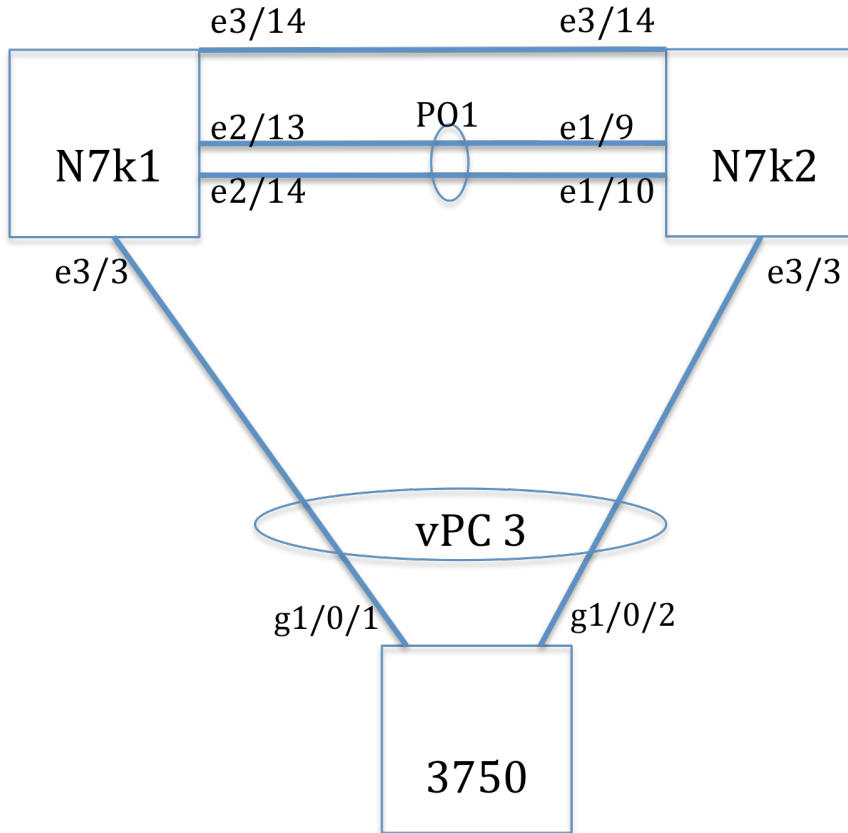4.2 releases

Lab set up:


```
N7k1# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                      : 3
Peer status                        : peer adjacency formed ok
vPC keep-alive status              : peer is alive
Configuration consistency status: success
Type-2 consistency status          : success
vPC role                           : primary
Number of vPCs configured          : 1
Peer Gateway                       : Disabled
Dual-active excluded VLANs         : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ---------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
```

```
id   Port   Status Consistency Reason                           Active vlans
--   ----   ------ ----------- -------------------------- ------------
3    Po200  up     success     success                         1-2

N7k1# show vpc peer-keepalive

vPC keep-alive status          : peer is alive
--Peer is alive for            : (102) seconds, (379) msec
--Send status                  : Success
--Last send at                 : 2010.06.04 20:33:49 552 ms
--Sent on interface            : Eth3/14
--Receive status               : Success
--Last receive at              : 2010.06.04 20:33:49 919 ms
--Received on interface        : Eth3/14
--Last update from peer        : (0) seconds, (202) msec

vPC Keep-alive parameters
--Destination                  : 1.1.1.2
--Keepalive interval           : 1000 msec
--Keepalive timeout            : 5 seconds
--Keepalive hold timeout       : 3 seconds
--Keepalive vrf                : vpc-keepalive
--Keepalive udp port           : 3200
--Keepalive tos                : 192

N7k1# show port-channel summary
Flags:  D - Down        P - Up in port-channel (members)
        I - Individual  H - Hot-standby (LACP only)
        s - Suspended   r - Module-removed
        S - Switched    R - Routed
        U - Up (port-channel)
--------------------------------------------------------------------------
---------
Group Port-        Type     Protocol  Member Ports
      Channel
--------------------------------------------------------------------------
---------
1     Po1(SU)      Eth      LACP      Eth2/13(P)   Eth2/14(P)
200   Po200(SU)    Eth      LACP      Eth3/3(P)


N7k2# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                  : 3
Peer status                    : peer adjacency formed ok
vPC keep-alive status          : peer is alive
Configuration consistency status: success
Type-2 consistency status      : success
vPC role                       : secondary
Number of vPCs configured      : 1
Peer Gateway                   : Disabled
Dual-active excluded VLANs     : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
```

```
--    ----   ------ -------------------------------------------------
1     Po1    up     1-2

vPC status
------------------------------------------------------------------------
id    Port   Status Consistency Reason                      Active vlans
--    ----   ------ ----------- -------------------------- ------------
3     Po200  up     success     success                     1-2

N7k2# show vpc peer-keepalive

vPC keep-alive status               : peer is alive
--Peer is alive for                 : (81) seconds, (144) msec
--Send status                       : Success
--Last send at                      : 2010.06.03 19:57:09 784 ms
--Sent on interface                 : Eth3/14
--Receive status                    : Success
--Last receive at                   : 2010.06.03 19:57:10 428 ms
--Received on interface             : Eth3/14
--Last update from peer             : (0) seconds, (36) msec

vPC Keep-alive parameters
--Destination                       : 1.1.1.1
--Keepalive interval                : 1000 msec
--Keepalive timeout                 : 5 seconds
--Keepalive hold timeout            : 3 seconds
--Keepalive vrf                     : vpc-keepalive
--Keepalive udp port                : 3200
--Keepalive tos                     : 192

N7k2# show port-channel summary
Flags:  D - Down        P - Up in port-channel (members)
        I - Individual  H - Hot-standby (LACP only)
        s - Suspended   r - Module-removed
        S - Switched    R - Routed
        U - Up (port-channel)
--------------------------------------------------------------------------
---------
Group Port-        Type      Protocol  Member Ports
      Channel
--------------------------------------------------------------------------
---------
1     Po1(SU)      Eth       LACP      Eth1/9(P)    Eth1/10(P)
2     Po2(RD)      Eth       NONE      --
200   Po200(SU)    Eth       LACP      Eth3/3(P)
```

