

STIG Hardening Overview for VMware vSphere Kubernetes Release (VKr)

VKr 1.31.4 vSphere 8.x (Photon)

February 2025



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Revision History

| Date | Description of Change |
|---------------|-----------------------|
| February 2025 | Initial Release |



Overview

VMware is a trusted partner in highly secure, mission critical systems around the world, including the United States Department of Defense (DoD). In the DoD, all IT systems must adhere to the rigorous Risk Management Framework (RMF) as defined in DoDI 8510.01. A critical component of RMF is the mandatory implementation of Security Technical Implementation Guides (STIGs) and Security Requirements Guidelines (SRGs) as maintained by the Defense Information Systems Agency (DISA).

To support our customers, vSphere with Tanzu is evaluated and hardened against the following standards:

- DISA Kubernetes STIG Version 2 Release 2
- Photon OS 5.0 STIG Readiness Guide Version 2 Release 1

This report will document the product's compliance with this guidance, including any deviations.

Applicability

The contents of this document are applicable to the following product versions:

- VKr 1.31.4 vSphere 8.x (Photon)/1.31.4---vmware.1-fips-vkr.3
- vSphere 8 Update 3

For more information on VKr compatibility with vSphere see the VKr Compatibility Matrix.

Disclaimer

This document is intended to provide general guidance for organizations that are considering VMware solutions. The information contained in this document is for educational and informational purposes only. This document is not intended to provide advice and is provided "AS IS." VMware makes no claims, promises, or guarantees about the accuracy, completeness, or adequacy of the information contained herein. Organizations should engage appropriate legal, business, technical, and audit expertise within their specific organization for review of requirements and effectiveness of implementations.

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Tanzu Kubernetes Release Compliance

Tanzu Kubernetes Grid (TKG) clusters provide self-service lifecycle management of Kubernetes workload clusters. TKG on Supervisor is optimized for the vSphere with Tanzu environment and integrates with the underlying VMware vSphere infrastructure, as well as virtual networking via VMware NSX, and Cloud Native Storage options. With TKG on Supervisor, you can provision Kubernetes clusters that conform to the upstream Kubernetes open-source project, maintaining compatibility and support with the larger Kubernetes ecosystem.

For more information about the architecture of TKG see the VMware vSphere with Tanzu Product Documentation.

Tanzu Kubernetes Cluster images (VKrs) have had their operating systems hardened by default. TKG Cluster images are not user serviceable. Updates to hardening will be released as part of the standard product update and upgrade processes.

Photon OS 5.0 Compliance - Overall

The results for the Photon OS 5.0 STIG Readiness Guide as it applies to each appliance for both control plane and worker nodes are as follows:



Photon OS 5.0 Compliance - Exceptions

Controls listed in this Exceptions table are either unmet or require post deployment configuration.

| Control ID | NIST 800-53 ¹ | Title | Justification |
|----------------|---|---|---|
| PHTN-50-000005 | AC-8 a, AC-8 c 1 | The Photon operating system must display the Standard Mandatory DOD Notice and Consent Banner before granting local or remote access to the system. | The DoD login banner is not configured out of the box as it is not appropriate for all customers. Use osConfiguration.fips variable override to enable this control. |
| PHTN-50-000013 | AC-17 (2), MA-4 (6), SC- 8, SC-8 (2) | The Photon operating system must have the OpenSSL FIPS provider installed to protect the confidentiality of remote access sessions. | Resolution included in the product roadmap. |
| PHTN-50-000046 | AC-3 | The Photon operating system must require authentication upon booting into singleuser and maintenance modes. | Resolution included in the product roadmap. |

¹ Duplicate entries may appear in the NIST 800-53 controls column as an artifact of VMware testing, if the control meets multiple requirements.



| PHTN-50-000047 | CM-7 a, IA-3 | The Photon operating system must disable unnecessary kernel modules. | Resolution included in the product roadmap. |
|----------------|--------------|--|---|
| PHTN-50-000182 | SC-13 | The Photon operating system must implement NIST FIPS-validated cryptography for the following: to provision digital signatures, to generate cryptographic hashes, and to protect unclassified information requiring confidentiality and cryptographic protection in accordance with applicable federal laws, Executive Orders, directives, policies, regulations, and standards. | Deploy TKG Cluster using builtin-generic-v3.3.0 Cluster Class available in TKG Service 3.3 with osConfiguration.fips variable set to True to enable this control. |
| PHTN-50-000231 | CM-6 b | The Photon operating system must not perform IPv4 packet forwarding. | Packet forwarding is required for Kubernetes to route packets for pods. |

Photon OS 5.0 Compliance - N/A Controls

Controls listed in this Not Applicable table are not applicable in this scenario or require manual review post-deployment.

| Control ID | NIST 800-53 ¹ | Title | Justification |
|----------------|--------------------------|--|--|
| PHTN-50-000133 | IA-11 | The Photon operating system must require users to reauthenticate for privilege escalation. | There are no users with sudo privileges and NOPASSWD defined to audit. |

Control Plane Kubernetes Compliance - Overall

The results for the Kubernetes STIG Readiness Guide as it applies to each control plane node are as follows:



Control Plane Kubernetes Compliance - Exceptions

Controls listed in this Exceptions table are either unmet or require post deployment configuration.

| Control ID | NIST 800-531 | Title | Justification |
|------------|--------------|-------|---------------|
| | | | |



| CNTR-K8-000290 | CM-6 b | User-managed resources must be created in dedicated namespaces. | TKG deployments contain a service/supervisor service in the default namespace to provide communication with the supervisor cluster. |
|----------------|--|--|---|
| CNTR-K8-000330 | AC-3 | The Kubernetes Kubelet must have the "readOnlyPort" flag disabled. | The readOnlyPort is disabled but is configured on the kubelet process instead of in the config file and is a finding in V1R10 of the K8s STIG. Resolution included in product roadmap. |
| CNTR-K8-000360 | AC-3 | The Kubernetes API server must have anonymous authentication disabled. | Anonymous authentication is enabled for health checks and limited to these actions by RBAC policies. |
| CNTR-K8-000440 | AC-3 | The Kubernetes kubelet staticPodPath must not enable static pods. | The Kubernetes components run as containers using static pods on the control plane nodes. Workloads are not allowed to run on these nodes. |
| CNTR-K8-000700 | AC-2 (4), AU-3 a, AU-3 b, AU-3 c, AU-3 d, AU-3 e, AU-3 (1), AU-12 c, AC-2 (4), AC-2 (4), AU-3 f, AU-3 (2), AC-16 a | Kubernetes API Server must generate audit records that identify what type of event has occurred, identify the source of the event, contain the event results, identify any users, and identify any containers associated with the event. | Auditing is enabled but tailored to limit high volume low value records. |
| CNTR-K8-001300 | SC-10 | Kubernetes Kubelet must not disable timeouts. | Resolution included in product roadmap. |
| CNTR-K8-001460 | SC-23 | Kubernetes Kubelet must enable tls- private-key-file for client authentication to secure service. | Custom certificates are currently not supported for kubelet. |
| CNTR-K8-001470 | SC-23 | Kubernetes Kubelet must enable tls-cert- file for client authentication to secure service. | Custom certificates are currently not supported for kubelet. |
| CNTR-K8-001620 | AC-16 a | Kubernetes Kubelet must enable kernel protection. | The setting protectKernelDefaults is enabled but is configured on the kubelet process instead of in the config file and is a finding in V1R10 of the K8s STIG. Resolution included in product roadmap. |

