TEST REPORT

Table of Contents

Test reports . . . 1
- Tests common_security for yoctoCI . . . 1
- Tests common for yoctoCI . . . 5
- Tests hypervisor for yoctoCI . . . 5
- Tests hypervisoriommu for yoctoCI . . . 6
- Tests hypervisorreadonly for yoctoCI . . . 6
- Tests hypervisorsecurity for yoctoCI . . . 7
- Tests update for yoctoCI . . . 8

About this documentation . . . 9

Test reports

Tests common_security for yoctoCI

Test ID	Tests	Results
SEAPATH-00106	Check /etc/passwd permissions	PASS
SEAPATH-00107	Check /etc/shadow permissions	PASS
SEAPATH-00108	Check /etc/syslog-ng/ca.d/cacert.pem permissions	PASS
SEAPATH-00049	Check /etc/ssh/ssh_host_ed25519_key permissions	PASS
SEAPATH-00090	Check /etc/ssh/ssh_host_rsa_key permissions	PASS
SEAPATH-00088	root password was randomized at boot	PASS
SEAPATH-00089	root password is randomized at each boot	PASS
SEAPATH-00091	root password is encrypted as sha512	PASS
SEAPATH-00092	bash timeout is set read-only to 300s	PASS
SEAPATH-00093	sshd forbids setting environment variables	PASS
SEAPATH-00094	sshd server time-out is set to 300s of client inactivity	PASS
SEAPATH-00095	shadow encrypts passwords with SHA512 by default	PASS
SEAPATH-00096	shadow encryption uses at least 65536 rounds	PASS
SEAPATH-00097	pam password authentication uses sha512 with 65536 rounds	PASS
SEAPATH-00098	password set to expire after 90 days	PASS
SEAPATH-00099	*su* is denied	PASS
SEAPATH-00100	/etc/securetty is empty	PASS
SEAPATH-00101	PAM securetty module is active in *login* policy	PASS
SEAPATH-00157	PATH env. variable is correctly set	PASS
SEAPATH-00050	Linux kernel *hardening* : SECURITY_YAMA is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : DEBUG_WX is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : SECURITY_DMESG_RESTRICT is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : PAGE_TABLE_ISOLATION is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : RETPOLINE is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : LEGACY_VSYSCALL_NONE is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : STATIC_USERMODEHELPER is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : USERFAULTFD is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : X86_VSYSCALL_EMULATION is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : MODIFY_LDT_SYSCALL is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : DEVMEM is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : USELIB is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : KEXEC is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : BINFMT_MISC is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : ALLOW_DEV_COREDUMP is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : PROC_KCORE is disabled	PASS
SEAPATH-00050	Linux kernel *hardening* : KALLSYMS is disabled	PASS

