

vPC オブジェクト トラッキング

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概要

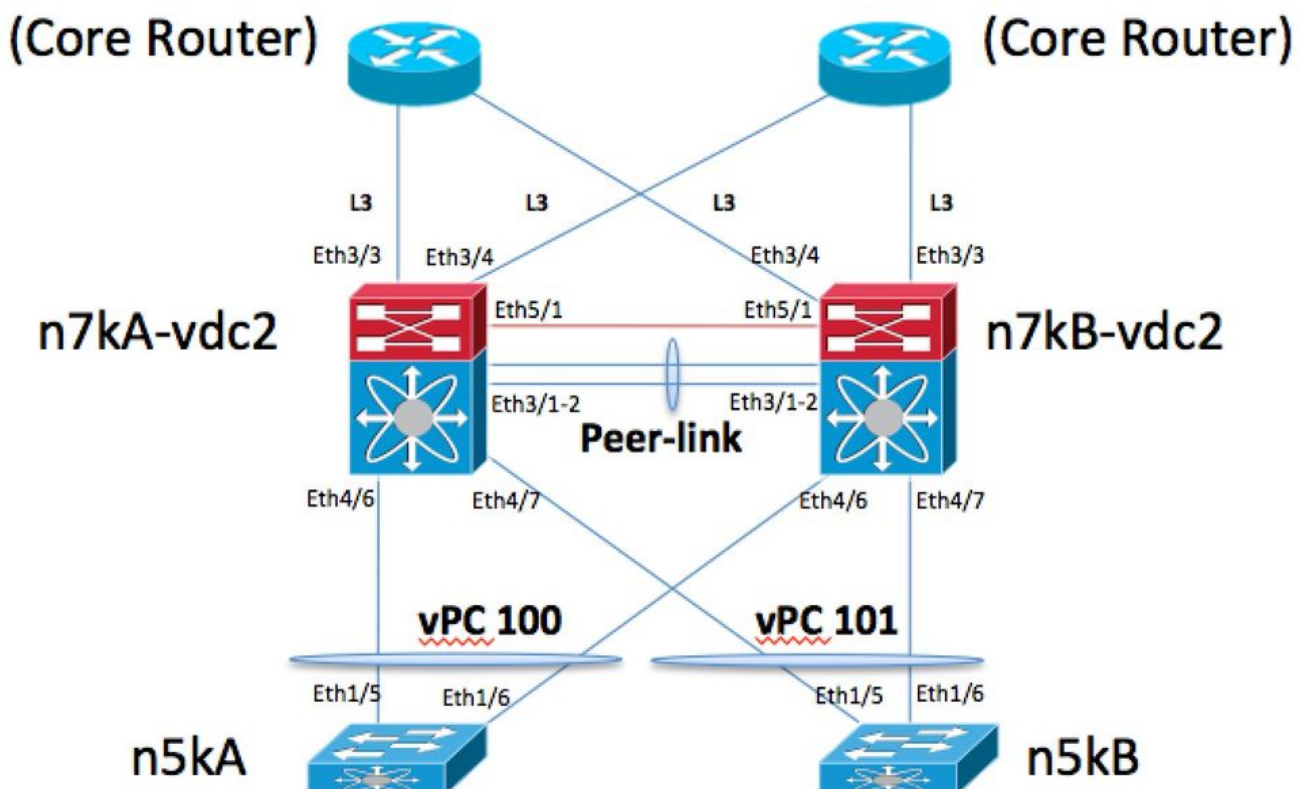
この資料はなぜ使用される、そしてどのようにはたらくか、vPC オブジェクト トラッキングを記述したものです。

vPC オブジェクト トラッキング

ネットワーク図

このデモに使用するネットワークダイアグラムはここにあります:

vPC Object Tracking Topology



vPC ピア リンクは 1.イーサネット 5/1 が vPC ピアキープアライブ リンクの Port-channel です。各 N7K ボックスの L3 /30 リンク e3/3 および e3/4 によって接続される 2 人のコア ルータがあります。 N5KA および N5KB は vPC 100 および vPC 101 で接続される L2 スイッチ vPC を模倣しています。 N7KA は vPC プライマリデバイスです。

ベースライン Show コマンド

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#

vPC オブジェクト トラッキングはこのようなシナリオで使用されます。 vPC ピア リンクに使用する 1 つの M132 モジュールがあります、またコアへの L3 アップリンク。 HW 失敗による M132 モジュールを失うイベントで vPC ピア リンク、また L3 アップリンクを失います。 これが vPC セカンダリ ボックス (N7KB) で起こることこれは操作上プライマリ ピアが操作上セカンダリの vPC ポート チャネルおよび VLAN インターフェイスを中断することを引き継ぐので問題ではないです。 問題は操作上プライマリデバイス (N7KA) の HW 失敗の場合にはあります。 オブジェクト トラッキングを使用しなかったら N7KB、また VLAN インターフェイスの vPC ポート チャネルすべてを中断します。 ピア リンクはまたダウンしています。 このシナリオの vPC VLAN にコア トラフィックをルーティングする方法を持っていません。

オブジェクト トラッキングはこれを操作上プライマリの vPC をダウンさせることによってコアに残りのアップリンクがあるボックスの VLAN インターフェイスおよび vPC ポート チャネルをダウンさせるこのシナリオに得ないように回避します。

ethanalyzer を使用して vPC ピアキープアライブ メッセージが表示されます:

```

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#
```

この場合モジュールを離れて動力によって N7KA のモジュール 3 失敗を模倣します:

```
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-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)

この場合この状態に残っています。 N7KA は vPC プライマリ ピアですが、 N7KB が中断されて行かないように N7KB に vPC ピアキープアライブ メッセージを送信することを止めます。 アップリンクがある N7KB は唯一のシステムです。

注: N7KB の e3/4 はまたなぜダウン状態になったかである N7KA の別の VDC に接続します。 ポイントは N7KB のインターフェイスをどれもでなく、 N7KA にトラッキングした従ってピアキープアライブ リンクの N7KB にメッセージを送信することを止めますこと。

Ethalyzer は N7KA から出力しました:

TRACK_INTFS_DOWN syslog が N7KB に私達もはやピアkeepalives を送信しなかった後 (表記、 1.1.1.2) ある N7KB からだけそれらを受け取ります

```
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 は N7KB から出力しました:

```
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
```

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#

この場合セットアップを復元することができます:

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-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    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-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#

vPC ピアキープアライブ失敗の詳細:

起こることピアキープアライブ リンクと見るためにテストを再実行して下さい。

双方向の keepalives を送信 して下さい-現在すべてはアップし、正常に動作しています:

```
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
```

この場合 N7KA の M132 モジュール 3 を再度シャットダウンして下さい:

```
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)
```

N7KB だけことがこの場合わかります (1.1.1.2) N7KA にキープアライブ メッセージを送信して
います (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
```

ピアキープアライブを示す N7KB の状態が失敗したことを見ます:

```
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#
```

この場合短期間 (90 秒) 以降に N7KA からピアキープアライブ メッセージを再度受け取り始め
ます:

```

<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

```

それから N7KB の最新の状態を参照します (表示ピアは稼働しています) :

```
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#