Product Support Notice

PSN #	PSN005974u	Avaya Proprietary – Use pursuant to the terms of your signed agreement or company policy.

Original publication date: 17-Dec-21. This is issue #08, published date 22-Feb-22.	Severity/risk level	High	Urgency	Immediately

Name of problem	PSN005974u – ACP 4200/ASP 4200 Log4j

Products affected

Avaya Converged Platform 4200 4.0, Avaya Solutions Platform 4200 4.0, Avaya Solutions Platform 4200 4.1.x

Problem description

Avaya is aware of the recently identified Apache Log4j vulnerabilities (CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-44832, CVE-2021-4104) and is conducting impact assessments across its portfolio, identifying opportunities for temporary mitigations, if possible, and developing plans for remediation. Reference the *Avaya Product Security - **Apache Log4j Vulnerability - Impact for Avaya products*** on support.avaya.com for updates

ACP 4200/ASP 4200 Releases and Impacts:

Avaya Converged Platform 4200 4.0, Avaya Solutions Platform 4200 4.0, Avaya Solutions Platform 4200 4.1.x – Impact assesment by CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-4104 and CVE-2021-44832.

Individual component impact:

❖ VMware vCenter Server 6.5.x

- **CVE-2021-44228 & CVE-2021-45046**: Impacted. VMware has released vCenter Server Appliance 6.5 U3s- Build 19261680 which updates **apache log4j** to versions **2.12.4 for JDK 7 and 2.17.0 for JDK 8** to resolve CVE-2021-44228 and CVE-2021-45046. Avaya has concluded the testing and validation of the new updated VCSA version and customers may now proceed with updating the vCenter Server Appliance to release 6.5 U3s- Build 19261680 at the earliest convenience. Reference to the resolution section in this PSN for details and instructions.
- **CVE-2021-45105 and CVE-2021-44832:** At the time of publishing this article, VMWare has not found a valid attack vector to exploit CVE-2021-45105 or CVE-2021-44832 in any VMware products. VMware has stated within the link below that *"Going forward new log4j vulnerabilities will continue to be evaluated to determine severity and applicability to VMware products but will not be referenced in this advisory. VMware products will update open-source components (including log4j) to the latest available versions in future releases."*
  Reference to VMSA-2021-0028.11 for further information.
- **CVE-2021-4104:** At the time of publishing this article the vendor has not released information regards to CVE-2021-4104 in their security advisoryVMSA-2021-0028.11. VMware has stated within the link below that *"Going forward new log4j vulnerabilities will continue to be evaluated to determine severity and applicability to VMware products but will not be referenced in this advisory. VMware products will update open-source components (including log4j) to the latest available versions in future releases."*

❖ VMware ESXi 6.5.x

- **CVE-2021-44228 & CVE-2021-45105:** Not impacted
  Reference to KB Article 87068 for further information.
- **CVE-2021-45046, CVE-2021-44832 & CVE-2021-4104:** Not impacted.
  Reference to KB Article 87068 & VMSA-2021-0028.8 for further information.

❖ Extreme VSP 7024 Network Switches

- **CVE-2021-44228 :** The BOSS OS running on the data switches is not impacted by CVE-2021-44228.
- **CVE-2021-45046, CVE-2021-45105 , CVE-2021-44832 & CVE-2021-4104:** The OS running on the data switches is not impacted by CVE-2021-44228 therefore is not impacted by current and future subsets of the Log4j vulnerability.
  Reference to VN-2021-465 for further information.

❖ Extreme VSP 4850 Network Switches

- **CVE-2021-44228 :** The VOSS OS running on the data switches is not impacted by CVE-2021-44228.
- **CVE-2021-45046, CVE-2021-45105, CVE-2021-44832 & CVE-2021-4104:** The OS running on the data switches is not impacted by CVE-2021-44228 therefore is not impacted by current and future subsets of the Log4j vulnerability.
  Reference to VN-2021-465 for further information.

❖ Extreme VSP 7254 Network Switches

- **CVE-2021-44228 :** The VOSS OS running on the data switches is not impacted by CVE-2021-44228.
- **CVE-2021-45046, CVE-2021-45105, CVE-2021-44832 & CVE-2021-4104:** The OS running on the data switches is not impacted by CVE-2021-44228 therefore is not impacted by current and future subsets of the Log4j vulnerability.
  Reference to VN-2021-465 for further information.

