

Dell EMC Storage Systems

Events and Alerts Troubleshooting Guide for the metro node appliance

7.0 Service Pack 1



Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Troubleshooting

The following guide covers the troubleshooting issues which user can face while working with the Events and Alerts:

Topics:

- Alerts and Logs
- Issue: Do not see a generated alert in Live Alerts for a generated event.
- Issue: Mapping the conditionID with firmware debug events
- Question: Threshold for metro node monitor alerts
- Question: What is the expected service status?
- Issue: How does a user can get the service dependencies of all notification-related services?
- Issue: Database connection error in the notifications service logs at start-up
- Question: Is there any limit to notification service retries?
- Issue: Alert is disabled
- Question: If NSFW is down, then how can a user identify it?
- Issue: Alerts in real time
- Question: How can a user read alerts from a node?
- Issue: SMTP server is not reachable.
- Question: When are the email notifications going to be sent?
- Question: What happens if the customer provides the wrong email ID?
- Question: Can a user change the state of an event to open from closed in UI?
- Question: How can a user map iDRAC alerts with the metro node port mapping?
- Issue: The iDRAC or monitor issue has been resolved but the alert is still in open state.
- Question: How can a user obtain the database schema details?
- Question: Is there a mapping for port level alerts between legacy and voyager?
- Question: Where a user can get the REST API notifications for all UI?
- Problem: The operational alert is not closed after 4 hours of created time.
- Issue: Service level failures

Alerts and Logs

Test alerts

If no alerts are received, then the user can verify the stack by generating the test alerts. Test alert generation represents that the notifications stack is perfectly working fine.

Heartbeat alerts

If at any level, the event does not reach the notifications service, then the user receives the heartbeat alerts.

StartLimitBurst

If the service restarts 12 times within 300 second, then notification service stops. If notification service stops, then the user has to check the logs and identify the issue. After resolving the issue, the service has to start manually after 300 second.

Logs

The notifications log verifies the event processing. Events that are received from the NSWF can be verified by checking out the Kafka logs.

The alerts also contain the various fields which narrow down the cause, component, and resource of the events. Also, the properties panel contains the corrective action that can be taken to resolve the issues.

Logs path

```
Notification logs directory - /var/log/vplex/notification/
Kafka(Broker) logs directory- /var/log/kafka/EventsTopic-0/
Postgres logs - /var/log/postgresql
telegraf.log - /var/log/telegraf/
```

From CD

After performing collect-diagnostics, the CD file generates at /diag/collect-diagnostics-out/{GUID}-{cluster}-diag-yyyy-mm-dd-HH.MM.SS.tar.gz. After untarring the CD file, the files for all the directors are in the collect_{director}_yyyy-mm-dd-HH.MM.SS.tar.gz format. Untarring the director level tar.gz file gives all the desired logs with the paths mentioned in the earlier Logs section. For example, the postgres logs are collected in /diag/collect-diagnostics-out/collect_director-1-1-a_2020-10-28-15.31.23/var/log/postgresql. For all other components, see the following table:

Feature	Old log location	New log location (file name and directory)	Log location in CD
system config	-	system_config.log - /var/log/vplex/system_config	-
NDU	-	/var/log/VPlex/cli/capture/vplex_node_software_upgrade.log: /var/log/vplex/vplex_node_software_upgrade.log	/mgmt_server/cluster-1/upgrade/
CLI	Refer : /var/log/VPlex/cli/ Files: audit.log_*, client.log_*, capture.log_*	Refer : /var/log/VPlex/cli/ Files: audit.log_*, client.log_*, capture.log_*	Refer: /diag/collect-diagnostics-out/smsLogs/clilogs Files: audit.log_*, client.log_*, capture.log_*
UI	/var/log/VPlex/cli/restful.log_*	/var/log/VPlex/cli/restful.log_*	/diag/collect-diagnostics-out/smsLogs/clilogs/restful.log_*
Restv2	/var/log/VPlex/cli/restful.log_*	/var/log/VPlex/cli/restful.log_*	/diag/collect-diagnostics-out/smsLogs/clilogs/restful.log_*
notification	-	notifications.log - /var/log/vplex/notification/ Kafka(Broker) logs directory- /var/log/kafka/EventsTopic-0/ Postgres logs - /var/log/postgresql telegraf.log - /var/log/telegraf/	/diag/collect-diagnostics-out/collect_director-1-1-a_2020-10-28-15.31.23
dreamcatcher	-	dreamcatcher.log - /var/log/vplex/SupportAssist ESE.log : /opt/dell/vplex/ese/var/log/	-

Issue: Do not see a generated alert in Live Alerts for a generated event.

Solution

Check the followings:

- Alert for **condition_id** is supported.
- Alert for **condition_id** is enabled.
- Alert for a component is enabled.
- The notifications service is enabled.
- In troubleshooting, see the notification stack.

Issue: Mapping the conditionID with firmware debug events

Solution

Run `cd /etc/opt/dell/vplex`.

- The `cat firmware_events.yaml` provides the brief description about the conditionID.

```
service@director-1-1-a:~> cd /etc/opt/dell/vplex
service@director-1-1-a:/etc/opt/dell/vplex>

service@director-1-1-a:/etc/opt/dell/vplex> vi firmware_events.yaml
- conditionId: '0x00120003'
  conditionName: PathDisconnected
  eventType: operational
  objectType: CommunicationsPath
  scope: director
  severities:
  - severity: critical
    message: A communications path has been disconnected.
  externalRCA: |-
    A communications path has been disconnected due to network
    connectivity issues.
  externalRemedy: |-
    Check the WAN COM or LOCAL COM path that was disconnected, then check
    the switch logs for errors that will help pinpoint the root cause.
    If errors point to hardware issues check/clean/replace the cables and
    SFPs along the path. Engage Dell EMC Customer Support if unable to
    determine the root cause.
  callHome: true
  enableDuringNDU: false
  threshold: {count: 0, interval: 0}
  additionalData:
  - key: pathName
    type: str
    category: communicationsPathName
    required: true
    supplementalKey: false
  - key: nodeUUID
    type: uint
    category: uuid
    format: 0x%lx
    required: true
    supplementalKey: false
  legacyDbgEvents: [udcom/3]
```

```
service@director-1-1-a:/etc/opt/dell/vplex>
```

