# **AWS Report**

AWS config list: https://github.com/wenhuizhang/kconfig-safety-check/tree/master/config\_files/aws

Tool usage: "./bin/kconfig-safety-check -p X86\_64 -c ./config\_files/aws/\* -m show\_fail -e prod"

1. Amazon Linux v2: config-4.14.275-207.503.amzn2.x86\_64

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-4.14.275-207.503.amzn2.x86_64
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 4.14
 7
                option name
                                          | type |desired val | decision |
                                                                               reason
 9 CONFIG SLAB FREELIST RANDOM
                                                              |ELISA_safety, Intel|Memory m
                                          |kconfig|
                                                       У
10 CONFIG_SLAB_MERGE_DEFAULT
                                                              |ELISA_safety, Intel|Memory m
                                          |kconfig|
11 CONFIG_SHUFFLE_PAGE_ALLOCATOR
                                                              |ELISA_safety, Intel|Memory m
                                          |kconfig|
                                                       У
12 CONFIG_REFCOUNT_FULL
                                          |kconfig|
                                                              |ELISA_safety|Kernel Memory r
                                                       У
13 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                                              |ELISA_safety|GCC, plugins, S
                                          |kconfig|
                                                       У
14 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL
                                                              |ELISA_safety|GCC, plugins, S
                                          |kconfig|
                                                       У
15 CONFIG_INIT_STACK_ALL
                                                              |ELISA_safety|Stack memory:Un
                                          |kconfig|
                                                       У
16 CONFIG_STACKPROTECTOR
                                                              |ELISA_safety, Intel|Stack me
                                          |kconfig|
                                                       У
17 CONFIG_STACKPROTECTOR_STRONG
                                                              |ELISA_safety, Intel|Stack me
                                          |kconfig|
                                                       У
18 CONFIG_GCC_PLUGIN_STACKLEAK
                                                              |ELISA_safety|Stack memory:St
                                          |kconfig|
                                                       У
19 CONFIG_PAGE_POISONING
                                                              |ELISA_safety|Stack memory:St
                                          |kconfig|
                                                       У
20 CONFIG_PAGE_POISONING_NO_SANITY
                                          |kconfig|
                                                              |ELISA_safety|Stack memory:St
                                                       n
21 CONFIG DEBUG SG
                                          |kconfig|
                                                              |ELISA_safety|Driver: Heap ov
                                                       У
22 CONFIG_KMEM
                                          |kconfig|
                                                                Intel
                                                                        |Kernel Memory:Ker
                                          |kconfig|
23 CONFIG DEVMEM
                                                              |ELISA_safety, Intel|Kernel M
                                                       n
24 CONFIG DEVPORT
                                                              |ELISA_safety, Intel|Kernel M
                                          |kconfig|
                                                       n
25 CONFIG_ACPI_CUSTOM_METHOD
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
26 CONFIG LEGACY PTYS
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
27 CONFIG HIBERNATION
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
28 CONFIG_KEXEC
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
29 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
30 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                          |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
31 CONFIG_COMPAT_BRK
                                          |kconfig|
                                                              |ELISA_safety|Heap_memory:R/W
32 CONFIG_USERFAULTFD
                                                              |ELISA_safety|Heap memory:R/W
                                          |kconfig|
                                                       n
33 CONFIG_DEBUG_WX
                                                              |ELISA_safety|Kernel Memory:W
                                          |kconfig|
                                                       У
34 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                          |kconfig|
                                                              |ELISA_safety|Branch Target B
                                                       n
35 CONFIG_LIVEPATCH
                                                              |ELISA_safety|
                                                                               Live Patch
                                          |kconfig|
                                                       n
36 CONFIG_DEVKMEM
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       У
37 CONFIG_SECURITY_WRITABLE_HOOKS
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       n
38 CONFIG_SECURITY_PATH
                                                              |ELISA_security|Linux Securit
                                          |kconfig|
                                                       У
39 CONFIG_LSM_MMAP_MIN_ADDR
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       V
40 CONFIG_STATIC_USERMODEHELPER
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       У
41 CONFIG_STATIC_USERMODEHELPER_PATH
                                                              |ELISA_security|Linux Securit