Control Plane Kubernetes Compliance - N/A Controls

Controls listed in this Not Applicable table are not applicable in this scenario or require manual review post-deployment.

| Control ID | NIST 800-53 ¹ | Title | Justification |
|------------|--------------------------|-------|---------------|
|------------|--------------------------|-------|---------------|



| | T | | |
|----------------|--------|---|---|
| CNTR-K8-000320 | AC-3 | The Kubernetes API server must have the insecure port flag disabled. | The Kubernetes API server insecure-port flag is no longer present in any supported Kubernetes version, so this control is no longer valid. See reference PR |
| CNTR-K8-000400 | AC-3 | Kubernetes Worker Nodes must not have sshd service running. | This control is applicable only to worker nodes and does not apply to the control plane nodes of the cluster. |
| CNTR-K8-000410 | AC-3 | Kubernetes Worker Nodes must not have the sshd service enabled. | This control is applicable only to worker nodes and does not apply to the control plane nodes of the cluster. |
| CNTR-K8-000460 | AC-3 | Kubernetes DynamicKubeletConfig must not be enabled. | DynamicKubeletConfig is deprecated in Kubernetes versions 1.24 and greater. |
| CNTR-K8-000920 | CM-7 b | The Kubernetes API Server must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Ports and protocols used in the product are available at https://ports.vmware.com/ and can be used by customers to document against the PPSM CAL. |
| CNTR-K8-000930 | CM-7 b | The Kubernetes Scheduler must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Ports and protocols used in the product are available at https://ports.vmware.com/ and can be used by customers to document against the PPSM CAL. |
| CNTR-K8-000940 | CM-7 b | The Kubernetes Controllers must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Ports and protocols used in the product are available at https://ports.vmware.com/ and can be used by customers to document against the PPSM CAL. |
| CNTR-K8-000950 | CM-7 b | The Kubernetes etcd must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Ports and protocols used in the product are available at https://ports.vmware.com/ and can be used by customers to document against the PPSM CAL. |
| CNTR-K8-001360 | SC-2 | Kubernetes must separate user functionality. | This is a manual review. User workloads are not allowed to run on the control plane nodes and only contain system level pods. |



| CNTR-K8-002001 | AC-16 a | Kubernetes must enable PodSecurity admission controller on static pods and Kubelets. | PSP is deprecated in Kubernetes versions 1.24 and greater. |
|----------------|---------|--|---|
| CNTR-K8-002010 | AC-16 a | Kubernetes must have a pod security policy set. | PSP is deprecated in Kubernetes versions 1.24 and greater. |
| CNTR-K8-002700 | SI-4 d | Kubernetes must remove old components after updated versions have been installed. | This is typically a manual review, but since nodes are completely replaced on upgrades, no older versions of components will exist. |
| CNTR-K8-003140 | CM-6 b | The Kubernetes Kube Proxy must have file permissions set to 644 or more restrictive. | Kube Proxy is running as a container and the configuration file does not exist on the host OS. |
| CNTR-K8-003150 | CM-6 b | The Kubernetes Kube Proxy must be owned by root. | Kube Proxy is running as a container and the configuration file does not exist on the host OS. |

Worker Node Kubernetes Compliance - Overall

The results for the Kubernetes STIG Readiness Guide as it applies to each worker node are as follows:



Worker Node Kubernetes Compliance - Exceptions

Controls listed in this Exceptions table are either unmet or require post deployment configuration.

| Control ID | NIST 800-53 ¹ | Title | Justification |
|----------------|--------------------------|--|--|
| CNTR-K8-000330 | AC-3 | The Kubernetes Kubelet must have the "readOnlyPort" flag disabled. | The readOnlyPort is disabled but is configured on the kubelet process instead of in the config file and is a finding in V1R10 of the K8s STIG. Resolution included in product roadmap. |
| CNTR-K8-000400 | AC-3 | Kubernetes Worker Nodes must not have sshd service running. | SSH is currently enabled on worker nodes to support product functionality. |
| CNTR-K8-000410 | AC-3 | Kubernetes Worker Nodes must not have the sshd service enabled. | SSH is currently enabled on worker nodes to support product functionality. |



| CNTR-K8-000440 | AC-3 | The Kubernetes kubelet static PodPath | The embedded registry is run as a container using |
|----------------|------|---------------------------------------|---|
| | | must not enable static pods. | static pods on the worker nodes. |

Worker Node Kubernetes Compliance – Not Reviewed Controls

Controls listed in this table require manual review post-deployment. Not Applicable controls for the worker node are listed in the appendix and not here due to the large number of controls that do not apply to worker nodes.

| Control ID | NIST 800-53 ¹ | Title | Justification |
|----------------|--------------------------|---|---|
| CNTR-K8-002700 | SI-4 d | Kubernetes must remove old components after updated versions have been installed. | This is typically a manual review, but since nodes are completely replaced on upgrades, no older versions of components will exist. |



Frequently Asked Questions

Can customers make changes to the vSphere with Tanzu Supervisor or VKr images or appliances?

No. Due to the immutable nature of vSphere with Tanzu deployments any changes would not be persistent. Modification to images and components is not supported. For product improvements please contact your VMware Account Team.

Where can I find the Photon OS 5.0 STIG Readiness Guide?

The Photon OS 5.0 STIG Readiness guide may be found at:

https://github.com/vmware/dod-compliance-and-automation/tree/master/photon/5.0/docs

What is a STIG Readiness Guide?

More information about STIG Readiness Guides can be found at:

https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/docs/vmware-stig-program-overview.pdf

Is there a compliance report for VMware vSphere Kubernetes Clusters?

A report for TKCs/VKrs will be available in a separate document and those images have a separate lifecycle from vCenter and the Supervisor nodes.

What do the severity codes mean?

The DISA Security Requirements Guides state:

Severity Category Codes (referred to as CAT) are a measure of vulnerabilities used to assess a facility or system security posture. Each security policy specified in this document is assigned a Severity Category Code of CAT I, II, or III.

