

vPC-object-tracing

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Inleiding

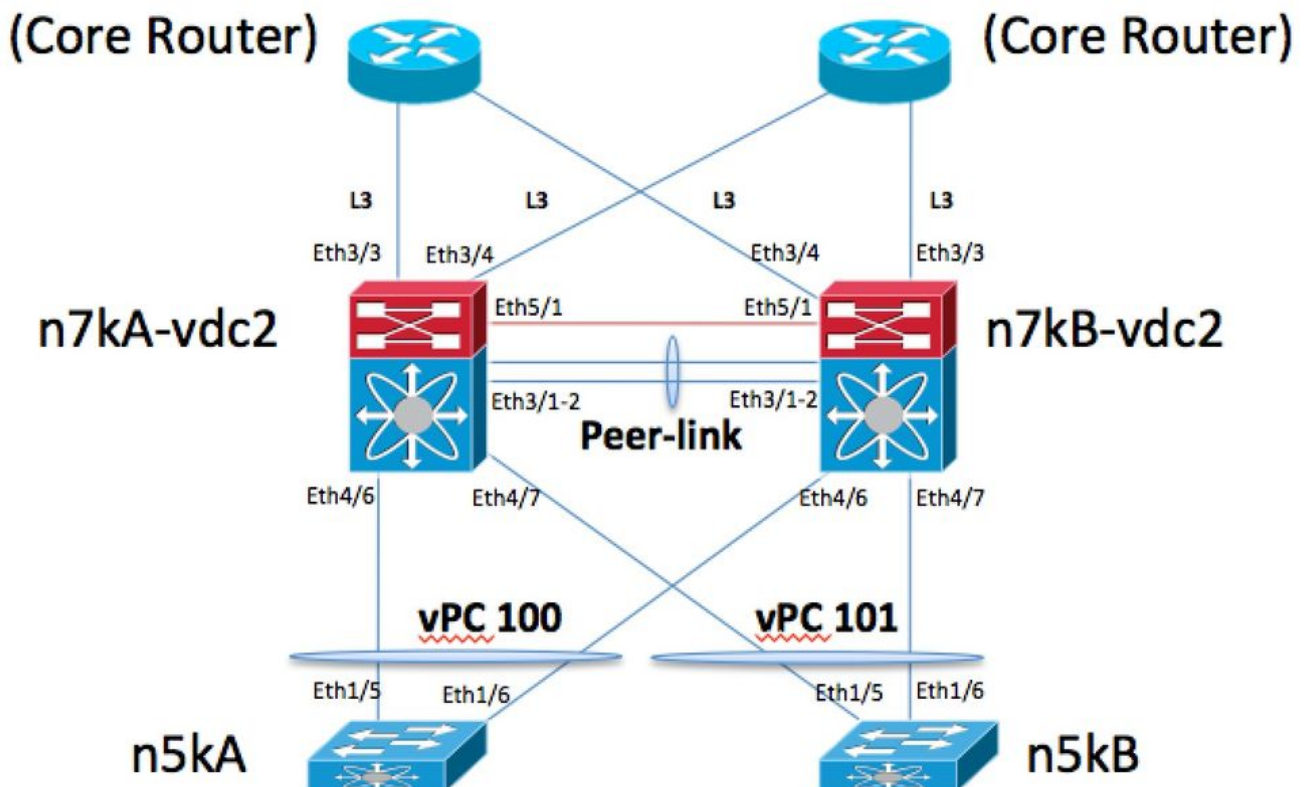
Dit document beschrijft vPC Object Tracking, waarom het wordt gebruikt en hoe het werkt.

vPC-object-tracing

Netwerkdigram

Dit is het netwerkdigram dat voor deze demonstratie wordt gebruikt:

vPC Object Tracking Topology



De vPC peer link is Port-channel 1. Ethernet 5/1 is de vPC peer-keepalivalink. Er zijn twee kernrouters die via L3/30-koppelingen e3/3 en e3/4 worden aangesloten op elke N7K-box. N5KA en N5KB simuleren L2-switches vPC die aangesloten zijn op vPC 100 en vPC 101. N7KA is het vPC primaire apparaat.