- The `cat firmware_events.yaml | grep legacyDbgEvents` lists the supported conditionID vs legacy debug events mapping.

```
service@director-1-1-a:~> cd /etc/opt/dell/vplex
service@director-1-1-a:/etc/opt/dell/vplex>
```

```
service@director-1-1-a:/etc/opt/dell/vplex> cat firmware_events.yaml | grep
legacyDbgEvents
  legacyDbgEvents: [scsi/156, scsi/157]
  legacyDbgEvents: [scsi/72, scsi/73]
  legacyDbgEvents: [scsi/154, scsi/166]
  legacyDbgEvents: [scsi/126]
  legacyDbgEvents: [scsi/71]
  legacyDbgEvents: [scsi/79]
  legacyDbgEvents: [scsi/91]
  legacyDbgEvents: [scsi/123]
  legacyDbgEvents: [scsi/158]
  legacyDbgEvents: [scsi/147]
  legacyDbgEvents: [apf/15]
  legacyDbgEvents: [scsi/138]
  legacyDbgEvents: [scsi/167]
  legacyDbgEvents: [amf/45, amf/96, amf/97, amf/98, amf/99, amf/100, amf/101, amf/
223]
  legacyDbgEvents: [amf/20]
  legacyDbgEvents: [amf/24]
  legacyDbgEvents: [amf/126]
  legacyDbgEvents: [amf/146]
  legacyDbgEvents: [amf/111]
  legacyDbgEvents: [amf/181]
  legacyDbgEvents: [amf/190]
  legacyDbgEvents: [amf/158]
  legacyDbgEvents: [amf/221]
  legacyDbgEvents: [amf/141]
  legacyDbgEvents: [amf/197]
  legacyDbgEvents: [amf/233]
  legacyDbgEvents: [amf/251]
  legacyDbgEvents: [amf/267]
  legacyDbgEvents: [amf/34, amf/35, amf/51, amf/52, amf/53, amf/54, amf/55, amf/56,
  legacyDbgEvents: [amf/215, amf/216]
  legacyDbgEvents: [amf/215, amf/216]
  legacyDbgEvents: [amf/162]
  legacyDbgEvents: [amf/226]
  legacyDbgEvents: [amf/249, amf/250]
  legacyDbgEvents: [amf/250, amf/270]
  legacyDbgEvents: [amf/244, amf/245, amf/246]
  legacyDbgEvents: [amf/203]
  legacyDbgEvents: [amf/201, amf/206, amf/219]
  legacyDbgEvents: [amf/205]
  legacyDbgEvents: [amf/202, amf/207, amf/220]
  legacyDbgEvents: [com/11]
  legacyDbgEvents: [com/40]
  legacyDbgEvents: [com/52]
  legacyDbgEvents: [nmg/49, nmg/50, nmg/59]
  legacyDbgEvents: [nmg/100]
  legacyDbgEvents: [nmg/56, nmg/57]
  legacyDbgEvents: [nmg/64, nmg/65, nmg/66, nmg/67]
  legacyDbgEvents: [nmg/96]
  legacyDbgEvents: [nmg/107, nmg/108, nmg/109]
  legacyDbgEvents: [nmg/105, nmg/106]
  legacyDbgEvents: [nmg/112, nmg/117]
  legacyDbgEvents: [nmg/113, nmg/117]
  legacyDbgEvents: [nmg/114, nmg/117]
  legacyDbgEvents: [stdf/32]
  legacyDbgEvents: [stdf/53]
  legacyDbgEvents: [stdf/59]
  legacyDbgEvents: [stdf/25]
  legacyDbgEvents: [stdf/29]
  legacyDbgEvents: [stdf/39]
  legacyDbgEvents: [stdf/26]
  legacyDbgEvents: [stdf/30]
```

```

legacyDbgEvents: [stdf/23]
legacyDbgEvents: [stdf/24]
legacyDbgEvents: [stdf/56]
legacyDbgEvents: [stdf/34]
legacyDbgEvents: [stdf/31]
legacyDbgEvents: [stdf/19]
legacyDbgEvents: [sfp/9]
legacyDbgEvents: [sfp/7]
legacyDbgEvents: [sfp/11, sfp/12]
legacyDbgEvents: [sfp/11, sfp/12]
legacyDbgEvents: [sfp/11, sfp/12]
legacyDbgEvents: [sfp/11, sfp/12]
legacyDbgEvents: [dios/20]
legacyDbgEvents: [dios/13]
legacyDbgEvents: [utl/16]
legacyDbgEvents: [vmg/1, vmg/2, vmg/3]
legacyDbgEvents: [vmg/29]
legacyDbgEvents: [ndu/3]
legacyDbgEvents: [nvol/5]
legacyDbgEvents: [nvol/6]
legacyDbgEvents: [nvol/7]
legacyDbgEvents: [nvol/9]
legacyDbgEvents: [floor/31]
legacyDbgEvents: [floor/32]
legacyDbgEvents: [ipc/18, ipc/19, ip/2, ip/3]
legacyDbgEvents: [udcom/3]
legacyDbgEvents: [fc/1]
legacyDbgEvents: [fc/8]
legacyDbgEvents: [fc/13]
legacyDbgEvents: [fc/14]
legacyDbgEvents: [fc/15]
legacyDbgEvents: [fc/16]
legacyDbgEvents: [fc/17]
legacyDbgEvents: [fc/24]
legacyDbgEvents: [fc/25]
legacyDbgEvents: [fc/29]
legacyDbgEvents: [fc/30]
service@director-1-1-a:/etc/opt/dell/vplex>

```

Question: Threshold for metro node monitor alerts

Answer

See the following:

```

service@director-1-1-a:~> cd /etc/opt/dell/vplex
service@director-1-1-a:/etc/opt/dell/vplex>
service@director-1-1-a:/etc/opt/dell/vplex> cat vplex-partition-monitor.yaml
thresholds: {
  /dev/sda1: {warning: 80, critical: 90},
  /dev/sda2: {warning: 80, critical: 90},
  /dev/sda4: {warning: 80, critical: 90},
  /dev/sda7: {warning: 80, critical: 90},
  /dev/sda8: {warning: 80, critical: 90},
  /dev/sda9: {warning: 80, critical: 90},
  /dev/sda10: {warning: 80, critical: 90}
}
service@director-1-1-a:/etc/opt/dell/vplex>

```


Question: What is the expected service status?

Answer

See the following:

sudo systemctl status notifications

```
service@director-2-1-b:~> sudo systemctl status notifications
● notifications.service - NotificationService
   Loaded: loaded (/usr/lib/systemd/system/notifications.service; enabled; vendor
  preset: disabled)
   Active: active (running) since Thu 2020-10-29 05:19:26 UTC; 6 days ago
     Main PID: 5040 (vpflex_launch_no)
        Tasks: 188 (limit: 4915)
     CGroup: /system.slice/notifications.service
             └─5040 /bin/bash /opt/emc/VPlex/notification/script/
vpflex_launch_notification.sh
             └─5041 /usr/bin/java -jar /opt/emc/VPlex/notification/com-dell-vplex-
notification-1.0-SNAPSHOT.jar

Nov 05 01:12:50 director-2-1-b vpflex_launch_notification.sh[5040]: 01:12:50.593 [flink-
akka.actor.default-dispatcher-2] INFO akka.event.slf4j.>
Nov 05 01:12:50 director-2-1-b vpflex_launch_notification.sh[5040]: 01:12:50.642 [flink-
metrics-2] INFO akka.event.slf4j.Slf4jLogger - Slf4jLog>
Nov 05 01:12:50 director-2-1-b vpflex_launch_notification.sh[5040]: 01:12:50.923
[scheduling-1] DEBUG c.d.v.n.e.s.SystemEventProcessor - Found 0>
Nov 05 01:12:50 director-2-1-b vpflex_launch_notification.sh[5040]: 01:12:50.926 [flink-
akka.actor.default-dispatcher-3] INFO akka.event.slf4j.>
Nov 05 01:12:50 director-2-1-b vpflex_launch_notification.sh[5040]: 01:12:50.942 [flink-
metrics-2] INFO akka.event.slf4j.Slf4jLogger - Slf4jLog>
Nov 05 01:12:51 director-2-1-b vpflex_launch_notification.sh[5040]: 01:12:51.267
[scheduling-1] DEBUG c.d.v.n.e.s.SystemEventProcessor - Fetched>
Nov 05 01:14:26 director-2-1-b vpflex_launch_notification.sh[5040]: Hibernate: select
idracalert0_.id as id1_4_, idracalert0_.app_name as app_na>
Nov 05 01:14:26 director-2-1-b vpflex_launch_notification.sh[5040]: Hibernate: select
idracalert0_.id as id1_4_, idracalert0_.app_name as app_na>
Nov 05 01:14:26 director-2-1-b vpflex_launch_notification.sh[5040]: Hibernate: select
idracalert0_.id as id1_4_, idracalert0_.app_name as app_na>
Nov 05 01:14:46 director-2-1-b vpflex_launch_notification.sh[5040]: Hibernate: select
idracalert0_.id as id1_4_, idracalert0_.app_name as app_na>
service@director-2-1-b:~>
```