A description of the category codes are as follows:

| DISA Category Code G | DISA Category Code Guidelines | | |
|----------------------|--|--|--|
| CATI | Any vulnerability, the exploitation of which will directly and immediately result in loss of Confidentiality, Availability, or Integrity. | | |
| CAT II | Any vulnerability, the exploitation of which has a potential to result in loss of Confidentiality, Availability, or Integrity. | | |
| CAT III | Any vulnerability, the existence of which degrades measures to protect against loss of Confidentiality, Availability, or Integrity. | | |

Most severity codes in the associated guides are CAT II. During STIG development, DISA modifies severity codes on a per product and context specific basis.

What does the "status" column in the control list tables mean?

| Status Definitions | |
|--------------------|------------------------------|
| Passed | The compliance check passed. |



| Failed | The compliance check failed. |
|----------------|---|
| Not Applicable | The control was determined to be N/A in this context. |
| Not Reviewed | These controls were skipped as the conditions of the test did not exist on the system or require a manual review. |



Appendix: VMware vSphere Kubernetes Release Full Control List

VKr Control/Worker Photon OS 5.0 Control List

| Control ID | NIST 800-53 ¹ | Title | Status |
|----------------|--|---|--------|
| PHTN-50-000003 | AC-2 (4), AU-12 c | The Photon operating system must audit all account creations. | Passed |
| PHTN-50-000004 | AC-7 a | The Photon operating system must enforce the limit of three consecutive invalid logon attempts by a user during a 15-minute time period. | Passed |
| PHTN-50-000005 | AC-8 a, AC-8 c 1 | The Photon operating system must display the Standard Mandatory DOD Notice and Consent Banner before granting local or remote access to the system. | Failed |
| PHTN-50-000007 | AC-10 | The Photon operating system must limit the number of concurrent sessions to ten for all accounts and/or account types. | Passed |
| PHTN-50-000012 | AC-17 (1) | The Photon operating system must monitor remote access logins. | Passed |
| PHTN-50-000013 | AC-17 (2), MA-4 (6), SC-8, SC-8 (2) | The Photon operating system must have the OpenSSL FIPS provider installed to protect the confidentiality of remote access sessions. | Failed |
| PHTN-50-000014 | AU-3 | The Photon operating system must configure auditd to log to disk. | Passed |
| PHTN-50-000016 | AU-12 a, AU-3, AU-3 (1), CM-5 (1) | The Photon operating system must enable the auditd service. | Passed |
| PHTN-50-000019 | AC-6 (8), AU-3 (1) | The Photon operating system must be configured to audit the execution of privileged functions. | Passed |
| PHTN-50-000021 | AU-5 (2), AU-5 a | The Photon operating system must alert the ISSO and SA in the event of an audit processing failure. | Passed |
| PHTN-50-000026 | AU-9 | The Photon operating system must protect audit logs from unauthorized access. | Passed |
| PHTN-50-000030 | AU-12 b | The Photon operating system must allow only authorized users to configure the auditd service. | Passed |
| PHTN-50-000031 | AU-12 c | The Photon operating system must generate audit records when successful/unsuccessful attempts to access privileges occur. | Passed |
| PHTN-50-000035 | IA-5 (1) (a) | The Photon operating system must enforce password complexity by requiring that at least one uppercase character be used. | Passed |
| PHTN-50-000036 | IA-5 (1) (a) | The Photon operating system must enforce password complexity by requiring that at least one lowercase character be used. | Passed |
| PHTN-50-000037 | IA-5 (1) (a) | The Photon operating system must enforce password complexity by requiring that at least one numeric character be used. | Passed |
| PHTN-50-000038 | IA-5 (1) (b) | The Photon operating system must require the change of at least eight characters when passwords are changed. | Passed |
| PHTN-50-000039 | IA-5 (1) (c) | The operating system must store only encrypted representations of passwords. | Passed |
| PHTN-50-000040 | IA-5 (1) (c) | The Photon operating system must not have the telnet package installed. | Passed |
| PHTN-50-000041 | IA-5 (1) (d) | The Photon operating system must enforce one day as the minimum password lifetime. | Passed |
| PHTN-50-000042 | IA-5 (1) (d) | The Photon operating systems must enforce a 90-day maximum password lifetime restriction. | Passed |
| PHTN-50-000044 | IA-5 (1) (a) | The Photon operating system must enforce a minimum 15-character password length. | Passed |



| PHTN-50-000046 | AC-3 | The Photon operating system must require authentication upon booting into single-user and maintenance modes. | Failed |
|----------------|---------------------------------|---|--------|
| PHTN-50-000047 | CM-7 a, IA-3 | The Photon operating system must disable unnecessary kernel modules. | Failed |
| PHTN-50-000049 | IA-2 | The Photon operating system must not have duplicate User IDs (UIDs). | Passed |
| PHTN-50-000059 | IA-7 | The Photon operating system must use mechanisms meeting the requirements of applicable federal laws, Executive orders, directives, policies, regulations, standards, and guidance for authentication to a cryptographic module. | Passed |
| PHTN-50-000067 | SC-4 | The Photon operating system must restrict access to the kernel message buffer. | Passed |
| PHTN-50-000068 | SC-5, SC-5 (2) | The Photon operating system must be configured to use TCP syncookies. | Passed |
| PHTN-50-000069 | MA-4 (7), SC-10 | The Photon operating system must terminate idle Secure Shell (SSH) sessions after 15 minutes. | Passed |
| PHTN-50-000073 | SI-11 a | The Photon operating system /var/log directory must be restricted. | Passed |
| PHTN-50-000074 | SI-11 b | The Photon operating system must reveal error messages only to authorized users. | Passed |
| PHTN-50-000076 | AC-2 (4) | The Photon operating system must audit all account modifications. | Passed |
| PHTN-50-000078 | AC-2 (4) | The Photon operating system must audit all account removal actions. | Passed |
| PHTN-50-000079 | AC-17 (2) | The Photon operating system must implement only approved ciphers to protect the integrity of remote access sessions. | Passed |
| PHTN-50-000080 | AU-14 (1) | The Photon operating system must initiate session audits at system start-up. | Passed |
| PHTN-50-000082 | AU-9 | The Photon operating system must protect audit tools from unauthorized access. | Passed |
| PHTN-50-000085 | CM-5 (6) | The Photon operating system must limit privileges to change software resident within software libraries. | Passed |
| PHTN-50-000086 | IA-5 (1) (a) | The Photon operating system must enforce password complexity by requiring that at least one special character be used. | Passed |
| PHTN-50-000092 | AU-9 (3) | The Photon operating system must use cryptographic mechanisms to protect the integrity of audit tools. | Passed |
| PHTN-50-000093 | AC-12, MA-4 e | The operating system must automatically terminate a user session after inactivity time-outs have expired. | Passed |
| PHTN-50-000105 | AC-6 (10) | The Photon operating system must enable symlink access control protection in the kernel. | Passed |
| PHTN-50-000107 | AC-2 (4), AC-6 (9), AU- 12 c | The Photon operating system must audit the execution of privileged functions. | Passed |
| PHTN-50-000108 | AC-7 b | The Photon operating system must automatically lock an account until the locked account is released by an administrator when three unsuccessful logon attempts in 15 minutes occur. | Passed |
| PHTN-50-000110 | AU-4 | The Photon operating system must allocate audit record storage capacity to store audit records when audit records are not immediately sent to a central audit record storage facility. | Passed |
| PHTN-50-000112 | AU-5 (1) | The Photon operating system must immediately notify the SA and ISSO when allocated audit record storage volume reaches 75% of the repository maximum audit record storage capacity. | Passed |
| PHTN-50-000127 | CM-3 (5), SI-6 b | The Photon operating system must install AIDE to detect changes to baseline configurations. | Passed |
| | | | |