Commons voor basislijn tonen

N7KA:

```
N7KA-vdc2# show run vpc
```

```
!Command: show running-config vpc
!Time: Thu Sep 26 19:51:57 2013
```

```
version 6.1(4)
feature vpc
```

```
vpc domain 102
  peer-keepalive destination 1.1.1.2 source 1.1.1.1 vrf vpc-keepalive
  peer-gateway
  track 1
  auto-recovery
```

```
interface port-channel1
  vpc peer-link
```

```
interface port-channel100
  vpc 100
```

```
interface port-channel101
  vpc 101
```

```
N7KA-vdc2# show run track
```

```
!Command: show running-config track
!Time: Thu Sep 26 19:51:59 2013
```

```
version 6.1(4)
track 1 list boolean or
  object 2
  object 3
  object 4
track 2 interface port-channel1 line-protocol
track 3 interface Ethernet3/3 line-protocol
track 4 interface Ethernet3/4 line-protocol
```

```
N7KA-vdc2# show vpc brief
```

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```
vPC domain id          : 102
Peer status            : peer adjacency formed ok
vPC keep-alive status  : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role               : primary
Number of vPCs configured : 2
Track object          : 1
```

Peer Gateway : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status : Enabled (timeout = 240 seconds)

vPC Peer-link status

```
-----  
id   Port   Status Active vlans  
--   ----   -  
1    Po1    up     1
```

vPC status

```
-----  
id   Port   Status Consistency Reason      Active vlans  
--   ----   -  
100  Po100  up     success    success      1  
101  Po101  up     success    success      1
```

N7KA-vdc2# show track

Track 1

List Boolean or
Boolean or is UP
2 changes, last change 23:24:08
Track List Members:
object 4 UP
object 3 UP
object 2 UP
Tracked by:
vPCM 102

Track 2

Interface port-channel1 Line Protocol
Line Protocol is UP
1 changes, last change 23:26:59
Tracked by:
Track List 1

Track 3

Interface Ethernet3/3 Line Protocol
Line Protocol is UP
3 changes, last change 23:26:50
Tracked by:
Track List 1

Track 4

Interface Ethernet3/4 Line Protocol
Line Protocol is UP
3 changes, last change 23:26:48
Tracked by:
Track List 1

N7KA-vdc2#

N7KB:

N7KB-vdc2# show run vpc

!Command: show running-config vpc
!Time: Thu Sep 26 19:53:17 2013

version 6.1(4)

```

feature vpc

vpc domain 102
  peer-keepalive destination 1.1.1.1 source 1.1.1.2 vrf vpc-keepalive
  peer-gateway
  track 1
  auto-recovery

interface port-channel1
  vpc peer-link

interface port-channel100
  vpc 100

interface port-channel101
  vpc 101

```

N7KB-vdc2# show run track

```

!Command: show running-config track
!Time: Thu Sep 26 19:53:20 2013

```

```

version 6.1(4)
track 1 list boolean or
  object 2
  object 3
  object 4
track 2 interface port-channel1 line-protocol
track 3 interface Ethernet3/3 line-protocol
track 4 interface Ethernet3/4 line-protocol

```

N7KB-vdc2# show vpc brief

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```

vPC domain id           : 102
Peer status              : peer adjacency formed ok
vPC keep-alive status   : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role                 : secondary
Number of vPCs configured : 2
Track object            : 1
Peer Gateway             : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status     : Enabled (timeout = 240 seconds)

```

vPC Peer-link status

```

-----
id   Port   Status Active vlans
--   -
1    Po1    up     1
-----

```

vPC status

```

-----
id   Port   Status Consistency Reason           Active vlans
--   -
100  Po100  up     success    success                       1
101  Po101  up     success    success                       1
-----

