# Arista

# EOS Upgrade for Devices with MLAG

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**Implementation: Enterprise Service Desk**

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# Purpose of Activity, Objective

# *The purpose of this document is to outline the steps necessary to upgrade the EOS (Arista’s operating system) successfully on a pair of 7504 chassis from the current code version to 4.19.4M. Since the pair of switches are configured for MLAG and traffic continuity is desired, this will be an ISSU upgrade.*

# *Step 1) Upgrading the first switch to 4.19.4M and once this is complete and MLAG restored.*

# *Step 2) Upgrade second switch in the pair to 4.19.4M.*

# Pre-Activity Validation

***Contact Local IT Site Contact; notify all principles involved in the region***

***Images have been uploaded on both switches to Directory of flash:/***

***Version 4.19.4M has been verified via /md5 | 1ccffd6e42bbe22a59f74420672c4e4e***

***Patch-189196-4.19.4.swix has been verified via md5 | 15350887c4d9af8ca4fd599718e7915b***

***Backup the running-config: (Completed)***

***Conference Bridge invitation was sent to all principles involved***

***1-224-225-1234x2158631444***

***Implementer will also include pre-snap information standard snap shots through (***[***http://kraken/***](http://kraken/)***). Which includes a show run, show interface etc. Also define any manual snapshots that are unique to the maintenance] and add link to the work log of the maintenance ticket****.*

**Term Sever:**

## tsv01-v.presidentsdr.ut.utah.comcast.net (68.85.5.7)

* **Telnet (SSH won’t connect)**
* **NT / Radius**
* **sw04-d 2050 (perm, OK) \*\* IP 68.85.5.7**
* **sw03-d 2049 (perm, OK) \*\* IP 68.85.5.7**

# Devices Involved:

* **sw03-v.presidentsdr.ut.utah.comcast.net 69.139.142.212**
* **sw04-v.presidentsdr.ut.utah.comcast.net 69.139.142.213**

**Connected Devices:**

* **ur01-v.presidentsdr.ut.utah.comcast.net 69.139.142.144**
* **ur02-v.presidentsdr.ut.utah.comcast.net 69.139.142.147**
* **rio-storjp-stlk02-01**
* **rio-storjp-stlk02-02**
* **rio-storacc-stlk02-04**
* **rio-storacc-stlk02-05**
* **rio-storacc-stlk02-06**
* **rio-storacc-stlk02-07**
* **rio-storacc-stlk02-08**
* **rio-storacc-stlk02-09**
* **rio-storacc-stlk02-10**
* **rio-storacc-stlk02-11**
* **rio-storacc-stlk02-12**
* **rio-storacc-stlk02-13**
* **rio-storacc-stlk02-14**
* **rio-storacc-stlk02-15**
* **rio-storacc-stlk02-16**
* **rio-stor-stlk02-001 - 110**

# Activity Steps

* **Set constant ping to all (ping –t)**
  + **ping –t 69.139.142.212**
  + **ping –t 69.139.142.213**
  + **Only Pings to the device reloading should drop. All others my drop a ping or two, but should continue pinging.**

**Login: sw03-v.presidentsdr.ut.utah.comcast.net 69.139.142.212**

**sw04-v.presidentsdr.ut.utah.comcast.net 69.139.142.213**

* **Disable pagination:**
  + **terminal length 0**

**Make sure the mlag reload-delay timer is set to a minimum of 305 seconds on both the switches. Changing this value will not disrupt any traffic.**