sudo systemctl status kafka

```
service@director-2-1-b:~> sudo systemctl status kafka
● kafka.service - Apache Kafka server (broker)
   Loaded: loaded (/lib/systemd/system/kafka.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2020-10-29 04:58:48 UTC; 6 days ago
     Docs: http://kafka.apache.org/documentation.html
     Main PID: 2114 (java)
        Tasks: 93 (limit: 4915)
     CGroup: /system.slice/kafka.service
             └─2114 java -Xmx1G -Xms1G -server -XX:+UseG1GC -XX:MaxGCPauseMillis=20
-XX:InitiatingHeapOccupancyPercent=35 -XX:+ExplicitGCInvokesC>

Nov 04 23:37:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-04 23:37:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 04 23:47:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-04 23:47:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 04 23:57:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-04 23:57:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 05 00:07:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 00:07:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 05 00:17:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 00:17:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 05 00:27:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 00:27:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
```

```

Nov 05 00:37:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 00:37:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 05 00:47:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 00:47:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 05 00:57:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 00:57:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
Nov 05 01:07:49 director-2-1-b kafka-server-start.sh[2114]: [2020-11-05 01:07:49,533]
INFO [GroupMetadataManager brokerId=0] Removed 0 expired >
service@director-2-1-b:~>

```

sudo systemctl status telegraf

```

service@director-2-1-b:~> sudo systemctl status telegraf
● telegraf.service - The plugin-driven server agent for reporting metrics into InfluxDB
   Loaded: loaded (/etc/systemd/system/telegraf.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2020-10-29 05:16:04 UTC; 6 days ago
     Docs: https://github.com/influxdata/telegraf
   Main PID: 18425 (telegraf)
    Tasks: 40 (limit: 4915)
   CGroup: /system.slice/telegraf.service
           └─18425 /usr/bin/telegraf -config /etc/telegraf/telegraf.conf -config-
directory /etc/telegraf/telegraf.d

Warning: Journal has been rotated since unit was started. Log output is incomplete or
unavailable.
service@director-2-1-b:~>

```

sudo systemctl status postgresql

```

service@director-2-1-b:~> sudo systemctl status postgresql
● postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; enabled; vendor preset:
enabled)
   Active: active (running) since Thu 2020-10-29 05:16:04 UTC; 6 days ago
   Main PID: 18669 (postgres)
    Tasks: 28 (limit: 4915)
   CGroup: /system.slice/postgresql.service
           └─1590 postgres: postgres postgres localhost(40276) idle
             └─3100 postgres: postgres postgres director-2-1-b(33134) idle
               └─3326 postgres: postgres postgres director-2-1-b(33258) idle
                 └─4669 postgres: postgres postgres director-2-1-b(47908) idle
                   └─6607 postgres: postgres postgres director-2-1-b(44726) idle
                     └─6608 postgres: postgres postgres director-2-1-b(44728) idle
                       └─6609 postgres: postgres postgres director-2-1-b(44730) idle
                         └─6610 postgres: postgres postgres director-2-1-b(44732) idle
                           └─6611 postgres: postgres postgres director-2-1-b(44734) idle
                             └─6612 postgres: postgres postgres director-2-1-b(44736) idle
                               └─6613 postgres: postgres postgres director-2-1-b(44738) idle
                                 └─6614 postgres: postgres postgres director-2-1-b(44740) idle
                                   └─6615 postgres: postgres postgres director-2-1-b(44742) idle
                                     └─6616 postgres: postgres postgres director-2-1-b(44744) idle
                                       └─6617 postgres: postgres postgres director-2-1-b(44746) idle
                                         └─18669 /usr/lib/postgresql11/bin/postgres -D /data/postgresql/data -c
config_file=/etc/postgresql/postgresql.conf -c hba_file=/etc/>
                                           └─18672 postgres: logger
                                             └─18676 postgres: checkpointer
                                               └─18677 postgres: background writer
                                                 └─18678 postgres: walwriter
                                                   └─18679 postgres: autovacuum launcher
                                                     └─18680 postgres: stats collector
                                                       └─18681 postgres: TimescaleDB Background Worker Launcher
                                                         └─18682 postgres: logical replication launcher
                                                           └─18683 postgres: TimescaleDB Background Worker Scheduler
                                                             └─22796 postgres: TimescaleDB Background Worker Scheduler
                                                               └─27038 postgres: postgres postgres director-2-1-b(48746) idle
                                                                 └─31056 postgres: postgres postgres director-2-1-b(55138) idle

Warning: Journal has been rotated since unit was started. Log output is incomplete or
unavailable.
service@director-2-1-b:~>

```

Issue: How does a user can get the service dependencies of all notification-related services?

Answer

Notifications rely on high-level service dependencies such as Telegraf, Kafka, and Postgresql.

Issue: Database connection error in the notifications service logs at start-up

Reason

It is because the notification service is up before the database and the re-connection is tried until a connection to the database is achieved.

Question: Is there any limit to notification service retries?

Answer

There is a service-side threshold of 10 retries, after which the service is restarted and attempts for another 10 times, after which the service must be manually started.

Issue: Alert is disabled

Description	Answer
If an alert is disabled and a user tries to disable it again from the listing page, then the window shows that the alert is enabled and the user can disable it.	The alert definitions can be disabled multiple times. The alert definitions are disabled for the future generated alerts.
If the alerts are disabled at any level, including the test alerts, are they stored in the database?	Yes, to maintain the track for historical alerts, the alerts are stored in the database but are not displayed in UI.

has the option to

Question: If NSFW is down, then how can a user identify it?

Answer

If NSFW is down, then the notification service generates a heartbeat alert. And, a heartbeat alert gets closed once NSFW is up. There is a delay of 5 minutes for the alert to generate because NSFW is sending the heartbeats every 5 minutes. If NSFW is down for a longer period, then the last updated time of the heartbeat alert gets updated instead of creating lots of alerts.

Issue: Alerts in real time

Question

Are the alerts seen in real time if they are disabled at 9 a.m. and enabled at 10 a.m., or will get the alerts from 9 a.m.?

Answer

Alerts are seen in real time, disabled alert are not shown in UI from 9 a.m. to 10 a.m time period.

Question: How can a user read alerts from a node?

Answer

The Customer Support engineers can log in and get the database details.

Individual tables DEBUG:

```
pg_dump -s -d notification --table system_alert -N _timescaledb_internal -U notification \
> \
> grep -v _timescaledb_internal > system_alert.sql
psql -d notification -U notification \
> -c "\COPY (SELECT * FROM system_alert) TO system_alert.csv DELIMITER ',' CSV"
```

All tables Summary:

```
pg_dump -Fp -f backup-my-db notification -U notification
```

Issue: SMTP server is not reachable.

Answer

The Notifications service tries to send out the mail with failover. After 20 seconds, user can quit. The mail will not be sent for that alert, and user can move onto the next.

Question: When are the email notifications going to be sent?

Answer

The email notifications should be in enable state (default state is enable). When an alert is generated, then the email is sent along with the generation of alert.

Question: What happens if the customer provides the wrong email ID?

Answer

The notifications service is not intended to verify the email ID. If the email that is sent to the wrong email id, then user does not receive any email.

Question: Can a user change the state of an event to open from closed in UI?

Answer

No, once the alert has been moved to the closed state, it cannot be moved back to open state. It is assumed either a system generated clear event or the user after rectifying the issue closes the alert.

