled, enable it by running the following command from the clustershell 'cluster modify -node node_name -eligibility true'. - If the node is supposed to be in an HA pair but is not, enable the HA pair. You can check whether a node is in an HA pair by running 'storage failover show' command from the clustershell. You can enable storage failover by running the 'storage failover modify -enabled true' command from the clustershell. - If there is a version incompatibility between the local node and the other nodes in the cluster, upgrade the nodes as needed. You can see the software version of all the nodes from the clustershell using the 'version -node *' command.

Syslog Message

Node (name=%s, ID=%llu) is out of "CLAM quorum" (reason=%s).

Parameters

hostname (STRING): Host name of the node that is out of quorum.
nodeid (LONGINT): Node ID of the node that is out of quorum.
reason (STRING): Reason for the out of quorum transition.

clam.node.paused

Severity

INFORMATIONAL

Description

This message occurs when the local Connectivity, Liveliness and Availability Monitor (CLAM) entered a paused state.

Corrective Action

(None).

Syslog Message

CLAM published an event indicating the local node has paused.

Parameters

(None).

clam.node.resumed

Severity

INFORMATIONAL

Description

This message occurs when the local Connectivity, Liveliness and Availability Monitor (CLAM) was previously in a paused state and has now resumed.

Corrective Action

(None).

Syslog Message

CLAM published an event indicating the local node has resumed.

Parameters

(None).

clam.node.start.voting

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) on a local node has started to vote for its high-availability (HA) partner node.

Corrective Action

(None).

Syslog Message

CLAM on local node (ID:%llu) has started to vote for its HA partner node (ID:%llu).

Parameters

local_id (LONGINT): Node ID of the local node.
partner_id (LONGINT): Node ID of the partner node.

clam.node.stop.voting

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) on a local node has stopped voting for its high-availability (HA) partner node.

Corrective Action

(None).

Syslog Message

CLAM on local node (ID:%llu) has stopped to vote for its HA partner node (ID:%llu).

Parameters

local_id (LONGINT): Node ID of the local node.
partner_id (LONGINT): Node ID of the partner node.

clam.partner events

clam.partner.halting

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveness, Availability Monitor (CLAM) is notified that its high-availability (HA) partner node is undergoing a planned shutdown.

Corrective Action

(None).

Syslog Message

CLAM is notified that its HA partner node is undergoing a planned shutdown (reason: %s).

Parameters

reason (STRING): Reason for the partner beginning the halt process.

clam.peer events

clam.peer.halting

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveness, and Availability Monitor (CLAM) is notified that its high-availability (HA) partner node is undergoing a planned shutdown.

Corrective Action

(None).

Syslog Message

CLAM is notified that node %s (ID=%llu) is undergoing a planned shutdown.

Parameters

hostnode (STRING): Name of node beginning the halt process.
nodeid (LONGINT): ID of node beginning the halt process.

clam.reenable events

clam.reenable

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) is reenabled to operate on this node after being intentionally disabled. The intentional disabling could have been through turning off KCS capability or setting the 'clam bootarg/sysctl' variable. Reenabling CLAM functionality warrants a reboot, upon which CLAM will be functional.

Corrective Action

Reboot the node to make CLAM operational.

Syslog Message

CLAM functionality is reenabled. Reboot the node to make CLAM operational.

Parameters

(None).

clam.start events

clam.start.mailbox.polling

Severity

INFORMATIONAL

Description

This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) has started a poll to read CLAM mailboxes.

Corrective Action

(None).

Syslog Message

CLAM on local node (ID=%llu) has started a poll to read HA partner (ID=%llu) mailbox.

Parameters
    local_id (LONGINT): Node ID of the local node.
    partner_id (LONGINT): Node ID of the partner node.

clam.stop events

clam.stop.mailbox.polling

Severity
    INFORMATIONAL

Description
    This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) has stopped polling the CLAM mailboxes.

Corrective Action
    (None).

Syslog Message
    CLAM on local node (ID=%llu) has stopped the poll to read HA partner (ID=%llu) mailbox.

