Kafka Notifications

For supported software information, click here.

You can configure Versa Director to publish event notifications to an Apache Kafka server when an event occurs on a Director node or a Versa Operating System^{TM} (VOS^{TM}) device. When you enable Kafka notifications, you subscribe to one or more of the following notification topics:

- Versa device event notifications
- Versa Director event notifications
- Versa Director task notifications
- Versa Director object change event notifications

This article describes the Kafka notifications by topic. For more information on enabling Kafka notifications, see Configure Kafka Connectors.

Versa Device Event Notifications

The following table explains the main components of a Versa device event notification for Kafka.

Field	Description
Severity	The severity level of the event: - Cleared - Critical - Major - Minor - Indeterminate
Event Type	Event, alarm.
Event Entity	Device identifier.
Organization	Organization identifier. If there is no organization, the default is System.

Field	Description
User	Name of the user. For system-level actions, the user is System.

The following are sample Kafka notifications for Versa device events:

IKE IPsec Down

```
{

    "messageId":306893,"name":"ipsec-ike-down","severity":"Cleared","type":"ALARM","category":"APPLIANCE_
GENERATED",
    "eventEntity":"Concerto-Controller-001","managedObject":"10.0.0.
13|17","source":"device","directorHostname":
    "versa-director-concerto-1","directorMgmtIP":"10.111.44.122","directorIdenitfierName":"Director-
1","user":"System",
    "organizations":["SBTEN-COLT-VK-SDWAN","LINTASARTA","SBTEN-VOILET","NEW-
VNK","DELTEN1","TEST-1","TEST-VK","TEST-VK",
    "VERSA","Orange","Tenant-Priv","TestDummyTEnant","DELME","PulseNetworkServices","Soma-
Tenant","ATP-config","Voilet","SUB2SUB",
    "TENATP","SSEONLY","Twelve","TENANT","2ndSUBTEN-Voilet","TEST","Next-Variable","Ten11-5-
1","USER","SIM","105810",
    "TestTenant-1"],"eventText":"IKE connection with peer 10.0.0.13 remote branch name MANCHESTER
    (routing-instance USER-VK-Control-VR, vpn USER-VK-PostStaging) is up","time":"2024-06-05T04:30:38.614+
0000",
    "applianceInfo":{"serialNum":"N/A","uuid":null,"applianceName":"Concerto-Controller-
001","ownerOrg":null,"syncState":null,

"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,"oldSerialNum":null,"startTime":n
    "reachable":false}

}
```

IPsec Tunnel Down

```
{

    "messageId":306899,"name":"ipsec-tunnel-down","severity":"Major","type":"ALARM","category":"APPLIANCE_
GENERATED","eventEntity":
    "Concerto-Controller-001","managedObject":"10.0.0.13|17","source":"device","directorHostname":"versa-
director-concerto-1",
    "directorMgmtIP":"10.222.33.244","directorIdenitfierName":"Director-
02","user":"System","organizations":["SBTEN-TENANT-VK-SDWAN",
    "LINTASARTA","SBTEN-VOILET","NEW-VNK","DELTEN1","USER-India","TENANT-VK","USER-
VK","VERSA","Orange","Tenant-Priv",
    "TestDummyTEnant","DELME","PulseNetworkServices","Soma-Tenant","ATP-
config","Voilet","SUB2SUB","TENATP","SSEONLY","Twelve",
    "User","2ndSUBTEN-Voilet","ACB","Next-Variable","Ten11-5-1","Test","SIM","105810","TestTenant-
User2"],"eventText":"IPSEC tunnel
    with peer 10.0.0.13 remote branch name MANCHESTER (routing-instance Tenant-VK-Control-VR, vpn
```

Tenant-VK-PostStaging) is down",
    "time":"2024-06-05T04:32:03.277+0000","applianceInfo":{"serialNum":"N/
A","uuid":null,"applianceName":"Concerto-Controller-001",

"ownerOrg":null,"syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,
    "oldSerialNum":null,"startTime":null,"reachable":false}

