

Rastreamento de objetos do vPC

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Introdução

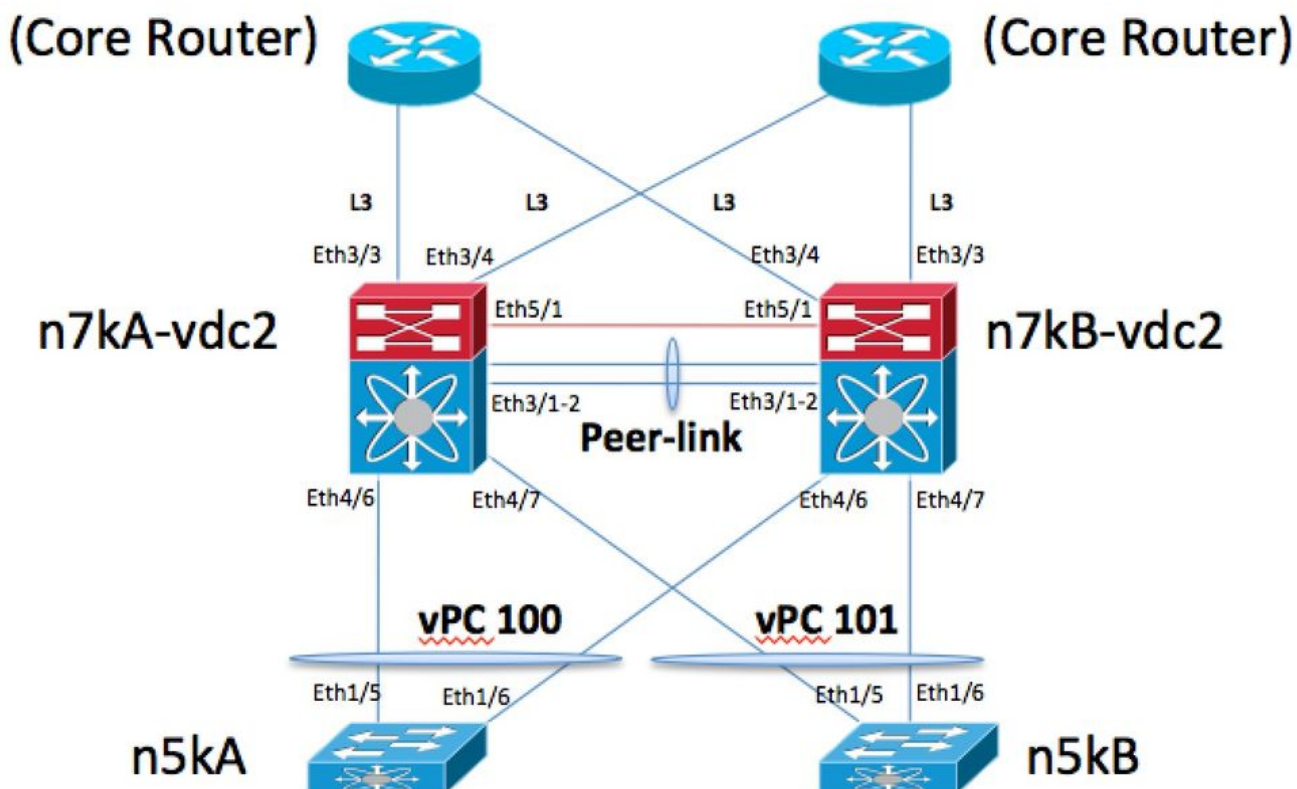
Este documento descreve o Rastreamento de objetos do vPC, porque é usado, e como trabalha.

Rastreamento de objetos do vPC

Diagrama de Rede

Está aqui o diagrama da rede usado para esta demonstração:

vPC Object Tracking Topology



O par que do vPC o link é o Ethernet 5/1 do canal de porta 1. é o link do par-keepalive do vPC. Há dois roteadores centrais que são conectados através dos links e3/3 e e3/4 L3 /30 em cada caixa N7K. N5KA e N5KB estão simulando o vPC do Switches L2 conectado no vPC 100 e no vPC 101. N7KA é o dispositivo principal do vPC.

Comandos show da linha de base

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-channell1 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

```

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#
```

o Rastreamento de objetos do vPC é usado em uma encenação tal como este. Você tem um módulo M132 usado para o link do par do vPC assim como os uplinks L3 ao núcleo. No evento onde você deve perder o módulo M132 devido a uma falha do HW você perderia o par-link do vPC assim como os uplinks L3. Se este era acontecer na caixa secundária do vPC (N7KB) este não seria um problema porque o peer principal operacional tomaria sobre a suspensão dos canais de porta do vPC e das relações de Vlan no secundário operacional. O problema é no caso de uma falha do HW no dispositivo principal operacional (N7KA). Se você não usou o Rastreamento de objetos nós suspenderíamos todos os canais de porta do vPC em N7KB assim como nas relações de Vlan. O link do par igualmente estaria para baixo. Você não teria uma maneira de distribuir o tráfego do núcleo em nossos vlans do vPC nesta encenação.

O Rastreamento de objetos obtém em torno deste derrubando o vPC no preliminar operacional de modo que nós não obtenhamos nesta encenação onde nós derrubamos as relações de Vlan e os canais de porta do vPC na caixa que tem os uplinks restantes ao núcleo.

Aqui você vê o vPC espreitar mensagens de keepalive usando o ethanalyzer:

```
N7KA# 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 20:01:09.629309 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#
```

Agora você simula a falha do módulo 3 em N7KA através da colocação em movimento fora do módulo:

```
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-
channell is down (No operational members)
2013 Sep 26 20:02:45 N7KB-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channell: 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-channell is down (No operational members)
```

Você é deixado agora neste estado. N7KA é o peer principal do vPC, mas para de enviar mensagens de keepalive do par do vPC a N7KB de modo que N7KB não vá suspenso. N7KB é o único sistema que tem uplinks acima.

Note: e3/4 em N7KB conecta a um outro VDC em N7KA que é porque igualmente foi para baixo. O ponto é que você seguiu relações acima em N7KB e nenhuns em N7KA assim que para de enviar mensagens a N7KB no link do par-keepalive.

Ethalyzer output de N7KA:

(Observação depois que o Syslog TRACK_INTFS_DOWN nós já não envia o par-keepalives a N7KB, nós o recebemos somente de N7KB que é 1.1.1.2)

```
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
```

Ethalyzer output de 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#

Agora você pode restaurar a instalação:

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

Command Line Interface

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

Table with 4 columns: id, Port, Status, Active vlans. Row 1: 1, Po1, up, 1

vPC status

Table with 6 columns: id, Port, Status, Consistency, Reason, Active vlans. Rows 100 and 101 showing vPC details.

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-channell1 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	Pol	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-channell 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#

Detalhes na falha do Par-keepalive do vPC:

Torne a colocar em funcionamento o teste a fim ver o que acontece com o link do par-keepalive.

Envie os keepalives bidirecional - atualmente tudo é ascendente e operacional:

```
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
```

Agora para a programação M132 o módulo 3 em N7KA outra vez:

```
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)

```

Agora você vê que somente N7KB (1.1.1.2) está enviando os mensagens de keepalive a N7KA (1.1.1.1):

```

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

```

Aqui você vê que o estado em N7KB que mostra o keepalive do par falhou:

```
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#
```

Agora você começa receber outra vez mensagens do par-keepalive de N7KA após um período breve (90 segundos):

```
<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
```

Então você vê o estado o mais atrasado em N7KB (mostrar o par está vivo):

```
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#