                                          |kconfig|
42 CONFIG_DEFAULT_SECURITY_DAC
                                          |kconfig|
                                                       У
                                                              |ELISA_security|Linux Securit
43 CONFIG_SECURITY_APPARMOR
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       У
44
45 [+] Config check is finished: 'OK' - 21 (suppressed in output) / 'FAIL' - 35
```

#### 2. Amazon Linux v2: config-5.10.109-104.500.amzn2.x86\_64

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-5.10.109-104.500.amzn2.x86_64
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 5.10
 7
                option name
                                         | type |desired val | decision |
                                                                              reason
 9 CONFIG_SLAB_MERGE_DEFAULT
                                         |kconfig|
                                                             |ELISA_safety, Intel|Memory m
10 CONFIG_REFCOUNT_FULL
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory r
                                                      У
                                                             |ELISA_safety|GCC, plugins, S
11 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                         |kconfig|
                                                      У
                                                             |ELISA_safety|GCC, plugins, S
12 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL
                                         |kconfig|
                                                      У
13 CONFIG_INIT_STACK_ALL
                                                             |ELISA_safety|Stack memory:Un
                                         |kconfig|
                                                      У
14 CONFIG_GCC_PLUGIN_STACKLEAK
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
15 CONFIG_PAGE_POISONING
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
16 CONFIG_PAGE_POISONING_NO_SANITY
                                         |kconfig|
                                                             |ELISA_safety|Stack memory:St
                                                      n
17 CONFIG_DEBUG_SG
                                                             |ELISA_safety|Driver: Heap ov
                                         |kconfig|
                                                      У
                                                                       |Kernel Memory:Ker
18 CONFIG_KMEM
                                         |kconfig|
                                                             Intel
                                                      n
19 CONFIG_DEVMEM
                                                             |ELISA_safety, Intel|Kernel M
                                         |kconfig|
                                                      n
20 CONFIG_DEVPORT
                                         |kconfig|
                                                             |ELISA_safety, Intel|Kernel M
21 CONFIG_ACPI_CUSTOM_METHOD
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
                                                      n
22 CONFIG_LEGACY_PTYS
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
23 CONFIG HIBERNATION
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
                                                      n
24 CONFIG KEXEC
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
25 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
26 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
27 CONFIG_COMPAT_BRK
                                                             |ELISA_safety|Heap memory:R/W
                                         |kconfig|
28 CONFIG_USERFAULTFD
                                                             |ELISA_safety|Heap memory:R/W
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:W
29 CONFIG_DEBUG_WX
                                         |kconfig|
                                                      У
30 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                         |kconfig|
                                                             |ELISA_safety|Branch Target B
31 CONFIG_LIVEPATCH
                                         |kconfig|
                                                             |ELISA_safety|
                                                                             Live Patch
32 CONFIG_DEVKMEM
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
                                                      У
33 CONFIG_SECURITY_WRITABLE_HOOKS
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
34 CONFIG_LSM_MMAP_MIN_ADDR
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
35 CONFIG_STATIC_USERMODEHELPER
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
36 CONFIG_STATIC_USERMODEHELPER_PATH
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
37 CONFIG_DEFAULT_SECURITY_DAC
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
38 CONFIG_SECURITY_APPARMOR
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
39
40 [+] Config check is finished: 'OK' - 26 (suppressed in output) / 'FAIL' - 30
```

#### 3. Ubuntu 18.04: config-5.4.0-1071-aws-ubuntu-18.04

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-5.4.0-1071-aws-ubuntu-18.04
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 5.4
 7
               option name
                                         | type |desired val | decision |
                                                                             reason
 9 CONFIG_SLAB_MERGE_DEFAULT
                                         |kconfig|
                                                             |ELISA_safety, Intel|Memory m
10 CONFIG_REFCOUNT_FULL
                                         |kconfig|
                                                            |ELISA_safety|Kernel Memory r
11 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                         |kconfig|
                                                             |ELISA_safety|GCC, plugins, S
                                                      У
12 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL |kconfig|
                                                            |ELISA_safety|GCC, plugins, S
                                                      У
13 CONFIG_INIT_STACK_ALL