```

```
N7KB-vdc2# show track
```

```
Track 1
```

```
List Boolean or  
Boolean or is UP  
2 changes, last change 23:25:51  
Track List Members:  
object 4 UP  
object 3 UP  
object 2 UP  
Tracked by:  
vPCM 102
```

```
Track 2
```

```
Interface port-channell1 Line Protocol  
Line Protocol is UP  
1 changes, last change 23:29:09  
Tracked by:  
Track List 1
```

```
Track 3
```

```
Interface Ethernet3/3 Line Protocol  
Line Protocol is UP  
3 changes, last change 23:28:55  
Tracked by:  
Track List 1
```

```
Track 4
```

```
Interface Ethernet3/4 Line Protocol  
Line Protocol is UP  
3 changes, last change 23:28:56  
Tracked by:  
Track List 1
```

```
N7KB-vdc2#
```

vPC Object Tracking wordt in een scenario als dit gebruikt. U hebt één M132-module die wordt gebruikt voor de vPC peer-link en de L3-uplinks voor de core. In het geval dat u de M132 module moet verliezen vanwege een HW-storing, zou u zowel de vPC peer-link als de L3 uplinks verliezen. Als dit zou gebeuren op de vPC secundaire box (N7KB) zou dit geen probleem zijn, aangezien de operationele primaire peer het opschorten van de vPC port-kanalen en VLAN-interfaces op het operationele secundaire netwerk zou overnemen. Het probleem is in het geval van een fout van de HW op het operationele primaire apparaat (N7KA). Als u geen objecten volgde, zouden we alle vPC port-kanalen op N7KB evenals de VLAN interfaces opschorten. De peer link zou ook omlaag zijn. Je zou geen manier hebben om het Core-verkeer naar onze vPC-ventilatoren te leiden in dit scenario.

Objecttracering gaat dit rond door vPC op de operationele basis te brengen zodat we niet in dit scenario komen waar we de VLAN-interfaces en vPC-poortkanalen op de doos die de resterende uplinks naar de kern heeft, neerhalen.

Hier zie je de vPC peer-overlevingsberichten met behulp van ethalyzer:

```
N7KA# ethalyzer local interface inband capture-filter "host 1.1.1.1 and host 1.1.1.2" limit-  
captured-frames 4  
Capturing on inband  
2013-09-26 20:01:09.629309 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 D  
estination port: 3200  
2013-09-26 20:01:09.954909 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 D  
estination port: 3200
```

```
2013-09-26 20:01:10.639097      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  D
estination port: 3200
2013-09-26 20:01:10.954944      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  D
estination port: 3200
4 packets captured
N7KA#
```

```
N7KB# ethanalyzer local interface inband capture-filter "host 1.1.1.1 and host 1.1.1.2" limit-
captured-frames 4
```

```
Capturing on inband
```

```
2013-09-26 20:00:22.606593      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  D
estination port: 3200
2013-09-26 20:00:22.922517      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  D
estination port: 3200
2013-09-26 20:00:23.616427      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  D
estination port: 3200
2013-09-26 20:00:23.922557      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  D
estination port: 3200
4 packets captured
N7KB#
```

U simuleert nu module 3 mislukking op N7KA door de module uit te schakelen:

```
N7KA# conf t
Enter configuration commands, one per line.  End with CNTL/Z.
N7KA(config)# poweroff mod 3
N7KA(config)# end
N7KA#
```

```
2013 Sep 26 20:03:25 N7KA %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3 from
Command Line Interface
```

