# vPC オブジェクト トラッキング

## 目次



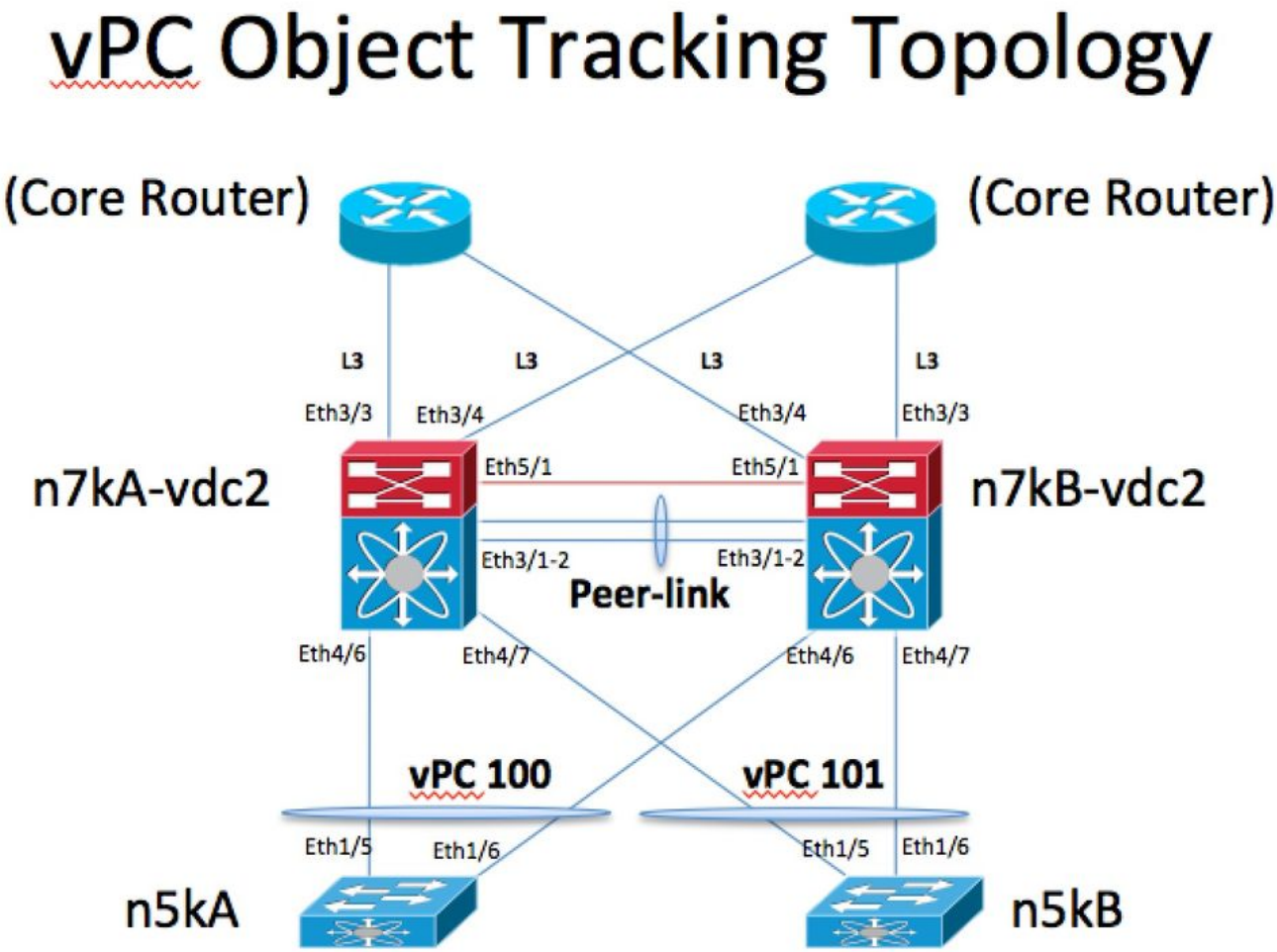
## 概要

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 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 2013version
6.1(4)feature vpcvpc domain 102  peer-keepalive destination 1.1.1.2 source 1.1.1.1 vrf vpc-
keepalive  peer-gateway  track 1  auto-recoveryinterface port-channel1  vpc peer-linkinterface
port-channel100  vpc 100interface port-channel101  vpc 101N7KA-vdc2# show run track!Command:
show running-config track!Time: Thu Sep 26 19:51:59 2013version 6.1(4)track 1 list boolean or
object 2  object 3  object 4track 2 interface port-channel1 line-protocoltrack 3 interface
Ethernet3/3 line-protocoltrack 4 interface Ethernet3/4 line-protocolN7KA-vdc2# show vpc
briefLegend:                (*) - local vPC is down, forwarding via vPC peer-linkvPC 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                     : EnabledPeer
gateway excluded VLANs       : -Dual-active excluded VLANs        : -Graceful Consistency Check
: EnabledAuto-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 trackTrack 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  1Track 3  Interface Ethernet3/3 Line Protocol  Line
Protocol is UP  3 changes, last change 23:26:50  Tracked by:    Track List  1Track 4  Interface
Ethernet3/4 Line Protocol  Line Protocol is UP  3 changes, last change 23:26:48  Tracked by:
Track List  1N7KA-vdc2#
```

N7KB:

```
N7KB-vdc2# show run vpc!Command: show running-config vpc!Time: Thu Sep 26 19:53:17 2013version
6.1(4)feature vpcvpc domain 102  peer-keepalive destination 1.1.1.1 source 1.1.1.2 vrf vpc-
keepalive  peer-gateway  track 1  auto-recoveryinterface port-channel1  vpc peer-linkinterface
port-channel100  vpc 100interface port-channel101  vpc 101N7KB-vdc2# show run track!Command:
show running-config track!Time: Thu Sep 26 19:53:20 2013version 6.1(4)track 1 list boolean or
object 2  object 3  object 4track 2 interface port-channel1 line-protocoltrack 3 interface
Ethernet3/3 line-protocoltrack 4 interface Ethernet3/4 line-protocolN7KB-vdc2# show vpc
briefLegend:                (*) - local vPC is down, forwarding via vPC peer-linkvPC 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                     : EnabledPeer