Question: How can a user map iDRAC alerts with the metro node port mapping?

Answer

As part of iDRAC alerts, the following alerts are generated:

NIC100	System Health	The <Controller> Port <Port> network link is down.
NIC101	System Health	The <controller ID> Port <port ID> network link is started.
FC019	System Health	SCSI Target FibreChannel Port <portId> is offline.
FC020	System Health	SCSI Target FibreChannel Port <portId> is online.
FC021	System Health	SCSI Target FibreChannel Port <portId> encountered an error, and resulting in the generation of a core for the HBA.
FC022	System Health	SCSI Target FC Monitor: Detected <numLinkOsc> link oscillations for FibreChannel Port <portId> in <seconds> seconds. Current threshold is <oscThresh>.

FC023	System Health	SCSI Target FibreChannel Port <portId1> encountered an error, resulting in the generation of excessive cores for the HBA. Disabling port <portId2>.
FC024	System Health	SCSI Target FibreChannel Port <portId1> encountered an error and was unable to load firmware for the HBA. Disabling port <portId2>.
FC025	System Health	SCSI Target FibreChannel Port <portId1> encountered an error and was unable to access HBA resources. Disabling port <portId2>.
FC102	System Health	The <Controller> Port <Port> network link is down.
FC103	System Health	The <controller ID> port <port ID> network connection is successfully started.

It is required to provide a mapping between the actual hardware controller/port location and metro node port naming convention. It helps the customer/support personnel to understand which port is wrong, and it also helps in troubleshooting with the help of generated alerts.

Port name format

<Port Type>-<PORT ID>

Where each field has the following possible values:

- Port Type:
 - IO- IO Port (front-end/back-end)
 - Communication Ports,
 - LC- local-com
 - WC- wan-com
 - MC- mgmt-com
 - EC- External Connection (SVC/CUST)
- PORT ID:
 - 00, 01, 02, 03

Issue: The iDRAC or monitor issue has been resolved but the alert is still in open state.

Answer

There is no mechanism to generate all type of clear events which notify that the iDRAC or monitor issues have been resolved. For more information related to iDRAC, see the iDRAC UI.

Question: How can a user obtain the database schema details?

Answer

Database

Notification service is using the following database:

Database name	Tables	Used by	Purpose
notification	<ul style="list-style-type: none"> • alert_definition • disabled_idrac_alert • disabled_platform_alerts • flyway_schema_history 	Notification service	To store the alerts generated through, <ul style="list-style-type: none"> • SMS

Database name	Tables	Used by	Purpose
	<ul style="list-style-type: none"> • idrac_alert • notification_action • notification_status • system_alert • system_event • scope_incarnation • monitor_alert • config_data 		<ul style="list-style-type: none"> • NSFW • iDRAC

Detail of the tables

Table name	Purpose
alert_definition	It stores the Static Alert Data Condition IDs.
disabled_idrac_alert	Disabled Alerts by user.
disabled_platform_alerts	Disabled Alerts by user.
flyway_schema_history	Database History (migration tool)
idrac_alert	iDRAC Alerts
notification_action	Actions like email messages, DC, SNMP.
notification_status	Service Statuses
system_alert	Platform Alerts
system_event	-
scope_incarnation	It stores NSFW scope incarnation data.
monitor_alert	It stores monitor alerts.
config_data	It stores the GUID details.

```

service@director-1-1-b:~> psql -U notification
psql (11.7)
Type "help" for help.

notification=> \dt
          List of relations
 Schema | Name | Type | Owner
-----+-----+-----+-----
notification | alert_definition | table | notification
notification | config_data | table | notification
notification | disabled_idrac_alert | table | notification
notification | disabled_platform_alerts | table | notification
notification | flyway_schema_history | table | notification
notification | idrac_alert | table | notification
notification | monitor_alert | table | notification
notification | notification_action | table | notification
notification | notification_status | table | notification
notification | scope_incarnation | table | notification
notification | system_alert | table | notification
notification | system_event | table | notification

```

Question: Is there a mapping for port level alerts between legacy and voyager?

Answer

Implemented Voyager Call Homes

The following Voyager call homes include SFP check/reset/replace as part of remedial action:

ID	Name	Called Home	Legacy events	External RCA	External remedy
0x0009000e	UnintentionalFrontEndPortLinkDown	Yes	stdf/19	An enabled FE port has gone down as a result of FC cable pull, switch reboot, or disabling switch port.	<ol style="list-style-type: none"> 1. Check the FE port status in the ports context of <code>Vplexcli / clusters/ cluster-*/ directors/ **/ports/</code> to verify if it is still in 'no-link' state. If it is, go to the next steps. 2. Check the switch and ensure it is operational, check the switch logs for errors that indicate the root cause of the issue. 3. Check the cabling and SFPs along the path, clean/reset/replace as needed.
0x00110001	IPInterfaceStateChange	Yes	ipc/18 ipc/19 ip/2 ip/3	Link went down on a port. Depending on the port role, a physical path to local, or remote cluster has been lost.	<p>Perform the following steps:</p> <ol style="list-style-type: none"> 1. Check the state of the port, and ensure that it is enabled. 2. Check the cable and the SFP, and ensure they are properly plugged in. 3. Check the switch if applicable, and ensure it is operational and the

ID	Name	Called Home	Legacy events	External RCA	External remedy
					<p>corresponding port is enabled.</p> <p>4. If the link remains down, contact Dell Customer Support.</p>
0x00120003	PathDisconnected	Yes	udcom/3	A communications path has been disconnected due to network connectivity issues.	Check the WAN COM or LOCAL COM path that is disconnected, then check the switch logs for errors that help in pointing the root cause. If errors show hardware issues, then check/clean/replace the cables and SFPs along the path. If unable to determine the root cause, then engage Dell Customer Support.
0x00150018	DiscoveryTimeout	Yes	fc/24	It likely indicates either a physical communication issue with the switch or a misbehaving switch.	Check the physical paths to the switch and verify good connectivity through reseal/clean/replacement of cables/SFPs as needed. Check the switch logs for indications of frame drops or other problems. If unable to determine the cause, then engage Dell Customer Support.

Legacy call homes

The following call homes are available on VS2/VS6 and included SFP check/reseat/replace as part of remedial action:

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
Yes	0x8a029061	AMF_STORAGE_VOLUME_WITH_NO_MIRROR_FAILED	Yes	amf/97	The storage volume has failed, and there is no mirror of the storage volume.	<p>The storage-volume automatically resurrects once the underlying condition is resolved. Investigate the underlying condition on the BE:</p> <p>1. Verify the BE disk health of</p>

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
						<p>array and LUN masking.</p> <ol style="list-style-type: none"> 2. Check array configuration and the physical connections between: <ol style="list-style-type: none"> a. The VPLEX BE Port and the backend switch b. back-end switch and the array 3. Try cleaning, or replacing cable(s), or SFPs in the path to the storage volume. <p>If the issue persists, then contact Dell Customer Support.</p>
No	0x8a633004	FEBECOM_PATH_DESTROYED	No	febecom/4	A communication path is destroyed because the remote end of the path cannot be reached.	<ul style="list-style-type: none"> • Check the state of the COM port, ensure it is enabled. • Check the cable and the SFP, ensure that these are properly plugged in. • Check the switch if applicable, ensure it is operational and the corresponding port is enabled. <p>If the issue persists, then contact Dell Customer Support.</p>
No	0x8a633008	FEBECOM_LINK_DOWN	Yes	febecom/8	Link went down on a LOCAL COM port. It could be due to another director in the cluster experiencing a restart/reboot, or a	Use the VPLEXcli command <code>director uptime</code> to check if a director restart/reboot correlates with the time of the event. Else, check the status