**sw03-v.presidentsdr.ut.utah(s1)#show mlag detail | i eload (Completed)**

**Reload delay : 305 seconds**

**Non-MLAG reload delay : 305 seconds**

**If it is not set to 305 seconds, make the change.**

**config t**

**!**

mlag

reload-delay 305

exit

copy run start

**Document to compare and verify after reload**

* show version
* dir flash:
* bash df -h
* bash ls /mnt/flash/schedule/tech-support/ -l
* show log
* show run
* show interface status
* show inventory
* show lldp neighbor
* show module
* show environment all
* show mac address-table
* show ip arp
* show interfaces counters errors | nz
* show process top once
* show ip route
* show ipv6 route
* show ip bgp sum
* show ipv6 bgp sum
* show redundancy states
* show mlag detail
* show mlag interfaces states active-full
* show mlag interfaces states active-partial
* show mlag interfaces states inactive
* show management api http-commands
* show platform sand compatibility
* **e.g.: sw03-v.presidentsdr.ut.utah(s1)#show platform sand compatibility**

**Configuration Status**

**Forwarding mode None Arad**

**Fabric mode None Fe1600**

* **If Configuration shows None (or anything other than Arad)**
* **Configure Forwarding mode to Arad**
* **This will accommodate mixed line cards.**

**config t**

**!**

**platform sand forwarding mode Arad**

**exit**

**wr mem**

**! Change will take effect only after switch reboot**

**Login: sw03-v.presidentsdr.ut.utah.comcast.net 69.139.142.212**

**config t**

**!**

**copy run start**

**!**

**install source flash:EOS-4.19.4M.swi**

**e.g.: Output**

* Preparing new boot-config... done.
* Copying new software image to standby supervisor... done.
* Copying new boot-config to standby supervisor... done.
* Committing changes on standby supervisor... done.
* Committing changes on this supervisor... done.
* Installation succeeded.
* in558.13:34:40(config)#

**show boot**

**e.g.: Output**

* Software image: flash:/EOS-4.19.4M.swi
* Console speed: (not set)
* Aboot password (encrypted): (not set)
* Memory test iterations: (not set)
* in559.14:16:25(s1)(config)#

**Ignore the warning message that you get when you run the next command, “reload all”**

**reload all**

**e.g.: Ouput**

* If you are performing an upgrade, and the Release Notes for the new

version of EOS indicate that MLAG is not backwards-compatible with the

currently installed version (4.15.0FXB) the upgrade

will result in packet loss.

* + Proceed with reload?

**confirm**

**e.g: Output**

* Peer supervisor has been restarted.
* Broadcast message from root@in559
  + (unknown) at 14:16 ...
* The system is going down for reboot NOW!
* in559.14:16:55(s1)(config)#Connection to in559-1 closed by remote host.
* Connection to in559-1 closed.
* jayas:~ jayas$

**Wait for constant ping to recover**

* **Once this switch is up, execute the following commands:**
* show version (Verify switch is running code: EOS-4.19.4M )

**Activate Patch: Patch-189196-4.19.4.swix**

Steps to install the patches...

1. Copy the file to flash on device (Completed)

2) Copy the file to the extension:

* **copy flash:Patch-189196-4.19.4.swix extension:** (Completed)

3) Run to activate:

* **extension Patch-189196-4.19.4.swix**

4) Run to make persistent

* **copy installed-extensions boot-extensions**

5) Once installed, execute the command to restart the process (this may cause multicast to flood until snooping table is rebuilt)

* **agent IgmpSnooping terminate**
* Show version (Verify switch is running code: EOS-4.19.4M )
* Show module (Verify all the modules are up and running)
* Show mlag **(Wait for Mlag to go Active prior to running post and moving to next**

**device)**

* **The result should resemble something like this:**

MLAG Status:

state : Active/Reload (0:03:06 left)

**\*\*\*Once the reload-delay timer of 305 seconds is up, the mlag status on both the switches should be Active.**

**Disable pagination…**

* terminal length 0

**Enter the following commands; compare to pre.**

* show version
* show lldp neighbor
* show module
* show mlag detail
  + **State Active prior to continuing!**

