Intel® Server D50DNP Family

Intel® Server M50FCP Family

Specification Update

Q1 2025

Revision History

Date	Modifications
August 2023	MSU unified per generation
March 2024	Added support for 5th Gen Intel® Xeon® Scalable Processors (formerly codenamed Emerald Rapids)
June 2024	Multiple bug and security fixes
September 2024	Added Multiple bugs and updates Added Published Specification Change section
January 2025	Added Multiple bugs and updates

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1 Preface

This document is intended to communicate product errata, published specification changes, published specification clarifications, and published document changes for the following Intel server products:

- Intel® Server D50DNP family
- Intel® Server M50FCP family

It is intended for system integrators and software developers of applications, operating systems, or tools.

Nomenclature

1. **Specification Changes** are modifications to the current published specifications for Intel server boards. These changes will be incorporated in the next release of the specifications.
2. **Specification Clarifications** describe a specification in greater detail or further highlight its impact on a complex design situation. These clarifications will be incorporated into the next release of the specifications.
3. **Documentation Changes** include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.
4. **Errata** are design defects or errors. Errata may cause the server board or system behavior to deviate from published specifications. Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

2 Product Scope

The following specific boards, BIOS, and components are covered by this update:

Table 1. Product Scope

Product Code	Baseboard PBA Revision	BIOS Revision	ME Revision	BMC Revision	CPLD	FRU Revision
M50FCP2SBSTD	M36359-353 M36359-363 M36359-372 N34392-353 N34392-363 N34392-372	R01.02.0003	06.01.04.075	2.42-2-g4940a9-39e80000	3.2	0.07
D50DNP1SB	M44241-453 M44241-463	R01.02.0003	06.01.04.075	2.42-2-g4940a9-39e80000	5.4	0.09

3 Summary Tables of Changes

The following tables provide an overview of known errata, published specification changes, and known document changes that apply to the specified Intel server products. The tables use the following notations:

Will fix – Intel intends to fix this erratum in the future.
Fixed – This erratum has been previously fixed.
No fix – There are no plans to fix this erratum.
Shaded – This erratum is either new or has been modified from the previous specification update.

Table 2. Errata Summary

No.	Impacted Platform	Plans	Description of Errata
1	**M50FCP**	**No Fix**	Broadcom storage/RAID add-in cards require more slot power than supported in FCP2URISER1STD slot 3 and FCP2URISER2STD slot 3.
2	**M50FCP**	**No Fix**	PCIe correctable errors messages during storage workload stress.
3	**D50DNP / M50FCP**	**No Fix**	Processor number is incorrect in the Device Manager of Microsoft* Windows* Server 2022 OS after Intel ® Hyper Threading technology is disabled on 64-core 5th Gen Intel® Xeon® processors.
4	**D50DNP / M50FCP**	**No Fix**	There are six “LICENSE_INVALID” events logged when License Key upload fail by syscfg tool in UEFI.
5	**D50DNP / M50FCP**	**Fixed**	RedHat Linux (RHEL 9.2) fails to report RAPL domains for Intel® Xeon® 5th Generation Scalable Processors.
6	**D50DNP / M50FCP**	**Fixed**	BMC firmware cannot be updated using Firefox browser.
7	**D50DNP / M50FCP**	**No Fix**	Bogus message “SmaRT&CLST sensor. State Deasserted” in redfish log.
8	**D50DNP / M50FCP**	**Fixed**	Auto-install script for ASPEED driver 1.14.2 fails to install the driver under Suse Linux Enterprise Server 15.5.
9	**D50DNP / M50FCP**	**Fixed**	BMC Embedded Web Server temporarily cannot display NIC information
10	**D50DNP / M50FCP**	**Will Fix**	BMC Embedded Web Server temporarily cannot display Nvidia H100 GPGU FRU information
11	**D50DNP / M50FCP**	**Will Fix**	Members of redfish path "/redfish/v1/Systems/system/PCIeDevices" are incorrect
12	**D50DNP / M50FCP**	**Fixed**	The 'User' privilege is displayed as 'Readonly' in redfish.
13	**D50DNP / M50FCP**	**Fixed**	CPLD firmware update will fail when updating BMC, BIOS & CPLD simultaneously via redfish or BMC web.
14	**D50DNP / M50FCP**	**Fixed**	BMC Embedded Web Server temporarily cannot display storage information
15	**D50DNP**	**Will Fix**	BMC Embedded Web Server temporarily cannot display Intel® Ethernet Network Adapter X710-T2L, X710-DA2, and X710-DA4 FRU information.