❖ Dell/EMC VNXe3200 Storage Array

- **CVE-2021-44228 & CVE-2021-45046:** Impacted. New firmware has been released by the vendor; it uses Log4j 2.16 / JAVA 8.
  Reference to Dell Security Article 000194414 & DSA-2021-298 for further reference.
  Avaya has completed testing and validating the new fimware released by the vendor. Customers may now proceed with upgrading the SAN at the earliest convenience. Reference to the resoluton section in this PSN for FW details and instructions.
- **CVE-2021-45105, CVE-2021-44832:** At the time of publishing this article vendor is not aware of attackers exploting CVE-2021-45105 and CVE-2021-44832. Log4j **2.16** has also added a number of defense-in-depth protections against potential remote code execution issues that could impact customers. Given these two key factors, vendor is not working with a tighter timeline for distributing Log4j 2.17 or 2.17.1. Vendor's primary focus is set to mitigate CVE-2021-44228 and subsequently CVE-2021-45046.
  Vendor will continue to monitor the impact of CVE-2021-45105, CVE-2021-4483 and any other issues discovered that may accelerate remedy timelines if circumstances change.
  Reference to Dell Security Article 000194416 for further reference.
- **CVE-2021-4104:** At the time of publishing this article the vendor has not released information regards to CVE-2021-4104 to Security Articles 000194416 or 000194372 both tracking Dell Response to Apache Log4j Code Execution. Avaya will continue updating this PSN as updates become publicly available by the vendor. However, Avaya recommends upgrading to FW 3.1.17.10223906 to protect against CVE-2021-44228 and subsequently CVE-2021-45046.

❖ HPE/Nimble CS1000 Storage Array

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-4104 & CVE-2021-44832:** Not Impacted.
  Reference to Customer Notice a00120086 for further information.

❖ HPE DL360 Gen8 Servers / iLO4

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-4104 & CVE-2021-44832:** Not Impacted.
  Reference to Customer Notice a00120086 for further information.

❖ HPE DL360 Gen9 Servers / iLO4

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-4104 & CVE-2021-44832:** Not Impacted.
  Reference to Customer Notice a00120086 for further information.

❖ HPE DL360 Gen10 v1 and v2 Servers / iLO5

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-4104 & CVE-2021-44832:** Not Impacted.
  Reference to Customer Notice a00120086 for further information.

❖ Sentry 3 & 4 PDUs

- **CVE-2021-44228 :** The firmware running on the PDUs is not impacted by CVE-2021-44228.
- **CVE-2021-45046, CVE-2021-45105, CVE-2021-44832 & CVE-2021-4104:** The firmware running on the PDUs is not impacted by CVE-2021-44228 therefore is not impacted by current and future subsets of the Log4j vulnerability.
  Reference to https://www.servertech.com/support for further information.

❖ Avaya Orchestrator 1.5

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-44832 & CVE-2021-4104:** Not impacted. As confirmed by our vendor, the Apache versions used in Nagios XI are not vulnerable to the Log4j vulnerabilities. AO uses Nagios XI 5.5.9-2
  Reference to https://www.nagios.com/news/2021/12/update-on-apache-log4j-vulnerability/ for further information.

❖ Management Server Console (MSC)

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-44832 & CVE-2021-4104:** Not impacted. The Windows Server 2016 OS that comes with the MSC OVA does not have any JAVA based application pre-installed.

❖ PDU Router

- **CVE-2021-44228, CVE-2021-45046, CVE-2021-45105, CVE-2021-44832 & CVE-2021-4104:** Not impacted. The Windows Server 2016 OS that comes with the MSC OVA does not have any JAVA based application pre-installed.

Please only follow documented procedures described in this PSN to resolve this issue.

This PSN will be updated as more information is available.
Ensure that you are signed up for Avaya E-notifications so that you will be notified when new issues of this PSN are posted.

Resolution

- Dell/EMC VNXe3200 Storage Array release v3.1.17.10223906 mitigates Log4j vulnerability CVE-2021-44228: DSA-2021-298. See the Patch install instructions section below for the upgrade procedure. See the Download section for the PLDS ID for the new release file.
- vCenter Server Appliance 6.5 Update U3s – Build 19261680 permanently mitigates Log4j vulnerabilities CVE-2021-44228 and CVE-2021-45046. See the Patch install instructions section below for installation steps. See the download section for the PLDS ID for the new release file.

