



This Technical Advisory describes an issue which may or may not affect the customer's product

Intel Technical Advisory

TA-1146

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Intel® OFU and Syscfg Utilities report error message when running on Linux OS with the kernel setting `iomem=strict`.

Affected Products

Product Type	Product Name	MM#
Intel® Server Board	BBS2600BPB	948899
	BBS2600BPQ	948900
	BBS2600BPS	952609
	S2600WFO	952644
	S2600WFQ	952645
	S2600WFT	952641
	S2600STB	957180
	S2600STQ	957318
	BBS2600STB	959820
	BBS2600STQ	959727
	S2600WT2R	943786
	S2600WTTR	943785
	S2600WTTS1R	949339
	DBS2600CW2R	943803
	DBS2600CWTR	943805
	DBS2600CW2SR	943804
	DBS2600CWTSR	943806
	S2600KPR	943789
	S2600KPFR	943790
	S2600KPTR	948036

	S2600TPR	943944
	S2600TPFR	943947
	S2600TPTR	953032
	S2600TPNR	955259
	S7200APR	959387
	BBS7200APL	950090
	BBS7200AP	942367
	DBS1200SPL	944682
	DBS1200SPS	944683
	DBS1200SPO	944684
Intel® Compute Module	HNS2600BPB	976668
	HNS2600BPQ	976669
	HNS2600BPS	976670
	HNS2600BPB24	976671
	HNS2600BPQ24	976675
	HNS2600BPS24	976676
	HNS2600BPBLC	961401
	HNS2600BPBLC24	977207
	HNS2600KPR	943787
	HNS2600KPFR	943788
	HNS2600TPR	943948
	HNS2600TPFR	943949
	HNS2600TPNR	955260
	HNS2600TP24R	943951
	HNS2600TP24SR	945609
	HNS2600TP24STR	953190
	HNS7200APR	959388
	HNS7200APRL	959389
	HNS7200AP	942355
	HNS7200APL	950091
	S9256WK1HLC	999D9P
	S9248WK1HLC	999D9T
	S9232WK1HLC	999D9W
	S9232WK1HAC	999MVJ
	S9248WK2HLC	999DA0
	S9248WK2HAC	999DA4

Intel® Server System	R1304WF0YS	952626
	R1304WFTYS	952625
	R1208WFTYS	952627
	R2308WFTZS	952631
	R2208WF0ZS	952629
	R2208WFTZS	952628
	R2208WFQZS	952637
	R2312WF0NP	955876
	R2312WFTZS	952632
	R2312WFQZS	955877
	R2224WFQZS	955875
	R2224WFTZS	952633
	R1304WTTGSR	943891
	R1304WT2GSR	943892
	R1208WTTGSR	943893
	R1208WT2GSR	943894
	R2208WT2YSR	943827
	R2208WTTYSR	943826
	R2208WTTYC1R	943828
	R2308WTTYSR	943829
	R2312WTTYSR	943830
	R2224WTTYSR	943831
	R1304SPOSHBN	944471
	R1304SPOSHOR	944476
	R1208SPOSHOR	944477
	LWK2LC3UXXX02	999L37
	LWK2LC3UXXX03	999L38
	LWK2LC3UXXX05	999L0H
	LWK2LC3UXXX07	999LPZ
	LWK2LC3U4880A	999FPP
	LWK2LC3U5680A	999FPR
	LWK2AC3PXXX0	999ML0
	LWK2LC3UXXX01	999L35

Description

An Intel® ME configuration file parsing error is reported when using the Intel® OFU utility to update the SFUP on Linux* OS with a kernel setting of iomem=strict.

The error message is displayed to the console when running the syscfg -i command on Linux OS with a kernel setting of iomem=strict.

On Linux OS kernel 4.5 and above the memory mapped IO (MMIO) access is set to strict mode (iomem=strict) by default, preventing access to the MMIO memory of the device from a utility, such as Intel® OFU or Syscfg utility.

Affected Utility list:

- **OFU Utility:**
 - OFU Utility Version 14.1 Build 17
 - OFU Utility Version 14.1 Build 19
- **Syscfg Utility:**
 - Syscfg_V14_1_Build26_V14_0_Build17_AllOS
- **Linux OS with Kernel 4.5 and above:**
 - Ubuntu 16.10 (v 4.8) and later version
 - Fedora 24 (v 4.5.7) and later version
 - SLES 12 SP4 (v 4.12.14) and later version

If the OFU is run with kernel MMIO access set to iomem=strict, the OFU can display a warning to the console:

```
One Boot Flash Update Utility Version 14.1 Build 17
Copyright (c) 2018 Intel Corporation
Update file Configuration: XXX S2600BPB:S2600BPL:S2600BPQ:S2600BPS,1.0
Processing capsule file - /root/fw-
intel/bios_0014/R0014_Production_ACM_TXT_BOOT.signed.cap
Processing capsule file - /root/fw-intel/bios_0014/R0014_Production_ACM_TXT_ME.signed.cap
Processing capsule file - /root/fw-intel/bios_0014/R0014_Production_ACM_TXT_FD.signed.cap
Update file Configuration: Revision S2600BP_137
FRU & SDR Update Package for Intel(R) Server Board S2600BPx (S2600BP_137)
Copyright (c) 2018 Intel Corporation
Intel(R) Server Board S2600BPB detected
Entering BMC Update Mode...
Using USB Interface...
Transferring BMC Firmware Image:
100% Done
BMC Firmware Update Status:
100% Done
BMC Firmware Update Successful
This may take up to 50 seconds to exit. Please wait...
BIOS Update In Progress: 100%
Primary Update completed, Backup BIOS update will be completed in next boot.
BIOS has been updated successfully.
Please restart the server for the update to take effect.

ME Update In Progress:
Error : Error while parsing the cfg file
```

If Syscfg is run with kernel MMIO access set to iomem=strict, Syscfg can display a warning to the console:

```
#syscfg -i
```

```
Error: Error in mapping physical to virtual memory
```

Root Cause

On some Linux kernels, memory mapped IO (MMIO) access is set to strict mode preventing the access to MMIO memory from user space utilities. When the Linux kernel runs in this mode, Intel HW Management Utility like OFU and Syscfg is not able to access MMIO for devices, resulting in a Utility execution failure.

Workaround

If you encounter this issue, perform one of the following actions to access and list or update these devices:

- Add iomem=relaxed to the kernel command line.
- Run with a kernel version that does not restrict MMIO memory access to the user space for kernel 4.5 and above.
- Choose a non-OS level update utility, such as the EFI Shell based System Update Package (SUP).

Please contact your Intel Sales Representative if you require more specific information about this issue.

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