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

Intel Technical Advisory

TA-1127

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Intel® Server Boards S2600WFQ, S2600BPQ and S2600STQ will not boot or install certain Linux* distributions due to an issue discovered in the OS embedded Intel® Quick Assist Technology driver.

Affected Products

Product Code	MM#
S2600WFQ	952645
S2600BPQ	948900
S2600STQ	957318

Description

Intel® has discovered an issue in which the host fails to boot or install certain Linux* distributions.

The failure might display a message as shown in the example below while loading the operating system:

```
[    41.099580] Modules linked in: scsi_transport_sas qat_c62x(+) ixgbe(+) intel_qat uas ahci(+) authenc dca libahci ptp usb_stor
age pps_core libata mdio wmi fjes sunrpc xts lrw gf128mul dm_crypt dm_round_robin dm_multipath dm_snapshot dm_bufio dm_mirror dm
_region_hash dm_log dm_zero dm_mod linear raid10 raid456 async_raid6_recov async_memcpy async_pq raid6_pq libcrc32c async_xor[
 41.100065] CPU: 4 PID: 1095 Comm: systemd-udevd Not tainted 3.10.0-514.el7.x86_64 #1
[    41.100066] Hardware name: Intel Corporation S2600BPQ/S2600BPQ, BIOS SE5C620.86B.00.01.0004.071220170215 07/12/2017
```

Root Cause

Full root cause of this issue has been identified. Intel has confirmed that the failure has no impact on system performance, it only impacts the boot or installation process of certain Linux* distributions. In detail, when the operating system is booting up or loading the installer, the in-kernel embedded Intel® QAT driver encounters an unhandled error state, therefore the process stalls.

Corrective Action

This issue is resolved at the driver level.
Intel® has released an updated driver version v1.0.3.x (https://downloadcenter.intel.com/download/27023) that corrects the issue. More details in the next section.

Red Hat*Enterprise Linux* will include the fix in RHEL* v7.4
SUSE* Linux* Enterprise Server will include the fix in SLES* v12 SP3

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Recommended Customer Action / Workaround
Intel® developed a set of Installation Guides with step-by-step instructions to work around this issue and to load the updated Intel® QAT driver v1.0.3.x. Please refer to these documents posted to Intel's Support Site, at the same webpage where you obtain this Technical Advisory.

The following are overviews for two common Linux* distributions:

Red Hat* Enterprise Linux* v7.3

1. Append the text **`modprobe.blacklist=qat_c62x`** before the **`quiet`** option at the end of the **`linuxefi`** line in the GRUB boot loader option
2. Upgrade the Intel® QAT driver

SUSE* Linux* Enterprise Server v12 SP2

1. Append the text **`modprobe.blacklist=qat_c62x`** at the end of the **`linuxefi`** line in the GRUB boot loader option
2. Upgrade the Intel® QAT driver

If the Intel® QAT feature is not required, remove the in-kernel driver **`qat_c62x.ko`** (if it is present).

```
# rm /usr/lib/modules/`uname -r`/kernel/drivers/crypto/qat/qat_c62x/qat_c62x.ko
```

More information can be found in the Appendix A of the Intel® QAT Getting Started Guide HERE.

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