Test ID	Tests	Results
SEAPATH-00050	Linux kernel *hardening* : SLUB_DEBUG_ON is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : SLAB_FREELIST_RANDOM is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : SLAB_FREELIST_HARDENED is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : SLUB_DEBUG_ON is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : HARDENED_USERCOPY is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : FORTIFY_SOURCE is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : PAGE_POISONING is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : RANDOMIZE_KSTACK_OFFSET_DEFAULT is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : INIT_ON_ALLOC_DEFAULT_ON is enabled	PASS
SEAPATH-00050	Linux kernel *hardening* : INIT_ON_FREE_DEFAULT_ON is enabled	PASS
SEAPATH-00050	Linux kernel *gcc_plugins* : GCC_PLUGIN_LATENT_ENTROPY is enabled	PASS
SEAPATH-00050	Linux kernel *gcc_plugins* : GCC_PLUGIN_RANDSTRUCT is enabled	PASS
SEAPATH-00050	Linux kernel *gcc_plugins* : GCC_PLUGIN_STRUCTLEAK_BYREF_ALL is enabled	PASS
SEAPATH-00158	sudo policy is installed for group operator (operator)	PASS
SEAPATH-00159	sudo policy is installed for group maintenance-N1 (maint-n1)	PASS
SEAPATH-00160	sudo policy is installed for group maintenance-N3 (maint-n3)	PASS
SEAPATH-00161	sudo policy is installed for group cluster administrator (admincluster)	PASS
SEAPATH-00162	sudo policy is installed for group system administrator (adminsys)	PASS
SEAPATH-00163	sudo policy is installed for group ansible (ansible)	PASS
SEAPATH-00164	sudo requires password for group operator (operator)	PASS
SEAPATH-00165	sudo requires password for group maintenance-N1 (maint-n1)	PASS
SEAPATH-00166	sudo requires password for group maintenance-N3 (maint-n3)	PASS
SEAPATH-00167	sudo requires password for group administrator (admincluster)	PASS
SEAPATH-00168	sudo requires password for group super-administrator (adminsys)	PASS
SEAPATH-00169	sudo requires password for group ansible (ansible)	PASS
SEAPATH-00103	/usr/bin/sudo exists	PASS
SEAPATH-00104	/usr/bin/sudo belongs to group privileged	PASS
SEAPATH-00105	/usr/bin/sudo has permissions 4750	PASS
SEAPATH-00143	/etc/sudoers include noexec directive	PASS
SEAPATH-00144	/etc/sudoers include requiretty directive	PASS
SEAPATH-00145	/etc/sudoers include use_pty directive	PASS
SEAPATH-00146	/etc/sudoers include umask=0027 directive	PASS
SEAPATH-00147	/etc/sudoers include ignore_dot directive	PASS
SEAPATH-00148	/etc/sudoers include env_reset directive	PASS
SEAPATH-00149	/etc/sudoers include passwd_timeout=1 directive	PASS
SEAPATH-00150	/etc/sudoers	PASS
SEAPATH-00151	/etc/sudoers	PASS
SEAPATH-00152	/etc/sudoers	PASS
SEAPATH-00153	/etc/sudoers	PASS
SEAPATH-00154	/etc/sudoers	PASS

Test ID	Tests	Results
SEAPATH-00155	/etc/sudoers	PASS
SEAPATH-00156	/etc/sudoers	PASS
SEAPATH-00150	/etc/sudoers.d/admin	PASS
SEAPATH-00151	/etc/sudoers.d/admin	PASS
SEAPATH-00152	/etc/sudoers.d/admin	PASS
SEAPATH-00153	/etc/sudoers.d/admin	PASS
SEAPATH-00154	/etc/sudoers.d/admin	PASS
SEAPATH-00155	/etc/sudoers.d/admin	PASS
SEAPATH-00156	/etc/sudoers.d/admin	PASS
SEAPATH-00150	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00151	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00152	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00153	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00154	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00155	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00156	/etc/sudoers.d/maint-n1	PASS
SEAPATH-00150	/etc/sudoers.d/admincluster	PASS
SEAPATH-00151	/etc/sudoers.d/admincluster	PASS
SEAPATH-00152	/etc/sudoers.d/admincluster	PASS
SEAPATH-00153	/etc/sudoers.d/admincluster	PASS
SEAPATH-00154	/etc/sudoers.d/admincluster	PASS
SEAPATH-00155	/etc/sudoers.d/admincluster	PASS
SEAPATH-00156	/etc/sudoers.d/admincluster	PASS
SEAPATH-00150	/etc/sudoers.d/snmp	PASS
SEAPATH-00151	/etc/sudoers.d/snmp	PASS
SEAPATH-00152	/etc/sudoers.d/snmp	PASS
SEAPATH-00153	/etc/sudoers.d/snmp	PASS
SEAPATH-00154	/etc/sudoers.d/snmp	PASS
SEAPATH-00155	/etc/sudoers.d/snmp	PASS
SEAPATH-00156	/etc/sudoers.d/snmp	PASS
SEAPATH-00150	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00151	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00152	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00153	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00154	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00155	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00156	/etc/sudoers.d/emergadmin	PASS
SEAPATH-00150	/etc/sudoers.d/adminsys	PASS
SEAPATH-00151	/etc/sudoers.d/adminsys	PASS
SEAPATH-00152	/etc/sudoers.d/adminsys	PASS