Workaround or alternative remediation

N/A

Remarks

PSN Revision History
Issue 1 – December 17, 2021: Initial publication.
Issue 2 – December 21, 2021: Problem description updated.
Issue 3 – December 28, 2021: Update to Avaya Orchestrator 1.5.
Issue 4 – January 5, 2022 : Update to cover CVE-2021-44832 & CVE-2021-4104, vCenter workaround, new FW for VNXe3200.
Issue 5 – January 14, 2022: Update to vCenter, Nimble and server/iLO items for CVE-2021-44832. New warning note for the VNXe3200 upgrade procedure.
Issue 6 – February 1, 2022: Update to the vCenter 6.5.x and VNXe3200 sections to include JAVA versions and other content shared from vendor website.
Issue7 – February 9, 2022: Note included for vCenter 6.5 updates for fix CVE-2021-44228 & CVE-2021-45046
Issue8 – February 22, 2022: Updates to vCenter Server Appliance 6.5 for CVE-2021-44228 & CVE-2021-45046

Patch Notes

The information in this section concerns the patch, if any, recommended in the Resolution above.

Backup before applying the patch
Always
Download
Dell/EMC VNXe3200: PLDS ID# **CPOD0000220**
VMware vCenter Server Appliance: PLDS ID# **CPOD0000222**

Patch install instructions	Service-interrupting?
Dell/EMC VNXe3200 Storage Array upgrade to v3.1.17:	Yes

Software Release v3.1.17.10223906

Upgrade instructions:

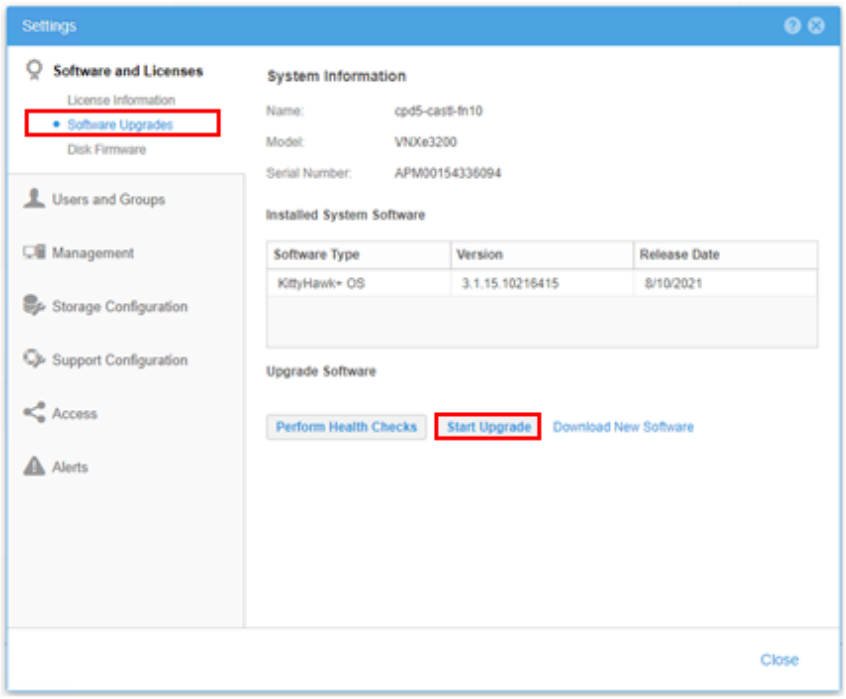
Important: Confirm that the storage array is in a healthy state and that there are no existing alarms or issues reported (faulted SPs, batteries, hard drives, etc), any issues must be fixed prior to attempting the upgrade activity.

Warning: Confirm that there are multipath/redundant connections from the Storage array to the ESXi hosts in the environment prior to starting the upgrade activity. Failure to validate redundancy can severely impact the overall solution.