Logs:

```
N7KA:
```

```
2013 Sep 26 20:03:28 N7KA-vdc2 %ETHPORT-5-IF_DOWN_INITIALIZING: Interface port-channel1 is down
(Initializing) 2013 Sep 26 20:03:28 N7KA-vdc2 %ETHPORT-5-IF_DOWN_MODULE_REMOVED: Interface
Ethernet3/3 is down (module removed) 2013 Sep 26 20:03:28 N7KA-vdc2 %ETHPORT-5-
IF_DOWN_MODULE_REMOVED: Interface Ethernet3/4 is down (module removed)
2013 Sep 26 20:03:28 N7KA-vdc2 %VPC-2-TRACK_INTFS_DOWN: In domain 102, vPC tracked interfaces
down, suspending all vPCs and keep-alive
2013 Sep 26 20:03:28 N7KA-vdc2 %ETHPORT-5-IF_DOWN_NONE: Interface port-channel101 is down (None)
2013 Sep 26 20:03:28 N7KA-vdc2 %ETHPORT-5-IF_DOWN_NONE: Interface port-channel100 is down (None)
2013 Sep 26 20:03:28 N7KA-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel101: Ethernet4/7 is
down 2013 Sep 26 20:03:28 N7KA-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel100: Ethernet4/6
is down
2013 Sep 26 20:03:28 N7KA-vdc2 %ETH_PORT_CHANNEL-5-FOP_CHANGED: port-channel101: first
operational port changed from Ethernet4/7 to none 2013 Sep 26 20:03:28 N7KA-vdc2
%ETH_PORT_CHANNEL-5-FOP_CHANGED: port-channel100: first operational port changed from
Ethernet4/6 to none
2013 Sep 26 20:03:28 N7KA-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel1: Ethernet3/1 is down
2013 Sep 26 20:03:28 N7KA-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel1: Ethernet3/2 is down
2013 Sep 26 20:03:28 N7KA-vdc2 %ETH_PORT_CHANNEL-5-FOP_CHANGED: port-channel1: first operational
port changed from Ethernet3/1 to none 2013 Sep 26 20:03:28 N7KA-vdc2 %ETHPORT-5-
IF_DOWN_PORT_CHANNEL_MEMBERS_DOWN: Interface port-channel1 is down (No operational members)
N7KB: 2013 Sep 26 20:02:39 N7KB-vdc2 %ETH_PORT_CHANNEL-5-FOP_CHANGED: port-channel1: first
operational port changed from Ethernet3/1 to none 2013 Sep 26 20:02:40 N7KB-vdc2
%ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel1: Ethernet3/2 is down 2013 Sep 26 20:02:40 N7KB-vdc2
%ETHPORT-5-IF_DOWN_LINK_FAILURE: Interface Ethernet3/2 is down (Link failure)
```

```
2013 Sep 26 20:02:45 N7KB-vdc2 %VPC-2-PEER_KEEP_ALIVE_RECV_FAIL: In domain 102, VPC peer keep-
alive receive has failed
2013 Sep 26 20:02:45 N7KB-vdc2 %ETHPORT-5-IF_DOWN_PORT_CHANNEL_MEMBERS_DOWN: Interface port-
channell1 is down (No operational members)
2013 Sep 26 20:02:45 N7KB-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channell1: Ethernet3/1 is down
2013 Sep 26 20:02:45 N7KB-vdc2 %ETHPORT-5-IF_DOWN_LINK_FAILURE: Interface Ethernet3/1 is down
(Link failure) 2013 Sep 26 20:02:45 N7KB-vdc2 %ETHPORT-5-IF_DOWN_PORT_CHANNEL_MEMBERS_DOWN:
Interface port-channell1 is down (No operational members)
```

Nu ben je in deze staat. N7KA is de vPC Primaire peer, maar hij stopt met het verzenden van vPC peer keeplevingsberichten naar N7KB zodat N7KB niet wordt geschorst. N7KB is het enige systeem dat uplinks heeft.

Opmerking: e3/4 op N7KB verbindt zich met een andere VDC op N7KA. Daarom is hij ook gedaald. Het punt is dat je interfaces getraceerd hebt op N7KB en geen op N7KA zodat het stopt met het verzenden van berichten naar N7KB op de peer-keepalive link.

Etanalyzer-output van N7KA:

(Opmerking na het TRACK_INTFS_DOWN-syslog sturen we geen internetheterlevens meer naar N7KB, we ontvangen ze alleen van N7KB, die 1.1.1.2 is.)

```
2013-09-26 20:03:23.684887      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:03:23.685766      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:03:24.684863 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 3200 2013-
09-26 20:03:24.685580 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013 Sep
26 20:03:25 N7KA-vdc2 %$ VDC-2 %$ %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3
from Command Line Interface 2013 Sep 26 20:03:25 N7KA %$ VDC-1 %$ %PLATFORM-2-
PFM_MODULE_POWER_OFF: Manual power-off of Module 3 from Command Line Interface 2013-09-26
20:03:25.684869 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:25.685771 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200
2013-09-26 20:03:26.684835 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 3200 2013-
09-26 20:03:26.685716 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200
2013-09-26 20:03:27.690661 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-
09-26 20:03:27.691367 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 3200 2013 Sep
26 20:03:28 N7KA-vdc2 %$ VDC-2 %$ %PLATFORM-2-MOD_PWRDN: Module 3 powered down (Serial number
JAF1703ALTD) 2013 Sep 26 20:03:28 N7KA %$ VDC-1 %$ %PLATFORM-2-MOD_PWRDN: Module 3 powered down
(Serial number JAF1703ALTD) 2013 Sep 26 20:03:28 N7KA-vdc2 %$ VDC-2 %$ %VPC-2-TRACK_INTFS_DOWN:
In domain 102, vPC tracked interfaces down, suspending all vPCs and keep-alive 2013-09-26
20:03:28.700594 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:29.700538 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:30.700603 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:31.710665 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:32.720601 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:33.715295 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:34.713112 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200 2013-09-26
20:03:35.713177 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200
```