                                                            |ELISA_safety|Stack memory:Un
                                         |kconfig|
14 CONFIG_GCC_PLUGIN_STACKLEAK
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
15 CONFIG_PAGE_POISONING_NO_SANITY
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      n
16 CONFIG_DEBUG_SG
                                         |kconfig|
                                                            |ELISA_safety|Driver: Heap ov
17 CONFIG_BUG_ON_DATA_CORRUPTION
                                         |kconfig|
                                                            |ELISA_safety|Kernel Memory:K
                                                      У
18 CONFIG_KMEM
                                         |kconfig|
                                                             | Intel
                                                                      |Kernel Memory:Ker
                                                      n
19 CONFIG_DEVMEM
                                                             |ELISA_safety, Intel|Kernel M
                                         |kconfig|
                                                      n
20 CONFIG_DEVPORT
                                         |kconfig|
                                                             |ELISA_safety, Intel|Kernel M
21 CONFIG_ACPI_CUSTOM_METHOD
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
22 CONFIG_LEGACY_PTYS
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
23 CONFIG HIBERNATION
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
24 CONFIG KEXEC
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
25 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
26 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
27 CONFIG_COMPAT_BRK
                                         |kconfig|
                                                             |ELISA_safety|Heap memory:R/W
28 CONFIG_USERFAULTFD
                                         |kconfig|
                                                             |ELISA_safety|Heap memory:R/W
29 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                                             |ELISA_safety|Branch Target B
                                         |kconfig|
                                                      n
30 CONFIG_LIVEPATCH
                                         |kconfig|
                                                             |ELISA_safety|
                                                                             Live Patch
31 CONFIG_DEVKMEM
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
                                                      У
32 CONFIG_SECURITY_WRITABLE_HOOKS
                                                            |ELISA_security|Linux Securit
                                         |kconfig|
                                                      n
33 CONFIG_LSM_MMAP_MIN_ADDR
                                         |kconfig|
                                                            |ELISA_security|Linux Securit
                                                      У
34 CONFIG_STATIC_USERMODEHELPER
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
35 CONFIG_STATIC_USERMODEHELPER_PATH
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
36 CONFIG_DEFAULT_SECURITY_DAC
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
38 [+] Config check is finished: 'OK' - 28 (suppressed in output) / 'FAIL' - 28
```

## 4. Ubuntu 20.04: config-5.13.0-1022-aws-ubuntu-20.04

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
   [+] Kconfig file to check: ./config_files/aws/config-5.13.0-1022-aws-ubuntu-20.04
   [+] Detected architecture: X86 64
   [+] Detected kernel version: 5.13
 5 ______
                                          | type |desired val | decision |
                option name
                                                                               reason
   ______
   CONFIG_SLAB_MERGE_DEFAULT
                                                              |ELISA_safety, Intel|Memory m
                                          |kconfig|
   CONFIG_REFCOUNT_FULL
                                                              |ELISA_safety|Kernel Memory r
                                          |kconfig|
                                                       У
   CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                                              |ELISA_safety|GCC, plugins, S
                                          |kconfig|
                                                       У
                                                              |ELISA_safety|GCC, plugins, S
10 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL
                                          |kconfig|
                                                       У
   CONFIG_INIT_STACK_ALL
                                                              |ELISA_safety|Stack memory:Un
                                          |kconfig|
                                                       У
11
   CONFIG_GCC_PLUGIN_STACKLEAK
                                          |kconfig|
                                                              |ELISA_safety|Stack memory:St
                                                       У
12
   CONFIG_PAGE_POISONING_NO_SANITY
                                          |kconfig|
                                                              |ELISA_safety|Stack memory:St
                                                       n
13
   CONFIG_DEBUG_SG
                                                              |ELISA_safety|Driver: Heap ov
                                          |kconfig|
                                                       У
14 CONFIG_BUG_ON_DATA_CORRUPTION
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       У
                                                              Intel
                                                                        |Kernel Memory:Ker
   CONFIG_KMEM
                                          |kconfig|
                                                       n
                                                              |ELISA_safety, Intel|Kernel M
   CONFIG_DEVMEM
                                          |kconfig|
                                                       n
16
                                                              |ELISA_safety, Intel|Kernel M
   CONFIG_DEVPORT
                                          |kconfig|
17
   CONFIG ACPI CUSTOM METHOD