**Login: sw04-v.presidentsdr.ut.utah.comcast.net 69.139.142.213**

**config t**

**!**

**copy run start**

**!**

**install source flash:EOS-4.19.4M.swi**

**e.g.: Output**

* Preparing new boot-config... done.
* Copying new software image to standby supervisor... done.
* Copying new boot-config to standby supervisor... done.
* Committing changes on standby supervisor... done.
* Committing changes on this supervisor... done.
* Installation succeeded.
* in559.14:15:23(s1)(config)#

**show boot**

**e.g.:Output**

* Software image: flash:/EOS-4.19.4M.swi
* Console speed: (not set)
* Aboot password (encrypted): (not set)
* Memory test iterations: (not set)
* in559.14:16:25(s1)(config)#

**Ignore the warning message that you get when you run the next command, “reload all”**

**reload all**

**e.g.: Output**

* If you are performing an upgrade, and the Release Notes for the new

version of EOS indicate that MLAG is not backwards-compatible with the

currently installed version (4.15.0FXB) the upgrade

will result in packet loss.

* + Proceed with reload?

**confirm**

**e,g,:Output**

* Peer supervisor has been restarted.
* Broadcast message from root@in559
  + (unknown) at 14:16 ...
* The system is going down for reboot NOW!
* in559.14:16:55(s1)(config)#Connection to in559-1 closed by remote host.
* Connection to in559-1 closed.
* jayas:~ jayas$

**Run post commands on both devices**

**sw03-v.presidentsdr.ut.utah.comcast.net 69.139.142.212**

**sw04-v.presidentsdr.ut.utah.comcast.net 69.139.142.213**

**Disable pagination…**

* terminal length 0

**Enter the following commands; compare to pre.**

* show version
* dir flash:
* bash df -h
* bash ls /mnt/flash/schedule/tech-support/ -l
* show log
* show run
* show interface status
* show inventory
* show lldp neighbor
* show module
* show environment all
* show mac address-table
* show ip arp
* show interfaces counters errors | nz
* show process top once
* show ip route
* show ipv6 route
* show ip bgp sum
* show ipv6 bgp sum
* show redundancy states
* show mlag detail
  + State Active prior to continuing!
* show mlag interfaces states active-full
* show mlag interfaces states active-partial
* show mlag interfaces states inactive
* show management api http-commands
* show platform sand compatibility
  + **Configuration should show Arad**
* **eg: sw03-v.presidentsdr.ut.utah#show platform sand compatibility**

**Configuration Status**

**Forwarding mode Arad Arad**

**Fabric mode None Fe1600**

**At this point, both switches, sw03-v.presidentsdr.ut.utah & sw04-v.presidentsdr.ut.utah should be up and running EOS-4.19.4M all line cards should be recognized.**

**Do Not make ACL change prior to MLAG recovery.**

* show mlag detail
  + **State Active prior to continuing!**
* show mlag interfaces states active-full (compare to previously documented)
* show mlag interfaces states active-partial (compare to previously documented)
* show mlag interfaces states inactive (compare to previously documented)

**At this stage, once all the port-upgrade checks have been performed, and everything is working as expected and all the line cards are up.**

**Proceed with updated Service ACL Configuration**

**Login:** **sw03-v.presidentsdr.ut.utah.comcaast.net 69.139.142.212**

* **sh ip access-list V4-CONTROL-PLANE-FILTER**
* **sh ipv6 access-list V6-CONTROL-PLANE-FILTER**