Etanalyzer-output van N7KB:

```
2013-09-26 20:02:36.651007      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:36.651534      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:37.651053      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
```

```

2013-09-26 20:02:37.651644      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:38.650967      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:38.651579      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:39.656523      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:39.657500      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200

```

(Here we stop receiving keepalive messages from N7KA or 1.1.1.1):

```

2013-09-26 20:02:40.666531      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:41.666442      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:42.666479      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:43.676461      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:44.686478      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

```

```

2013 Sep 26 20:02:45 N7KB-vdc2 %$ VDC-2 %$ %VPC-2-PEER_KEEP_ALIVE_RECV_FAIL: In domain 102, VPC
peer keep-alive receive has failed

```

```

2013-09-26 20:02:45.681050      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:46.678911      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:47.678918      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:02:48.678961      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

```

N7KA:

```
N7KA-vdc2# sh vpc brief
```

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```

vPC domain id          : 102
Peer status            : peer link is down
vPC keep-alive status  : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role               : primary
Number of vPCs configured : 2
Track object           : 1
Peer Gateway           : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status   : Enabled (timeout = 240 seconds)

```

vPC Peer-link status

```
-----
id  Port  Status Active vlans
```



```
--  ----  -----  -----  
1   Po1    down    -
```

vPC status

```
-----  
id   Port   Status Consistency Reason           Active vlans  
--   ----   -----  -----  
100  Po100   down    success    success          -  
101  Po101   down    success    success          -
```

N7KA-vdc2# show track

Track 1

```
List Boolean or  
Boolean or is DOWN  
3 changes, last change 00:20:50  
Track List Members:  
object 4 DOWN  
object 3 DOWN  
object 2 DOWN  
Tracked by:  
vPCM                               102
```

Track 2

```
Interface port-channell1 Line Protocol  
Line Protocol is DOWN  
2 changes, last change 00:20:50  
Tracked by:  
Track List 1
```

Track 3

```
Interface Ethernet3/3 Line Protocol  
Line Protocol is DOWN  
4 changes, last change 00:20:50  
Tracked by:  
Track List 1
```

Track 4

```
Interface Ethernet3/4 Line Protocol  
Line Protocol is DOWN  
4 changes, last change 00:20:50  
Tracked by:  
Track List 1
```

N7KA-vdc2#

N7KB:

N7KB-vdc2# sh vpc brief

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```
vPC domain id           : 102  
Peer status             : peer link is down  
vPC keep-alive status   : peer is alive  
Configuration consistency status : success  
Per-vlan consistency status : success  
Type-2 consistency status : success  
vPC role                 : secondary, operational primary  
Number of vPCs configured : 2  
Track object            : 1  
Peer Gateway            : Enabled  
Peer gateway excluded VLANs : -
```

Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status : Enabled (timeout = 240 seconds)

vPC Peer-link status

```
-----  
id  Port  Status Active vlans  
--  ----  -----  
1   Po1   down   -
```

vPC status

```
-----  
id  Port  Status Consistency Reason      Active vlans  
--  ----  -----  
100 Po100  up     success  success      1  
101 Po101  up     success  success      1
```

N7KB-vdc2# sh track

Track 1

List Boolean or
Boolean or is UP
2 changes, last change 23:57:10
Track List Members:
object 4 DOWN
object 3 UP
object 2 DOWN
Tracked by:
vPCM 102

Track 2

Interface port-channell1 Line Protocol
Line Protocol is DOWN
2 changes, last change 00:22:04
Tracked by:
Track List 1

Track 3

Interface Ethernet3/3 Line Protocol
Line Protocol is UP
3 changes, last change 1d00h
Tracked by:
Track List 1