  }

SD-WAN Branch Disconnected

{
    "messageId":306900,"name":"sdwan-branch-
disconnect","severity":"Cleared","type":"ALARM","category":"APPLIANCE_GENERATED",
    "eventEntity":"Concerto-Controller-
001","managedObject":"MANCHESTER","source":"device","directorHostname":"versa-director-concerto-1",
    "directorMgmtIP":"10.122.44.123","directorIdenitfierName":"Director-
3","user":"System","organizations":["SBTEN-TENANT-VK-SDWAN",
    "LINTASARTA","SBTEN-VOILET","NEW-VNK","DELTEN1","Tenant-India","USER-VK","USER2-
VK","VERSA","Orange","Tenant-Priv","TestDummyTEnant",
    "DELME","PulseNetworkServices","Soma-Tenant","ATP-
config","Voilet","SUB2SUB","TENATP","SSEONLY","Twelve","User","2ndSUBTEN-Voilet",
    "Tenant-1","Next-Variable","Ten11-5-1","User-1","SIM","105810","TestTenant-3"],"eventText":"Branch
MANCHESTER is connected",
    "time":"2024-06-05T04:33:31.327+0000","applianceInfo":{"serialNum":"N/
A","uuid":null,"applianceName":"Concerto-Controller-001",

"ownerOrg":null,"syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,
    "oldSerialNum":null,"startTime":null,"reachable":false}

  }

Versa Director Event Notifications

The following table explains the main components of a Versa Director event notification for Kafka.

Field	Description
Severity	The severity level of the event: • Cleared • Critical • Major • Minor • Indeterminate
Event Type	Event, alarm.
Event Entity	Device identifier.
Event Text	Description of the event.
Director Management IP	Management IP address of the Director.
Director Identifier Name	Name of the Director.
Organization	Organization identifier. If there is no organization, the default is System.
User	Name of the user. For system-level actions, the user is System.

The following are sample Kafka notifications for Versa Director events:

Appliance Ping State Change

```
{

    "messageId":286558,"name":"appliance-ping-state-
changed","severity":"Cleared","type":"ALARM","category":"APPLIACE_STATE_MONITOR",
    "eventEntity":"Voilet-DC-002","managedObject":"appliances[uuid= '8fbd6f88-088c-450d-a7b2-
779719ff8d40']","source":"director","directorHostname
    ":"versa-director-concerto-1","directorMgmtIP":"10.122.13.121","directorIdenitfierName":"Verizon-
Director","user":"System","organizations
    ":["SBTEN-VOILET","Voilet","VERSA"],"eventText":"Versa Appliance Voilet-DC-002 : Ping Status changed
from UNREACHABLE to REACHABLE",
    "time":"2024-05-31T10:15:00.411+0000","applianceInfo":{"serialNum":"SN-Voilet-DC-002","uuid":"8fbd6f88-
088c-450d-a7b2-779719ff8d40",
    "applianceName":"Voilet-DC-
002","ownerOrg":"Voilet","syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,
    "replacementSerialNum":null,"oldSerialNum":null,"startTime":null,"reachable":false}

}
```

Appliance Services State Change

```
{

    "messageId":286556,"name":"appliance-services-state-changed","severity":"Cleared","type":"ALARM",
    "category":"APPLIACE_STATE_MONITOR","eventEntity":"Voilet-DC-
002","managedObject":"appliances[uuid='8fbd6f88-088c-450d-a7b2-779719ff8d40']",
    "source":"director","directorHostname":"versa-director-concerto-1","directorMgmtIP":"10.192.43.
144","directorIdenitfierName":"Verizon-Director",
    "user":"System","organizations":["SBTEN-VOILET","Voilet","VERSA"],
    "eventText":"Versa Appliance Voilet-DC-002:Services Status changed from UNKNOWN to
GOOD","time":"2024-05-31T10:15:00.414+0000",
    "applianceInfo":{"serialNum":"SN-Voilet-DC-002","uuid":"8fbd6f88-088c-450d-a7b2-
779719ff8d40","applianceName":"Voilet-DC-002",
    "ownerOrg":"Voilet","syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,
    "replacementSerialNum":null,"oldSerialNum":null,"startTime":null,"reachable":false}

}
```

