

# 1.主题

SDK所在目录路径过长引发固件异常无法启动

## 2.问题背景

有客户反馈，sdk按如下目录放置，编译出的固件烧写后无法启动，错误如下：

```
/ibm/ExdroidData/workspace/mynewroot/jenkins/code/dailybuild/androidv/platform/android14
[2024-07-07 01:11:06.834698] [387]phy_ufs_clk3 = 150M
[2024-07-07 01:11:06.837708] [390]phy_ufs_clk0 = 1200M
[2024-07-07 01:11:06.841707] [392]DRAM MDFS VERSION INFO: V0.660
[2024-07-07 01:11:06.844748] [396]DRAM MDFS time =38136 ns
[2024-07-07 01:11:06.851745] [399]DRAM SIZE =4096 MBytes, para1 = 310a, para2 = 10001000, tpr13 = 6065
[2024-07-07 01:11:06.855749] [407]DRAM simple test OK.
[2024-07-07 01:11:06.857749] [410]dram size =4096
[2024-07-07 01:11:06.859749] [412]nsi init 2023-2-23
[2024-07-07 01:11:06.911773] [462]read toc1 from emmc 32800 sector
[2024-07-07 01:11:06.915730] [467]don't have rotpk, skip check
[2024-07-07 01:11:06.917719] [470]OLD version: 0.0
[2024-07-07 01:11:06.919729] [472]NEW version: 0.0
[2024-07-07 01:11:07.031703] [583]monitor entry=0x48000000
[2024-07-07 01:11:07.033702] [585]uboot entry=0x4a000000
[2024-07-07 01:11:07.036642] [588]optee entry=0x48600000
[2024-07-07 01:11:07.038641] [591]opensbi entry=0x0
[2024-07-07 01:11:07.040638] [593]no need rotpk flag
[2024-07-07 01:11:07.044622] [595]tunning data addr:0x4a0003e8
[2024-07-07 01:11:07.049625] [599]sec_mem_map[0]: addr = 0x48000000, size = 0x100000
[2024-07-07 01:11:07.055622] [604]sec_mem_map[1]: addr = 0x48600000, size = 0x100000
[2024-07-07 01:11:07.057653] [610]run out of boot0
[2024-07-07 01:11:07.067667] NOTICE: BL31: v2.5(debug):55b180a27
[2024-07-07 01:11:07.071665] NOTICE: BL31: Built : 11:09:52, Sep 18 2023
[2024-07-07 01:11:07.074610] NOTICE: hardware check error1
[2024-07-07 01:11:07.077657] BACKTRACE: START: bl31_platform_setup
[2024-07-07 01:11:07.079655] 0: EL3: 0x480038a4
[2024-07-07 01:11:07.081653] 1: EL3: 0x48003b40
[2024-07-07 01:11:07.083616] 2: EL3: 0x48003a94
[2024-07-07 01:11:07.085619] 3: EL3: 0x480001e0
[2024-07-07 01:11:07.088622] BACKTRACE: END: bl31_platform_setup
[2024-07-07 01:11:07.089654] PANIC in EL3.
[2024-07-07 01:11:07.093608] x30 = 0x0000000048003b4c
```

[2024-07-07 01:11:07.096654] x0 = 0x0000000002500000  
[2024-07-07 01:11:07.100609] x1 = 0x0000000000000060  
[2024-07-07 01:11:07.103654] x2 = 0x0000000000000060  
[2024-07-07 01:11:07.106609] x3 = 0x00000000ffffffc8  
[2024-07-07 01:11:07.110608] x4 = 0x0000000000000034  
[2024-07-07 01:11:07.113667] x5 = 0x0000000000000034  
[2024-07-07 01:11:07.116619] x6 = 0x0000000000000004  
[2024-07-07 01:11:07.120606] x7 = 0x0000000000000000  
[2024-07-07 01:11:07.123654] x8 = 0x000000023ffffff  
[2024-07-07 01:11:07.126603] x9 = 0x0000000048600000  
[2024-07-07 01:11:07.130611] x10 = 0x0000000000000000  
[2024-07-07 01:11:07.133654] x11 = 0x000000000100000  
[2024-07-07 01:11:07.137665] x12 = 0x0000000000000018  
[2024-07-07 01:11:07.140618] x13 = 0x0000000000000000  
[2024-07-07 01:11:07.143658] x14 = 0x0000000000000000  
[2024-07-07 01:11:07.147657] x15 = 0x0000000000000000  
[2024-07-07 01:11:07.150611] x16 = 0x0000000000000000  
[2024-07-07 01:11:07.153651] x17 = 0x0000000000045400  
[2024-07-07 01:11:07.157653] x18 = 0x0000000000000020  
[2024-07-07 01:11:07.168273] x19 = 0x000000004800e3f6  
[2024-07-07 01:11:07.168345] x20 = 0x0000000000000000  
[2024-07-07 01:11:07.168360] x21 = 0x0000000000001890  
[2024-07-07 01:11:07.170569] x22 = 0x0000000000000000  
[2024-07-07 01:11:07.173624] x23 = 0x0000000000000000  
[2024-07-07 01:11:07.177663] x24 = 0x0000000000000000  
[2024-07-07 01:11:07.180668] x25 = 0x0000000000000000  
[2024-07-07 01:11:07.184671] x26 = 0x0000000000000000  
[2024-07-07 01:11:07.187621] x27 = 0x0000000000000000  
[2024-07-07 01:11:07.190672] x28 = 0x0000000000000000  
[2024-07-07 01:11:07.194658] x29 = 0x00000000480112c0  
[2024-07-07 01:11:07.197625] scr\_el3 = 0x0000000000000238  
[2024-07-07 01:11:07.200677] sctlr\_el3 = 0x0000000030cd183f  
[2024-07-07 01:11:07.204676] cptr\_el3 = 0x0000000000000000  
[2024-07-07 01:11:07.207626] tcr\_el3 = 0x000000008081351e  
[2024-07-07 01:11:07.211638] daif = 0x00000000000002c0  
[2024-07-07 01:11:07.214678] mair\_el3 = 0x0000000004404ff  
[2024-07-07 01:11:07.217635] spsr\_el3 = 0x0000000000001cd  
[2024-07-07 01:11:07.221632] elr\_el3 = 0x000000000012ea4  
[2024-07-07 01:11:07.224661] ttbr0\_el3 = 0x000000004803e381  
[2024-07-07 01:11:07.227617] esr\_el3 = 0x00000000b2050b37  
[2024-07-07 01:11:07.231620] far\_el3 = 0x5ad7c3dbfffe3ff9  
[2024-07-07 01:11:07.234664] spsr\_el1 = 0x0000000000001cd