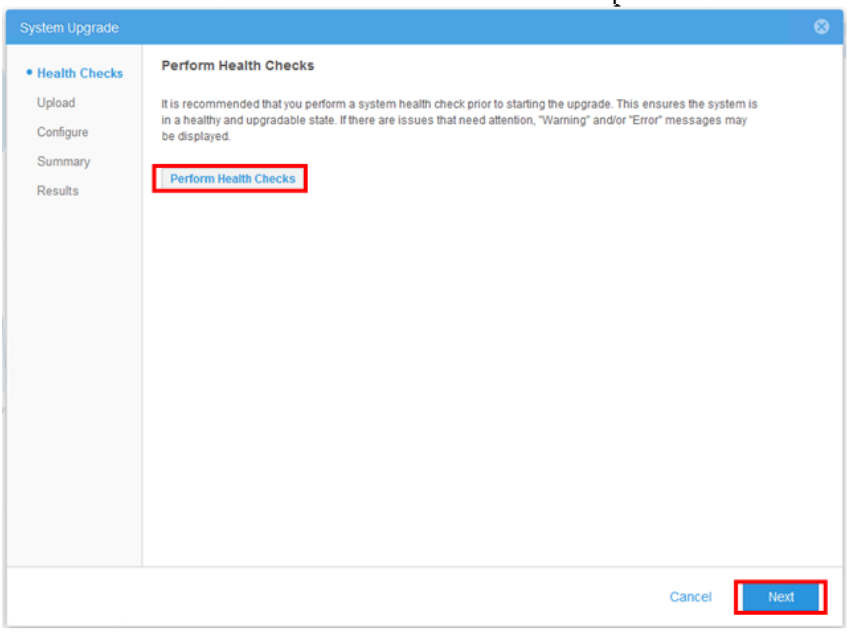
Note: Copy the VNXe-3.1.17.10223906.tgz.bin.gpg file to the Management Server Console (MSC) before beginning the upgrade procedure.

1. From the MSC, open a web browser to the IP/FQDN of the array and log in with the admin credentials. See the customer workbook for login details.
2. At the top-right side of the GUI, select the gear shaped icon to open the settings menu.

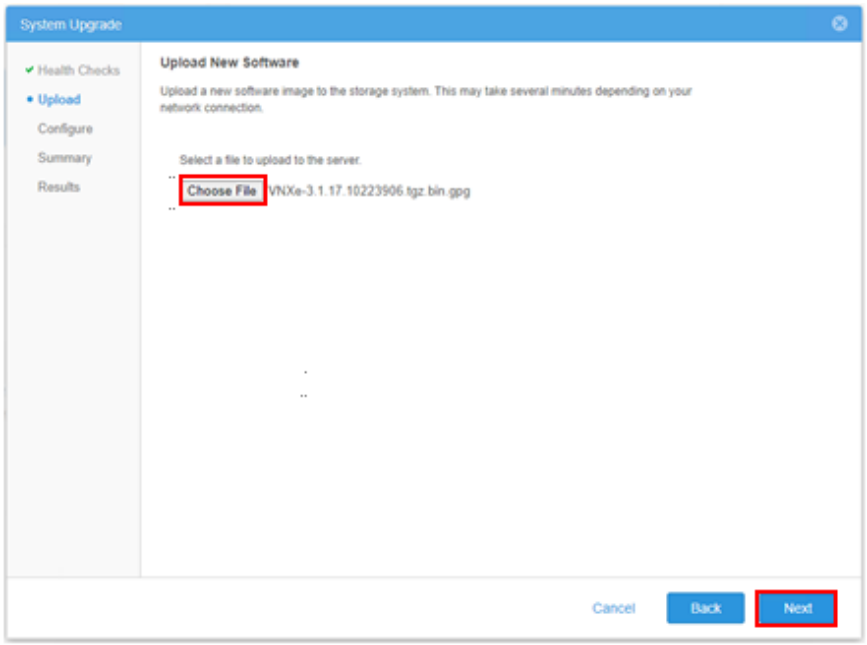
3. From the settings menu go to Software and Licenses > Software Upgrades