                                          |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
                                                       n
   CONFIG_LEGACY_PTYS
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
19 CONFIG HIBERNATION
                                          |kconfig|
                                                              |ELISA safety|Kernel Memory:K
                                                       n
   CONFIG_KEXEC
                                          |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
                                                       n
20
   CONFIG_HARDENED_USERCOPY_FALLBACK
                                          |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
21
   CONFIG HARDENED USERCOPY PAGESPAN
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
22
   CONFIG_COMPAT_BRK
                                                              |ELISA_safety|Heap memory:R/W
                                          |kconfig|
                                                       n
23 CONFIG_USERFAULTFD
                                                              |ELISA_safety|Heap memory:R/W
                                          |kconfig|
   CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                                              |ELISA_safety|Branch Target B
                                          |kconfig|
                                                       n
   CONFIG_LIVEPATCH
                                          |kconfig|
                                                              |ELISA_safety|
                                                                               Live Patch
25
   CONFIG_DEVKMEM
                                          |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
                                                       V
26
   CONFIG_SECURITY_WRITABLE_HOOKS
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       n
27
   CONFIG_LSM_MMAP_MIN_ADDR
                                                              |ELISA_security|Linux Securit
                                          |kconfig|
                                                       У
   CONFIG_STATIC_USERMODEHELPER
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       У
28
   CONFIG_STATIC_USERMODEHELPER_PATH
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       У
   CONFIG_DEFAULT_SECURITY_DAC
                                                              |ELISA_security|Linux Securit
                                          |kconfig|
                                                       У
30
31
   [+] Config check is finished: 'OK' - 28 (suppressed in output) / 'FAIL' - 28
32
33
34
35
36
37
38
```

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-5.15.0-1004-aws-ubuntu-22.04
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 5.15
 7
               option name
                                         | type |desired val | decision |
                                                                             reason
 9 CONFIG_SLAB_MERGE_DEFAULT
                                         |kconfig|
                                                             |ELISA_safety, Intel|Memory m
10 CONFIG_REFCOUNT_FULL
                                         |kconfig|
                                                            |ELISA_safety|Kernel Memory r
11 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                         |kconfig|
                                                             |ELISA_safety|GCC, plugins, S
                                                      У
12 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL |kconfig|
                                                            |ELISA_safety|GCC, plugins, S
                                                      У
13 CONFIG_INIT_STACK_ALL
                                                            |ELISA_safety|Stack memory:Un
                                         |kconfig|
14 CONFIG_GCC_PLUGIN_STACKLEAK
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
15 CONFIG_PAGE_POISONING_NO_SANITY
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      n
16 CONFIG_DEBUG_SG
                                         |kconfig|
                                                            |ELISA_safety|Driver: Heap ov
17 CONFIG_BUG_ON_DATA_CORRUPTION
                                         |kconfig|
                                                            |ELISA_safety|Kernel Memory:K
                                                      У
18 CONFIG_KMEM
                                         |kconfig|
                                                             | Intel
                                                                      |Kernel Memory:Ker
                                                      n
19 CONFIG_DEVMEM
                                                             |ELISA_safety, Intel|Kernel M
                                         |kconfig|
                                                      n
20 CONFIG_DEVPORT
                                         |kconfig|
                                                             |ELISA_safety, Intel|Kernel M
21 CONFIG_ACPI_CUSTOM_METHOD
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
22 CONFIG_LEGACY_PTYS
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
23 CONFIG HIBERNATION
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
24 CONFIG KEXEC
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
25 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
26 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
27 CONFIG_COMPAT_BRK
                                         |kconfig|
                                                             |ELISA_safety|Heap memory:R/W
28 CONFIG_USERFAULTFD
                                         |kconfig|
                                                             |ELISA_safety|Heap memory:R/W
29 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                                             |ELISA_safety|Branch Target B
                                         |kconfig|
                                                      n
30 CONFIG_LIVEPATCH
                                         |kconfig|
                                                             |ELISA_safety|
                                                                             Live Patch
31 CONFIG_DEVKMEM
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