1) Scenario #1 – peer-link goes down, then, keepalive goes down as well.


```
N7k1# show vpc
Legend:
            (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer adjacency formed ok
```

```
vPC keep-alive status            : peer is alive
Configuration consistency status: success
Type-2 consistency status        : success
vPC role                         : primary
Number of vPCs configured        : 1
Peer Gateway                     : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                   1-2


N7k2# show vpc
Legend:
              (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                    : 3
Peer status                      : peer adjacency formed ok
vPC keep-alive status            : peer is alive
Configuration consistency status: success
Type-2 consistency status        : success
vPC role                         : secondary
Number of vPCs configured        : 1
Peer Gateway                     : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                   1-2


===========================================================

Peer-link went down:

N7k1(config-if)# int po1
N7k1(config-if)# shut


===========================================================


N7k1(config-if)# show vpc
Legend:
```

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

vPC domain id                     : 3
Peer status                       : peer link is down
vPC keep-alive status             : peer is alive
Configuration consistency status: success
Type-2 consistency status         : success
vPC role                          : primary
Number of vPCs configured         : 1
Peer Gateway                      : Disabled
Dual-active excluded VLANs        : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port    Status Active vlans
--    ----    ------ ----------------------------------------------
1     Po1     down   -

vPC status
---------------------------------------------------------------------
id    Port    Status Consistency Reason                    Active vlans
--    ----    ------ ----------- ------------------------- ------------
3     Po200   up     success     success                   1-2


N7k2# 2010 Jun  3 19:58:23.197 N7k2 %$ VDC-1 %$ %VPC-2-
VPC_SUSP_ALL_VPC: Peer-link going down, suspending all vPCs on
secondary

N7k2# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                     : 3
Peer status                       : peer link is down
vPC keep-alive status             : peer is alive
Configuration consistency status: success
Type-2 consistency status         : success
vPC role                          : secondary
Number of vPCs configured         : 1
Peer Gateway                      : Disabled
Dual-active excluded VLANs        : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port    Status Active vlans
--    ----    ------ ----------------------------------------------
1     Po1     down   -

vPC status
---------------------------------------------------------------------
id    Port    Status Consistency Reason                    Active vlans
--    ----    ------ ----------- ------------------------- ------------
3     Po200   down   success     success                   -

=============================================================
```

Peer-keepalive went down as well:

```
N7k1(config-if)# int e3/14
N7k1(config-if)# shut

===========================================================

N7k1(config-if)# 2010 Jun  4 20:35:27 N7k1 %$ VDC-1 %$ %VPC-2-
PEER_KEEP_ALIVE_RECV_FAIL: In domain 3, VPC peer keep-alive receive has
failed