| PHTN-50-000130 | CM-5 (3) | The Photon operating system TDNF package management tool must cryptographically verify the authenticity of all software packages during installation. | Passed |
|----------------|--------------|--|----------------|
| PHTN-50-000133 | IA-11 | The Photon operating system must require users to reauthenticate for privilege escalation. | Not Applicable |
| PHTN-50-000160 | SI-16 | The Photon operating system must implement address space layout randomization to protect its memory from unauthorized code execution. | Passed |
| PHTN-50-000161 | SI-2 (6) | The Photon operating system must remove all software components after updated versions have been installed. | Passed |
| PHTN-50-000173 | AU-12 c | The Photon operating system must generate audit records when successful/unsuccessful logon attempts occur. | Passed |
| PHTN-50-000175 | AU-12 c | The Photon operating system must be configured to audit the loading and unloading of dynamic kernel modules. | Passed |
| PHTN-50-000182 | SC-13 | The Photon operating system must implement NIST FIPS-validated cryptography for the following: to provision digital signatures, to generate cryptographic hashes, and to protect unclassified information requiring confidentiality and cryptographic protection in accordance with applicable federal laws, Executive Orders, directives, policies, regulations, and standards. | Failed |
| PHTN-50-000184 | CM-6 b | The Photon operating system must prevent the use of dictionary words for passwords. | Passed |
| PHTN-50-000185 | CM-6 b | The Photon operating system must enforce a delay of at least four seconds between logon prompts following a failed logon attempt in login.defs. | Passed |
| PHTN-50-000186 | CM-6 b | The Photon operating system must ensure audit events are flushed to disk at proper intervals. | Passed |
| PHTN-50-000187 | CM-6 b | The Photon operating system must define default permissions for all authenticated users in such a way that the user can only read and modify their own files. | Passed |
| PHTN-50-000188 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disallow HostbasedAuthentication. | Passed |
| PHTN-50-000192 | AC-7 a | The Photon operating system must be configured to use the pam_faillock.so module. | Passed |
| PHTN-50-000193 | AC-7 a | The Photon operating system must prevent leaking information of the existence of a user account. | Passed |
| PHTN-50-000194 | AC-7 a | The Photon operating system must audit logon attempts for unknown users. | Passed |
| PHTN-50-000195 | AC-7 a | The Photon operating system must include root when automatically locking an account until the locked account is released by an administrator when three unsuccessful logon attempts occur during a 15-minute time period. | Passed |
| PHTN-50-000196 | AC-7 a | The Photon operating system must persist lockouts between system reboots. | Passed |
| PHTN-50-000197 | IA-5 (1) (a) | The Photon operating system must be configured to use the pam_pwquality.so module. | Passed |
| PHTN-50-000199 | CM-5 (3) | The Photon operating system TDNF package management tool must cryptographically verify the authenticity of all software packages during installation for all repos. | Passed |
| PHTN-50-000200 | AC-17 (1) | The Photon operating system must configure the Secure Shell (SSH) SyslogFacility. | Passed |
| PHTN-50-000201 | AC-17 (1) | The Photon operating system must enable Secure Shell (SSH) authentication logging. | Passed |
| PHTN-50-000203 | SC-10 | The Photon operating system must terminate idle Secure Shell (SSH) sessions. | Passed |



| PHTN-50-000204 | AC-2 (4), AU-12 c | The Photon operating system must audit all account modifications. | Passed |
|----------------|-------------------|---|--------|
| PHTN-50-000206 | CM-6 b | The Photon operating system must enforce a delay of at least four seconds between logon prompts following a failed logon attempt. | Passed |
| PHTN-50-000207 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disallow authentication with an empty password. | Passed |
| PHTN-50-000208 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disable user environment processing. | Passed |
| PHTN-50-000209 | CM-6 b | The Photon operating system must create a home directory for all new local interactive user accounts. | Passed |
| PHTN-50-000210 | CM-6 b | The Photon operating system must disable the debug-shell service. | Passed |
| PHTN-50-000211 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disallow Generic Security Service Application Program Interface (GSSAPI) authentication. | Passed |
| PHTN-50-000212 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disable X11 forwarding. | Passed |
| PHTN-50-000213 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to perform strict mode checking of home directory configuration files. | Passed |
| PHTN-50-000214 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disallow Kerberos authentication. | Passed |
| PHTN-50-000215 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to disallow compression of the encrypted session stream. | Passed |
| PHTN-50-000216 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to display the last login immediately after authentication. | Passed |
| PHTN-50-000217 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to ignore user-specific trusted hosts lists. | Passed |
| PHTN-50-000218 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to ignore user-specific known_host files. | Passed |
| PHTN-50-000219 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to limit the number of allowed login attempts per connection. | Passed |
| PHTN-50-000220 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to restrict AllowTcpForwarding. | Passed |
| PHTN-50-000221 | CM-6 b | The Photon operating system must configure Secure Shell (SSH) to restrict LoginGraceTime. | Passed |
| PHTN-50-000222 | CM-6 b | The Photon operating system must be configured so that the x86 Ctrl-Alt-Delete key sequence is disabled on the command line. | Passed |
| PHTN-50-000223 | CM-6 b | The Photon operating system must not forward IPv4 or IPv6 source-routed packets. | Passed |
| PHTN-50-000224 | CM-6 b | The Photon operating system must not respond to IPv4 Internet Control Message Protocol (ICMP) echoes sent to a broadcast address. | Passed |
| PHTN-50-000225 | CM-6 b | The Photon operating system must prevent IPv4 Internet Control Message Protocol (ICMP) redirect messages from being accepted. | Passed |
| PHTN-50-000226 | CM-6 b | The Photon operating system must prevent IPv4 Internet Control Message Protocol (ICMP) secure redirect messages from being accepted. | Passed |
| PHTN-50-000227 | CM-6 b | The Photon operating system must not send IPv4 Internet Control Message Protocol (ICMP) redirects. | Passed |
| PHTN-50-000228 | CM-6 b | The Photon operating system must log IPv4 packets with impossible addresses. | Passed |
| PHTN-50-000229 | CM-6 b | The Photon operating system must use a reverse-path filter for IPv4 network traffic. | Passed |
| | | | |