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
					connectivity problem.	of the port in the engines/*/directors/*/hardware/ports context, and verify if the port is still enabled but in 'no-link' state. If the issue persists, then engage DELL Customer Service to check the physical connectivity and LOCAL COM switches.
Yes as IP/3	0x8a453013	IPC_NET_PORT_DOWN	Yes	ipc/19	Link went down on a port, depending on the port role, a physical path to local or remote cluster has been lost.	The link went down on a port. Depending on the port role, a physical path to the local or remote cluster has been lost. Perform the following steps: <ol style="list-style-type: none"> 1. Check the state of the port, and ensure that it is enabled. 2. Check the cable and the SFP, and ensure they are properly plugged in. 3. Check the switch if applicable, and ensure it is operational and the corresponding port is enabled. 4. . If the link remains down, contact Dell Customer Support.
No	0x8a453016	IPC_CONNECT_DEGRADED	Yes	ipc/22	A connection is degraded. The link path between two directors is experiencing high packet loss, high latency, or degraded	<ol style="list-style-type: none"> 1. Check the switch logs for errors to help pinpoint the root cause. 2. If errors show hardware issues, then check/clean/

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
					bandwidth problem.	replace the cables and SFPs along the path. Otherwise investigate if there are bandwidth/congestion/over-subscription issues leading to the degradation.
No	0x8a459018	IPC_SFP_IS_NOT_DETECTED	Yes	ipc/24	An SFP is missing, inserted incorrectly, or faulty.	Apply the following measures until the issue has been resolved: <ol style="list-style-type: none"> 1. Identify the physical port specified in the event. 2. If the SFP is missing, insert a new SFP and attach the appropriate cable. 3. Reseat the SFP. 4. Replace the SFP. 5. Contact Dell Customer Support for FRU to replace the I/O SLIC.
No	0x8a45901a	IPC_SFP_IS_NOT_APPROVED	Yes	ipc/26	The Dell part number of the SFP was not recognized. It is required to use Dell approved SFPs with the Dell products.	The port is equipped with an SFP which is not approved by Dell. Contact Dell Customer Support for replacement.
No	0x8a45901c	IPC_PORT_DETECTS_NO_INCOMING_LASER	Yes	ipc/28	Incoming laser is not detected on an optical Ethernet port.	Apply the following measures until the issue has been resolved: <ol style="list-style-type: none"> 1. Identify the physical port mentioned in this event. 2. Check if the optical cable had been inserted into the SFP, plug in cable if needed.

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
						<ol style="list-style-type: none"> 3. Reseat the SFP. 4. Follow the optical cable to the switch, write down the switch/port information. 5. Inspect the switch side cabling/SFP issues. 6. Verify the switch port configuration.
No	0x8a45302e	TOO_MANY_IP_C_PATHS_DOWNS	Yes	ipc/46	The last redundant IP path to the specified director is down. It could be due to problem with the IP WAN-COM switch. If the last available path is lost, there will be a site departure.	Investigate the IP WAN-COM switches and the links between them to determine why the link is down. Check the cables and the SFPs, ensure they are properly plugged in. Check the relevant switches (if any), and ensure they are operational and the corresponding switch ports are enabled. If problem persists, then contact Dell Customer Support.
No	0x8a0e901c	disk_28_CRIT	Yes	disk/28	A series of transient errors was detected while trying to read or write the given block range of the given storage volume. The failure has been escalated, and the operation is not retried.	<ol style="list-style-type: none"> 1. Try cleaning, or replacing cable(s), or replacing SFPs in the path to the storage volume. 2. Run the storage-volume resurrect command to make the storage volume usable. 3. If it does not resolve, contact Dell Customer Support.
Yes	0x8a2d302c	scsi_44_WARNING	Yes	scsi/44	The link is down between the specified	Check the SFP, cable, and switch attached to this back-end

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
					VPLEX BE port and the switch.	port, especially anything that has been changed recently. Reseat/clean/replace the hardware to resolve the problem. If the problem persists, and unable to determine the cause, then contact DELL Customer Service.
Yes	0x8a343013	stdf_19_WARNING	Yes	stdf/19	An enabled FE port has gone down as a result of FC cable pull, switch reboot, or disabling switch port.	<ol style="list-style-type: none"> 1. Check the FE port status in the /hardware/ports context of VPLexcli to verify if it is still in 'no-link' state. If it is the case, then go to the next steps. 2. Check the switch and ensure that it is operational, check the switch logs for errors that indicate the root cause of the issue. 3. Check the cabling and SFPs along the path, clean/reset/replace as needed.
No	0x8a369013	tach_19_CRITICAL	Yes	tach/19	I/O fails due to exchanges timed out. There might be faulty hardware on the I/O path.	<p>Check for faulty hardware with following steps:</p> <ol style="list-style-type: none"> 1. Identify the I/O path specified by the event. 2. Clean and reseat the cables on the path. 3. If applicable, check switch stats to see if any switch is oversubscribed, if so, try to reroute some I/O.

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
						<ol style="list-style-type: none"> 4. Replace SFPs on the I/O path; 5. Check that the target storage device see if it is oversubscribed, if so, add more target ports to serve I/O. <p>For any help, contact Dell Customer Support.</p>
No	0x8a369015	tach_21_CRITICAL	Yes	tach/21	Some amount of I/O fails because frames timed out.	<p>Do the following steps (take in order until the issue is solved):</p> <ol style="list-style-type: none"> 1. Identify the physical port specified in the event, follow the cable, and find the switch port that it connected to (or target device). 2. Clean and reseal the cable. 3. Replace the SFP on both ends. 4. Try to use a different switch port if available. 5. Contact Dell for FRU to replace the I/O SLIC.
No	0x8a369018	tach_24_CRITICAL	Yes	tach/24	A Fibre Channel port is continuously switching between link up and links down. There might be faulty hardware at the port.	<p>Take following steps (take in order until the issue is solved):</p> <ol style="list-style-type: none"> 1. Identify the physical port specified in the event, follow the cable, and find the switch port that it connected to (or target device).

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
						<ol style="list-style-type: none"> 2. Clean and reseal the cable. 3. Reseat the SFP on both ends. 4. Replace the SFP on both ends. 5. Try to use a different switch port if available. 6. Contact Dell Customer Support for FRU to replace the I/O SLIC.
No	0x8a36301a	FC_PORT_RX_POWER_LOW	Yes	tach/26	The RX Power level on a Fibre Channel port is below the low limit and I/O timeouts have occurred.	<p>Take following steps (take in order until the issue is solved):</p> <ol style="list-style-type: none"> 1. Identify the physical port specified in the event, follow the cable, and find the switch port that it connected to (or target device). 2. Clean and reseal the cable. 3. Reseat the SFP on both ends. 4. Replace the SFP on both ends. 5. Contact Dell Customer Support for FRU to replace the I/O SLIC.
No	0x8a36901c	tach_28_CRITICAL	Yes	tach/28	The Dell part number of the SFP was not recognized. It is required to use the Dell approved SFPs with the Dell products.	Replace the SFP with a Dell approved SFP for the product.
No	0x8a36301d	tach_29_WARNING	Yes	tach/29	The port is equipped with an SFP with approved Dell part number for	Ensure that the vendor product number had been added to the approved list of

