Seguimiento de objetos vPC

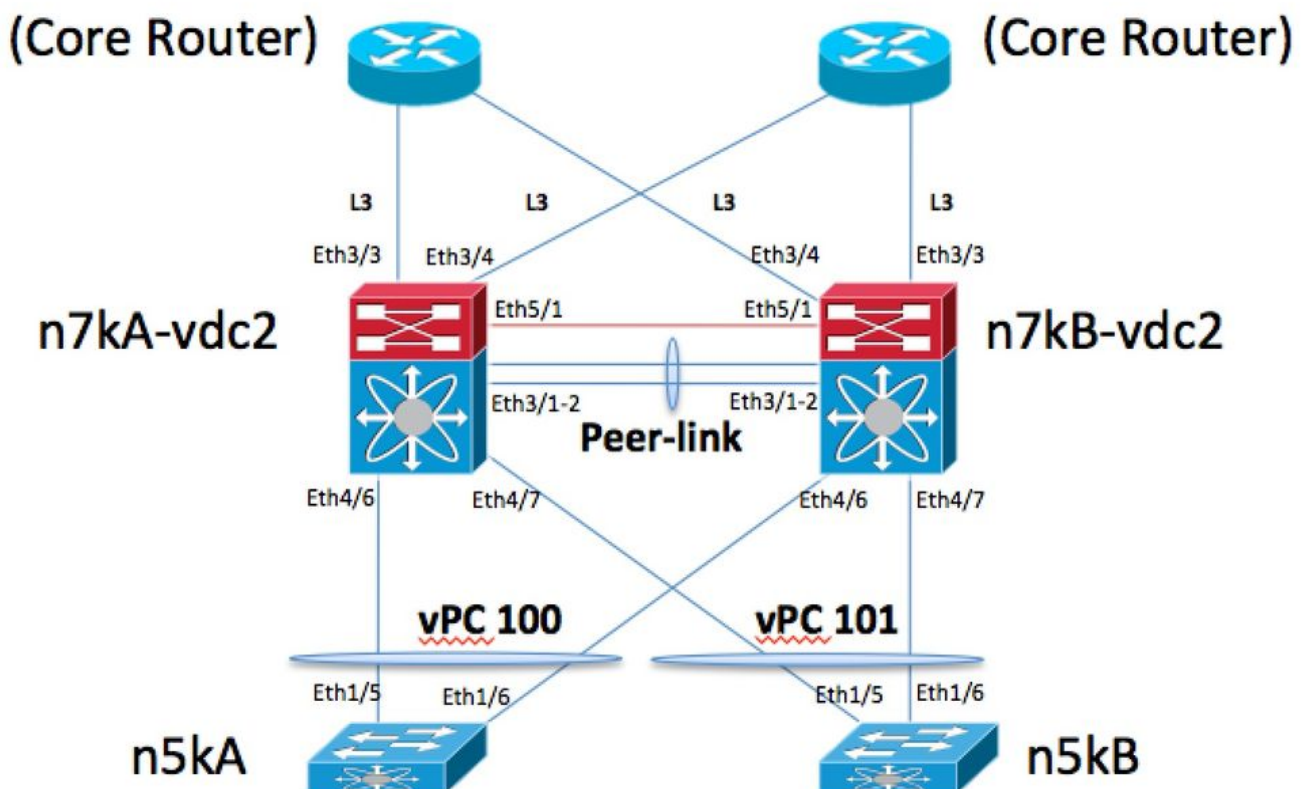## Contenido

Introducción

Este documento describe el seguimiento de objetos vPC, por qué se utiliza y cómo funciona.

Seguimiento de objetos vPC

Diagrama de la red

Este es el diagrama de red utilizado para esta demostración:

El enlace de par vPC es Port-channel 1. Ethernet 5/1 es el enlace de keepalive de peer vPC.
 Hay dos routers de núcleo que están conectados a través de los links E3/30 y E3/4 en cada caja
N7K. N5KA y N5KB simulan switches L2 vPC conectados en vPC 100 y vPC 101. N7KA es el
dispositivo principal vPC.

Comandos show de línea 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-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-channel1 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#
```

El seguimiento de objetos vPC se utiliza en un escenario como este. Tiene un módulo M132 utilizado para el enlace de par vPC así como los enlaces ascendentes L3 al núcleo. En el caso de que pierda el módulo M132 debido a una falla de hardware, perdería el enlace de par vPC así como los enlaces ascendentes L3. Si esto sucediera en el cuadro secundario vPC (N7KB), esto no sería un problema ya que el peer primario operativo se haría cargo de suspender los canales de puerto vPC y las interfaces Vlan en el secundario operativo. El problema se produce en el caso de una falla de hardware en el dispositivo principal operativo (N7KA). Si no utilizó el seguimiento de objetos, suspenderíamos todos los canales de puerto vPC en N7KB, así como las interfaces Vlan. El link de peer también estaría inactivo. En esta situación, no dispondría de una forma de enrutar el tráfico principal a nuestras vlan vPC.

El seguimiento de objetos consigue solucionar esto mediante la caída de vPC en el dispositivo primario operativo para que no entremos en este escenario en el que desactivamos las interfaces de VLAN y los canales de puerto vPC en la caja que tiene los restantes enlaces ascendentes al núcleo.

Aquí puede ver los mensajes de keepalive del par vPC usando 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#
```

Ahora simula la falla del módulo 3 en N7KA al apagar el 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
```

Registros:


```
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-
channel1 is down (No operational members)
2013 Sep 26 20:02:45 N7KB-vdc2 %ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel1: 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-channel1 is down (No operational members)
```

Ahora se queda en este estado. N7KA es el par principal vPC, pero deja de enviar mensajes de
señal de mantenimiento de par vPC a N7KB para que N7KB no se suspenda. N7KB es el único
sistema que tiene enlaces ascendentes.

Nota: e3/4 en N7KB se conecta a otro VDC en N7KA, por lo que también se cayó. El punto
es que ha rastreado las interfaces en N7KB y ninguna en N7KA por lo que deja de enviar
mensajes a N7KB en el link de keepalive de peer.

Salida de Ethanalyzer desde N7KA:

(Observe que después de TRACK_INTFS_DOWN syslog ya no enviamos señales de
mantenimiento de pares a N7KB, sólo las recibimos de N7KB que es 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
```
Salida de Ethanalyzer a partir 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-channel1 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-channel1 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#
```

 Ahora puede restaurar la configuración:


```
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 20:26:53 N7KA %PLATFORM-2-PFM_MODULE_POWER_ON: Manual power-on of Module 3  from
```

```
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
---------------------------------------------------------------------
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-channel1 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#
```
 Detalles de la falla de keepalive de vPC Peer:

Vuelva a ejecutar la prueba para ver lo que sucede con el link de keepalive de peer.

Envíe las señales de mantenimiento bidireccionalmente: actualmente todo está activo y en funcionamiento:

```
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
```
Ahora cierre de nuevo el módulo 3 M132 en N7KA:

```
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)
```

Ahora verá que sólo N7KB (1.1.1.2) está enviando los mensajes de señal de mantenimiento 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
```

Aquí puede ver el estado en N7KB mostrando que el keepalive del par ha fallado:

```
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#
```

Ahora comienza a recibir mensajes de señal de mantenimiento de par de N7KA de nuevo
después de un breve período (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
```

A continuación, verá el estado más reciente en N7KB (que muestra que el 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#
```