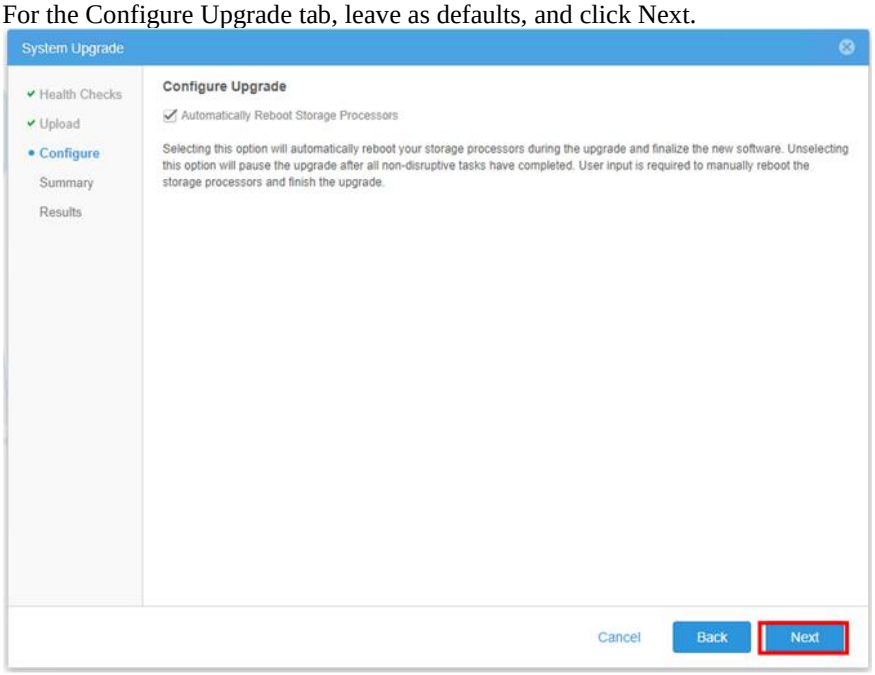
4. Under Upgrade Software select Start Upgrade
5. Click Perform Heath Checks. Once the health check completes click Next.



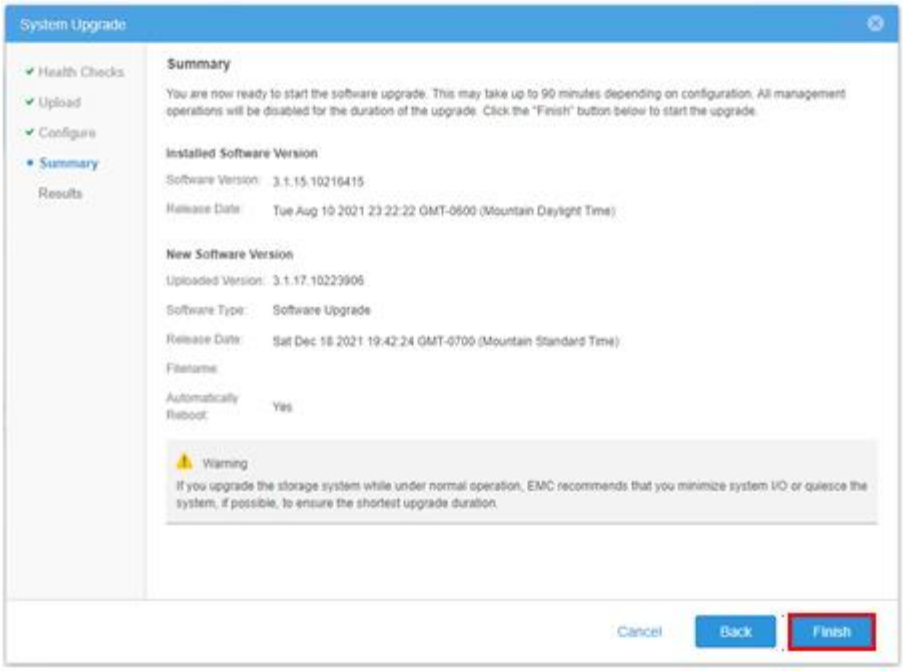
6. Upload the new software by clicking “Choose File” and going to and selecting the VNXe-3.1.17.10223906.tgz.bin file. Click Next.



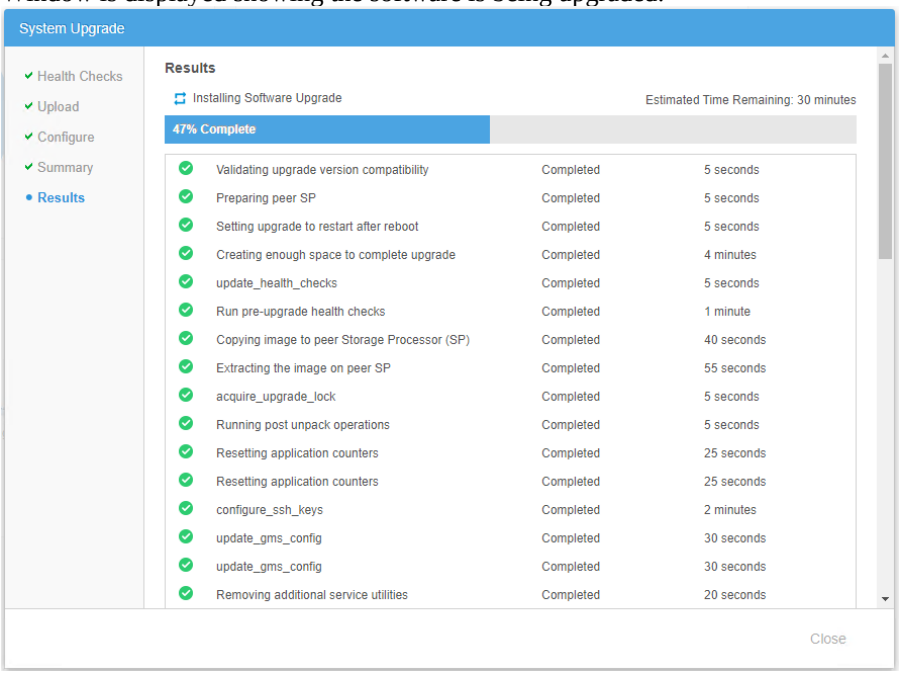
7. For the Configure Upgrade tab, leave as defaults, and click Next.