N7k1(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                  : 3
Peer status                    : peer link is down
vPC keep-alive status          : peer is not alive
Configuration consistency status: success
Type-2 consistency status      : success
vPC role                       : primary
Number of vPCs configured      : 1
Peer Gateway                   : Disabled
Dual-active excluded VLANs     : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ---------------------------------------------------
1    Po1    down   -

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                     Active vlans
--   ----   ------ ----------- -------------------------- ------------
3    Po200  up     success     success                    1-2

N7k1(config-if)# show vpc peer-keepalive

vPC keep-alive status          : peer is not alive
--Send status                  : Success
--Last send at                 : 2010.06.04 20:35:54 958 ms
--Sent on interface            :
--Receive status               : Failed
--Last update from peer        : (32) seconds, (862) msec

vPC Keep-alive parameters
--Destination                  : 1.1.1.2
--Keepalive interval           : 1000 msec
--Keepalive timeout            : 5 seconds
--Keepalive hold timeout       : 3 seconds
--Keepalive vrf                : vpc-keepalive
--Keepalive udp port           : 3200
--Keepalive tos                : 192


N7k2# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link
```

```
vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : peer is not alive
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : secondary
Number of vPCs configured       : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ------------------------------------------------
1    Po1    down   -

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  down   failed      Peer-link is down              -

N7k2# show vpc peer-keepalive

vPC keep-alive status           : peer is not alive
--Send status                   : Success
--Last send at                  : 2010.06.03 20:00:05 674 ms
--Sent on interface             :
--Receive status                : Failed
--Last update from peer         : (62) seconds, (398) msec

vPC Keep-alive parameters
--Destination                   : 1.1.1.1
--Keepalive interval            : 1000 msec
--Keepalive timeout             : 5 seconds
--Keepalive hold timeout        : 3 seconds
--Keepalive vrf                 : vpc-keepalive
--Keepalive udp port            : 3200
--Keepalive tos                 : 192
N7k2#
```

SUMMARY:
When peer-link goes down, all vPC link on the secondary will be
suspended.

**2) Scenario #2 – peer-keepalive link goes down, then peer-link goes
down as well.**

```
N7k1# show vpc
Legend:
               (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
```

```
Configuration consistency status: success
Type-2 consistency status      : success
vPC role                       : primary
Number of vPCs configured      : 1
Peer Gateway                   : Disabled
Dual-active excluded VLANs     : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port    Status Active vlans
--    ----    ------ ------------------------------------------------
1     Po1     up     1-2

vPC status
---------------------------------------------------------------------
id    Port    Status Consistency Reason                   Active vlans
--    ----    ------ ----------- ------------------------ ------------
3     Po200   up     success     success                  1-2


N7k2# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                  : 3
Peer status                    : peer adjacency formed ok
vPC keep-alive status          : peer is alive
Configuration consistency status: success
Type-2 consistency status      : success
vPC role                       : secondary
Number of vPCs configured      : 1
Peer Gateway                   : Disabled
Dual-active excluded VLANs     : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port    Status Active vlans
--    ----    ------ ------------------------------------------------
1     Po1     up     1-2

vPC status
---------------------------------------------------------------------
id    Port    Status Consistency Reason                   Active vlans
--    ----    ------ ----------- ------------------------ ------------
3     Po200   up     success     success                  1-2


===========================================================
```

Peer-keepalive went down:

```
N7k1(config-if)# int e3/14
N7k1(config-if)# shut


===========================================================


N7k1(config-if)# 2010 Jun  4 20:41:02 N7k1 %$ VDC-1 %$ %VPC-2-
PEER_KEEP_ALIVE_RECV_FAIL: In domain 3, VPC peer keep-alive receive has
failed
```

```
N7k1(config-if)# show vpc peer-keepalive

vPC keep-alive status            : peer is not alive
--Send status                    : Success
--Last send at                   : 2010.06.04 20:41:41 44 ms
--Sent on interface              :
--Receive status                 : Failed
--Last update from peer          : (43) seconds, (106) msec

vPC Keep-alive parameters
--Destination                    : 1.1.1.2
--Keepalive interval             : 1000 msec
--Keepalive timeout              : 5 seconds
--Keepalive hold timeout         : 3 seconds
--Keepalive vrf                  : vpc-keepalive
--Keepalive udp port             : 3200
--Keepalive tos                  : 192
N7k1(config-if)#