| PHTN-50-000231 | CM-6 b | The Photon operating system must not perform IPv4 packet forwarding. | Failed |
|----------------|-----------|--|--------|
| PHTN-50-000232 | CM-6 b | The Photon operating system must send TCP timestamps. | Passed |
| PHTN-50-000233 | CM-6 b | The Photon operating system must be configured to protect the Secure Shell (SSH) public host key from unauthorized modification. | Passed |
| PHTN-50-000234 | CM-6 b | The Photon operating system must be configured to protect the Secure Shell (SSH) private host key from unauthorized access. | Passed |
| PHTN-50-000235 | CM-6 b | The Photon operating system must enforce password complexity on the root account. | Passed |
| PHTN-50-000236 | CM-6 b | The Photon operating system must disable systemd fallback DNS. | Passed |
| PHTN-50-000237 | CM-3 (5) | The Photon operating system must configure AIDE to detect changes to baseline configurations. | Passed |
| PHTN-50-000239 | AC-17 (2) | The Photon operating system must implement only approved Message Authentication Codes (MACs) to protect the integrity of remote access sessions. | Passed |
| PHTN-50-000241 | CM-6 b | The Photon operating system must install rsyslog for offloading of audit logs. | Passed |
| PHTN-50-000242 | CM-6 b | The Photon operating system must enable the rsyslog service. | Passed |
| PHTN-50-000244 | CM-6 b | The Photon operating system must enable hardlink access control protection in the kernel. | Passed |
| PHTN-50-000245 | CM-6 b | The Photon operating system must mount /tmp securely. | Passed |
| PHTN-50-000246 | CM-6 b | The Photon operating system must restrict core dumps. | Passed |
| PHTN-50-000247 | CM-6 b | The Photon operating system must not allow empty passwords. | Passed |

VKr Control Plane Node Kubernetes Control List

| Control ID | NIST 800-53 ¹ | Title | Status |
|----------------|--------------------------|---|--------|
| CNTR-K8-000150 | AC-17 (2) | The Kubernetes Controller Manager must use TLS 1.2, at a minimum, to protect the confidentiality of sensitive data during electronic dissemination. | Passed |
| CNTR-K8-000160 | AC-17 (2) | The Kubernetes Scheduler must use TLS 1.2, at a minimum, to protect the confidentiality of sensitive data during electronic dissemination. | Passed |
| CNTR-K8-000170 | AC-17 (2) | The Kubernetes API Server must use TLS 1.2, at a minimum, to protect the confidentiality of sensitive data during electronic dissemination. | Passed |
| CNTR-K8-000180 | AC-17 (2) | The Kubernetes etcd must use TLS to protect the confidentiality of sensitive data during electronic dissemination. | Passed |
| CNTR-K8-000190 | AC-17 (2) | The Kubernetes etcd must use TLS to protect the confidentiality of sensitive data during electronic dissemination. | Passed |



| CNTR-K8-000220 | AC-2 (1) | The Kubernetes Controller Manager must create unique service accounts for each work payload. | Passed |
|----------------|-----------|--|----------------|
| CNTR-K8-000270 | AC-3 | The Kubernetes API Server must enable Node,RBAC as the authorization mode. | Passed |
| CNTR-K8-000290 | CM-6 b | User-managed resources must be created in dedicated namespaces. | Failed |
| CNTR-K8-000300 | AC-3 | The Kubernetes Scheduler must have secure binding. | Passed |
| CNTR-K8-000310 | AC-3 | The Kubernetes Controller Manager must have secure binding. | Passed |
| CNTR-K8-000320 | AC-3 | The Kubernetes API server must have the insecure port flag disabled. | Not Applicable |
| CNTR-K8-000330 | AC-3 | The Kubernetes Kubelet must have the "readOnlyPort" flag disabled. | Failed |
| CNTR-K8-000340 | AC-3 | The Kubernetes API server must have the insecure bind address not set. | Passed |
| CNTR-K8-000350 | AC-3 | The Kubernetes API server must have the secure port set. | Passed |
| CNTR-K8-000360 | AC-3 | The Kubernetes API server must have anonymous authentication disabled. | Failed |
| CNTR-K8-000370 | AC-3 | The Kubernetes Kubelet must have anonymous authentication disabled. | Passed |
| CNTR-K8-000380 | AC-3 | The Kubernetes kubelet must enable explicit authorization. | Passed |
| CNTR-K8-000400 | AC-3 | Kubernetes Worker Nodes must not have sshd service running. | Not Applicable |
| CNTR-K8-000410 | AC-3 | Kubernetes Worker Nodes must not have the sshd service enabled. | Not Applicable |
| CNTR-K8-000420 | AC-3 | Kubernetes dashboard must not be enabled. | Passed |
| CNTR-K8-000430 | AC-3 | Kubernetes Kubectl cp command must give expected access and results. | Passed |
| CNTR-K8-000440 | AC-3 | The Kubernetes kubelet staticPodPath must not enable static pods. | Failed |
| CNTR-K8-000450 | AC-3 | Kubernetes DynamicAuditing must not be enabled. | Passed |
| CNTR-K8-000460 | AC-3 | Kubernetes DynamicKubeletConfig must not be enabled. | Not Applicable |
| CNTR-K8-000470 | AC-3 | The Kubernetes API server must have Alpha APIs disabled. | Passed |
| CNTR-K8-000610 | AU-14 (1) | The Kubernetes API Server must have an audit log path set. | Passed |



| CNTR-K8-000700 | AC-2 (4), AU-3 a, AU-3 b, AU-3 c, AU-3 d, AU- 3 e, AU-3 (1), AU-12 c, AC-2 (4), AC-2 (4), AU- 3 f, AU-3 (2), AC-16 a | Kubernetes API Server must generate audit records that identify what type of event has occurred, identify the source of the event, contain the event results, identify any users, and identify any containers associated with the event. | Failed |
|----------------|--|--|--------------|
| CNTR-K8-000850 | CM-5 (6) | Kubernetes Kubelet must deny hostname override. | Passed |
| CNTR-K8-000860 | CM-5 (6) | The Kubernetes manifests must be owned by root. | Passed |
| CNTR-K8-000880 | CM-5 (6) | The Kubernetes KubeletConfiguration file must be owned by root. | Passed |
| CNTR-K8-000890 | CM-5 (6) | The Kubernetes KubeletConfiguration files must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-000900 | CM-5 (6), CM-6 b | The Kubernetes manifest files must have least privileges. | Passed |
| CNTR-K8-000910 | CM-7 a | Kubernetes Controller Manager must disable profiling. | Passed |
| CNTR-K8-000920 | CM-7 b | The Kubernetes API Server must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Reviewed |
| CNTR-K8-000930 | CM-7 b | The Kubernetes Scheduler must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Reviewed |
| CNTR-K8-000940 | CM-7 b | The Kubernetes Controllers must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Reviewed |
| CNTR-K8-000950 | CM-7 b | The Kubernetes etcd must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Reviewed |
| CNTR-K8-000960 | CM-7 b | The Kubernetes cluster must use non-privileged host ports for user pods. | Passed |
| CNTR-K8-001160 | IA-5 (1) (c) | Secrets in Kubernetes must not be stored as environment variables. | Passed |
| CNTR-K8-001300 | SC-10 | Kubernetes Kubelet must not disable timeouts. | Failed |
| CNTR-K8-001360 | SC-2 | Kubernetes must separate user functionality. | Not Reviewed |
| CNTR-K8-001400 | SC-23 | The Kubernetes API server must use approved cipher suites. | Passed |
| CNTR-K8-001410 | SC-23 | Kubernetes API Server must have the SSL Certificate Authority set. | Passed |