**Replace ACL with Update access-list**

**config t**

**!**

**no ip access-list V4-CONTROL-PLANE-FILTER**

**no ipv6 access-list V6-CONTROL-PLANE-FILTER**

**!**

**!!!!!FOR ANY CODE POST 4.19 ONLY!!!!!**

**ip access-list V4-CONTROL-PLANE-FILTER**

**permit pim any host 224.0.0.13**

**permit igmp any host 224.0.0.1**

**permit igmp any host 224.0.0.2**

**permit igmp any 224.0.0.0 15.255.255.255**

**permit udp any 224.0.0.0 15.255.255.255**

**permit udp any any eq bootps bootpc**

**permit ip 10.0.0.0/8 any**

**permit ip 67.178.0.0/15 any**

**permit ip 68.86.0.0/15 any**

**permit ip 69.240.0.0/15 any**

**permit ip 172.16.0.0/12 any**

**permit ip 24.40.0.0/18 any**

**permit ip 24.40.64.0/20 any**

**permit ip 68.85.0.0/16 any**

**permit ip 69.139.128.0/17 any**

**permit ip 69.252.0.0/16 any**

**permit ip 76.96.0.0/16 any**

**permit ip 96.106.0.0/15 any**

**permit ip 96.108.0.0/15 any**

**permit ip 96.110.0.0/16 any**

**permit ip 96.112.8.0/24 any**

**permit ip 96.112.246.0/23 any**

**permit ip 96.114.8.0/24 any**

**permit ip 96.115.208.0/23 any**

**permit ip 98.205.0.0/17 any**

**permit ip 98.241.0.0/16 any**

**permit ip 147.191.0.0/16 any**

**permit ip 162.151.0.0/16 any**

**permit ip 165.137.0.0/16 any**

**permit ip 169.152.0.0/16 any**

**!**

**!!!!!FOR ANY CODE POST 4.19 ONLY!!!!!**

**ipv6 access-list V6-CONTROL-PLANE-FILTER**

**permit icmpv6 any any**

**permit ipv6 2001:558::/36 any**

**permit ipv6 2001:558:1000::/36 any**

**permit ipv6 2001:558:FE00::/39 any**

**permit ipv6 2600:1f14:e0f:af00::/64 any**

**permit ipv6 2600:1f18:6de:e800::/64 any**

**!**

**!**

**management api http-commands**

**vrf default**

**ip access-group V4-CONTROL-PLANE-FILTER**

**ipv6 access-group V6-CONTROL-PLANE-FILTER**

**vrf MGMT**

**ip access-group V4-CONTROL-PLANE-FILTER**

**ipv6 access-group V6-CONTROL-PLANE-FILTER**

**!**

**end**

**Verify the ACL and save configuration**

* **show run diffs (config differences from startup-config)**
* **verify ACL change**
* **show ip access-list V4-CONTROL-PLANE-FILTER**
* **show ipv6 access-list V6-CONTROL-PLANE-FILTER**
* **wr mem**

**Login:** **sw04-v.presidentsdr.ut.utah.comcast.net**

* **sh ip access-list V4-CONTROL-PLANE-FILTER**
* **sh ipv6 access-list V6-CONTROL-PLANE-FILTER**