N7k1(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                    : 3
Peer status                      : peer adjacency formed ok
vPC keep-alive status            : peer is not alive
Configuration consistency status: success
Type-2 consistency status        : success
vPC role                         : primary
Number of vPCs configured        : 1
Peer Gateway                     : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port    Status  Active vlans
--    ----    ------  -------------------------------------------------
1     Po1     up      1-2

vPC status
---------------------------------------------------------------------
id    Port    Status  Consistency  Reason                    Active vlans
--    ----    ------  -----------  ------------------------  ------------
3     Po200   up      success      success                   1-2


N7k2# show vpc peer-keepalive

vPC keep-alive status            : peer is not alive
--Send status                    : Success
--Last send at                   : 2010.06.03 20:05:08 354 ms
--Sent on interface              :
--Receive status                 : Failed
--Last update from peer          : (30) seconds, (104) msec

vPC Keep-alive parameters
--Destination                    : 1.1.1.1
```

```
--Keepalive interval          : 1000 msec
--Keepalive timeout           : 5 seconds
--Keepalive hold timeout      : 3 seconds
--Keepalive vrf               : vpc-keepalive
--Keepalive udp port          : 3200
--Keepalive tos               : 192

N7k2# show vpc
Legend:
              (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                 : 3
Peer status                   : peer adjacency formed ok
vPC keep-alive status         : peer is not alive
Configuration consistency status: success
Type-2 consistency status     : success
vPC role                      : secondary
Number of vPCs configured     : 1
Peer Gateway                  : Disabled
Dual-active excluded VLANs     : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ----------------------------------------------
1    Po1    up     1-2

vPC status
----------------------------------------------------------------------
id   Port   Status Consistency Reason                        Active vlans
--   ----   ------ ----------- -------------------------- ------------
3    Po200  up     success     success                       1-2

=========================================================

Peer-link went down as well:

N7k1(config-if)# int po1
N7k1(config-if)# shut

=========================================================

N7k1(config-if)# show vpc
Legend:
              (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                 : 3
Peer status                   : peer link is down
vPC keep-alive status         : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status     : success
vPC role                      : primary
Number of vPCs configured     : 1
Peer Gateway                  : Disabled
Dual-active excluded VLANs     : -

vPC Peer-link status
```

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

vPC status
--------------------------------------------------------------------
id    Port    Status Consistency Reason                    Active vlans
--    ----    ------ ----------- -------------------------- ------------
3     Po200   up     success     success                    1-2

N7k1(config-if)# show vpc peer-keepalive

vPC keep-alive status              : Suspended (Destination IP not
reachable)
--Send status                      : Success
--Last send at                     : 2010.06.04 20:43:01 28 ms
--Sent on interface                :
--Receive status                   : Failed
--Last update from peer            : (123) seconds, (960) msec

vPC Keep-alive parameters
--Destination                      : 1.1.1.2
--Keepalive interval               : 1000 msec
--Keepalive timeout                : 5 seconds
--Keepalive hold timeout           : 3 seconds
--Keepalive vrf                    : vpc-keepalive
--Keepalive udp port               : 3200
--Keepalive tos                    : 192


N7k2# show vpc
Legend:
              (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                      : 3
Peer status                        : peer link is down
vPC keep-alive status              : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status          : success
vPC role                           : secondary, operational primary
Number of vPCs configured          : 1
Peer Gateway                       : Disabled
Dual-active excluded VLANs         : -

vPC Peer-link status
--------------------------------------------------------------------
id    Port    Status Active vlans
--    ----    ------ ---------------------------------------------
1     Po1     down   -

vPC status
--------------------------------------------------------------------
id    Port    Status Consistency Reason                    Active vlans
--    ----    ------ ----------- -------------------------- ------------
3     Po200   up     success     success                    1-2
```

```
N7k2# show vpc peer-keepalive

vPC keep-alive status              : Suspended (Destination IP not
reachable)
--Send status                      : Success
--Last send at                     : 2010.06.03 20:06:19 174 ms
--Sent on interface                :
--Receive status                   : Failed
--Last update from peer            : (101) seconds, (204) msec

vPC Keep-alive parameters
--Destination                      : 1.1.1.1
--Keepalive interval               : 1000 msec
--Keepalive timeout                : 5 seconds
--Keepalive hold timeout           : 3 seconds
--Keepalive vrf                    : vpc-keepalive
--Keepalive udp port               : 3200
--Keepalive tos                    : 192
```

SUMMARY:

When keep-alive goes down, vPC peer devices make aware of each other
via peer-link. When peer-link goes down as well, both of the vPC peer
devices can no longer make aware of each other, thus, they both claim
themselves as the primary. Dual-active happened.