16	**D50DNP**	**Will Fix**	The Baseboard Management Controller (BMC) may trigger recovery mode during power cycle testing
17	**D50DNP**	**No Fix**	D50DNP Intel ME has detected SMBus link error. Sensor Bus: SmLink1, MUX Address: 0xFF asserted in the System Event Logs.

Table 3. Published Specification Changes Summary

No.	Impacted Platform	Description of Errata
1	**D50DNP / M50FCP**	Memory Correctable Error Threshold and Trigger SW Error Threshold default values changed.
2	**M50FCP**	CXL Type 3 Legacy and CXL Security Level settings added.

Table 4. Documentation Summary

No.	Impacted Platform	Document Name	Document Version
1	**D50DNP**	Intel® Server Board D50DNP Family Technical Product Specification (TPS)	1.4
2	**D50DNP**	Intel® D50DNP Product Family Configuration Guide	1.5
3	**D50DNP**	Intel® D50DNP Product Family Integration and Service Guide	1.3
4	**M50FCP**	Intel® Server Board M50CYP Family Technical Product Specification (TPS)	1.5
5	**M50FCP**	Intel® M50CYP Product Family Configuration Guide	1.5
6	**M50FCP**	Intel® M50CYP Product Family Integration and Service Guide	1.4

Table 5. Tools and Firmware

No.	Impacted Platform	Software description	Software version
1	**D50DNP Server System**	BIOS and firmware update package for the Intel® Server D50DNP Family	BIOS – 01.02.0003 ME FW – 06.01.04.075 BMC FW – 2.42-2-g4940a9-39e80000 FRU – 0.09 CPLD – V5P4
2	**M50FCP Server System**	BIOS and firmware update package for the Intel® Server M50FCP Family	BIOS – 01.02.0003 ME FW – 06.01.04.075 BMC FW – 2.42-2-g4940a9-39e80000 FRU – 0.07 CPLD – V3P2
3	**D50DNP Server System and M50FCP Server System**	Intel® Server Firmware Update Utility (SysfwUpdt)	16.0.9

4 Product Errata

The following sections provide in-depth descriptions of each erratum/documentation change indicated in the tables above. The errata and documentation change numbers referenced in the following sections correspond to the numbers in the tables above.

1. ID Number 2103656264

When installing Broadcom storage/RAID cards in 2U Riser1-Slot3 or Riser2-Slot3, system will show controller fault message during POST and BIOS cannot recognize the card.

Problem	When installing Broadcom Add-in cards models 9670w-16i, 9670-24i or 9600-16e in Slot 3 of RISER 1 or RISER 2 in M50FCP2U systems, the system will not recognize them due to a power design limitation of the FCP2URISER1STD and FCP2URISER2STD. Per product design riser 1, slot 3 and riser 2, slot 3 supports a maximum of 25W which is less than the listed Broadcom cards minumum requirements.
Implication	If installing any of the listed Broadcom cards in the mentioned risers and slots, there will be a controller fault message during POST and BIOS will not recognize them.
Status	No Fix
Workaround	As the Broadcom cards power requirements are higher than the supported power in riser 1 slot 3 and riser 2 slot 3 (25w), it is required that these Add-in cards be installed in riser 1, slot 1 or 2 or riser 2, slot 1 or 2 as these slots have sufficient power to supports these cards.

2. ID Number 2103649703

PCIe Correctable Receiver Error messages listed in SEL and HW error messages in OS event logs during storage workloads stress when RS3P4TF160F, RS3P4QF160J or RS3P4MF088F are installed in risers.

Problem	There might be sporadic PCIe correctable receiver errors observed during storage workloads stress conditions.
Implication	This informational message is to inform a user that the system encountered an error on a PCIe bus and recovered from it. This does not affect system performance or data integrity.