| CNTR-K8-001420 | SC-23 | Kubernetes Kubelet must have the SSL Certificate Authority set. | Passed |
|----------------|-----------|---|----------------|
| CNTR-K8-001430 | SC-23 | Kubernetes Controller Manager must have the SSL Certificate Authority set. | Passed |
| CNTR-K8-001440 | SC-23 | Kubernetes API Server must have a certificate for communication. | Passed |
| CNTR-K8-001450 | SC-23 | Kubernetes etcd must enable client authentication to secure service. | Passed |
| CNTR-K8-001460 | SC-23 | Kubernetes Kubelet must enable tlsPrivateKeyFile for client authentication to secure service. | Failed |
| CNTR-K8-001470 | SC-23 | Kubernetes Kubelet must enable tlsCertFile for client authentication to secure service. | Failed |
| CNTR-K8-001480 | SC-23 | Kubernetes etcd must enable client authentication to secure service. | Passed |
| CNTR-K8-001490 | SC-23 | Kubernetes etcd must have a key file for secure communication. | Passed |
| CNTR-K8-001500 | SC-23 | Kubernetes etcd must have a certificate for communication. | Passed |
| CNTR-K8-001510 | SC-23 | Kubernetes etcd must have the SSL Certificate Authority set. | Passed |
| CNTR-K8-001520 | SC-23 | Kubernetes etcd must have a certificate for communication. | Passed |
| CNTR-K8-001530 | SC-23 | Kubernetes etcd must have a key file for secure communication. | Passed |
| CNTR-K8-001540 | SC-23 | Kubernetes etcd must have peer-cert-file set for secure communication. | Passed |
| CNTR-K8-001550 | SC-23 | Kubernetes etcd must have a peer-key-file set for secure communication. | Passed |
| CNTR-K8-001620 | SC-3 | Kubernetes Kubelet must enable kernel protection. | Failed |
| CNTR-K8-002000 | AC-16 a | The Kubernetes API server must have the ValidatingAdmissionWebhook enabled. | Passed |
| CNTR-K8-002001 | AC-16 a | Kubernetes must enable PodSecurity admission controller on static pods and Kubelets. | Not Applicable |
| CNTR-K8-002010 | AC-16 a | Kubernetes must have a pod security policy set. | Not Applicable |
| CNTR-K8-002011 | AC-16 a | Kubernetes must have a Pod Security Admission control file configured. | Passed |
| CNTR-K8-002600 | SC-7 (21) | Kubernetes API Server must configure timeouts to limit attack surface. | Passed |
| CNTR-K8-002620 | SC-12 (3) | Kubernetes API Server must disable basic authentication to protect information in transit. | Passed |
| | | | |



| CNTR-K8-002630 | SC-12 (3) | Kubernetes API Server must disable token authentication to protect information in transit. | Passed |
|----------------|---------------|---|----------------|
| CNTR-K8-002640 | SC-12 (3) | Kubernetes endpoints must use approved organizational certificate and key pair to protect information in transit. | Passed |
| CNTR-K8-002700 | SI-4 d | Kubernetes must remove old components after updated versions have been installed. | Not Reviewed |
| CNTR-K8-002720 | SI-3 (10) (a) | Kubernetes must contain the latest updates as authorized by IAVMs, CTOs, DTMs, and STIGs. | Passed |
| CNTR-K8-003110 | CM-6 b | The Kubernetes component manifests must be owned by root. | Passed |
| CNTR-K8-003120 | CM-6 b | The Kubernetes component etcd must be owned by etcd. | Passed |
| CNTR-K8-003130 | CM-6 b | The Kubernetes conf files must be owned by root. | Passed |
| CNTR-K8-003140 | CM-6 b | The Kubernetes Kube Proxy kubeconfig must have file permissions set to 644 or more restrictive. | Not Applicable |
| CNTR-K8-003150 | CM-6 b | The Kubernetes Kube Proxy kubeconfig must be owned by root. | Not Applicable |
| CNTR-K8-003160 | CM-6 b | The Kubernetes Kubelet certificate authority file must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003170 | CM-6 b | The Kubernetes Kubelet certificate authority must be owned by root. | Passed |
| CNTR-K8-003180 | CM-6 b | The Kubernetes component PKI must be owned by root. | Passed |
| CNTR-K8-003190 | CM-6 b | The Kubernetes kubelet KubeConfig must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003200 | CM-6 b | The Kubernetes kubelet KubeConfig file must be owned by root. | Passed |
| CNTR-K8-003210 | CM-6 b | The Kubernetes kubeadm.conf must be owned by root. | Passed |
| CNTR-K8-003220 | CM-6 b | The Kubernetes kubeadm.conf must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003230 | CM-6 b | The Kubernetes kubelet config must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003240 | CM-6 b | The Kubernetes kubelet config must be owned by root. | Passed |
| CNTR-K8-003260 | CM-6 b | The Kubernetes etcd must have file permissions set to 644 or more restrictive. | Passed |



| CNTR-K8-003270 | CM-6 b | The Kubernetes admin kubeconfig must have file permissions set to 644 or more restrictive. | Passed |
|----------------|--------|--|--------|
| CNTR-K8-003280 | CM-6 b | Kubernetes API Server audit logs must be enabled. | Passed |
| CNTR-K8-003290 | CM-6 b | The Kubernetes API Server must be set to audit log max size. | Passed |
| CNTR-K8-003300 | CM-6 b | The Kubernetes API Server must be set to audit log maximum backup. | Passed |
| CNTR-K8-003310 | CM-6 b | The Kubernetes API Server audit log retention must be set. | Passed |
| CNTR-K8-003320 | CM-6 b | The Kubernetes API Server audit log path must be set. | Passed |
| CNTR-K8-003330 | CM-6 b | The Kubernetes PKI CRT must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003340 | CM-6 b | The Kubernetes PKI keys must have file permissions set to 600 or more restrictive. | Passed |