                                                      У
32 CONFIG_SECURITY_WRITABLE_HOOKS
                                                            |ELISA_security|Linux Securit
                                         |kconfig|
                                                      n
33 CONFIG_LSM_MMAP_MIN_ADDR
                                         |kconfig|
                                                            |ELISA_security|Linux Securit
                                                      У
34 CONFIG_STATIC_USERMODEHELPER
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
35 CONFIG_STATIC_USERMODEHELPER_PATH
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
36 CONFIG_DEFAULT_SECURITY_DAC
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
38 [+] Config check is finished: 'OK' - 28 (suppressed in output) / 'FAIL' - 28
```

## 6. SUSE 15: config-5.3.18-59.37-default-aws-suse-15

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-5.3.18-59.37-default-aws-suse-15
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 5.3
 7
                option name
                                         | type | desired val | decision |
                                                                              reason
 9 CONFIG_SLAB_MERGE_DEFAULT
                                         |kconfig|
                                                              |ELISA_safety, Intel|Memory m
10 CONFIG_REFCOUNT_FULL
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory r
                                                      У
                                                             |ELISA_safety|GCC, plugins, S
11 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                         |kconfig|
                                                      У
12 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL
                                         |kconfig|
                                                             |ELISA_safety|GCC, plugins, S
                                                      У
13 CONFIG_INIT_STACK_ALL
                                                             |ELISA_safety|Stack memory:Un
                                         |kconfig|
                                                      У
14 CONFIG_GCC_PLUGIN_STACKLEAK
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
15 CONFIG_PAGE_POISONING
                                                              |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
16 CONFIG_PAGE_POISONING_NO_SANITY
                                         |kconfig|
                                                             |ELISA_safety|Stack memory:St
                                                       n
                                                             |ELISA_safety|Driver: Heap ov
17 CONFIG_DEBUG_SG
                                         |kconfig|
                                                      У
18 CONFIG_BUG_ON_DATA_CORRUPTION
                                         |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
                                                      У
19 CONFIG_KMEM
                                                              | Intel | Kernel Memory: Ker
                                         |kconfig|
                                                       n
20 CONFIG_DEVMEM
                                         |kconfig|
                                                              |ELISA_safety, Intel|Kernel M
21 CONFIG DEVPORT
                                                              |ELISA_safety, Intel|Kernel M
                                         |kconfig|
                                                       n
22 CONFIG_ACPI_CUSTOM_METHOD
                                                              |ELISA_safety|Kernel Memory:K
                                         |kconfig|
23 CONFIG LEGACY PTYS
                                                              |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                       n
24 CONFIG_HIBERNATION
                                                              |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                       n
25 CONFIG_KEXEC
                                                              |ELISA_safety|Kernel Memory:K
                                         |kconfig|
26 CONFIG HARDENED USERCOPY
                                                             |ELISA_safety, Intel|Kernel M
                                         |kconfig|
                                                       У
27 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                              |ELISA_safety|Kernel Memory:K
                                         |kconfig|
28 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                                              |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                             |ELISA_safety|Heap memory:R/W
29 CONFIG_COMPAT_BRK
                                         |kconfig|
                                                       n
30 CONFIG_USERFAULTFD
                                         |kconfig|
                                                              |ELISA_safety|Heap memory:R/W
31 CONFIG_DEBUG_WX
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:W
                                                       У
32 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                                             |ELISA_safety|Branch Target B
                                         |kconfig|
                                                       n
33 CONFIG_LIVEPATCH
                                         |kconfig|
                                                              |ELISA_safety|
                                                                              Live Patch
34 CONFIG_DEVKMEM
                                         |kconfig|
                                                              |ELISA_safety|Kernel Memory:K
                                                       У
35 CONFIG_SECURITY_WRITABLE_HOOKS
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                       n
36 CONFIG_LSM_MMAP_MIN_ADDR
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
37 CONFIG_STATIC_USERMODEHELPER
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                       У
38 CONFIG_STATIC_USERMODEHELPER_PATH
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
39 CONFIG_DEFAULT_SECURITY_DAC