Status	No Fix
Workaround	When installing RS3P4TF160F, RS3P4QF160J or RS3P4MF088F in M50FCP systems, it may require changing the BIOS setting “PCIe ASPM Support (Global)” to “Disabled” to prevent the PCIe correctable receiver error from being reported in the SEL and OS event logs. ***Advanced > Integrated IO Configuration > PCIe Misc. Configuration > PCIe ASPM Support (Global) > Disabled.***

3. ID Number

Processor number is incorrect in the Device Manager of Microsoft* Windows* Server 2022 OS after Hyper Threading technology is disabled on 64-core 5th Gen Intel® Xeon® processors.

Problem	Processor number is incorrect in the Device Manager of Windows Server 2022 OS after Hyper Threading technology is disabled on 64-core 5th Gen Intel® Xeon® processors.
Implication	The incorrect number shown does not affect system performance or data integrity.
Status	No Fix
Workaround	No workaround known

4. ID Number 2103660043

There are six “LICENSE_INVALID” events logged when License Key upload fail by syscfg tool in UEFI.

Problem	An attempt to upload an invalid License Key by command “syscfg.efi /lic <invalid_Key>” fails and produces an error message in the event log: "Error: Write License file to BMC failed." This message is repeated five more times.
Implication	These additional messages do not affect system performance or data integrity.
Status	No Fix
Workaround	Five additional error messages should be ignored.

5. ID Number

RedHat Linux (RHEL 9.2) fails to report RAPL domains for Intel® Xeon® 5th Generation Scalable Processors.

Problem	RedHat Linux 9.2 fails to show the Running Average Power Limit (RAPL) information in the OS log even after the “Package RAPL Limit MSR Lock” is set to “Enabled” on Intel® Xeon® 5th Generation Scalable Processors.
Implication	RAPL information is missing in a RHEL system log
Status	Fixed
Workaround	RedHat addressed the issue in the Security Advisory RHSA-2023:7370. Please refer to the page at https://access.redhat.com/errata/RHSA-2023:7370

6. ID Number

BMC firmware cannot be updated using the Firefox browser.

Problem	An attempt to update BMC firmware by uploading the firmware image using an Embedded Web Server in the Firefox browser will fail.
Implication	BMC firmware cannot be updated using the Firefox browser.
Status	Fixed
Workaround	Users can use the Chrome browser to update the BMC firmware.

7. ID Number

Bogus message "SmaRT&CLST sensor. State Deasserted" in redfish log.

Problem When AC power is removed (power cord is unplugged) from a "Cold Redundant" PSU listed in the table below, such power supply unit will go out of the "Cold Redundant" state and will start driving 12V power line. This event will be registered in the Redfish log with two records:

```
2022-01-19T01:42:26+00:00  Informational  NM SmaRT&CLST
sensor. State Deasserted (throttling released)
2022-01-19T01:42:26+00:00  Informational  NM SmaRT&CLST
sensor. State Asserted (throttling enforced)
```

The "Deasserted" message in this pair is wrong and should be ignored.

Affected products

Power Supply Model	Efficiency	Intel Product Code	Intel MM#	Intel P/N
1300W AC Common Redundant Power Supply AXX1300TCRPS	Titanium	AXX1300TCRPS	956542	H79286-013
1600W AC Common Redundant Power Supply AXX1600PCRPS	Platinum	FXX1600PCRPS	915606	G36234-020
1600W AC Common Redundant Power Supply AXX1600TCRPS	Titanium	AXX1600TCRPS	99ADF2	J78186-009
2700W Air-Cooled Power Supply	Titanium	FCXX27CRPSAC	99AZAM	M67572-001

FCXX27CRPSAC (FC2000 Family)				

For details see the Technical Advisory TA-1185 at https://www.intel.com/content/www/us/en/support/articles/000005748/server-products/single-node-servers.html

Implication Misleading message in the redfish log.

Status No fix

Workaround A user should be aware of this phenomenon and ignore the bogus message.

8. ID Number

Auto-install script for ASPEED driver 1.14.2 fails to install the driver under Suse Linux Enterprise Server 15.5.

Problem The auto-install script packaged with the "ASPEED Graphics RHEL/Ubuntu/SuSE LTS Linux DRM Package 1.14.2" fails to install the driver in Suse Linux Enterprise Server 15.5 environment.

Implication ASPEED driver 1.14.2 cannot be automatically installed.

Status Fixed

Workaround The issue is fixed in the ASPEED driver 1.14.3 available from https://www.aspeedtech.com/support_driver/

9. ID Number

BMC Embedded Web Server temporarily cannot display NIC information.