Test ID	Tests	Results
SEAPATH-00153	/etc/sudoers.d/adminsys	PASS
SEAPATH-00154	/etc/sudoers.d/adminsys	PASS
SEAPATH-00155	/etc/sudoers.d/adminsys	PASS
SEAPATH-00156	/etc/sudoers.d/adminsys	PASS
SEAPATH-00150	/etc/sudoers.d/privileged	PASS
SEAPATH-00151	/etc/sudoers.d/privileged	PASS
SEAPATH-00152	/etc/sudoers.d/privileged	PASS
SEAPATH-00153	/etc/sudoers.d/privileged	PASS
SEAPATH-00154	/etc/sudoers.d/privileged	PASS
SEAPATH-00155	/etc/sudoers.d/privileged	PASS
SEAPATH-00156	/etc/sudoers.d/privileged	PASS
SEAPATH-00150	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00151	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00152	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00153	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00154	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00155	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00156	/etc/sudoers.d/maint-n3	PASS
SEAPATH-00150	/etc/sudoers.d/operator	PASS
SEAPATH-00151	/etc/sudoers.d/operator	PASS
SEAPATH-00152	/etc/sudoers.d/operator	PASS
SEAPATH-00153	/etc/sudoers.d/operator	PASS
SEAPATH-00154	/etc/sudoers.d/operator	PASS
SEAPATH-00155	/etc/sudoers.d/operator	PASS
SEAPATH-00156	/etc/sudoers.d/operator	PASS
SEAPATH-00150	/etc/sudoers.d/ansible	PASS
SEAPATH-00151	/etc/sudoers.d/ansible	PASS
SEAPATH-00152	/etc/sudoers.d/ansible	PASS
SEAPATH-00153	/etc/sudoers.d/ansible	PASS
SEAPATH-00154	/etc/sudoers.d/ansible	PASS
SEAPATH-00155	/etc/sudoers.d/ansible	PASS
SEAPATH-00156	/etc/sudoers.d/ansible	PASS
SEAPATH-00082	/var/log is mounted on a separate partition	PASS
SEAPATH-00085	syslog-ng can not acquire new privileges	PASS
SEAPATH-00086	syslog-ng capabilities are bounded	PASS
SEAPATH-00087	syslog-ng system calls are filtered	PASS

- number of tests: 152
- number of failures: 0

Tests common for yoctoCI

Test ID	Tests	Results
SEAPATH-00050	Linux kernel *misc* : EFI_PARTITION is enabled	PASS
SEAPATH-00050	Linux kernel *reporting* : EDAC is enabled	PASS
SEAPATH-00050	Linux kernel *usb* : USB_OHCI_HCD is enabled	PASS
SEAPATH-00050	Linux kernel *usb* : USB_EHCI_HCD is enabled	PASS
SEAPATH-00050	Linux kernel *usb* : USB_XHCI_HCD is enabled	PASS
SEAPATH-00171	no RT throttling triggered	PASS
SEAPATH-00078	no paging error	PASS
SEAPATH-00079	no rcu stall	PASS
SEAPATH-00080	no backtraces	PASS
SEAPATH-00075	kernel is PREEMPT RT	PASS
SEAPATH-00076	kernel is realtime	PASS
SEAPATH-00081	kernel is >= 4.19.106	PASS
SEAPATH-00083	syslog-ng service is running	PASS
SEAPATH-00084	/var/log/syslog is used as log target	PASS
SEAPATH-00102	no systemd services have failed	PASS
SEAPATH-00170	no systemd syntax warning	PASS