**3) Scenario #3 — pee-keepalive link and peer-link go down at the same
time.**

```
N7k1# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                      : 3
Peer status                        : peer adjacency formed ok
vPC keep-alive status              : peer is alive
Configuration consistency status: success
Type-2 consistency status          : success
vPC role                           : primary
Number of vPCs configured          : 1
Peer Gateway                       : Disabled
Dual-active excluded VLANs         : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ---------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                      Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                     1-2


N7k2# show vpc
```

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

vPC domain id                   : 3
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : secondary
Number of vPCs configured       : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ -----------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                   1-2


=========================================================

Peer-link and peer-keepalive link goes down at the same time:

N7k1(config-if-range)# int e2/13-14, e3/14
N7k1(config-if-range)#
N7k1(config-if-range)# shut


=========================================================

2010 Jun  4 20:47:06 N7k1 %$ VDC-1 %$ %VPC-2-PEER_KEEP_ALIVE_RECV_FAIL:
In domain 3, VPC peer keep-alive receive has failed

N7k1(config-if-range)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : primary
Number of vPCs configured       : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ -----------------------------------------------
1    Po1    down   -
```

```
vPC status
-------------------------------------------------------------------------
id   Port    Status Consistency Reason                      Active vlans
--   ----    ------ ----------- -------------------------   ------------
3    Po200   up     success     success                     1-2

N7k1(config-if-range)# show vpc peer-keepalive

vPC keep-alive status             : Suspended (Destination IP not
reachable)
--Send status                     : Success
--Last send at                    : 2010.06.04 20:48:16 743 ms
--Sent on interface               :
--Receive status                  : Failed
--Last update from peer           : (76) seconds, (221) msec

vPC Keep-alive parameters
--Destination                     : 1.1.1.2
--Keepalive interval              : 1000 msec
--Keepalive timeout               : 5 seconds
--Keepalive hold timeout          : 3 seconds
--Keepalive vrf                   : vpc-keepalive
--Keepalive udp port              : 3200
--Keepalive tos                   : 192


N7k2# 2010 Jun  3 20:10:47.854 N7k2 %$ VDC-1 %$ %VPC-2-
PEER_KEEP_ALIVE_RECV_FAIL: In domain 3, VPC peer keep-alive receive has
failed

N7k2# show vpc
Legend:
              (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                     : 3
Peer status                       : peer link is down
vPC keep-alive status             : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status         : success
vPC role                          : secondary, operational primary
Number of vPCs configured         : 1
Peer Gateway                      : Disabled
Dual-active excluded VLANs        : -

vPC Peer-link status
-----------------------------------------------------------------------
id   Port    Status Active vlans
--   ----    ------ -------------------------------------------------
1    Po1     down   -

vPC status
-----------------------------------------------------------------------
id   Port    Status Consistency Reason                      Active vlans
--   ----    ------ ----------- -------------------------   ------------
3    Po200   up     success     success                     1-2
```

```
N7k2# show vpc peer-keepalive

vPC keep-alive status              : Suspended (Destination IP not
reachable)
--Send status                      : Success
--Last send at                     : 2010.06.03 20:11:12 544 ms
--Sent on interface                :
--Receive status                   : Failed
--Last update from peer            : (30) seconds, (121) msec

vPC Keep-alive parameters
--Destination                      : 1.1.1.1
--Keepalive interval               : 1000 msec
--Keepalive timeout                : 5 seconds
--Keepalive hold timeout           : 3 seconds
--Keepalive vrf                    : vpc-keepalive
--Keepalive udp port               : 3200
--Keepalive tos                    : 192


SUMMARY:
Same as scenario #3 - Dual-active happened in this scenario.


4) Scenario #4 - Object tracking is enabled.  All tracked objects are
down - module 2 failure on N7k1.