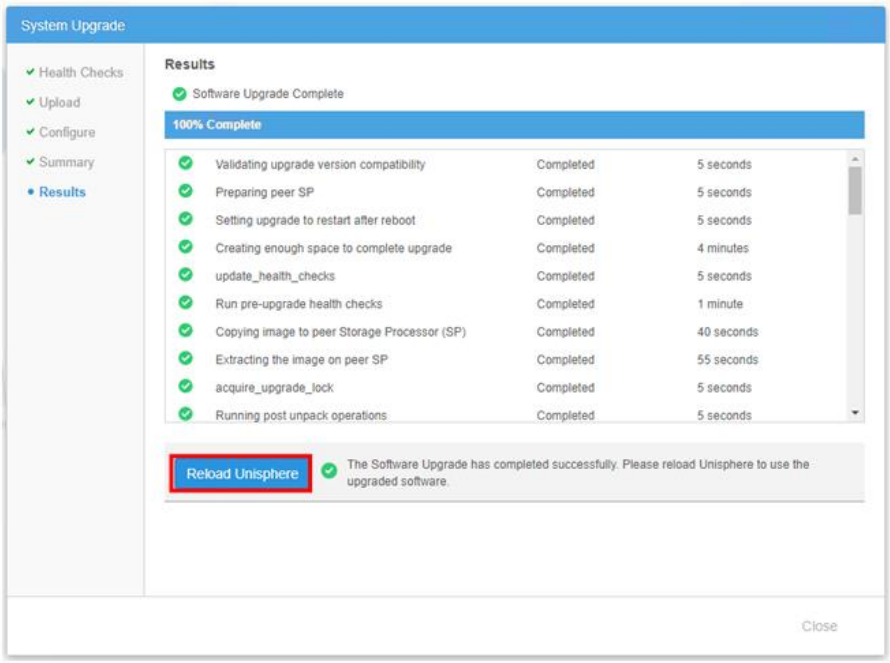
8. Summary is provided to display the currently installed software and the new software that is to be installed. Click Finish to start the upgrade.



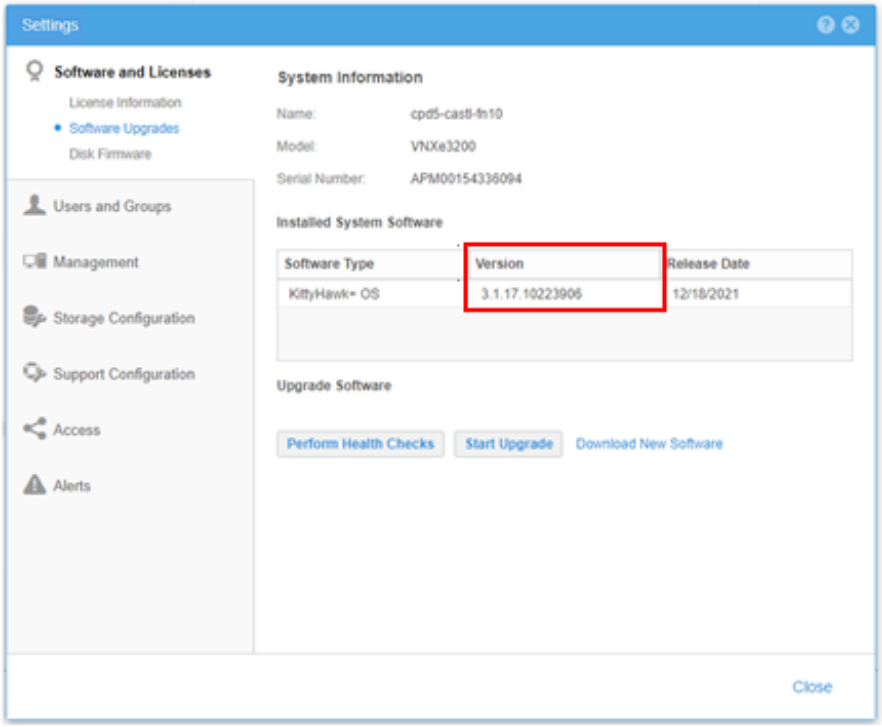
9. Window is displayed showing the software is being upgraded.