                                         |kconfig|
                                                      У
                                                             |ELISA_security|Linux Securit
40
41 [+] Config check is finished: 'OK' - 25 (suppressed in output) / 'FAIL' - 31
```

## 7. CentOS 8: config-4.18.0-305.el8.x86\_64-aws-centos-8

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-4.18.0-305.el8.x86_64-aws-centos-8
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 4.18
 7
                option name
                                          | type |desired val | decision |
                                                                              reason
 9 CONFIG_SLAB_FREELIST_HARDENED
                                                              |ELISA_safety, Intel|Memory m
                                          |kconfig|
                                                       У
10 CONFIG_SLAB_MERGE_DEFAULT
                                          |kconfig|
                                                              |ELISA_safety, Intel|Memory m
                                                       n
11 CONFIG_REFCOUNT_FULL
                                                              |ELISA_safety|Kernel Memory r
                                          |kconfig|
                                                       У
12 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                          |kconfig|
                                                              |ELISA_safety|GCC, plugins, S
                                                       У
13 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL |kconfig|
                                                              |ELISA_safety|GCC, plugins, S
                                                       У
14 CONFIG_INIT_STACK_ALL
                                                              |ELISA_safety|Stack memory:Un
                                          |kconfig|
                                                       У
15 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                                              |ELISA_safety|Kernel Memory:I
                                          |kconfig|
                                                       У
16 CONFIG_SCHED_STACK_END_CHECK
                                                              |ELISA_safety, Intel|Stack me
                                          |kconfig|
                                                       У
17 CONFIG_GCC_PLUGIN_STACKLEAK
                                                              |ELISA_safety|Stack memory:St
                                          |kconfig|
                                                       У
18 CONFIG_PAGE_POISONING
                                                              |ELISA_safety|Stack memory:St
                                          |kconfig|
                                                       У
19 CONFIG_PAGE_POISONING_NO_SANITY
                                                              |ELISA_safety|Stack memory:St
                                          |kconfig|
                                                       n
20 CONFIG_DEBUG_SG
                                          |kconfig|
                                                              |ELISA_safety|Driver: Heap ov
                                                       У
21 CONFIG KMEM
                                          |kconfig|
                                                              | Intel | Kernel Memory: Ker
                                                       n
                                                              |ELISA_safety, Intel|Kernel M
22 CONFIG_DEVMEM
                                          |kconfig|
23 CONFIG DEVPORT
                                          |kconfig|
                                                              |ELISA_safety, Intel|Kernel M
                                                       n
24 CONFIG_ACPI_CUSTOM_METHOD
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
25 CONFIG_LEGACY_PTYS
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
26 CONFIG HIBERNATION
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
27 CONFIG_KEXEC
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
28 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
29 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       n
30 CONFIG_COMPAT_BRK
                                          |kconfig|
                                                              |ELISA_safety|Heap memory:R/W
31 CONFIG_USERFAULTFD
                                          |kconfig|
                                                              |ELISA_safety|Heap memory:R/W
32 CONFIG_DEBUG_WX
                                                              |ELISA_safety|Kernel Memory:W
                                          |kconfig|
                                                       У
33 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                                              |ELISA_safety|Branch Target B
                                          |kconfig|
34 CONFIG_LIVEPATCH
                                          |kconfig|
                                                              |ELISA_safety|
                                                                               Live Patch
35 CONFIG_DEVKMEM
                                                              |ELISA_safety|Kernel Memory:K
                                          |kconfig|
                                                       У
36 CONFIG_SECURITY_WRITABLE_HOOKS
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
37 CONFIG_SECURITY_PATH
                                          |kconfig|
                                                              |ELISA_security|Linux Securit
                                                       У
38 CONFIG_LSM_MMAP_MIN_ADDR
                                                              |ELISA_security|Linux Securit
                                          |kconfig|
                                                       У
39 CONFIG_STATIC_USERMODEHELPER
                                          |kconfig|
                                                       У
                                                              |ELISA_security|Linux Securit
40 CONFIG_STATIC_USERMODEHELPER_PATH
                                          |kconfig|
                                                       У