gateway excluded VLANs       : -Dual-active excluded VLANs        : -Graceful Consistency Check
: EnabledAuto-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 trackTrack 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  1Track 3  Interface Ethernet3/3 Line Protocol  Line
Protocol is UP  3 changes, last change 23:28:55  Tracked by:    Track List  1Track 4  Interface
Ethernet3/4 Line Protocol  Line Protocol is UP  3 changes, last change 23:28:56  Tracked by:
Track List  1N7KB-vdc2#
```

vPC オブジェクト トラッキングはこれ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 4Capturing on inband2013-09-26 20:01:09.629309      1.1.1.2 -> 1.1.1.1      UDP
Source port: 3200  Destination port: 32002013-09-26 20:01:09.954909      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:01:10.639097      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 20:01:10.954944      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32004 packets capturedN7KA# N7KB# ethanalyzer local
interface inband capture-filter "host 1.1.1.1 and host 1.1.1.2" limit-captured-frames 4Capturing
on inband2013-09-26 20:00:22.606593      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200
Destination port: 32002013-09-26 20:00:22.922517      1.1.1.1 -> 1.1.1.2      UDP Source port:
3200  Destination port: 32002013-09-26 20:00:23.616427      1.1.1.2 -> 1.1.1.1      UDP Source
port: 3200  Destination port: 32002013-09-26 20:00:23.922557      1.1.1.1 -> 1.1.1.2      UDP
Source port: 3200  Destination port: 32004 packets capturedN7KB#
```

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 tEnter configuration commands, one per line.  End with CNTL/Z.N7KA(config)# poweroff
mod 3N7KA(config)# endN7KA#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
down2013 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 none2013 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
down2013 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 none2013 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 none2013 Sep 26 20:02:40 N7KB-vdc2
%ETH_PORT_CHANNEL-5-PORT_DOWN: port-channel1: Ethernet3/2 is down2013 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
down2013 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。

Ethanalyzer は N7KA から出力しました:

TRACK_INTFS_DOWN syslog が N7KB に私達もはやピアkeeplives 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:
32002013-09-26 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: 32002013-
09-26 20:03:24.685580 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013 Sep 26
20:03:25 N7KA-vdc2 %$ VDC-2 %$ %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3
from Command Line Interface2013 Sep 26 20:03:25 N7KA %$ VDC-1 %$ %PLATFORM-2-
PFM_MODULE_POWER_OFF: Manual power-off of Module 3 from Command Line Interface2013-09-26
20:03:25.684869 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 32002013-09-26
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: 32002013-
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: 32002013-
09-26 20:03:27.691367 1.1.1.1 -> 1.1.1.2 UDP Source port: 3200 Destination port: 32002013 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-alive2013-09-26
20:03:28.700594 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:29.700538 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:30.700603 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:31.710665 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:32.720601 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:33.715295 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:34.713112 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 32002013-09-26
20:03:35.713177 1.1.1.2 -> 1.1.1.1 UDP Source port: 3200 Destination port: 3200
```

Ethanalyzer 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:
32002013-09-26 20:02:36.651534      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination
port: 32002013-09-26 20:02:37.651053      1.1.1.1 -> 1.1.1.2      UDP Source port: 3200
Destination port: 32002013-09-26 20:02:37.651644      1.1.1.2 -> 1.1.1.1      UDP Source port:
3200  Destination port: 32002013-09-26 20:02:38.650967      1.1.1.1 -> 1.1.1.2      UDP Source
port: 3200  Destination port: 32002013-09-26 20:02:38.651579      1.1.1.2 -> 1.1.1.1      UDP
Source port: 3200  Destination port: 32002013-09-26 20:02:39.656523      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 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: 32002013-09-26 20:02:41.666442      1.1.1.2 -> 1.1.1.1      UDP Source port:
3200  Destination port: 32002013-09-26 20:02:42.666479      1.1.1.2 -> 1.1.1.1      UDP Source
port: 3200  Destination port: 32002013-09-26 20:02:43.676461      1.1.1.2 -> 1.1.1.1      UDP
Source port: 3200  Destination port: 32002013-09-26 20:02:44.686478      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013 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 failed2013-09-26
20:02:45.681050      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port: 32002013-
09-26 20:02:46.678911      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination port:
32002013-09-26 20:02:47.678918      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination
port: 32002013-09-26 20:02:48.678961      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200
Destination port: 3200
```

N7KA:

```
N7KA-vdc2# sh vpc briefLegend:                (*) - local vPC is down, forwarding via vPC peer-
linkvPC 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
: EnabledPeer gateway excluded VLANs       : -Dual-active excluded VLANs        : -Graceful
Consistency Check        : EnabledAuto-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 trackTrack 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  1Track 3  Interface Ethernet3/3 Line Protocol  Line
Protocol is DOWN  4 changes, last change 00:20:50  Tracked by:    Track List  1Track 4
Interface Ethernet3/4 Line Protocol  Line Protocol is DOWN  4 changes, last change 00:20:50
Tracked by:    Track List  1N7KA-vdc2#
```

N7KB:

```
N7KB-vdc2# sh vpc briefLegend:                (*) - local vPC is down, forwarding via vPC peer-
linkvPC 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 primaryNumber of vPCs configured         : 2   Track object                      : 1
Peer Gateway                      : EnabledPeer gateway excluded VLANs       : -Dual-active
excluded VLANs        : -Graceful Consistency Check        : EnabledAuto-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 trackTrack 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  1Track 3  Interface Ethernet3/3 Line Protocol  Line
Protocol is UP  3 changes, last change 1d00h  Tracked by:    Track List  1Track 4  Interface
Ethernet3/4 Line Protocol  Line Protocol is DOWN  4 changes, last change 00:22:04  Tracked by:
Track List  1N7KB-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 tEnter configuration commands, one per line.  End with CNTL/Z.N7KA(config)# no
poweroff mod 3N7KA(config)# endN7KA# 2013 Sep 26 20:26:53 N7KA %PLATFORM-2-PFM_MODULE_POWER_ON:
Manual power-on of Module 3  from Command Line Interface2013 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-12L2013 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 briefLegend:               (*) - local vPC is down, forwarding via vPC peer-
linkvPC 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 secondaryNumber of vPCs configured         : 2   Track object                    :
1   Peer Gateway                     : EnabledPeer gateway excluded VLANs       : -Dual-active
excluded VLANs        : -Graceful Consistency Check        : EnabledAuto-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 trackTrack 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  1Track 3  Interface Ethernet3/3 Line Protocol  Line
Protocol is UP  5 changes, last change 00:01:43  Tracked by:    Track List  1Track 4  Interface
Ethernet3/4 Line Protocol  Line Protocol is UP  5 changes, last change 00:01:44  Tracked by:
Track List  1N7KA-vdc2#
```

