CVE-2019-17212

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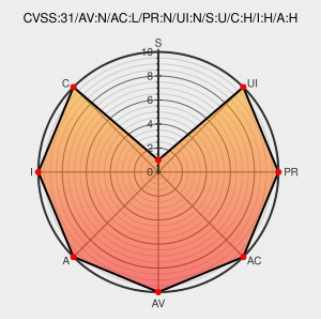
Source: Mitre | Source: NIST | CVE.ORG | Print: PDF



Certain versions of Mbed from Mbed contain the following vulnerability:

Buffer overflows were discovered in the CoAP library in Arm Mbed OS 5.14.0. The CoAP parser is responsible for parsing received CoAP packets. The function sn_coap_parser_options_parse() parses CoAP input linearly using a while loop. Once an option is parsed in a loop, the current point (*packet_data_pptr) is increased correspondingly. The pointer is restricted by the size of the received buffer, as well as by the 0xFF delimiter byte. Inside each while loop, the check of the value of *packet_data_pptr is not strictly enforced. More specifically, inside a loop, *packet_data_pptr could be increased and then dereferenced without checking. Moreover, there are many other functions in the format of sn_coap_parser_****() that do not check whether the pointer is within the bounds of the allocated buffer. All of these lead to heap-based or stack-based buffer overflows, depending on how the CoAP packet buffer is allocated.

CVE-2019-17212 has been assigned by cve@mitre.org to track the vulnerability - currently rated as CRITICAL severity.

CVSS3 Score: 9.8 - CRITICAL

Attack Vector	Attack Complexity	Privileges Required	User Interaction
NETWORK	LOW	NONE	NONE
Scope	**Confidentiality Impact**	**Integrity Impact**	**Availability Impact**
UNCHANGED	HIGH	HIGH	HIGH

CVSS2 Score: 10 - HIGH

Access Vector	Access Complexity	Authentication
NETWORK	LOW	NONE
Confidentiality Impact	**Integrity Impact**	**Availability Impact**
COMPLETE	COMPLETE	COMPLETE

CVE References

Description	Tags	Link
mbed-os/sn_coap_parser.c at d91ed5fa42ea0f32e4422a3c562e7b045a17da40 · ARMmbed/mbed-os · GitHub	Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/blob/d91ed5fa42ea0f32e4422a3c562e7b045a17da40/features/fra coap/source/sn_coap_parser.c#L301
mbed-os/sn_coap_parser.c at d91ed5fa42ea0f32e4422a3c562e7b045a17da40 · ARMmbed/mbed-os · GitHub	Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/blob/d91ed5fa42ea0f32e4422a3c562e7b045a17da40/features/fra coap/source/sn_coap_parser.c#L331
mbed-os/sn_coap_parser.c at d91ed5fa42ea0f32e4422a3c562e7b045a17da40 · ARMmbed/mbed-os · GitHub	Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/blob/d91ed5fa42ea0f32e4422a3c562e7b045a17da40/features/fra coap/source/sn_coap_parser.c#L257
mbed-os/sn_coap_parser.c at d91ed5fa42ea0f32e4422a3c562e7b045a17da40 · ARMmbed/mbed-os · GitHub	Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/blob/d91ed5fa42ea0f32e4422a3c562e7b045a17da40/features/fra coap/source/sn_coap_parser.c#L310
mbed-os/sn_coap_parser.c at d91ed5fa42ea0f32e4422a3c562e7b045a17da40 · ARMmbed/mbed-os · GitHub	Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/blob/d91ed5fa42ea0f32e4422a3c562e7b045a17da40/features/fra coap/source/sn_coap_parser.c#L660
memory acess out of range in MbedOS CoAP library parser part · Issue #11803 · ARMmbed/mbed-os · GitHub	Issue Tracking Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/issues/11803
mbed-os/sn_coap_parser.c at d91ed5fa42ea0f32e4422a3c562e7b045a17da40 · ARMmbed/mbed-os · GitHub	Third Party Advisory github.com text/html	MISC github.com/ARMmbed/mbed-os/blob/d91ed5fa42ea0f32e4422a3c562e7b045a17da40/features/fra coap/source/sn_coap_parser.c#L313

There are currently no QIDs associated with this CVE

Known Affected Configurations (CPE V2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Operating System	Mbed	Mbed	5.13.2	All	All	All
Operating System	Mbed	Mbed	5.14.0	All	All	All
Operating System	Mbed	Mbed	5.13.2	All	All	All
Operating System	Mbed	Mbed	5.14.0	All	All	All

cpe:2.3:o:mbed:mbed:5.13.2:*:*:*:*:*:*:*:

cpe:2.3:o:mbed:mbed:5.14.0:*:*:*:*:*:*:*:

cpe:2.3:o:mbed:mbed:5.13.2:*:*:*:*:*:*:*:

cpe:2.3:o:mbed:mbed:5.14.0:*:*:*:*:*:*:*:

No vendor comments have been submitted for this CVE

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