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
					this product, but the vendor part number is not on the recognized list.	this product. If not, replace the SFP.
No	0x8a36901f	tach_31_CRITICAL	Yes	tach/31	An SFP is missing, inserted incorrectly, or faulty.	Take following steps (take in order until the issue is solved): <ol style="list-style-type: none"> 1. Identify the physical port specified in the event. 2. If the SFP is missing, insert a new SFP and attach the appropriate cable. 3. Reseat the SFP. 4. Replace the SFP. 5. Contact Dell for FRU to replace the I/O SLIC.
No	0x8a36302c	SFP_ASSERTED_RX_POWER_LOW_ALARM	No	tach/44	An SFP has asserted the receiving power too low alarm. It could be a problem on the SFP itself, or the cable attached to it, or the device on the other end of the attached cable.	Take following steps (take in order until the issue is solved): <ol style="list-style-type: none"> 1. Identify the physical port specified in the event, follow the cable, and find the switch port that it connected to (or target device). 2. Clean and reseat the cable. 3. Reseat the SFP on both ends. 4. Replace the SFP on both ends. 5. Contact Dell for FRU to replace the I/O SLIC.
No	0x8a36302d	SFP_ASSERTED_TX_POWER_LOW_ALARM	No	tach/45	An SFP has asserted the transmitting power too low alarm. This SFP	Take following steps (take in order until the issue is solved):

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
					must be replaced ASAP.	<ol style="list-style-type: none"> 1. Identify the physical port specified in the event. 2. Reseat the SFP on both ends. 3. Replace the SFP on the specified port. 4. Contact Dell for FRU to replace the I/O SLIC.
No	0x8a363034	IF_RX_RXEOFALARM	Yes	tach/52	Interface received frames with End of Frame Abort (EOFA) delimiter in the last minute. There might be faulty hardware on the I/O path.	<p>Check for the faulty hardware with the following steps:</p> <ol style="list-style-type: none"> 1. Clean and reseat the cables connecting to the interface. 2. Replace SFPs on the interface.
No	0x8a363035	IF_RX_DISCFRM_ALARM	Yes	tach/53	Interface discarded frame(s) in the last minute. There might be faulty hardware on the I/O path.	<p>Check for the faulty hardware with following steps:</p> <ol style="list-style-type: none"> 1. Clean and reseat the cables connecting to the interface. 2. Replace SFPs on the interface.
No	0x8a363036	IF_RX_BADCRC_ALARM	Yes	tach/54	Interface received frames with CRC error in the last minute. There might be faulty hardware on the I/O path.	<p>Check for the faulty hardware with following steps:</p> <ol style="list-style-type: none"> 1. Clean and reseat the cables connecting to the interface; 2. Replace SFPs on the interface.
No	0x8a363037	IF_RX_PROTOCOLERR_ALARM	Yes	tach/55	Interface received frames with protocol error in the last minute. There might be faulty hardware on the I/O path.	<p>Check for the faulty hardware with following steps:</p> <ol style="list-style-type: none"> 1. Clean and reseat the cables connecting to the interface.

Relevant to voyager	ID	Name	Called home	Firmware event	External RCA	External Remedy
						2. Replace SFPs on the interface.

Question: Where a user can get the REST API notifications for all UI?

Answer

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
Platform Alerts Live Listing	notification/v1/platform_alerts?offset=0&limit=100&sort_by=-lastModified&enabled=true	GET		id: 3 description: The IP port state has changed. resource: LC-00 component: director-1-1-A name: IP Interface State Change scope: DIRECTOR eventSourceId: LC-00 eventSource: IPPORT conditionId: 0x110001 category: ALARM
Platform Alerts Historical Listing (For Past 2 days)	notification/v1/platform_alerts/historical?offset=0&limit=100&sort_by=-lastModified&fromDate=10-21-2020&toDate=10-23-2020	GET		additionalData: {} category: HEARTBEAT component: director conditionId: 0x0000 count: 2 created: 2020-10-23T09:19:33.740+0000 data: {} enabled: true eventSource: DIRECTOR eventSourceId: 0x0 id: 10 name: HeartBeatEvent resource: HeartBeat scope: DIRECTOR severity: CLEAR

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				state: CLOSED
Platform Alerts Historical All (To get log details)	notification/v1/platform_alerts/historical/all?state=CLOSED&severity=ERROR&conditionId=0x10006&resource=TEST&enabled=true&fromDate=10-21-2020&toDate=10-23-2020	GET		<pre> additionalData: {name: {type: "str", value: "0x1", format: "%s", category: "string", supplementalKey: "1"}} aggregatedResources: "" category: "OPERATIONAL" component: "director-1-1-A" conditionId: "0x10006" count: 1 created: "2020-10-23T09:20:14. 471+0000" day: "2020-09-14T00:00:00. 000+0000" description: "TEST: This is an example director scope alarm message." enabled: true eventSource: "TEST" eventSourceId: "0x1" id: 11 lastModified: "2020-10-23T11:42:13.7 27+0000" name: "Director Scope Test Operational" resource: "TEST" scope: "DIRECTOR" scopeIncarnation: "0xf5dc258ddabb9899 5a4a35ee1a4423e7" severity: "ERROR" state: "CLOSED" </pre>
iDRAC Alerts Live Listing	notification/v1/hardware_alerts/idrac_alerts?offset=0&limit=100&sort_by=-lastModified&enabled=true	GET		<pre> id: 7 facilityCode: 3 severityCode: 4 version: 1 category: System messageld: NIC100 </pre>

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				<pre> message: The NIC in Slot 3 Port 2 network link is down. appname: dsm_ism_srvmgrd facility: daemon host: director-1-1-a hostname: director-1-1-a severity: WARNING lastModified: 2020-10-23T05:46:24.905+0000 state: OPEN enabled: true </pre>
IDRAC Alerts Historical Listing (For Past 2 days)	notification/v1/hardware_alerts/idrac_alerts/historical?offset=0&limit=100&sort_by=-lastModified&fromDate=10-21-2020&toDate=10-23-2020	GET		<pre> id:8 facilityCode:3 severityCode:4 version:1 category:System appname:dsm_ism_srvmgrd facility:daemon host:director-1-1-a hostname:director-1-1-a state:OPEN enabled:true count:1 </pre>
IDRAC Alerts Historical All (To get log details)	notification/v1/hardware_alerts/idrac_alerts/historical/all?state=OPEN&severity=WARNING&messageId=NIC100&enabled=true&fromDate=10-21-2020&toDate=10-23-2020	GET		<pre> appname: "dsm_ism_srvmgrd" category: "System" count: 1 created: "2020-10-23T05:46:24.703+0000" day: "2020-09-14T00:00:00.000+0000" enabled: true facility: "daemon" facilityCode: 3 host: "director-1-1-a" hostname: "director-1-1-a" id: 8 </pre>

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				lastModified: "2020-10-23T05:46:24.703+0000" message: "The NIC in Slot 3 Port 1 network link is down." messageId: "NIC100" severity: "WARNING" severityCode: 4 state: "OPEN" version: 1
Monitor Alerts Live Listing	notification/v1/hardware_alerts/monitor_alerts?offset=0&limit=100&sort_by=-lastModified&enabled=true	GET		id: 1 version: 1 host: director-1-1-a facility: user category: vplex_monitor enabled: true appname: vplex-peer-heartbeat facilityCode: 1 hostname: director-1-1-a severity: CRITICAL severityCode: 2 state: OPEN messageId: HWM-HRT102
Monitor Alerts Historical Listing (For Past 2 days)	notification/v1/hardware_alerts/monitor_alerts/historical?offset=0&limit=100&sort_by=-lastModified&fromDate=10-21-2020&toDate=10-23-2020	GET		appname: vplex-peer-heartbeat category: vplex_monitor count: 1, enabled: true, facility: user facilityCode: 1, host: director-1-1-a hostname: director-1-1-a id: 1 state: OPEN, version": 1