Parameters
    local_id (LONGINT): Node ID of the local node.
    partner_id (LONGINT): Node ID of the partner node.

clam.takeover events

clam.takeover

Severity
    INFORMATIONAL

Description
    This message occurs when the Kernel Cluster Services Connectivity, Liveliness, Availability Monitor (CLAM) triggers takeover of a partner node after determining that the local node is in "CLAM quorum" and the partner node is out of "CLAM quorum".

Corrective Action
    Take one or more of the following actions: - If the node panicked or is hung, troubleshoot and resolve the problem. - Check the connectivity of the node to the cluster interconnect and fix any problems. - If the local node is administratively disabled, enable it by running the following command from the clustershell 'cluster modify -node node_name -eligibility true'. - If the node is supposed to be in an HA pair but is not, enable the HA pair. You can check whether a node is in an HA pair by running the 'storage failover show' command from the clustershell. You can enable storage failover by running the 'storage failover modify -enabled true' command from the clustershell. - If there is a version incompatibility between the local node and the other nodes in the cluster, upgrade the nodes as needed. You can see the software version of all the nodes from the clustershell using the 'version -node *' command.

Syslog Message
    Local node (name=%s, ID=%llu) initiated takeover of partner node (name=%s, ID=%llu, state=%llu)

result=%s, type=%s.

Parameters

    localhostname (STRING): Host name of the local node.
    localnodeid (LONGINT): Node ID of the local node.
    partnerhostname (STRING): Host name of the partner node.
    partnernodeid (LONGINT): Node ID of the partner node.
    partnerstate (LONGINTHEX): The high-availability state of the partner node
    result (STRING): Result of the takeover initiation operation.
    type (STRING): Takeover Type.

clam.takeover.disallowed

Severity

    INFORMATIONAL

Description

    This message occurs when Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) cannot initiate takeover operations. Takeover is disallowed by High Availability (HA) susbsystem on the partner node.

Corrective Action

    (None).

Syslog Message

    CLAM on node %s (ID=%llu) cannot proceed with a takeover operation of partner node %s (ID=%llu) because HA disallowed takeover. Reason :%s

Parameters

    local_host_name (STRING): Host name of the local node.
    localnodeid (LONGINT): Node ID of the local node.
    partner_host_name (STRING): Host name of the partner node.
    partnernodeid (LONGINT): Node ID of the partner node.
    reason (STRING): Reason takeover was disabled.

clam.update events

clam.update.partner.state

Severity

    INFORMATIONAL

Description

    This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) updates the failover state of the partner.

Corrective Action

    (None).

Syslog Message

    CLAM on node (ID=%llu) updated failover state of partner (ID=%llu) to %s.

Parameters
> **localnodeid** (LONGINT): Node ID of the local node.
> **partnernodeid** (LONGINT): Node ID of the partner node.
> **partner_state** (STRING): Description of the partner state.

clam.valid events

clam.valid.config

Severity
> INFORMATIONAL

Description
> This message occurs when the Kernel Cluster Services (KCS) Connectivity, Liveliness, Availability Monitor (CLAM) determines that the local node is in a valid configuration for providing CLAM functionality.

Corrective Action
> No action is needed.

Syslog Message
> Local node (name=%s, id=%llu) is operating in a suitable configuration for providing CLAM functionality.

Parameters
> **localhostname** (STRING): Host name of the local node.
> **localnodeid** (LONGINT): Node ID of the local node.
> **partnerhostname** (STRING): Host name of the partner node.
> **partnernodeid** (LONGINT): Node ID of the partner node.

clam.voting events

clam.voting.state.change

Severity
> INFORMATIONAL

Description
> This message occurs when the Kernel Cluster Services Connectivity, Liveliness, Availability Monitor (CLAM) detects that the voting state of the node changed.

Corrective Action
> (None).

Syslog Message
> CLAM on node (name=%s, ID=%llu) has %s voting for its HA partner node(name=%s, ID=%llu).

Parameters
> **local_hostname** (STRING): Host name of the local node.
> **localId** (LONGINT): Node ID of the local node.
> **state** (STRING): New voting state of the node.
> **partner_hostname** (STRING): Host name of the HA partner node.

partnerId (LONGINT): Node ID of the HA partner node.

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