Problem After AC power cycling, the BMC Embedded Web Server may temporarily fail to display NIC information. The abnormal event 'ServiceFailure, nic-mctp-pcie.service failed' can be found in the BMC log.

Implication A user may not be able to get NIC information from the BMC Embedded Web Server.

Status Fixed

Workaround No workaround is available at this time

10. ID Number

BMC Embedded Web Server temporarily cannot display Nvidia H100 GPGU FRU information

Problem	After AC power cycling, the BMC Embedded Web Server may fail to display Nvidia H100 GPGU FRU information. The device works normally, and information about it can be seen in the BIOS Setup.
Implication	The FRU information about Nvidia GPGPU may be unavailable in the BMC Embedded Web Server after the AC cycle.
Status	Will fix
Workaround	The information about the device can be seen in the BIOS Setup.

11. ID Number

Members of redfish path "/redfish/v1/Systems/system/PCIeDevices" are incorrect

Problem	BMC incorrectly populates redfish path "/redfish/v1/Systems/system/PCIeDevices. All devices on buses 0 – 256 should be on segment 0. In the redfish log, buses 128 – 256 belong to segment 1 instead, which is wrong. In addition, redfish may show devices that do not exist in the system.
Implication	Redfish contains an incorrect PCIe device list
Status	Will fix
Workaround	Users can get the correct PCIe devices list from the UEFI shell “pci” command or running LSPCI command in Linux*

12. ID Number

The 'User' privilege is displayed as 'Readonly' in redfish.

Problem	BMC incorrectly displays the list of user roles in redfish. The get method with URL:/redfish/v1/AccountService/Roles will return the list of four items: "Administrator," "Operator," "ReadOnly," and "NoAccess." The correct name for the role displayed as “ReadOnly” should be “User.”
Implication	The “User” privilege is incorrectly displayed as “Readonly” in redfish.
Status	Fixed
Workaround	No workaround is available at this time

13. ID Number

The CPLD firmware update will fail if updating CPLD, BMC and BIOS via redfish or BMC Embedded Web Server on D50DNP and M50FCP systems without rebooting in between

Problem	Updating the CPLD firmware via an OOB (Out of Band) method while also applying BMC version egs-2.20-0-g2ce4c5-39e80000 and BIOS version R01.02.0002 will result in a failure to update the CPLD. The BMC and BIOS will update successfully, but the CPLD will retain its current version installed.
Implication	The CPLD will not be updated if attempting to update all component BIOS, BMC and CPLD simultaneously via OOB (redfish or BMC Embedded Web Server).
Status	Fixed
Workaround	Update the CPLD first, then reboot. Update the BMC and BIOS afterward. Note: the inband SUP and SFUP update process is not affected by this issue and functions normally.

14. ID Number

BMC Embedded Web Server temporarily cannot display storage information.

Problem	After AC power cycling, the BMC Embedded Web Server may fail to display storage information. The devices work normally, and information about it can be seen in the BIOS setup and operating system.
Implication	A user may not be able to get storage information from the BMC Embedded Web Server.
Status	Fixed
Workaround	No workaround is available at this time

15. ID Number

BMC Embedded Web Server temporarily cannot display Intel® Ethernet Network Adapter X710-T2L, X710-DA2, and X710-DA4 FRU information.

Problem	After AC power cycling, the BMC Embedded Web Server may fail to display Intel® Ethernet Network Adapter X710-T2L, X710-DA2, and X710-DA4 FRU information.

The device works normally, and information about it can be seen in the BIOS Setup.

Implication The FRU information for Intel® Ethernet Network Adapter X710-T2L, X710-DA2, and X710-DA4 may be unavailable in the BMC Embedded Web Server after an AC cycle.

Status Will fix

Workaround Users can perform a BMC cold reset to the affected system. The information about the device can be seen in the BIOS Setup.

16. ID Number

D50DNP Baseboard Management Controller (BMC) may trigger recovery mode during power cycle testing.

Problem A low failure rate has been observed after AC power cycling testing. The D50DNP BMC may trigger recovery mode due to the unsuccessful loading of the baseboard.json configuration file. It will initiate a Platform Firmware Resilience (PFR) recovery process.

Implication All sensors will be unavailable when the baseboard.json file fails to load properly. The BMC settings configured could be restored to default after the BMC recovery.