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
Monitor Alerts Historical All (To get log details)	notification/v1/hardware_alerts/monitor_alerts/historical/all?messageId=HWM-HRT102&fromDate=10-21-2020&toDate=10-23-2020	GET		<pre> appName: "vplex-peer-heartbeat" category: "vplex_monitor" count: 1 created: "2020-10-23T05:39:45.134+0000" day: "2020-09-14T00:00:00.000+0000" enabled: true facility: "user" facilityCode: 1 host: "director-1-1-a" hostname: "director-1-1-a" id: 1 lastModified: "2020-10-23T12:11:11.118+0000" message: "HEARTBEAT STATE CHANGE: Peer is not pingable from MC-00 or MC-01." messageId: "HWM-HRT102" severity: "CRITICAL" severityCode: 2 state: "OPEN" version: 1 </pre>
Open Platform alerts	notification/v1/platform_alerts/state	PATCH	[{"path": 1, "op": "replace", "value": "OPEN"}]	<pre> id: 1 description: Storage Array is not seen by this director. resource: 2 component: cluster-1 name:Array No Access message: VATS ALERT nO Array ACCESS enabled: true state: OPEN eventSourceId: 1 eventSource: ARRAY conditionId: 0x20001 </pre>

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				category: ALARM
Acknowledge Platform alerts	notification/v1/platform_alerts/state	PATCH	[{"path": 1, "op": "replace", "value": "ACK"}]	id: 1 description: Storage Array is not seen by this director. resource: 2 component: cluster-1 name:Array No Access message: VATS ALERT nO Array ACCESS enabled: true state: ACK eventSourceId: 1 eventSource: ARRAY conditionId: 0x20001 category: ALARM
Close Platform alerts	notification/v1/platform_alerts/state	PATCH	[{"path": 1, "op": "replace", "value": "CLOSED"}]	id: 1 description: Storage Array is not seen by this director. resource: 2 component: cluster-1 name:Array No Access message: VATS ALERT nO Array ACCESS enabled: true state: CLOSED eventSourceId: 1 eventSource: ARRAY conditionId: 0x20001 category: ALARM
Add Platform alert user notes	notification/v1/platform_alerts/user_note	PATCH	[{"path": 2, "op": "replace", "value": "User note for platform alert is added"}]	id:3 component:director-1-1-A name:IP Interface State Change enabled:true scope:DIRECTOR state:OPEN severity:WARNING eventSourceId:LC-00 eventSource:IPPORT conditionId:0x110001

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				category:ALARM userNote: User note for platform alert is added
Open iDRAC alerts	notification/v1/hardware_alerts/idrac_alerts/state	PATCH	[{"path": 6, "op": "replace", "value": "OPEN"}]	id: 7 facilityCode: 3 severityCode: 4 version: 1 category: System messageId: NIC100 message: The NIC in Slot 3 Port 2 network link is down. appName: dsm_ism_srvmgrd facility: daemon host: director-1-1-a hostname: director-1-1-a severity: WARNING lastModified: 2020-10-23T05:46:24.905+0000 state: OPEN enabled: true
Acknowledge iDRAC alerts	notification/v1/hardware_alerts/idrac_alerts/state	PATCH	[{"path": 6, "op": "replace", "value": "ACK"}]	id: 7 facilityCode: 3 severityCode: 4 version: 1 category: System messageId: NIC100 message: The NIC in Slot 3 Port 2 network link is down. appName: dsm_ism_srvmgrd facility: daemon host: director-1-1-a hostname: director-1-1-a severity: WARNING lastModified: 2020-10-23T05:46:24.905+0000 state: ACK

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				enabled: true
Close iDRAC alerts	notification/v1/hardware_alerts/idrac_alerts/state	PATCH	[{"path": 6, "op": "replace", "value": "CLOSED"}]	id: 7 facilityCode: 3 severityCode: 4 version: 1 category: System messageId: NIC100 message: The NIC in Slot 3 Port 2 network link is down. appName: dsm_ism_srvmgrd facility: daemon host: director-1-1-a hostname: director-1-1-a severity: WARNING lastModified: 2020-10-23T05:46:24.905+0000 state: CLOSED enabled: true
Add iDRAC alert user notes	notification/v1/hardware_alerts/idrac_alerts/user_note	PATCH	[{"path": 2, "op": "replace", "value": "user note added"}]	id:7 facilityCode:3 severityCode:4 version:1 category:System messageId:NIC100 appName:dsm_ism_srvmgrd facility:daemon host:director-1-1-a hostname:director-1-1-a state:OPEN enabled:true userNote:user note added
Open Monitor alerts	notification/v1/hardware_alerts/monitor_alerts/state	PATCH	[{"path": 8, "op": "replace", "value": "OPEN"}]	id: 1 version: 1 host: director-1-1-a facility: user category: vplex_monitor

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				<p>enabled: true</p> <p>appname: vplex-peer-heartbeat</p> <p>facilityCode: 1</p> <p>hostname: director-1-1-a</p> <p>severity: CRITICAL</p> <p>severityCode: 2</p> <p>state: OPEN</p> <p>messageld: HWM-HRT102</p>
Acknowledge Monitor alerts	notification/v1/hardware_alerts/monitor_alerts/state	PATCH	[{"path": 8, "op": "replace", "value": "ACK"}]	<p>id: 1</p> <p>version: 1</p> <p>host: director-1-1-a</p> <p>facility: user</p> <p>category: vplex_monitor</p> <p>enabled: true</p> <p>appname: vplex-peer-heartbeat</p> <p>facilityCode: 1</p> <p>hostname: director-1-1-a</p> <p>severity: CRITICAL</p> <p>severityCode: 2</p> <p>state: CLOSED</p> <p>messageld: HWM-HRT102</p>
Close Monitor alerts	notification/v1/hardware_alerts/monitor_alerts/state	PATCH	[{"path": 8, "op": "replace", "value": "CLOSED"}]	<p>id: 1</p> <p>version: 1</p> <p>host: director-1-1-a</p> <p>facility: user</p> <p>category: vplex_monitor</p> <p>enabled: true</p> <p>appname: vplex-peer-heartbeat</p> <p>facilityCode: 1</p> <p>hostname: director-1-1-a</p> <p>severity: CRITICAL</p> <p>severityCode: 2</p> <p>state: CLOSED</p>

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				messageId: HWM-HRT102
Add Monitor alert user notes	notification/v1/hardware_alerts/monitor_alerts/user_note	PATCH	[{"path": 2, "op": "replace", "value": "notes for monitor alert added"}]	id:1 version:1 host:director-1-1-a facility:user category:vplex_monitor enabled:true appName:vplex-peer-heartbeat facilityCode:1 hostname:director-1-1-a severity:CRITICAL state:OPEN messageId:HWM-HRT102 userNote:notes for monitor alert added
Alert Definitions listing	notification/v1/alert_definitions?offset=0&limit=50&sort_by=conditionId	GET		id: 57 name: Env File Update Failure description: An update to an internal environment file failed. enabled: true callhomeEnabled: true conditionId: 0x100002 eventSource: DIRECTOR
Enable Alert Definitions	notification/v1/alert_definitions	PATCH	[{"op": "replace", "path": "0x00001", "value": true}]	id:56 name:High Memory Usage enabled:true callhomeEnabled:true conditionId:0x100001
Disable Alert Definitions	notification/v1/alert_definitions	PATCH	[{"op": "replace", "path": "0x00001", "value": false}]	id:56 name:High Memory Usage enabled:false callhomeEnabled:true conditionId:0x100001