Track 4

Interface Ethernet3/4 Line Protocol
Line Protocol is DOWN
4 changes, last change 00:22:04
Tracked by:
Track List 1

N7KB-vdc2#

U kunt nu de instellingen herstellen:

N7KA# conf t
Enter configuration commands, one per line. End with CNTL/Z.
N7KA(config)# no poweroff mod 3
N7KA(config)# end
N7KA#

2013 Sep 26 20:26:56 N7KA %PLATFORM-2-MOD_DETECT: Module 3 detected (Serial number JAF1703ALTD)
 Module-Type 10 Gbps Ethernet XL Module Model N7K-M132XP-12L
 2013 Sep 26 20:26:56 N7KA %PLATFORM-2-MOD_PWRUP: Module 3 powered up (Serial number JAF1703ALTD)
 2013 Sep 26 20:26:56 N7KA %PLATFORM-5-MOD_STATUS: Module 3 current-status is
 MOD_STATUS_POWERED_UP

N7KA:

N7KA-vdc2# sh vpc brief

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```
vPC domain id           : 102
Peer status             : peer adjacency formed ok
vPC keep-alive status   : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role                : primary, operational secondary
Number of vPCs configured : 2
Track object            : 1
Peer Gateway            : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status    : Enabled (timeout = 240 seconds)
```

vPC Peer-link status

```
-----
id  Port  Status Active vlans
--  ---  -
1   Po1   up     1
```

vPC status

```
-----
id  Port  Status Consistency Reason           Active vlans
--  ---  -
100 Po100 up     success  success           1
101 Po101 up     success  success           1
```

N7KA-vdc2# sh track

Track 1

```
List Boolean or
Boolean or is UP
4 changes, last change 00:01:44
```

Track List Members:

```
object 4 UP
object 3 UP
object 2 UP
```

Tracked by:

```
vPCM          102
```

Track 2

```
Interface port-channel1 Line Protocol
Line Protocol is UP
3 changes, last change 00:01:40
```

Tracked by:

```
Track List 1
```

Track 3

```
Interface Ethernet3/3 Line Protocol
```

Line Protocol is UP
5 changes, last change 00:01:43
Tracked by:
Track List 1

Track 4

Interface Ethernet3/4 Line Protocol
Line Protocol is UP
5 changes, last change 00:01:44
Tracked by:
Track List 1

N7KA-vdc2#

N7KB:

N7KB-vdc2# sh vpc brief

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

vPC domain id : 102
Peer status : peer adjacency formed ok
vPC keep-alive status : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role : secondary, operational primary
Number of vPCs configured : 2
Track object : 1
Peer Gateway : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status : Enabled (timeout = 240 seconds)

vPC Peer-link status

```
-----  
id  Port  Status Active vlans  
--  ---  -  
1   Po1   up     1
```

vPC status

```
-----  
id  Port  Status Consistency Reason          Active vlans  
--  ---  -  
100 Po100  up     success  success          1  
101 Po101  up     success  success          1
```

N7KB-vdc2# sh track

Track 1

List Boolean or
Boolean or is UP
2 changes, last change 1d00h
Track List Members:
object 4 UP
object 3 UP
object 2 UP
Tracked by:

vPCM 102

Track 2

Interface port-channell1 Line Protocol

Line Protocol is UP
3 changes, last change 00:02:07
Tracked by:
Track List 1

Track 3

Interface Ethernet3/3 Line Protocol
Line Protocol is UP
3 changes, last change 1d00h
Tracked by:
Track List 1

Track 4

Interface Ethernet3/4 Line Protocol
Line Protocol is UP
5 changes, last change 00:02:09
Tracked by:
Track List 1

N7KB-vdc2#

Details over het falen van vPC-peer-Keepalive:

Start de test opnieuw om te zien wat er gebeurt met de peer-keepalive link.

Stuur de wachtdiensten tweezijdig - op dit moment is alles klaar en operationeel:

```
2013-09-26 20:32:12.532319      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port: 3200
2013-09-26 20:32:12.533083      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port: 3200
2013-09-26 20:32:13.532485 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 3200 2013-09-26 20:32:13.533147 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200
```

Sluit nu de M132 module 3 op N7KA opnieuw af:

```
2013 Sep 26 20:32:14 N7KA %$ VDC-1 %$ %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3 from Command Line Interface
2013 Sep 26 20:32:14 N7KA-vdc3 %$ VDC-3 %$ %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3 from Command Line Interface
2013 Sep 26 20:32:14 N7KA-vdc2 %$ VDC-2 %$ %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3 from Command Line Interface
```

```
2013-09-26 20:32:14.532364      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port: 3200
2013-09-26 20:32:14.533217      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port: 3200

2013-09-26 20:32:15.532453      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port: 3200
2013-09-26 20:32:15.533158      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port: 3200

2013-09-26 20:32:16.532452      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port: 3200
2013-09-26 20:32:16.536224      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port: 3200
```

```
2013 Sep 26 20:32:17 N7KA %$ VDC-1 %$ %PLATFORM-2-MOD_PWRDN: Module 3 powered down (Serial number JAF1703ALTD)
2013 Sep 26 20:32:17 N7KA-vdc3 %$ VDC-3 %$ %PLATFORM-2-MOD_PWRDN: Module 3 powered down (Serial
```

```

number JAF1703ALTD)
2013 Sep 26 20:32:16 N7KA-vdc2 %$ VDC-2 %$ %VPC-2-TRACK_INTFS_DOWN: In domain 102, vPC tracked
interfaces down, suspending all vPCs and keep-alive
2013 Sep 26 20:32:17 N7KA-vdc2 %$ VDC-2 %$ %PLATFORM-2-MOD_PWRDN: Module 3 powered down (Serial
number JAF1703ALTD)

```

Nu zie je dat alleen N7KB (1.1.1.2) de keeplevlikberichten naar N7KA (1.1.1.1) stuurt:

```

2013-09-26 20:32:17.549161      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:32:18.549352      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:32:19.549294      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:32:20.549358      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:32:21.549303      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:32:22.549991      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

```

Hier zie je de staat op N7KB die laat zien dat de peer keeplive is mislukt:

```
N7KB-vdc2# sh vpc brief
```

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```

vPC domain id          : 102
Peer status             : peer link is down
vPC keep-alive status  : peer is not reachable through peer-keepalive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role                : secondary, operational primary
Number of vPCs configured : 2
Track object           : 1
Peer Gateway           : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status   : Enabled (timeout = 240 seconds)

```

```
vPC Peer-link status
```

```

-----
id   Port   Status Active vlans
--   ----   -
1    Po1    down   -

```

```
vPC status
```

```

-----
id   Port   Status Consistency Reason          Active vlans
--   ----   -
100  Po100  up     success  success                    1
101  Po101  up     success  success                    1

```

```
N7KB-vdc2#
```

U ontvangt nu opnieuw, na een korte periode (90 seconden), van N7KA peer-Keeplive berichten:

```

<snip>
2013-09-26 20:33:42.630255      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:43.630199      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:44.630263      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:45.640201      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:46.650262      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

2013-09-26 20:33:47.652445      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:47.660318      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

2013-09-26 20:33:48.652768      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:48.653347      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200

2013-09-26 20:33:49.652409      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:49.652705      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

2013-09-26 20:33:50.652423      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:50.652773      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

2013-09-26 20:33:51.652401      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200  Destination port:
3200
2013-09-26 20:33:51.652839      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
3200

```

Dan zie je de meest recente toestand op N7KB (waarbij peer in leven is):

```
N7KB-vdc2# sh vpc brief
```

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```

vPC domain id          : 102
Peer status            : peer link is down
vPC keep-alive status  : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role               : secondary, operational primary
Number of vPCs configured : 2
Track object          : 1
Peer Gateway          : Enabled
Peer gateway excluded VLANs : -
Dual-active excluded VLANs : -
Graceful Consistency Check : Enabled
Auto-recovery status  : Enabled (timeout = 240 seconds)

```

```
vPC Peer-link status
```

```
-----
```

```
id  Port  Status Active vlans
--  ----  -
1   Po1   down  -
```

vPC status

```
-----
id  Port  Status Consistency Reason      Active vlans
--  ----  -
100 Po100  up     success   success    1
101 Po101  up     success   success    1
```

N7KB-vdc2#