N7KB:

```
N7KB-vdc2# sh vpc briefLegend:               (*) - local vPC is down, forwarding via vPC peer-
linkvPC 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 primaryNumber of vPCs configured         : 2   Track object                     : 1
Peer Gateway                     : EnabledPeer gateway excluded VLANs       : -Dual-active
excluded VLANs        : -Graceful Consistency Check        : EnabledAuto-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 trackTrack 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  1Track 3  Interface Ethernet3/3 Line Protocol  Line
Protocol is UP  3 changes, last change 1d00h  Tracked by:    Track List  1Track 4  Interface
Ethernet3/4 Line Protocol  Line Protocol is UP  5 changes, last change 00:02:09  Tracked by:
Track List  1N7KB-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 keepliaves 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:
32002013-09-26 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: 32002013-
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 Interface2013 Sep 26 20:32:14 N7KA-vdc3 %$ VDC-3 %$ %PLATFORM-2-
PFM_MODULE_POWER_OFF: Manual power-off of Module 3  from Command Line Interface2013 Sep 26
20:32:14 N7KA-vdc2 %$ VDC-2 %$ %PLATFORM-2-PFM_MODULE_POWER_OFF: Manual power-off of Module 3
from Command Line Interface2013-09-26 20:32:14.532364      1.1.1.1 -> 1.1.1.2      UDP Source
port: 3200  Destination port: 32002013-09-26 20:32:14.533217      1.1.1.2 -> 1.1.1.1      UDP
Source port: 3200  Destination port: 32002013-09-26 20:32:15.532453      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:32:15.533158      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 20:32:16.532452      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:32:16.536224      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013 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-alive2013 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 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:
32002013-09-26 20:32:18.549352      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200  Destination
port: 32002013-09-26 20:32:19.549294      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200
Destination port: 32002013-09-26 20:32:20.549358      1.1.1.2 -> 1.1.1.1      UDP Source port:
3200  Destination port: 32002013-09-26 20:32:21.549303      1.1.1.2 -> 1.1.1.1      UDP Source
port: 3200  Destination port: 32002013-09-26 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 briefLegend:                (*) - local vPC is down, forwarding via vPC peer-
linkvPC domain id                     : 102 Peer status                       : peer link is
down             vPC keep-alive status             : peer is not reachable through peer-
keepaliveConfiguration consistency status  : success Per-vlan consistency status       : success
Type-2 consistency status         : success vPC role                          : secondary,
operational primaryNumber of vPCs configured         : 2   Track object                      : 1
Peer Gateway                      : EnabledPeer gateway excluded VLANs       : -Dual-active
excluded VLANs        : -Graceful Consistency Check        : EnabledAuto-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: 32002013-09-26 20:33:43.630199      1.1.1.2 -> 1.1.1.1      UDP Source port: 3200
Destination port: 32002013-09-26 20:33:44.630263      1.1.1.2 -> 1.1.1.1      UDP Source port:
3200  Destination port: 32002013-09-26 20:33:45.640201      1.1.1.2 -> 1.1.1.1      UDP Source
port: 3200  Destination port: 32002013-09-26 20:33:46.650262      1.1.1.2 -> 1.1.1.1      UDP
Source port: 3200  Destination port: 32002013-09-26 20:33:47.652445      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:47.660318      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:48.652768      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:48.653347      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:49.652409      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:49.652705      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:50.652423      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:50.652773      1.1.1.2 -> 1.1.1.1
UDP Source port: 3200  Destination port: 32002013-09-26 20:33:51.652401      1.1.1.1 -> 1.1.1.2
UDP Source port: 3200  Destination port: 32002013-09-26 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 briefLegend:                (*) - local vPC is down, forwarding via vPC peer-
linkvPC 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 primaryNumber of vPCs configured         : 2   Track object                      : 1
Peer Gateway                      : EnabledPeer gateway excluded VLANs       : -Dual-active
excluded VLANs        : -Graceful Consistency Check        : EnabledAuto-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#
```