10. Once the upgrade completes, select “Reload Unisphere” to load Unisphere using the new upgraded software.



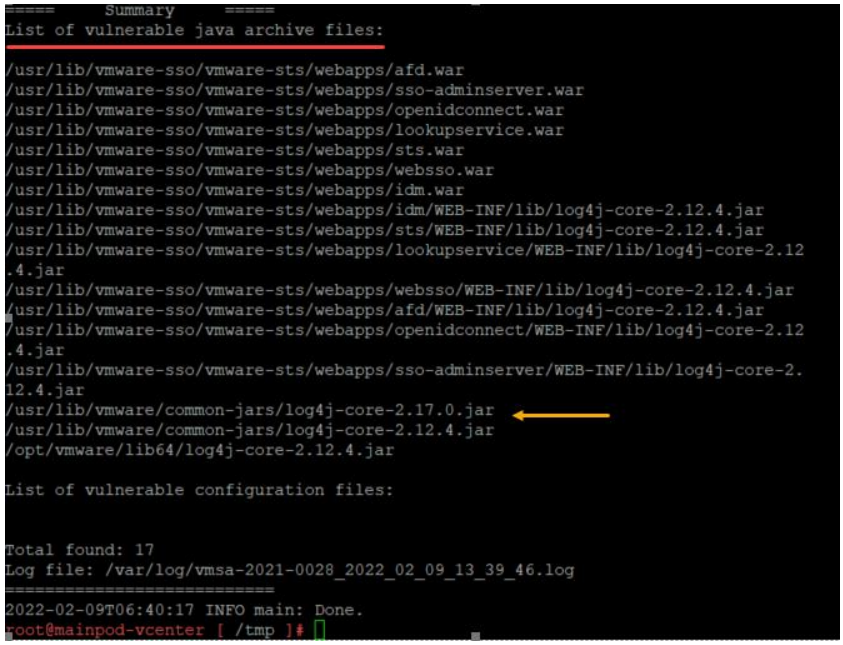
11. To confirm the upgrade and version installed, go to the gear shaped icon at the top-right and view the version under Software and Licenses > Software Upgrades > Installed System Software.



vCenter Server Appliance 6.5 Update 3s – Build 19261680:

- Installation instructions: Follow the same steps documented on to the latest MSC upgrade documentation for patching the vCenter server appliance to build 19261680- *Updating the vCenter Server Appliance section on page 76* https://downloads.avaya.com/css/P8/documents/101070494

Note: DO NOT run the workaround mitigator script on vCSA build 19261680 as it has been developed to scan the configuration files for "-Dlog4j2.formatMsgNoLookups=true" and list the output without taking into account the Apache log4j versions running on the system. This will result in listing vulnerable java files even when these have been updated to 2.17.0 & 2.12.4 respectively.



Verification

Reference to Patch installation and workaround section.

Failure

n/a

Patch uninstall instructions

n/a

Security Notes

The information in this section concerns the security risk, if any, represented by the topic of this PSN.

Security risks

Reference https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2021-44228
Reference https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2021-45046
Reference https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2021-45105
Reference https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2021-44832
Reference https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2021-4104

Reference https://logging.apache.org/log4j/2.x/security.html

Avaya Security Vulnerability Classification

Reference www.avaya.com/emergencyupdate

Mitigation

As noted in this PSN.

If you require further information or assistance, please contact your Authorized Service Provider or visit support.avaya.com. There you can access more product information, chat with an Agent, or open an online Service Request. Support is provided per your warranty or service contract terms unless otherwise specified in the Avaya support Terms of Use.