Vulns_of_Embedded_Systems / Two stack overflows were found in DIR-615Jx10.0 Devices.pdf

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Two stack overflows were found in DIR-615Jx10 Devices

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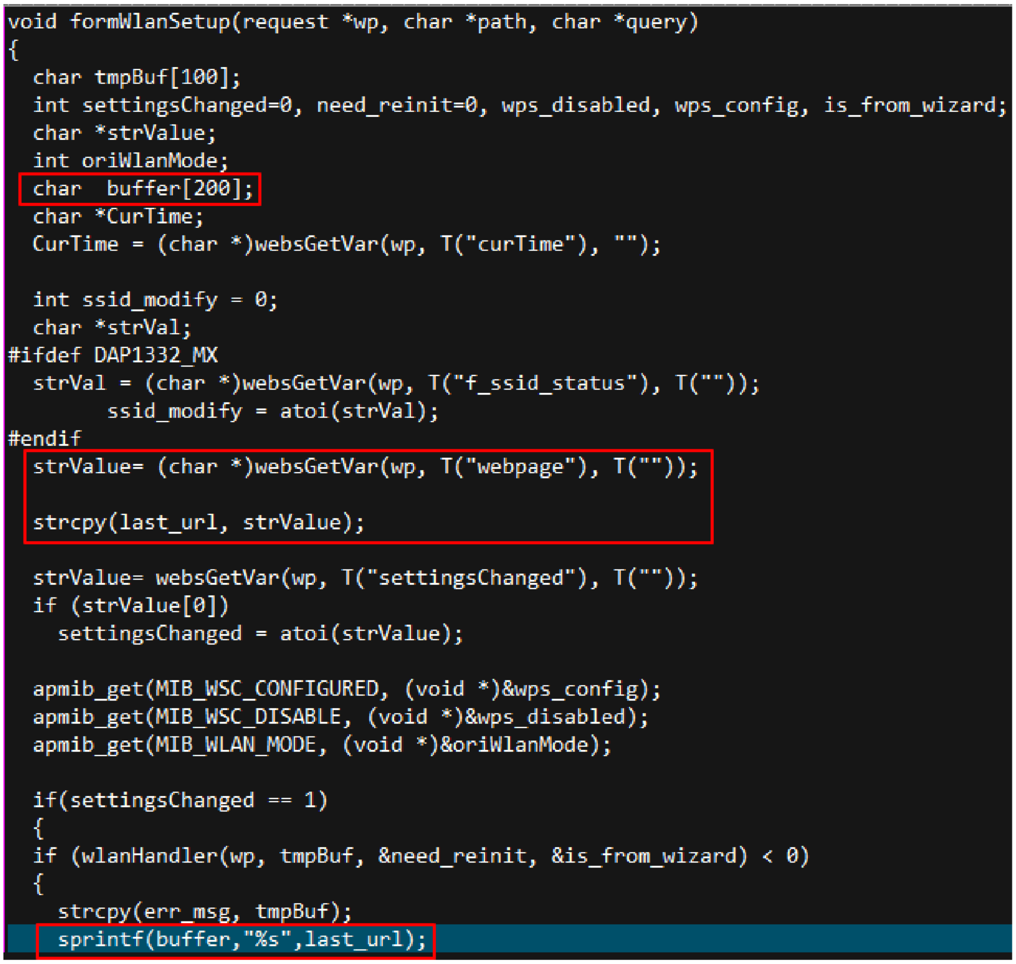
Affected versions:

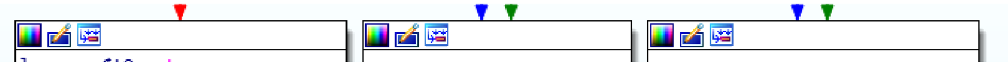
All firmware versions of D-Link DIR-615Jx10