N7k1(config-if-range)# show track list boolean  or
Track 1
  List  Boolean or
  Boolean or is UP
  1 changes, last change 00:11:19
  Track List Members:
  object 101 UP
  object 100 UP
   Tracked by:
    vPCM                       3

N7k1(config-if-range)# show track 100
Track 100
  Interface Ethernet2/18 Line Protocol
  Line Protocol is UP
  1 changes, last change 00:11:46
  Tracked by:
    vPCM                       3
    Track List  1

N7k1(config-if-range)# show track 101
Track 101
  Interface port-channel1 Line Protocol
  Line Protocol is UP
  17 changes, last change 00:01:36
  Tracked by:
    vPCM                       3
    Track List  1


N7k1(config)# show vpc
```

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

vPC domain id                  : 3
Peer status                    : peer adjacency formed ok
vPC keep-alive status          : peer is alive
Configuration consistency status: success
Type-2 consistency status      : success
vPC role                       : primary, operational secondary
Number of vPCs configured      : 1
Track object                   : 1
Peer Gateway                   : Disabled
Dual-active excluded VLANs      : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ -------------------------------------------------
1    Po1    up     1-2

vPC status
----------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                   1-2


N7k2# show track 1
Track 1
  List  Boolean or
  Boolean or is UP
  1 changes, last change 02:32:50
  Track List Members:
  object 101 UP
  object 100 UP
   Tracked by:
    vPCM                      3

N7k2# show track 100
Track 100
  Interface port-channel1 Line Protocol
  Line Protocol is UP
  19 changes, last change 00:00:35
  Tracked by:
    vPCM                      3
    Track List  1

N7k2# show trac 101
Track 101
  Interface Ethernet2/17 Line Protocol
  Line Protocol is UP
  1 changes, last change 02:33:16
  Tracked by:
    vPCM                      3
    Track List  1

N7k2# show vpc
Legend:
```

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

vPC domain id                   : 3
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : secondary
Number of vPCs configured       : 1
Track object                    : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ --------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                     Active vlans
--   ----   ------ ----------- -------------------------- ------------
3    Po200  up     success     success                    1-2


===========================================================

All track objects went down:

N7k1(config-if-range)# int e2/13-14, e2/18
N7k1(config-if-range)# shut


===========================================================

N7k1(config-if-range)#
2010 Jun  4 21:09:02 N7k1 %$ VDC-1 %$ %VPC-2-VPC_SUSP_ALL_VPC: Peer-
link going down, suspending all vPCs on secondary
2010 Jun  4 21:09:02 N7k1 %$ VDC-1 %$ %VPC-2-TRACK_INTFS_DOWN: In
domain 3, vPC tracked interfaces down, suspending all vPCs and keep-
alive
N7k1(config-if-range)#
N7k1(config-if-range)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : peer is alive
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : primary, operational secondary
Number of vPCs configured       : 1
Track object                    : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
```

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

vPC status
----------------------------------------------------------------------
id    Port   Status Consistency Reason                     Active vlans
--    ----   ------ ----------- ------------------------- ------------
3     Po200  down   success     success                     -
```

N7k2(config-if)# 2010 Jun 3 20:32:48.204 N7k2 %$ VDC-1 %$ %VPC-2-PEER_KEEP_ALIVE_RECV_FAIL: In domain 3, VPC peer keep-alive receive has failed

```
N7k2(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : peer is alive
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : secondary, operational primary
Number of vPCs configured       : 1
Track object                    : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs      : -

vPC Peer-link status
----------------------------------------------------------------------
id    Port   Status Active vlans
--    ----   ------ ------------------------------------------------
1     Po1    down   -

vPC status
----------------------------------------------------------------------
id    Port   Status Consistency Reason                     Active vlans
--    ----   ------ ----------- ------------------------- ------------
3     Po200  up     success     success                     1-2
```

SUMMARY:
With Object Tracking enabled, when all track object goes down, primary vPC will suspend all its vPC links and becomes secondary. On the other hand, secondary will become primary and all its vPC links will stay up.