                                                              |ELISA_security|Linux Securit
41 CONFIG_DEFAULT_SECURITY_DAC
                                                              |ELISA_security|Linux Securit
                                          |kconfig|
                                                       У
42
   CONFIG_SECURITY_APPARMOR
                                          |kconfig|
                                                       У
                                                              |ELISA_security|Linux Securit
43
44 [+] Config check is finished: 'OK' - 22 (suppressed in output) / 'FAIL' - 34
```

#### 8. Debian 10: config-4.19.0-16-cloud-amd64-aws-debian-10

```
1 wenhui.zhang@n231-227-105:~/kconfig-safety-check$ ./bin/kconfig-safety-check -p X86_64 -c
 2 [+] Special report mode: show_fail
 3 [+] Kconfig file to check: ./config_files/aws/config-4.19.0-16-cloud-amd64-aws-debian-10
 4 [+] Detected architecture: X86 64
 5 [+] Detected kernel version: 4.19
 | type |desired val | decision |
 7
                option name
                                                                              reason
 9 CONFIG_SLAB_MERGE_DEFAULT
                                                             |ELISA_safety, Intel|Memory m
                                         |kconfig|
10 CONFIG_SHUFFLE_PAGE_ALLOCATOR
                                                             |ELISA_safety, Intel|Memory m
                                         |kconfig|
                                                      У
11 CONFIG_GCC_PLUGIN_STRUCTKLEAK
                                                             |ELISA_safety|GCC, plugins, S
                                         |kconfig|
                                                      У
                                                             |ELISA_safety|GCC, plugins, S
12 CONFIG_GCC_PLUGIN_STRUCTLEAK_BYREF_ALL
                                         |kconfig|
                                                      У
13 CONFIG_INIT_STACK_ALL
                                                             |ELISA_safety|Stack memory:Un
                                         |kconfig|
                                                      У
14 CONFIG_BPF_JIT_ALWAYS_ON
                                                             |ELISA_safety|Kernel Memory:I
                                         |kconfig|
                                                      У
15 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:I
                                                      У
16 CONFIG_GCC_PLUGIN_STACKLEAK
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
17 CONFIG_PAGE_POISONING
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      У
18 CONFIG_PAGE_POISONING_NO_SANITY
                                                             |ELISA_safety|Stack memory:St
                                         |kconfig|
                                                      n
19 CONFIG_DEBUG_SG
                                                             |ELISA_safety|Driver: Heap ov
                                         |kconfig|
                                                      У
20 CONFIG_KMEM
                                         |kconfig|
                                                                      |Kernel Memory:Ker
                                                      n
21 CONFIG DEVMEM
                                         |kconfig|
                                                             |ELISA_safety, Intel|Kernel M
                                                      n
                                                             |ELISA_safety, Intel|Kernel M
22 CONFIG_DEVPORT
                                         |kconfig|
                                                      n
23 CONFIG ACPI CUSTOM METHOD
                                         |kconfig|
                                                             |ELISA_safety|Kernel Memory:K
                                                      n
24 CONFIG_LEGACY_PTYS
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
25 CONFIG_HIBERNATION
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
26 CONFIG KEXEC
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
27 CONFIG_HARDENED_USERCOPY_FALLBACK
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      n
28 CONFIG_HARDENED_USERCOPY_PAGESPAN
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
29 CONFIG_COMPAT_BRK
                                                             |ELISA_safety|Heap memory:R/W
                                         |kconfig|
                                                      n
30 CONFIG_USERFAULTFD
                                         |kconfig|
                                                             |ELISA_safety|Heap memory:R/W
                                                      n
31 CONFIG_BPF_UNPRIV_DEFAULT_OFF
                                         |kconfig|
                                                             |ELISA_safety|Branch Target B
                                                      n
32 CONFIG_LIVEPATCH
                                                             |ELISA_safety|
                                                                              Live Patch
                                         |kconfig|
                                                      n
33 CONFIG_DEVKMEM
                                                             |ELISA_safety|Kernel Memory:K
                                         |kconfig|
                                                      У
34 CONFIG_SECURITY_WRITABLE_HOOKS
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      n
35 CONFIG_INTEL_TXT
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
36 CONFIG_LSM_MMAP_MIN_ADDR
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
37 CONFIG_STATIC_USERMODEHELPER
                                         |kconfig|
                                                             |ELISA_security|Linux Securit
                                                      У
38 CONFIG_STATIC_USERMODEHELPER_PATH
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
39 CONFIG_DEFAULT_SECURITY_DAC
                                                             |ELISA_security|Linux Securit
                                         |kconfig|
                                                      У
40
41 [+] Config check is finished: 'OK' - 25 (suppressed in output) / 'FAIL' - 31
```