Status Will fix

Workaround If there is any Micron 7450 M.2 SSD device present in the system, please remove it. Users can perform a BMC cold reset to the affected system to recover the missing sensor information.
To restorethe BMC settings, users can configure them via IPMI commands through the in-band method.

17. ID Number 2103654973

D50DNP Intel ME has detected SMBus link error. Sensor Bus: SmLink1 , MUX Address: 0xFF assertion in the System Event Logs.

Problem The Intel ME has detected an SMBus link error. The System Event Logs (SEL) may record this as a critical event with the details: Sensor Bus: SmLink1, MUX Address: 0xFF, in D50DNP multinode systems. However, this is purely informational and does not impact functionality or performance.

Implication If only the SMLink1 assertion is observed in the SEL, it indicates that SMLink1 is temporarily unavailable. This event is considered a warning, with no impact on

functionality, and no action is required. However, if there are additional events recorded around the same time, such as SMART/CLST, the SMLink1 timeout persists for an unusually long duration, further debugging is necessary.

Status No fix

Workaround No workaround is available

5 Published Specifications Change

The following sections provide in-depth descriptions of each published specification change indicated in the tables above. Published specification change numbers referenced in the following sections correspond to the numbers in the tables above.

1. ID Number

Memory Correctable Error Threshold and Trigger SW Error Threshold default values changed in BIOS 01.02.0002.

Description From BIOS version 01.02.0002 the Memory Correctable Error Threshold value changed to 500 as default and the Trigger SW Error Threshold value changed to Enabled as default. These settings can be found in BIOS setup page > Advance > Memory Configuration > Memory RAS and Performance Configuration.

2. ID Number

CXL Type 3 Legacy and CXL Security Level settings have been added into BIOS 01.02.0002 for Intel® Server M50FCP family.

Description From BIOS version 01.02.0002 the CXL Type 3 Legacy and CXL Security Level settings have been added for Intel® Server M50FCP family.
These settings can be found in BIOS setup page > Advance > Integrated IO Configuration.

6 Documentation Changes

1. Intel® Server System D50DNP Family Technical Product Specification (TPS)

Latest Version	1.4
Latest Changes	• Corrected the name of the Platinum CPU models in Section 10.7.3 and Appendix E • Corrected PCIe port mapping in Table 19 • Added slot numbers to Figure 31
Download Link	https://www.intel.com/content/dam/support/us/en/documents/server-products/intel-server-d50dnp-family-technical-product-specification.pdf

2. Intel® Server System D50DNP Family Configuration Guide

Latest Version	1.5
Latest Changes	• Corrected MM# for DNPLCDIMMCLIPM on page 61 • Updated MM# for DNPLCLPAM and D50DNP1MFALLC due to design change
Download Link	https://www.intel.com/content/dam/support/us/en/documents/server-products/intel-server-d50dnp-family-config-guide.pdf

3. Intel® Server System D50DNP Family Integration and Service Guide

Latest Version	1.3
Latest Changes	• Added requirement for two power supplies as the minimum for all chassis options. • Corrected 2700W power supply efficiency to Titanium • Added 5th Gen Intel® Xeon® Scalable Processor Family support information
Download Link	https://www.intel.com/content/www/us/en/content-details/783156/intel-server-d50dnp-family-integration-and-service-guide-1-3.html

4. Intel® Server System M50FCP Family Technical Product Specification (TPS)

Latest Version	1.5
Latest Changes	• Minor changes for clarity
Download Link	https://www.intel.com/content/www/us/en/content-details/710135/intel-server-system-m50fcp2sbstd-product-family-technical-product-specification.html?DocID=710135

5. Intel® Server System M50FCP Family Configuration Guide

Latest Version	1.5
Latest Changes	• Update Table 36. Miscellaneous Accessory Options • Minor changes for clarity
Download Link	https://www.intel.com/content/www/us/en/content-details/734510/intel-server-m50fcp-family-configuration-guide.html?DocID=734510

6. Intel® Server System M50FCP Family Integration and Service Guide

Latest Version	1.4
Latest Changes	• Added 5th Gen Intel® Xeon® Scalable Processor Family support information
Download Link	https://www.intel.com/content/www/us/en/content-details/710467/intel-server-system-m50fcp1ur-system-integration-and-service-guide.html