5) Scenario #5 – With Object Tracking enabled, all track objects failed (mod 2 failure on N7k1) AND peer-keepalive link goes down at the same time.

```
N7k1(config-if-range)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
```

```
Peer status                      : peer adjacency formed ok
vPC keep-alive status            : peer is alive
Configuration consistency status: success
Type-2 consistency status        : success
vPC role                         : primary, operational secondary
Number of vPCs configured        : 1
Track object                     : 1
Peer Gateway                     : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ---------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                   1-2


N7k2# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                    : 3
Peer status                      : peer adjacency formed ok
vPC keep-alive status            : peer is alive
Configuration consistency status: success
Type-2 consistency status        : success
vPC role                         : secondary
Number of vPCs configured        : 1
Peer Gateway                     : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ---------------------------------------------------
1    Po1    up     1-2

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                    Active vlans
--   ----   ------ ----------- ------------------------- ------------
3    Po200  up     success     success                   1-2

===========================================================
```

All track objects and peer-keepalive link went down:

```
N7k1(config-if-range)# int e2/13-14, e2/18, e3/14
N7k1(config-if-range)# shut

===========================================================
```

```
2010 Jun  4 21:12:21 N7k1 %$ VDC-1 %$ %VPC-2-PEER_KEEP_ALIVE_RECV_FAIL:
In domain 3, VPC peer keep-alive receive has failed

2010 Jun  4 21:12:21 N7k1 %$ VDC-1 %$ %VPC-2-TRACK_INTFS_DOWN: In
domain 3, vPC tracked interfaces down, suspending all vPCs and keep-
alive

N7k1(config-if-range)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : primary
Number of vPCs configured       : 1
Track object                    : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ----------------------------------------------------
1    Po1    down   -

vPC status
---------------------------------------------------------------------
id   Port   Status Consistency Reason                      Active vlans
--   ----   ------ ----------- -------------------------   ------------
3    Po200  down   success     success                     -


N7k2(config-if)# 2010 Jun  3 20:36:02.054 N7k2 %$ VDC-1 %$ %VPC-2-
PEER_KEEP_ALIVE_RECV_FAIL: In domain 3, VPC peer keep-alive receive has
failed

N7k2(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : secondary, operational primary
Number of vPCs configured       : 1
Track object                    : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
---------------------------------------------------------------------
```

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

vPC status
-----------------------------------------------------------------------
id    Port   Status Consistency Reason                       Active vlans
--    ----   ------ ----------- -------------------------- ------------
3     Po200  up     success     success                        1-2
```

SUMMARY:
Object Tracking kicks in, all vPC links on primary are suspended and
all vPC links on secondary stay up. Since keepalive is also down, both
vPC peer devices claim themselves as primary. Dual-active happened.

**6) Scneario #6 — N7k1 has power failure, the entire switch is shut
down.**

```
N7k1(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : primary
Number of vPCs configured       : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs       : -

vPC Peer-link status
----------------------------------------------------------------------
id    Port   Status Active vlans
--    ----   ------ -------------------------------------------------
1     Po1    up     1-2

vPC status
----------------------------------------------------------------------
id    Port   Status Consistency Reason                       Active vlans
--    ----   ------ ----------- -------------------------- ------------
3     Po200  up     success     success                        1-2

N7k1(config-if)# show vpc peer-keepalive

vPC keep-alive status           : peer is alive
--Peer is alive for             : (236062) seconds, (85) msec
--Send status                   : Success
--Last send at                  : 2010.06.07 17:04:49 515 ms
--Sent on interface             : Eth3/14
--Receive status                : Success
--Last receive at               : 2010.06.07 17:04:49 515 ms
--Received on interface         : Eth3/14
--Last update from peer         : (0) seconds, (590) msec
```

```
vPC Keep-alive parameters
--Destination               : 1.1.1.2
--Keepalive interval        : 1000 msec
--Keepalive timeout         : 5 seconds
--Keepalive hold timeout    : 3 seconds
--Keepalive vrf             : vpc-keepalive
--Keepalive udp port        : 3200
--Keepalive tos             : 192


N7k2(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id               : 3
Peer status                 : peer adjacency formed ok
vPC keep-alive status       : peer is alive
Configuration consistency status: success
Type-2 consistency status   : success
vPC role                    : secondary
Number of vPCs configured   : 1
Peer Gateway                : Disabled
Dual-active excluded VLANs   : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port   Status Active vlans
--    ----   ------ ----------------------------------------------------
1     Po1    up     1-2

vPC status
---------------------------------------------------------------------
id    Port   Status Consistency Reason                       Active vlans
--    ----   ------ ----------- -------------------------- ------------
3     Po200  up     success     success                      1-2