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
Test Alert	notification/v1/ platform_alerts/ trigger_test_alerts	POST		id: 11 resource: TEST component: director-1-1-A name: Director Scope Test Operational", state: OPEN severity: ERROR eventSourceId: 0x1 eventSource: TEST conditionId: 0x10006 category: OPERATIONAL
Close Test Alert	notification/v1/ platform_alerts/ close_test_alerts	PATCH	[{"path": 3, "op": "replace", "value": "CLOSED"}]	id: 11 resource: TEST component: director-1-1-A name: Director Scope Test Operational", state: CLOSED severity: ERROR eventSourceId: 0x1 eventSource: TEST conditionId: 0x10006 category: OPERATIONAL
Notification Status Listing	notification/v1/status	GET		Id: 12 notification :system_vol ume_alerts enabled : true
Enable notification status	notification/v1/status	PATCH	[{"op": "replace", "path": "notification_service", " value": true}]	id:10 notification:director_ale rts enabled:true
Disable notification status	notification/v1/status	PATCH	[{"op": "replace", "path": "notification_service", " value": false}]	id:10 notification:director_ale rts enabled:false
Email Notifications	notification/v1/action	GET		id: 1 notification: "notification_service" emailEnabled: true

UI Functionality	REST API	HTTP Operation	JSON for Patch Operation	Sample Response
				dcEnabled: true id: 3 notification: "idrac_alerts" emailEnabled: true dcEnabled: true
Enable Email Notifications	notification/v1/action	PATCH	[{"op": "replace", "path": "/platform_alerts/email", "value": true}]	id:2 notification:platform_alerts emailEnabled:true dcEnabled:true
Disable Email Notifications	notification/v1/action	PATCH	[{"op": "replace", "path": "/platform_alerts/email", "value": false}]	id:2 notification:platform_alerts emailEnabled:false dcEnabled:true

For notification, see the https://%3CSMS_IP%3E/apidoc/notification/

Problem: The operational alert is not closed after 4 hours of created time.

Answer

The operation alert is closed after 4 hours of its created time as the time monitoring window for it starts when the event is first received and not the last updated.

If the notification service is restarted before the operational alert has been completed for 4 hours, then the user loses this monitoring window and the alert is not closed.

Issue: Service level failures

For different services and their dependencies, see the following:

Services related to call home

Notification service	Dream catcher service	ESE service	ESRS	CLM	Results	Comments
UP	UP	UP	UP	UP	PASS	Events are sent back to Dell backend successfully. Telemetry events +

Notification service	Dream catcher service	ESE service	ESRS	CLM	Results	Comments
						System Alerts + Hardware alerts.
Down	UP	UP	UP	UP	PASS	Events are not Sent back. Test connectivity Payload and the Product topology payload
UP	Down	UP	UP	UP	FAIL	The generated events are not sent to back end.
Down	Down	UP	UP	UP	FAIL	Events are not generated and sent.
UP	UP	Down	UP	UP	FAIL	The generated events are not sent to back end.
Down	UP	Down	UP	UP	FAIL	Events are not generated and sent.
UP	Down	Down	UP	UP	FAIL	The generated events are not sent to back end.
Down	Down	Down	UP	UP	FAIL	Events are not generated and sent.
UP	UP	UP	Down	UP	FAIL	The generated events are not sent to back end.
Down	UP	UP	Down	UP	FAIL	Events are not generated and sent.
UP	Down	UP	Down	UP	FAIL	The generated events are not sent to back end.
Down	Down	UP	Down	UP	FAIL	Events are not generated and sent.
UP	UP	Down	Down	UP	FAIL	The generated events are not sent to back end.
Down	UP	Down	Down	UP	FAIL	Events are not generated and sent.
UP	Down	Down	Down	UP	FAIL	The generated events are not

Notification service	Dream catcher service	ESE service	ESRS	CLM	Results	Comments
						sent to back end.
Down	Down	Down	Down	UP	FAIL	Events are not generated and sent.
UP	UP	UP	UP	Down	FAIL	The generated events are not sent to back end.
Down	UP	UP	UP	Down	FAIL	Events are not generated and sent.
UP	Down	UP	UP	Down	FAIL	The generated events are not sent to back end.
Down	Down	UP	UP	Down	FAIL	Events are not generated and sent.
UP	UP	Down	UP	Down	FAIL	The generated events are not sent to back end.
Down	UP	Down	UP	Down	FAIL	Events are not generated and sent.
UP	Down	Down	UP	Down	FAIL	The generated events are not sent to back end.
Down	Down	Down	UP	Down	FAIL	Events are not generated and sent.
UP	UP	UP	Down	Down	FAIL	The generated events are not sent to back end.
Down	UP	UP	Down	Down	FAIL	Events are not generated and sent.
UP	Down	UP	Down	Down	FAIL	The generated events are not sent to back end.
Down	Down	UP	Down	Down	FAIL	Events are not generated and sent.
UP	UP	Down	Down	Down	FAIL	The generated events are not sent to back end.

Notification service	Dream catcher service	ESE service	ESRS	CLM	Results	Comments
Down	UP	Down	Down	Down	FAIL	Events are not generated and sent.
UP	Down	Down	Down	Down	FAIL	The generated events are not sent to back end.
Down	Down	Down	Down	Down	FAIL	Events are not generated and sent.

Services related to notification

Postgres	Kafka	Telegraf	Notification	Result	Comments
Up	Up	Up	Up	PASS	Events receive.
Up	Up	Up	Down	PASS	Stored events in Kafka are not sent to notification once it is up. It restarts automatically if its crashed/killed.
Up	Up	Down	Up	FAIL	Events are not received. If the Telegraf is crashed/killed, then it restarts automatically.
Up	Up	Down	Down	FAIL	Events are not received. If the Telegraf is crashed/killed, then it restarts automatically.
Up	Down	Up	Up	PASS	Notification is displayed once the Kafka service is up again.
Up	Down	Up	Down	PASS	Notification is displayed once both the services(Kafka and Notification) are up again. If the Kafka and notification is crashed/killed, then it restarts automatically.
Up	Down	Down	Up	FAIL	Events are not received. If the Kafka and Telegraf are crashed/killed, then it restarts automatically. If Kafka restarts,

Postgres	Kafka	Telegraf	Notification	Result	Comments
					it restarts the Telegraf also.
Up	Down	Down	Down	FAIL	Events are not received. If the Kafka, Telegraf, and Notifications are crashed/killed, then it restarts automatically.
Down	Up	Up	Up	FAIL	Events are buffered in Kafka and pushed to notification service once it is up. Events are not lost. Notification tries to reconnect to the Postgres(db storing fails). If the Postgres fails because of some error, and then the flink tries to restart notifications for 10 times. After that if it is not able to connect to the db, it stops the notifications.
Down	Up	Up	Down	PASS	Events are stored in Kafka. Once Postgres and Notification is up, then the events start coming in.
Down	Up	Down	Up	FAIL	Events are not received until all the services are up.
Down	Up	Down	Down	FAIL	Events are not received until all the services are up.
Down	Down	Up	Up	FAIL	Events are buffered in Telegraf based on the buffer size. If Kafka is still unavailable after the buffer limit is reached, Telegraf starts discarding the incoming events.
Down	Down	Up	Down	FAIL	Events are buffered in Telegraf based on the buffer size. If Kafka is still unavailable

Postgres	Kafka	Telegraf	Notification	Result	Comments
					after the buffer limit is reached, Telegraf starts discarding the incoming events.
Down	Down	Down	Up	FAIL	Events are not received until all the services are up.
Down	Down	Down	Down	FAIL	-