- number of tests: 16
- number of failures: 0

Tests hypervisor for yoctoCI

Test ID	Tests	Results
SEAPATH-00027	auditd is inactive	PASS
SEAPATH-00044	Check /etc/syslog-ng/cert.d/clientcert.pem permissions	PASS
SEAPATH-00045	Check /etc/syslog-ng/cert.d/clientkey.pem permissions	PASS
SEAPATH-00050	Linux kernel *ovs* : OPENVSWITCH is enabled	PASS
SEAPATH-00050	Linux kernel *ovs* : OPENVSWITCH_GRE is enabled	PASS
SEAPATH-00050	Linux kernel *ovs* : OPENVSWITCH_VXLAN is enabled	PASS
SEAPATH-00050	Linux kernel *ovs* : OPENVSWITCH_GENEVE is enabled	PASS
SEAPATH-00050	Linux kernel *ovs* : TRIM_UNUSED_KSYMS is disabled	PASS
SEAPATH-00050	Linux kernel *ovs* : NET_IPGRE is enabled	PASS
SEAPATH-00050	Linux kernel *dpdk* : UIO is enabled	PASS
SEAPATH-00050	Linux kernel *dpdk* : VFIO_PCI is enabled	PASS
SEAPATH-00050	Linux kernel *hardware* : IGB is enabled	PASS
SEAPATH-00050	Linux kernel *hardware* : TIGON3 is enabled	PASS
SEAPATH-00050	Linux kernel *hardware* : R8169 is enabled	PASS
SEAPATH-00050	Linux kernel *hardware* : E1000 is enabled	PASS
SEAPATH-00050	Linux kernel *hardware* : E1000E is enabled	PASS

Test ID	Tests	Results
SEAPATH-00050	Linux kernel *hardware* : X86_PKG_TEMP_THERMAL is enabled	PASS
SEAPATH-00050	Linux kernel *ceph* : AIO is enabled	PASS
SEAPATH-00050	Linux kernel *ceph* : TMPFS is enabled	PASS
SEAPATH-00050	Linux kernel *ceph* : MD is enabled	PASS
SEAPATH-00050	Linux kernel *kvm* : KVM is enabled	PASS
SEAPATH-00050	Linux kernel *kvm* : KVM_INTEL is enabled	PASS
SEAPATH-00050	Linux kernel *kvm* : KVM_VFIO is enabled	PASS
SEAPATH-00007	SMT is activated	PASS
SEAPATH-00003	libvirtd service is running	PASS
SEAPATH-00035	openvswitch service is running	PASS
SEAPATH-00038	lspci 3.6.2+ is available	PASS
SEAPATH-00018	KVM device available	PASS
SEAPATH-00019	Qemu for x86-64 available	PASS
SEAPATH-00020	Libvirtd service is running	PASS
SEAPATH-00021	IPv4 NAT is available	PASS
SEAPATH-00022	IPv6 NAT is available	PASS
SEAPATH-00023	SPICE protocol is not installed	PASS

- number of tests: 33
- number of failures: 0

Tests hypervisoriommu for yoctoCI

Test ID	Tests	Results
SEAPATH-00030	iommu enabled in passthrough mode	PASS
SEAPATH-00031	iommu is loaded	PASS
SEAPATH-00032	iommu is populated	PASS
SEAPATH-00050	Linux kernel *iommu* : INTEL_IOMMU is enabled	PASS
SEAPATH-00050	Linux kernel *iommu* : AMD_IOMMU is enabled	PASS
SEAPATH-00050	Linux kernel *iommu* : AMD_IOMMU_V2 is enabled	PASS
SEAPATH-00050	Linux kernel *iommu* : IOMMU_IOVA is enabled	PASS
SEAPATH-00050	Linux kernel *iommu* : DMAR_TABLE is enabled	PASS

