

Knot DNS SOS Fund Audit Fix Log

Identified Vulnerabilities

A: Non-Cryptographic Hash Used for DNS cookies (Low)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-dns/commit/79618ab3de0f9c6f>

Will be released in Knot DNS 2.7.0

VERIFIED

Jack Lloyd (Least Authority): *Now SipHash is used.*

B: Timing Channel in DNS Cookie Comparisons (Low)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-dns/commit/8666568a408dd696>

Released in Knot DNS 2.6.2

VERIFIED

Jack Lloyd (Least Authority): *Now constant time memcmp is used.*

C: Weak RSA keys allowed (Medium)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-dns/commit/d0f52e7c40169ef4>

Will be released in Knot DNS 2.7.0

VERIFIED

Jack Lloyd (Least Authority): *Now at least 1024-bit RSA is required.*

D: Insufficient Build Hardening (Low)

Daniel Salzman (Knot DNS): Most of the supported systems have specific settings and support of build hardening. Not yet decided which hardening would be universally accepted. We are happy for the audit to be published without further work on this item.

NOT VERIFIED

E: Hash Function Collisions (Medium)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-dns/commit/2bae46b8c4df21be>

Will be released in Knot DNS 2.7.0

VERIFIED

Jack Lloyd (Least Authority): *Murmur hash replaced by SipHash with random key.*

F: Missing Error Check Causing Crash (Low)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-dns/commit/ba084da5bba3bfb3>

Released in Knot DNS 2.6.2

VERIFIED

Jack Lloyd (Least Authority): *Value that would cause overflow now checked.*

G: Use of assert macro for error checking (Medium)

Daniel Salzman (Knot DNS): The code is continuously reviewed and refactored to eliminate wrong asserts. Knot DNS 2.7.0 will include improved libknot interface, e.g. knot_dname_size returns unsigned integer. This work is not yet completed, but we are happy for the audit to be published without further work on this item.

NOT VERIFIED

H: Not Checking Return Value For Error (Low)

Removed in <https://gitlab.labs.nic.cz/knot/knot-resolver/commit/0c3f6a269e8a4817>

Relates to <https://gitlab.labs.nic.cz/knot/knot-resolver/issues/108>

Released in Knot Resolver 2.0.0

VERIFIED

Jack Lloyd (Least Authority): *Both calls to malloc were removed in the referenced commit (rewrite of cache layer).*

I: Weak PRNG (Low)

Relates to <https://gitlab.labs.nic.cz/knot/knot-resolver/issues/233>

Daniel Salzman (Knot DNS): Not yet fixed. We are happy for the audit to be published without further work on this item.

NOT VERIFIED

J: Integer Overflow (Low)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-resolver/commit/0f2318d9df4ff481>

Released in Knot Resolver 2.0.0

VERIFIED

Jack Lloyd (Least Authority): *Now overflow is checked.*

K: Integer Overflow (Low)

Removed in <https://gitlab.labs.nic.cz/knot/knot-resolver/commit/0c3f6a269e8a4817>

Relates to <https://gitlab.labs.nic.cz/knot/knot-resolver/issues/108>

Released in Knot Resolver 2.0.0

VERIFIED

Jack Lloyd (Least Authority): *Cache code was rewritten, removing the vulnerable code. The integer overflow in kr_stratdup was fixed in commit 0f2318d9df4ff.*

Miscellaneous Issues

1: Redundant Operation (Info)

Fixed in <https://gitlab.labs.nic.cz/knot/knot-dns/commit/b330e1da606a0816>

Released in Knot DNS 2.6.2

VERIFIED

2: Google's OSS-Fuzz (Info)

Registered as <https://github.com/google/oss-fuzz/tree/master/projects/knot-dns>

VERIFIED