Appliance Sync State Change

```
{

    "messageId":303602,"name":"appliance-sync-state-
changed","severity":"Cleared","type":"ALARM","category":"APPLIACE_STATE_MONITOR",
    "eventEntity":"Voilet-DC-002","managedObject":"appliances[uuid= '8fbd6f88-088c-450d-a7b2-
779719ff8d40']","source":"director",
    "directorHostname":"versa-director-concerto-1","directorMgmtIP":"10.194.24.
344","directorIdenitfierName":"Verizon-Director",
    "user":"System","organizations":["SBTEN-VOILET","Voilet","VERSA"],"eventText":"Versa Appliance Voilet-DC-
002 : Sync Status changed from UNKNOWN to IN_SYNC",
    "time":"2024-06-04T09:29:09.256+0000","applianceInfo":{"serialNum":"SN-Voilet-DC-002","uuid":"8fbd6f88-
088c-450d-a7b2-779719ff8d40",
    "applianceName":"Voilet-DC-
002","ownerOrg":"Voilet","syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,
    "replacementSerialNum":null,"oldSerialNum":null,"startTime":null,"reachable":false}

}
```

Appliance System Information

```
{

    "messageId":271782,"name":"appliance-system-
info","severity":"Indeterminate","type":"EVENT","category":"APPLIANCE","managedObject":
    "Voilet-DC-001","source":"director","directorHostname":"versa-director-concerto-1","directorMgmtIP":"10.192.
43.144","directorIdenitfierName":"Verizon-Director",
    "user":"System","eventText":"Device Hardware, Spack and OSSPack system info","time":"2024-05-
28T05:50:03.091+0000","applianceInfo":
    {"serialNum":"SN-Voilet-DC-001","uuid":"a79ffc80-1202-4bd0-a0b4-536a20fc2dbb","applianceName":"Voilet-
```

DC-001","ownerOrg":"Voilet",
  "syncState":"OUT_OF_SYNC","hardware":{"name":"Voilet-DC-001","model":"Standard PC (i440FX + PIIX, 1996)","cpuCores":0,"memory":"7.39GiB",
  "freeMemory":"1.96GiB","diskSize":"74.51GiB","freeDisk":"55. 88GiB","lpm":false,"fanless":false,"intelQuickAssistAcceleration":false,
  "firmwareVersion":"22.1.3","manufacturer":"QEMU","serialNo":"SN-Voilet-DC-001","hardWareSerialNo":"Not Specified","cpuModel":
  "Not Specified","cpuCount":4,"cpuLoad":2,"interfaceCount":7,"packageName":"versa-flexvnf-20231226-000858-62e261f-22.1.3-B","sku":
  "Not Specified", "ssd":false},"spack":{"name":"Voilet-DC-001","spackVersion":"2152","apiVersion":"11","flavor":"premium",
  "releaseDate":"2024-04-17","updateType":"full"},"ossPack":{"name":"Voilet-DC-001","osspackVersion":"20240306","updateType":"full"},
  "appSubType":"None","replacementSerialNum":null,"oldSerialNum":null,"startTime":"Tue Apr 23 18:10:39 2024","reachable":true}

}

Versa Director HA Disable

{

  "messageId":13,"name":"disable-ha","severity":"Cleared","type":"EVENT","category":"DIRECTOR_HA",
  "eventEntity":"versa-director-concerto-1","managedObject":"versa-director-concerto-1-disable-ha","source":"director",
  "directorHostname":"versa-director-concerto-1","directorMgmtIP": "10.1111.42. 122","directorIdenitfierName":"Verizon-Director",
  "user":"System","organizations":["System"],"eventText":"versa-director ha disable-ha,triggered_by:system",
  "time":"2024-06-05T06:30:00.056+0000","applianceInfo":{"serialNum":null,"uuid":null,"applianceName":"versa-director-concerto-1",

"ownerOrg":null,"syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,
  "oldSerialNum":null, "startTime":null,"reachable":false}

}

Versa Director User Login Failed

{

  "messageId":307132,"name":"user-login-failed","severity":"Indeterminate","type":"EVENT","category":"DIRECTOR",
  "eventEntity":"VersaDirector", "managedObject":"VersaDirector-user-login-failed","source":"director",
  "directorHostname":"versa-director-concerto-1","directorMgmtIP":"10.192.43. 144","directorIdenitfierName":"Verizon-Director",
  "user":"System","organizations":["System"],"eventText":"Incorrect username or password for user 'john'",
  "time":"2024-06-05T05:40:25.341+ 0000","applianceInfo":{"serialNum":null,"uuid":null,"applianceName":"VersaDirector",