- number of tests: 8
- number of failures: 0

Tests hypervisorreadonly for yoctoCI

Test ID	Tests	Results
SEAPATH-00140	rootfs is readonly mounted	PASS
SEAPATH-00141	/etc is mounted as overlayfs	PASS

Test ID	Tests	Results
SEAPATH-00141	/home is mounted as overlayfs	PASS
SEAPATH-00141	/usr/lib/python3.10/site-packages/*pycache* is mounted as overlayfs	PASS
SEAPATH-00141	/var/cache is mounted as overlayfs	PASS
SEAPATH-00141	/var/lib is mounted as overlayfs	PASS
SEAPATH-00141	/var/spool is mounted as overlayfs	PASS
SEAPATH-00142	Kernel OVERLAY_FS is set	PASS

- number of tests: 8
- number of failures: 0

Tests hypervisorsecurity for yoctoCI

Test ID	Tests	Results
SEAPATH-00033	/etc/group is consistent	PASS
SEAPATH-00034	/etc/group does not include extra group	PASS
SEAPATH-00006	Audit subsystem is disabled on cmdline	PASS
SEAPATH-00008	Slab merging is disabled on cmdline	PASS
SEAPATH-00009	Kernel Page Table Isolation is enabled on kernel configuration	PASS
SEAPATH-00010	SLUB redzoning and sanity checking enabled on cmdline	PASS
SEAPATH-00004	libvirtd can not acquire new privileges	PASS
SEAPATH-00005	libvirtd capabilities are bounded	PASS
SEAPATH-00125	libvirtd system calls are filtered	PASS
SEAPATH-00039	openvswitch user is created and locked	PASS
SEAPATH-00040	openvswitch user is part of hugepages group	PASS
SEAPATH-00041	openvswitch user is part of vfio-net group	PASS
SEAPATH-00042	ovs-vswitchd is running as user openvswitch	PASS
SEAPATH-00043	ovsdb-server is running as user openvswitch	PASS
SEAPATH-00126	ovs-vswitchd system calls are filtered	PASS
SEAPATH-00127	ovsdb-server system calls are filtered	PASS
SEAPATH-00047	/etc/passwd is consistent	PASS
SEAPATH-00048	/etc/passwd does not include extra user	PASS
SEAPATH-00046	/etc/shadow is consistent	PASS
SEAPATH-00015	Vulnerabilities sysfs entry exist	PASS
SEAPATH-00017	System is not vulnerable to : meltdown	PASS
SEAPATH-00017	System is not vulnerable to : l1tf	PASS
SEAPATH-00017	System is not vulnerable to : spectre_v1	PASS
SEAPATH-00017	System is not vulnerable to : spectre_v2	PASS
SEAPATH-00012	admin user exists	PASS
SEAPATH-00013	admin has a password	PASS
SEAPATH-00014	admin is sudoers	PASS
SEAPATH-00023	SPICE protocol is not installed	PASS

- number of tests: 27
- number of failures: 0

Tests update for yoctoCI

Test ID	Tests	Results
SEAPATH-00115	/dev/upgradable_bootloader exists	PASS
SEAPATH-00116	/dev/upgradable_rootfs exists	PASS
SEAPATH-00117	/dev/upgradable_bootloader points to inactive bank	PASS
SEAPATH-00118	/dev/upgradable_rootfs points to inactive bank	PASS

- number of tests: 4
- number of failures: 0

About this documentation

This documentation uses the AsciiDoc documentation generator. It is a convenient format that allows using plain-text formatted writing that can later be converted to various output formats such as HTML and PDF.

In order to generate an HTML version of this documentation, use the following command (the asciidoc package will need to be installed in your Linux distribution):

```
$ asciidoc test-report.adoc
```

This will result in a README.html file being generated in the current directory.

If you prefer a PDF version of the documentation instead, use the following command (the dblatex package will need to be installed on your Linux distribution):

```
$ asciidoctor-pdf test-report.adoc
```