[2024-07-07 01:11:07.238658] elr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.241683] spsr\_abt = 0x00000000f01f28b9  
[2024-07-07 01:11:07.244659] spsr\_und = 0x00000000f0478217  
[2024-07-07 01:11:07.248612] spsr\_irq = 0x00000000f00b8ebd  
[2024-07-07 01:11:07.251658] spsr\_fiq = 0x00000000f40f6460  
[2024-07-07 01:11:07.254613] sctlr\_el1 = 0x0000000000c50838  
[2024-07-07 01:11:07.258618] actlr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.261660] cpacr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.265661] csselr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.268613] sp\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.271659] esr\_el1 = 0x00000000b4897f9c  
[2024-07-07 01:11:07.274616] ttbr0\_el1 = 0x0000f63708ac0ce2  
[2024-07-07 01:11:07.278663] ttbr1\_el1 = 0x0000bfc5c0958d0  
[2024-07-07 01:11:07.281624] mair\_el1 = 0x44e048e000098aa4  
[2024-07-07 01:11:07.285628] amair\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.288657] tcr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.291610] tpidr\_el1 = 0x3a0c50eb9150e67b  
[2024-07-07 01:11:07.295614] tpidr\_el0 = 0xdc178f81ebf9d7ff  
[2024-07-07 01:11:07.298664] tpidrro\_el0 = 0xfb10d70cdeff6571  
[2024-07-07 01:11:07.301621] par\_el1 = 0xff00000048000980  
[2024-07-07 01:11:07.305628] mpidr\_el1 = 0x0000000081000000  
[2024-07-07 01:11:07.308625] afsr0\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.312624] afsr1\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.315625] contextidr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.318667] vbar\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.322622] cntp\_ctl\_el0 = 0x0000000000000000  
[2024-07-07 01:11:07.325666] cntp\_cval\_el0 = 0xff5f39fed2bd7ce  
[2024-07-07 01:11:07.328614] cntv\_ctl\_el0 = 0x0000000000000000  
[2024-07-07 01:11:07.332623] cntv\_cval\_el0 = 0xd7f5971ac72c673d  
[2024-07-07 01:11:07.335660] cntkctl\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.338663] sp\_el0 = 0x00000000480112c0  
[2024-07-07 01:11:07.342662] isr\_el1 = 0x0000000000000000  
[2024-07-07 01:11:07.345612] dacr32\_el2 = 0x0000000000000000  
[2024-07-07 01:11:07.348657] ifsr32\_el2 = 0x00000000000000217  
[2024-07-07 01:11:07.352666] cpuectlr\_el1 = 0x000000002808bc00  
[2024-07-07 01:11:07.355622] icc\_hppir0\_el1 = 0x000000000000003ff  
[2024-07-07 01:11:07.359625] icc\_hppir1\_el1 = 0x000000000000003ff  
[2024-07-07 01:11:07.362686] icc\_ctlr\_el3 = 0x0000000000028400  
[2024-07-07 01:11:07.366678] gicd\_isspendr regs (Offsets 0x200-0x278)  
[2024-07-07 01:11:07.367626] OffsetValue  
[2024-07-07 01:11:07.370673] 0x200: 0x0000000000000000  
[2024-07-07 01:11:07.373673] 0x208: 0x0000000000000000

[2024-07-07 01:11:07.375675] 0x210: 0x0000000000000000

[2024-07-07 01:11:07.378592] 0x218: 0x0000000000000000

[2024-07-07 01:11:07.380634] 0x220: 0x0000000000000000

[2024-07-07 01:11:07.383664] 0x228: 0x0000000000000000

[2024-07-07 01:11:07.386613] 0x230: 0x0000000000000000

[2024-07-07 01:11:07.388617] 0x238: 0x0000000000000000

[2024-07-07 01:11:07.391612] 0x240: 0x0000000000000000

[2024-07-07 01:11:07.394648] 0x248: 0x0000000000000000

[2024-07-07 01:11:07.396647] 0x250: 0x0000000000000000

[2024-07-07 01:11:07.399601] 0x258: 0x0000000000000000

[2024-07-07 01:11:07.401601] 0x260: 0x0000000000000000

[2024-07-07 01:11:07.404653] 0x268: 0x0000000000000000

[2024-07-07 01:11:07.407609] 0x270: 0x0000000000000000

[2024-07-07 01:11:07.409613] 0x278: 0x0000000000000000

### 3.原因分析

当前编译工具对路径长度有要求。如果longan所在的路径过长，会引起编译时image异常。当前所支持的bsp的绝对路径长度为83个字符，如android sdk，则为包含longan目录时的长度，如：

`/ibm/ExdroidData/workspace/mynewroot/jenkins/code/dailybuild/androidv/platform/android14/longan`  
长度以及超过83字符限制。

### 4.解决措施

缩短sdk所在目录长度。