"ownerOrg":null,"syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,

"oldSerialNum":null,"startTime":null,"reachable":false}

}

Versa Director High CPU Usage

{

   "messageId":5,"name":"director-high-cpu-
usage","severity":"Cleared","type":"ALARM","category":"DIRECTOR","eventEntity":"VersaDirector",
   "managedObject":"cpu","source":"director","directorHostname":"versa-director-concerto-
1","directorMgmtIP":"10.111.41.143",
   "directorIdenitfierName":"Director-2","user":"System","organizations":["System"],"eventText":"CPU usage is
more than 70% for 3 intervals",
   "time":"2024-06-05T06:26:01.311+
0000","applianceInfo":{"serialNum":"","uuid":"","applianceName":"VersaDirector","ownerOrg":null,

"syncState":null,"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,"oldSerialNum":n
   "startTime":null,"reachable":false}

}

Versa Director High Disk Usage

{

   "messageId":19,"name":"director-high-disk-
usage","severity":"Cleared","type":"ALARM","category":"DIRECTOR","eventEntity":"VersaDirector",
   "managedObject":"versa-director|partition /var","source":"director","directorHostname":"versa-director-
concerto-1","directorMgmtIP":"10.122.41.142",
   "directorIdenitfierName":"Director-1","user":"System","organizations":["System"],"eventText":"Disk usage of
/var: 68.0%","time":"2024-06-05T06:30:14.675+0000",

"applianceInfo":{"serialNum":"","uuid":"","applianceName":"VersaDirector","ownerOrg":null,"syncState":null,"hardware":null,

"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,"oldSerialNum":null,"startTime":null,"reachable":f

}

Object Change Notifications

When you enable object change notification in Director and when a user modifies a device, template or a connector configuration object in the configuration database, Versa Director publishes object change Kafka notifications.

The following table explains the main components of an object change notification for Kafka.

Field	Description
Severity	The severity level of the event: • Cleared • Critical • Indeterminate • Info • Major • Minor
Event Entity	Device identifier.
Director Management IP	Management IP address of the Director.
Director Identifier Name	Name of the Director
Organization	Organization identifier. If there is no organization, the default is System.
Operation	Type of event. For example, Modified.

The following are sample Kafka notifications for object changes:

Kafka Connector Change

```
{

    "messageId":3,"name":"versa_director_object_change_
event","severity":"info","managedObject":"/versanms:nms/provider/kafkaconnectors/kafkaconnector{Concerto-
Kafka-Connector}",
    "directorHostname":"SDWAN-VOAE1","directorMgmtIP":"10.192.252.
15","directorIdenitfierName":"Director1","user":"System",
    "organizations":["System"],"time":"2024-06-12T11:27:22.526000+00:00","operation":"MODIFIED","object_key":
    "keyPath= /versanms:nms/provider/kafkaconnectors/kafkaconnector{Concerto-Kafka-Connector},
operation=MODIFIED, old_value=,
    new_value="

}
```

Device Template Change

```
{

    "messageId":4,"name":"versa_director_object_change_event","severity":"info","managedObject":"/ncs:devices/
    template{SASE_GW_DT_B2}","directorHostname":
```

```
    "SDWAN-VOAE1","directorMgmtIP":"10.132.212.
15","directorIdenitfierName":"Director1","user":"System","organizations":["System"],
    "time":"2024-06-12T11:40:07.035000+00:00","operation":"MODIFIED","object_key":"keyPath= /ncs:devices/
template{SASE_GW_DT_B2},
    operation=MODIFIED, old_value=, new_value="

  }
```

Device Template Change

```
{

    "messageId":5,"name":"versa_director_object_change_event","severity":"info",
    "managedObject":"/ncs:devices/template{SASE_GW_DT_B2}","directorHostname":"SDWAN-
VOAE1","directorMgmtIP":"10.122.222.15",
    "directorIdenitfierName":"Director1","user":"System","organizations":["System"],"time":"2024-06-12T11:40:10.
622000+00:00",
    "operation":"MODIFIED","object_key":"keyPath= /ncs:devices/template{SASE_GW_DT_
B2},operation=MODIFIED,old_value=,new_value="

  }
```

Device Configuration Change

```
{

    "messageId":6,"name":"versa_director_object_change_event","severity":"info","managedObject":"/ncs:devices/
device{SDWAN-Controller1}",
    "directorHostname":"SDWAN-VOAE1","directorMgmtIP":"10.192.252.
15","directorIdenitfierName":"Director1","user":"System",
    "organizations":["System"],"time":"2024-06-12T11:56:13.843000+00:00","operation":"MODIFIED","object_
key":"keyPath= /ncs:devices/device{SDWAN-Controller1},
    operation=MODIFIED, old_value=, new_value="

  }
```

Versa Director Task Notifications

When you enable task notification in Director and when a user performs a task on Versa Director, Versa Director publishes task Kafka notifications.