**Replace ACL with Update access-list**

**config t**

**!**

**no ip access-list V4-CONTROL-PLANE-FILTER**

**no ipv6 access-list V6-CONTROL-PLANE-FILTER**

**!**

**!!!!!FOR ANY CODE POST 4.19 ONLY!!!!!**

**ip access-list V4-CONTROL-PLANE-FILTER**

**permit pim any host 224.0.0.13**

**permit igmp any host 224.0.0.1**

**permit igmp any host 224.0.0.2**

**permit igmp any 224.0.0.0 15.255.255.255**

**permit udp any 224.0.0.0 15.255.255.255**

**permit udp any any eq bootps bootpc**

**permit ip 10.0.0.0/8 any**

**permit ip 67.178.0.0/15 any**

**permit ip 68.86.0.0/15 any**

**permit ip 69.240.0.0/15 any**

**permit ip 172.16.0.0/12 any**

**permit ip 24.40.0.0/18 any**

**permit ip 24.40.64.0/20 any**

**permit ip 68.85.0.0/16 any**

**permit ip 69.139.128.0/17 any**

**permit ip 69.252.0.0/16 any**

**permit ip 76.96.0.0/16 any**

**permit ip 96.106.0.0/15 any**

**permit ip 96.108.0.0/15 any**

**permit ip 96.110.0.0/16 any**

**permit ip 96.112.8.0/24 any**

**permit ip 96.112.246.0/23 any**

**permit ip 96.114.8.0/24 any**

**permit ip 96.115.208.0/23 any**

**permit ip 98.205.0.0/17 any**

**permit ip 98.241.0.0/16 any**

**permit ip 147.191.0.0/16 any**

**permit ip 162.151.0.0/16 any**

**permit ip 165.137.0.0/16 any**

**permit ip 169.152.0.0/16 any**

**!**

**!!!!!FOR ANY CODE POST 4.19 ONLY!!!!!**

**ipv6 access-list V6-CONTROL-PLANE-FILTER**

**permit icmpv6 any any**

**permit ipv6 2001:558::/36 any**

**permit ipv6 2001:558:1000::/36 any**

**permit ipv6 2001:558:FE00::/39 any**

**permit ipv6 2600:1f14:e0f:af00::/64 any**

**permit ipv6 2600:1f18:6de:e800::/64 any**

**!**

**management api http-commands**

**vrf default**

**ip access-group V4-CONTROL-PLANE-FILTER**

**ipv6 access-group V6-CONTROL-PLANE-FILTER**

**vrf MGMT**

**ip access-group V4-CONTROL-PLANE-FILTER**

**ipv6 access-group V6-CONTROL-PLANE-FILTER**

**!**

**end**

**Verify the ACL and save configuration**

* **show run diffs (config differences from startup-config)**
* **verify ACL change**
* **show ip access-list V4-CONTROL-PLANE-FILTER**
* **show ipv6 access-list V6-CONTROL-PLANE-FILTER**
* **wr mem**

# Activity Validation / Service Validation

* **show mlag detail**
* **show mlag interfaces states active-full**
* **show mlag interfaces states active-partial**
* **show mlag interfaces states inactive**
* **show management api http-commands**
* **show run diffs**
  + **should be no differences after wr mem**
* **Run Post Snaps in Kraken Portal**

# Activity Backout

1. **Back Out after EOS-4.19.4M.swi / Patch-189196-4.19.4.swix**
   * **Login: sw04-v.presidentsdr.ut.utah.comcast.net 69.139.142.213**

**If Patch is installed in extensions:**

* + **Remove Patch from extensions**
    - no extension Patch-189196-4.19.4.swix
  + **Verify extension was uninstalled**
    - sh extension

**Once verified the extension Status is NI (Not Installed)**

* **Remove from boot-extension**
  + - copy installed-extensions boot-extensions
* **Revert back to previous code EOS-4.15.0FXB.swi**
  + - install source flash:EOS-4.15.0FXB.swi
    - show boot

**Ignore the warning message that you get when you run the next command, “reload all”**

* reload all
* confirm
* **Login: sw03-v.presidentsdr.ut.utah.comcast.net 69.139.142.212**

**If Patch is installed in extensions:**

* + **Remove Patch from extensions**
    - no extension Patch-189196-4.19.4.swix
  + **Verify extension was uninstalled**
    - sh extension

**Once verified the extension Status is NI (Not Installed)**

* **Remove from boot-extension**
  + - copy installed-extensions boot-extensions
  + **Revert back to previous code EOS-4.15.0FXB**
    - install source flash:EOS-4.15.0FXB.swi
    - show boot

**Ignore the warning message that you get when you run the next command, “reload all”**

* reload all
* confirm
* **If device doesn’t recover use Term Server**
* **If On Site personal is needed reach out to HSD**
* **Contact Escalation point Joseph Riccardi (215-863-1444)**
* **Reach out to Arista TAC to join bridge** [**Support@Arista.com**](file:///\\cable.comcast.com\corp-dfs\Users-DSC\jricca9058k\My%20Documents\Arista\Arista%20SMOPS\Support@Arista.com)