N7k2(config-if)# show vpc peer-keepalive

vPC keep-alive status       : peer is alive
--Peer is alive for         : (114) seconds, (966) msec
--Send status               : Success
--Last send at              : 2010.06.06 16:28:02 154 ms
--Sent on interface         : Eth3/14
--Receive status            : Success
--Last receive at           : 2010.06.06 16:28:02 155 ms
--Received on interface     : Eth3/14
--Last update from peer     : (0) seconds, (759) msec

vPC Keep-alive parameters
--Destination               : 1.1.1.1
--Keepalive interval        : 1000 msec
--Keepalive timeout         : 5 seconds
--Keepalive hold timeout    : 3 seconds
--Keepalive vrf             : vpc-keepalive
--Keepalive udp port        : 3200
--Keepalive tos             : 192


============================================================
```

Powered down N7k1

==

```
N7k1(config-if)#
2010 Jun  7 17:05:10 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_CAPACITY_CHANGE:
Power supply PS2 changed its capacity. possibly due to power cable
removal/insertion (Serial number DTH1213T028)
2010 Jun  7 17:05:10 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_CAPACITY_CHANGE:
Power supply PS3 changed its capacity. possibly due to power cable
removal/insertion (Serial number DTH1213T043)
2010 Jun  7 17:05:10 N7k1 %$ VDC-1 %$ %CALLHOME-2-EVENT:
POWER_SUPPLY_ALERT
2010 Jun  7 17:05:10 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_PWR_INPUT_MISSING:
Power supply 2 present but all AC/DC inputs are not connected, power
redundancy might be affected
2010 Jun  7 17:05:10 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_PWR_INPUT_MISSING:
Power supply 3 present but all AC/DC inputs are not connected, power
redundancy might be affected
2010 Jun  7 17:05:12 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_CAPACITY_CHANGE:
Power supply PS1 changed its capacity. possibly due to power cable
removal/insertion (Serial number DTH1213T118)
2010 Jun  7 17:05:12 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_CAPACITY_CHANGE:
Power supply PS3 changed its capacity. possibly due to power cable
removal/insertion (Serial number DTH1213T043)
2010 Jun  7 17:05:12 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_PWR_INPUT_MISSING:
Power supply 1 present but all AC/DC inputs are not connected, power
redundancy might be affected
2010 Jun  7 17:05:12 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_PWR_INPUT_MISSING:
Power supply 3 present but all AC/DC inputs are not connected, power
redundancy might be affected
2010 Jun  7 17:05:14 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_CAPACITY_CHANGE:
Power supply PS2 changed its capacity. possibly due to power cable
removal/insertion (Serial number DTH1213T028)
2010 Jun  7 17:05:14 N7k1 %$ VDC-1 %$ %PLATFORM-2-PS_PWR_INP


N7k2(config-if)#
2010 Jun  6 16:28:43 N7k2-DALE %$ VDC-3 %$ %VPC-2-
PEER_KEEP_ALIVE_RECV_FAIL: In domain 1, VPC peer keep-alive receive has
failed

2010 Jun  6 16:28:43.544 N7k2 %$ VDC-1 %$ %VPC-2-
PEER_KEEP_ALIVE_RECV_FAIL: In domain 3, VPC peer keep-alive receive has
failed

N7k2(config-if)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 3
Peer status                     : peer link is down
vPC keep-alive status           : Suspended (Destination IP not
reachable)
Configuration consistency status: success
Type-2 consistency status       : success
vPC role                        : secondary, operational primary
```

```
Number of vPCs configured       : 1
Peer Gateway                    : Disabled
Dual-active excluded VLANs      : -

vPC Peer-link status
---------------------------------------------------------------------
id    Port    Status Active vlans
--    ----    ------ ------------------------------------------------
1     Po1     down   -

vPC status
----------------------------------------------------------------------
id    Port    Status Consistency Reason                    Active vlans
--    ----    ------ ----------- ------------------------- ------------
3     Po200   up     success     success                    1-2

N7k2(config-if)# show vpc peer-keepalive

vPC keep-alive status              : Suspended (Destination IP not
reachable)
--Send status                      : Success
--Last send at                     : 2010.06.06 16:35:27 444 ms
--Sent on interface                :
--Receive status                   : Failed
--Last update from peer            : (409) seconds, (19) msec

vPC Keep-alive parameters
--Destination                      : 1.1.1.1
--Keepalive interval               : 1000 msec
--Keepalive timeout                : 5 seconds
--Keepalive hold timeout           : 3 seconds
--Keepalive vrf                    : vpc-keepalive
--Keepalive udp port               : 3200
--Keepalive tos                    : 192
```

SUMMARY:

After a power failure on the primary, the secondary will become primary
and all traffic continues to pass thru.