The following table explains the main components of a task notification for Kafka.

Field	Description
Severity	The severity level of the event: • Cleared • Critical • Indeterminate • Info • Major • Minor
Type	Type of event, Event.
Event Entity	Device identifier.
Source	The source of the event, which is Versa Director.
Director Management IP	Management IP address of the Director.
Director Identifier Name	Name of the Director
Organization	Organization identifier. If there is no organization, the default is System.

Task Stream Information

```
TASK_STREAM_INFO("task-stream-info", "task-stream-info", VersaEventType.EVENT, EventCategory.
TASKS),
{

"messageId":3978,"name":"task-stream-
info","severity":"Indeterminate","type":"EVENT","category":"TASKS","managedObject":"677",
"source":"director","directorHostname":"SDWAN-VOAE1","directorMgmtIP":"10.192.33.
15","directorIdenitfierName":"Director1",
"user":"ECP_ADMIN","organizations":["PROVIDER"],"time":"2024-06-07T06:10:33.288+
0000","applianceInfo":{"serialNum":null,
"uuid":"d89960dc-1d56-410b-b6e6-4d3554596eda","applianceName":"SASE-GW-B2-
QTB545","ownerOrg":null,"syncState":null,"hardware":null,
"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,"oldSerialNum":null,"startTime":null,"reachable":f
"taskInfo":{"taskid":"677","taskName":"Commit-Template-Versioned-04f4e81d-cb56-4ce1-b26f-6ddc0f572710
Devices",
"taskDescription":"Apply Versioned Template [ T1-SASE-GW-B2-QTB545-Onboarding,T1-DataStore ], apply
mode = merge",
"taskMessage":"Starting to Apply Versioned-Template to All Devices.","taskStatus":"IN_
PROGRESS","taskPercentageCompletion":1}

}
```

Task Execution Complete

```
TASK_EXECUTION_COMPLETE("task-execution-complete", "task-execution-complete", VersaEventType.
EVENT, EventCategory.TASKS),
{

"messageId":3983,"name":"task-execution-
complete","severity":"Indeterminate","type":"EVENT","category":"TASKS","eventEntity":"677",
"managedObject":"677-task-execution-complete","source":"director","directorHostname":"SDWAN-
VOAE1","directorMgmtIP":"10.192.33.15",
"directorIdenitfierName":"Director1","user":"System","organizations":["SASE-SDWAN-Tenant-1-QTB545","SASE-
SDWAN-Tenant-1-QTB545-child",
"SASE-SDWAN-Tenant-1-QTB545-child-child2","SASE-Tenant-1-QTB545","SASE-SDWAN-Tenant-1-QTB545-
child1","ENDTOEND-Tenant-QTB545",
"provider-org-QTB545","T1"],"eventText":" Apply Versioned Template [ T1-SASE-GW-B2-QTB545-
Onboarding,T1-DataStore ],
apply mode = merge;  Status=Success","time":"2024-06-07T06:10:55.996+
0000","applianceInfo":{"serialNum":"br002",
"uuid":"d89960dc-1d56-410b-b6e6-4d3554596eda","applianceName":"SASE-GW-B2-
QTB545","ownerOrg":"provider-org-QTB545","syncState":null,
"hardware":null,"spack":null,"ossPack":null,"appSubType":null,"replacementSerialNum":null,"oldSerialNum":null,"startTime":n
"reachable":false},"taskInfo":{"taskid":"677","taskName":"Commit-Template-Versioned-04f4e81d-cb56-4ce1-b26f-
6ddc0f572710 Devices",
"taskDescription":"Apply Versioned Template [ T1-SASE-GW-B2-QTB545-Onboarding,T1-DataStore ], apply
mode = merge","taskMessage":null,
"taskStatus":"COMPLETED","taskPercentageCompletion":100}


}
```

Supported Software Information

Releases 20.2 and later support all content described in this article.

Additional Information

[Configure Kafka Connectors](#)
[AMQP Object Change Notifications](#)