VKr Worker Node Kubernetes Control List

| Control ID | NIST 800-53 ¹ | Title | Status |
|----------------|--------------------------|---|----------------|
| CNTR-K8-000150 | AC-17 (2) | The Kubernetes Controller Manager must use TLS 1.2, at a minimum, to protect the confidentiality of sensitive data during electronic dissemination. | Not Applicable |
| CNTR-K8-000160 | AC-17 (2) | The Kubernetes Scheduler must use TLS 1.2, at a minimum, to protect the confidentiality of sensitive data during electronic dissemination. | Not Applicable |
| CNTR-K8-000170 | AC-17 (2) | The Kubernetes API Server must use TLS 1.2, at a minimum, to protect the confidentiality of sensitive data during electronic dissemination. | Not Applicable |
| CNTR-K8-000180 | AC-17 (2) | The Kubernetes etcd must use TLS to protect the confidentiality of sensitive data during electronic dissemination. | Not Applicable |
| CNTR-K8-000190 | AC-17 (2) | The Kubernetes etcd must use TLS to protect the confidentiality of sensitive data during electronic dissemination. | Not Applicable |
| CNTR-K8-000220 | AC-2 (1) | The Kubernetes Controller Manager must create unique service accounts for each work payload. | Not Applicable |
| CNTR-K8-000270 | AC-3 | The Kubernetes API Server must enable Node, RBAC as the authorization mode. | Not Applicable |
| CNTR-K8-000290 | CM-6 b | User-managed resources must be created in dedicated namespaces. | Passed |
| CNTR-K8-000300 | AC-3 | The Kubernetes Scheduler must have secure binding. | Not Applicable |
| CNTR-K8-000310 | AC-3 | The Kubernetes Controller Manager must have secure binding. | Not Applicable |
| CNTR-K8-000320 | AC-3 | The Kubernetes API server must have the insecure port flag disabled. | Not Applicable |
| CNTR-K8-000330 | AC-3 | The Kubernetes Kubelet must have the "readOnlyPort" flag disabled. | Failed |
| CNTR-K8-000340 | AC-3 | The Kubernetes API server must have the insecure bind address not set. | Not Applicable |
| CNTR-K8-000350 | AC-3 | The Kubernetes API server must have the secure port set. | Not Applicable |



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|----------------|--|--|----------------|
| CNTR-K8-000360 | AC-3 | The Kubernetes API server must have anonymous authentication disabled. | Not Applicable |
| CNTR-K8-000370 | AC-3 | The Kubernetes Kubelet must have anonymous authentication disabled. | Passed |
| CNTR-K8-000380 | AC-3 | The Kubernetes kubelet must enable explicit authorization. | Passed |
| CNTR-K8-000400 | AC-3 | Kubernetes Worker Nodes must not have sshd service running. | Failed |
| CNTR-K8-000410 | AC-3 | Kubernetes Worker Nodes must not have the sshd service enabled. | Failed |
| CNTR-K8-000420 | AC-3 | Kubernetes dashboard must not be enabled. | Not Applicable |
| CNTR-K8-000430 | AC-3 | Kubernetes Kubectl cp command must give expected access and results. | Passed |
| CNTR-K8-000440 | AC-3 | The Kubernetes kubelet staticPodPath must not enable static pods. | Failed |
| CNTR-K8-000450 | AC-3 | Kubernetes DynamicAuditing must not be enabled. | Passed |
| CNTR-K8-000460 | AC-3 | Kubernetes DynamicKubeletConfig must not be enabled. | Not Applicable |
| CNTR-K8-000470 | AC-3 | The Kubernetes API server must have Alpha APIs disabled. | Passed |
| CNTR-K8-000610 | AU-14 (1) | The Kubernetes API Server must have an audit log path set. | Not Applicable |
| CNTR-K8-000700 | AC-2 (4), AU-3 a, AU-3 b, AU-3 c, AU-3 d, AU- 3 e, AU-3 (1), AU-12 c, AC-2 (4), AC-2 (4), AU- 3 f, AU-3 (2), AC-16 a | Kubernetes API Server must generate audit records that identify what type of event has occurred, identify the source of the event, contain the event results, identify any users, and identify any containers associated with the event. | Not Applicable |
| CNTR-K8-000850 | CM-5 (6) | Kubernetes Kubelet must deny hostname override. | Passed |
| CNTR-K8-000860 | CM-5 (6) | The Kubernetes manifests must be owned by root. | Not Applicable |
| CNTR-K8-000880 | CM-5 (6) | The Kubernetes KubeletConfiguration file must be owned by root. | Passed |
| CNTR-K8-000890 | CM-5 (6) | The Kubernetes KubeletConfiguration files must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-000900 | CM-5 (6), CM-6 b | The Kubernetes manifest files must have least privileges. | Passed |
| CNTR-K8-000910 | CM-7 a | Kubernetes Controller Manager must disable profiling. | Not Applicable |
| CNTR-K8-000920 | CM-7 b | The Kubernetes API Server must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Applicable |
| CNTR-K8-000930 | CM-7 b | The Kubernetes Scheduler must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Applicable |
| CNTR-K8-000940 | CM-7 b | The Kubernetes Controllers must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Applicable |
| CNTR-K8-000950 | CM-7 b | The Kubernetes etcd must enforce ports, protocols, and services (PPS) that adhere to the Ports, Protocols, and Services Management Category Assurance List (PPSM CAL). | Not Applicable |
| CNTR-K8-000960 | CM-7 b | The Kubernetes cluster must use non-privileged host ports for user pods. | Not Applicable |
| CNTR-K8-001160 | IA-5 (1) (c) | Secrets in Kubernetes must not be stored as environment variables. | Not Applicable |