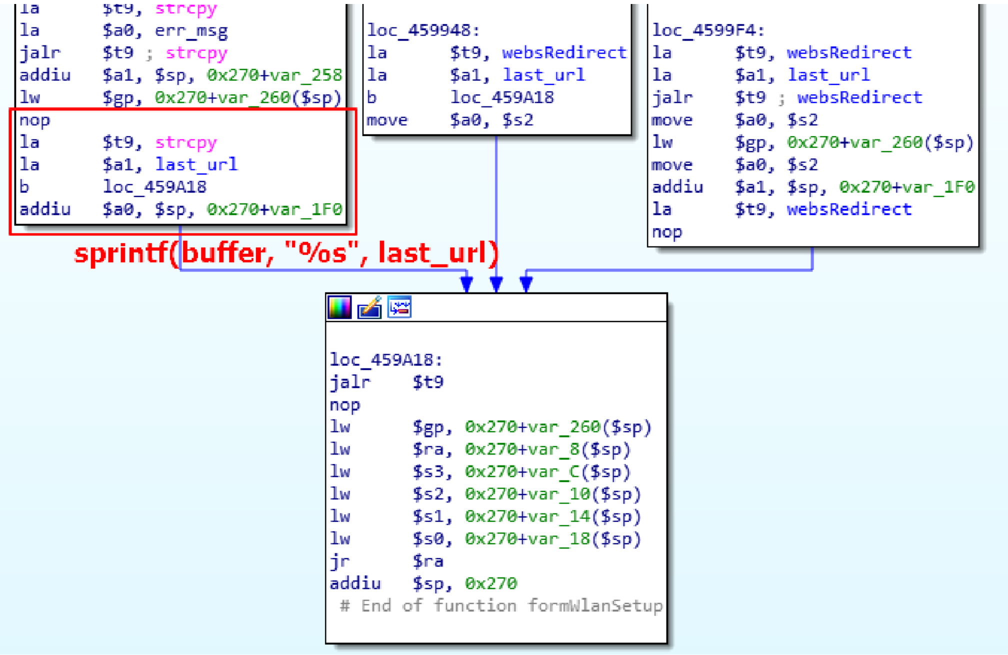
Vulnerabilities Analysis:

Download the GPL source code and the firmbin from D-Link official websites. Open the source file “/boa/src/fmwlan.c” since the HTTP service is implemented by boa in these devices. As we can see in the function “formWlanSetup”, value of the parameter “webpage” is copied to the variable “buffer” without any string length checking, which causes the stack overflow. The same analysis can be done in the function “formWlanSetup_Wizard”.



```
void formWlanSetup(request *wp, char *path, char *query)
{
  char tmpBuf[100];
  int settingsChanged=0, need_reinit=0, wps_disabled, wps_config, is_from_wizard;
  char *strValue;
  int oriWlanMode;
  char  buffer[200];
  char *CurTime;
  CurTime = (char *)websGetVar(wp, T("curTime"), "");

  int ssid_modify = 0;
  char *strVal;
#ifdef DAP1332_MX
  strVal = (char *)websGetVar(wp, T("f_ssid_status"), T(""));
        ssid_modify = atoi(strVal);
#endif
  strValue= (char *)websGetVar(wp, T("webpage"), T(""));

  strcpy(last_url, strValue);

  strValue= websGetVar(wp, T("settingsChanged"), T(""));
  if (strValue[0])
    settingsChanged = atoi(strValue);

  apmib_get(MIB_WSC_CONFIGURED, (void *)&wps_config);
  apmib_get(MIB_WSC_DISABLE, (void *)&wps_disabled);
  apmib_get(MIB_WLAN_MODE, (void *)&oriWlanMode);

  if(settingsChanged == 1)
  {
  if (wlanHandler(wp, tmpBuf, &need_reinit, &is_from_wizard) < 0)
  {
    strcpy(err_msg, tmpBuf);
    sprintf(buffer,"%s",last_url);
```





```
la      $t9, strcpy
la      $a0, err_msg
jalr    $t9 ; strcpy
addiu   $a1, $sp, 0x270+var_258
lw      $gp, 0x270+var_260($sp)
nop
la      $t9, strcpy
la      $a1, last_url
b       loc_459A18
addiu   $a0, $sp, 0x270+var_1F0
```

sprintf(buffer, "%s", last_url)

```
loc_459948:
la      $t9, websRedirect
la      $a1, last_url
b       loc_459A18
move    $a0, $s2
```

```
loc_4599F4:
la      $t9, websRedirect
la      $a1, last_url
jalr    $t9 ; websRedirect
move    $a0, $s2
lw      $gp, 0x270+var_260($sp)
move    $a0, $s2
addiu   $a1, $sp, 0x270+var_1F0
la      $t9, websRedirect
nop
```

```
loc_459A18:
jalr    $t9
nop
lw      $gp, 0x270+var_260($sp)
lw      $ra, 0x270+var_8($sp)
lw      $s3, 0x270+var_C($sp)
lw      $s2, 0x270+var_10($sp)
lw      $s1, 0x270+var_14($sp)
lw      $s0, 0x270+var_18($sp)
jr      $ra
addiu   $sp, 0x270
 # End of function formWlanSetup
```