VLACP timeout issue between stackable platforms and ERS8300/8600

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Background:

The recently introduced software releases for the ERS2500, ERS4500, ERS5500 and ERS5600 have introduced a number of enhancements to the operation of VLACP. It has been found that in some situations that VLACP on the stackable switches will remove a link from service due to variations in the arrival time of VLACP messages (VLACPPDUs) from the far end.

This affects the following stackable products and but only with software releases: ERS2500 release 4.2.0, ERS4500 release 5.2.0 and ERS5500/5600 release 6.0.0

Analysis:

During extended testing it has been discovered that a VLACP timer issue may exist between any ERS stackable switch running a software release identified in this bulletin and ERS8300/8600 when running short timers and default timeout interval of 3 timeouts. The stackable switches software mentioned in this bulletin maintain a rolling history of the last 3 received VLACPPDUs and calculate the time variance across and between these VLACP messages. If the time variance of the last 3 VLACPPDUs falls outside predefined thresholds, the stackable switch will remove the link from service.

This issue has only been observed when an ERS 2500/4500/5500/5600 with listed software version has been configured to use VLACP short timers with a timeout scale of 3 PDUs. The issue is logged as CR Q01944816. Customers can verify the settings for VLACP by issuing the command on a stackable switch:

5520-28T-PWR# show vlacp interface x-y

Recommendations:

If customers have deployed any of the stackable software releases mentioned in this bulletin and are using VLACP, then the following workaround should be implemented until maintenance releases are made available on the stackable switch to address this issue.

As a workaround, customers should increase the VLACP timeout scale value from the default value of 3 to 5 or more, on both sides of the VLACP connection, namely the 8600/8300 side as well as stackable side. This will stop the stackable switches from taking the link down due to the above mentioned variations in VLACP timing. It should be noted that even though the timeout value has been set to 5, due to the sampling function, if variance occurs outside the threshold for any 3 consecutive VLACPPDUs then the link will be removed from service until VLACP can re-establish a correctly timed communication. Extensive testing however has shown that a timeout scale value of 5 or more very significantly reduces the chance of the link being taken out of service due to arrival variance.

It should be noted that using VLACP short timers with values of 500ms and timeout scale value of 5 will be the new recommended value for ERS8600/8300 networks, especially any with scaled environments. These timer values have been tested with all SMLT architectures to provide both VLACP stability and proper timing failovers for any converged networks.

Following is the example of commands and status that would modify the timeout scale value to 5 on the stackable products (similar configuration change operation must be performed on the connected switch):
5520-48T-PWR(config)#interface fastEthernet 5-6
5520-48T-PWR(config-if)#vlacp timeout-scale 5
5520-48T-PWR(config-if)#show vlacp interface 5-6

```
=============================================================================
             VLACP Information
=============================================================================
PORT ADMIN  OPER   HAVE   FAST SLOW  TIMEOUT TIMEOUT ETH  MAC
     ENABLED ENABLED PARTNER TIME  TIME  TYPE   SCALE   TYPE ADDRESS
--------------------------------------------------------------------------------
  5  true   true   yes   500  30000 short  5      8103 00:00:00:00:00:00
  6  true   true   yes   500  30000 short  5      8103 00:00:00:00:00:00
```

Required Actions:
If VLACP is not being used, no action is required.

If customers are using VLACP between any stackable platform releases mentioned in this bulletin and ERS8300/8600 it is recommended that they implement the above workaround or wait until the ERS 2500 v4.2.1, ERS4500 v5.2.1 and ERS5500/5600 v6.0.2 or later maintenance releases are made available.

Attachments:
There are no attachments for this bulletin

Products and Releases:
The information in this bulletin is intended to be used with the following products and associated releases:

PRODUCT	RELEASE
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethernet Rtg Swt 5650TD	
Ethernet Rtng Switch-Ethrnt Rtng Swt 2500-Ethernet Rtng Swt 2526T	
Ethernet Rtng Switch-Ethrnt Rtng Swt 2500-Ethernet Rtng Swt 2526T-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4524GT	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4526FX	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4526G-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4526GTX	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4526T	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4526T-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt 4550T	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethernet Rtng Swt 5510-24T	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethernet Rtng Swt 5510-48T	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethernet Rtng Swt 5632FD	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethernet Rtng Swt 5698TFD	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethernet Rtng Swt4548GT-PWR	

Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethernet Rtng Swt5530-24TFD	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethrnt Rtg Swt5650TD-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethrnt Rtg Swt5698TFD-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 2500-Ethrnt Rtng Swt 2550T	
Ethernet Rtng Switch-Ethrnt Rtng Swt 2500-Ethrnt Rtng Swt 2550T-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethrnt Rtng Swt 4548GT	
Ethernet Rtng Switch-Ethrnt Rtng Swt 4500-Ethrnt Rtng Swt 4550T-PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethrnt Rtng Swt5520-24T PWR	
Ethernet Rtng Switch-Ethrnt Rtng Swt 5000-Ethrnt Rtng Swt5520-48T PWR	

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REFERENCE:
PRE-REQUIRED PATCH:
PATCH ID:

Nortel recommends any maintenance activities, such as those outlined in this bulletin, be completed during a local maintenance window.