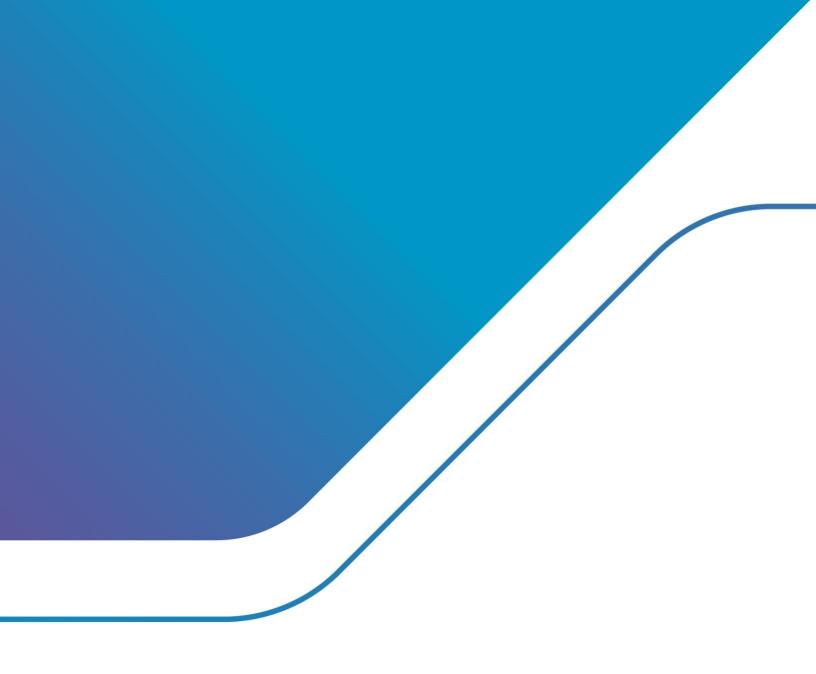


| CNTR-K8-001300 | SC-10 | Kubernetes Kubelet must not disable timeouts. | Not Applicable |
|----------------|-----------|---|----------------|
| CNTR-K8-001360 | SC-2 | Kubernetes must separate user functionality. | Not Applicable |
| CNTR-K8-001400 | SC-23 | The Kubernetes API server must use approved cipher suites. | Not Applicable |
| CNTR-K8-001410 | SC-23 | Kubernetes API Server must have the SSL Certificate Authority set. | Not Applicable |
| CNTR-K8-001420 | SC-23 | Kubernetes Kubelet must have the SSL Certificate Authority set. | Not Applicable |
| CNTR-K8-001430 | SC-23 | Kubernetes Controller Manager must have the SSL Certificate Authority set. | Not Applicable |
| CNTR-K8-001440 | SC-23 | Kubernetes API Server must have a certificate for communication. | Not Applicable |
| CNTR-K8-001450 | SC-23 | Kubernetes etcd must enable client authentication to secure service. | Not Applicable |
| CNTR-K8-001460 | SC-23 | Kubernetes Kubelet must enable tlsPrivateKeyFile for client authentication to secure service. | Not Applicable |
| CNTR-K8-001470 | SC-23 | Kubernetes Kubelet must enable tlsCertFile for client authentication to secure service. | Not Applicable |
| CNTR-K8-001480 | SC-23 | Kubernetes etcd must enable client authentication to secure service. | Not Applicable |
| CNTR-K8-001490 | SC-23 | Kubernetes etcd must have a key file for secure communication. | Not Applicable |
| CNTR-K8-001500 | SC-23 | Kubernetes etcd must have a certificate for communication. | Not Applicable |
| CNTR-K8-001510 | SC-23 | Kubernetes etcd must have the SSL Certificate Authority set. | Not Applicable |
| CNTR-K8-001520 | SC-23 | Kubernetes etcd must have a certificate for communication. | Not Applicable |
| CNTR-K8-001530 | SC-23 | Kubernetes etcd must have a key file for secure communication. | Not Applicable |
| CNTR-K8-001540 | SC-23 | Kubernetes etcd must have peer-cert-file set for secure communication. | Not Applicable |
| CNTR-K8-001550 | SC-23 | Kubernetes etcd must have a peer-key-file set for secure communication. | Not Applicable |
| CNTR-K8-001620 | SC-3 | Kubernetes Kubelet must enable kernel protection. | Not Applicable |
| CNTR-K8-002000 | AC-16 a | The Kubernetes API server must have the ValidatingAdmissionWebhook enabled. | Not Applicable |
| CNTR-K8-002001 | AC-16 a | Kubernetes must enable PodSecurity admission controller on static pods and Kubelets. | Not Applicable |
| CNTR-K8-002010 | AC-16 a | Kubernetes must have a pod security policy set. | Not Applicable |
| CNTR-K8-002011 | AC-16 a | Kubernetes must have a Pod Security Admission control file configured. | Not Applicable |
| CNTR-K8-002600 | SC-7 (21) | Kubernetes API Server must configure timeouts to limit attack surface. | Not Applicable |
| CNTR-K8-002620 | SC-12 (3) | Kubernetes API Server must disable basic authentication to protect information in transit. | Not Applicable |
| CNTR-K8-002630 | SC-12 (3) | Kubernetes API Server must disable token authentication to protect information in transit. | Not Applicable |
| CNTR-K8-002640 | SC-12 (3) | Kubernetes endpoints must use approved organizational certificate and key pair to protect information in transit. | Not Applicable |
| CNTR-K8-002700 | SI-4 d | Kubernetes must remove old components after updated versions have been installed. | Not Reviewed |



| CNTR-K8-003110 | CM-6 b | The Kubernetes component manifests must be owned by root. | Not Applicable |
|----------------|--------|--|----------------|
| CNTR-K8-003120 | CM-6 b | The Kubernetes component etcd must be owned by etcd. | Not Applicable |
| CNTR-K8-003130 | CM-6 b | The Kubernetes conf files must be owned by root. | Not Applicable |
| CNTR-K8-003140 | CM-6 b | The Kubernetes Kube Proxy kubeconfig must have file permissions set to 644 or more restrictive. | Not Applicable |
| CNTR-K8-003150 | CM-6 b | The Kubernetes Kube Proxy kubeconfig must be owned by root. | Not Applicable |
| CNTR-K8-003160 | CM-6 b | The Kubernetes Kubelet certificate authority file must have file permissions set to 644 or more restrictive. | Not Applicable |
| CNTR-K8-003170 | CM-6 b | The Kubernetes Kubelet certificate authority must be owned by root. | Not Applicable |
| CNTR-K8-003180 | CM-6 b | The Kubernetes component PKI must be owned by root. | Passed |
| CNTR-K8-003190 | CM-6 b | The Kubernetes kubelet KubeConfig must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003200 | CM-6 b | The Kubernetes kubelet KubeConfig file must be owned by root. | Passed |
| CNTR-K8-003210 | CM-6 b | The Kubernetes kubeadm.conf must be owned by root. | Passed |
| CNTR-K8-003220 | CM-6 b | The Kubernetes kubeadm.conf must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003230 | CM-6 b | The Kubernetes kubelet config must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003240 | CM-6 b | The Kubernetes kubelet config must be owned by root. | Passed |
| CNTR-K8-003260 | CM-6 b | The Kubernetes etcd must have file permissions set to 644 or more restrictive. | Not Applicable |
| CNTR-K8-003270 | CM-6 b | The Kubernetes admin kubeconfig must have file permissions set to 644 or more restrictive. | Not Applicable |
| CNTR-K8-003280 | CM-6 b | Kubernetes API Server audit logs must be enabled. | Not Applicable |
| CNTR-K8-003290 | CM-6 b | The Kubernetes API Server must be set to audit log max size. | Not Applicable |
| CNTR-K8-003300 | CM-6 b | The Kubernetes API Server must be set to audit log maximum backup. | Not Applicable |
| CNTR-K8-003310 | CM-6 b | The Kubernetes API Server audit log retention must be set. | Not Applicable |
| CNTR-K8-003320 | CM-6 b | The Kubernetes API Server audit log path must be set. | Not Applicable |
| CNTR-K8-003330 | CM-6 b | The Kubernetes PKI CRT must have file permissions set to 644 or more restrictive. | Passed |
| CNTR-K8-003340 | CM-6 b | The Kubernetes PKI keys must have file permissions set to 600 or more restrictive. | Not Applicable |
| | | | |







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