

Cisco UCS Server BIOS Tokens, Release 6.0

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Preface

- Audience, on page iii
- Conventions, on page iii
- Related Cisco UCS Documentation, on page v
- Documentation Feedback, on page v

Audience

This guide is intended primarily for data center administrators with responsibilities and expertise in one or more of the following:

- Server administration
- Storage administration
- Network administration
- Network security

Conventions

Text Type	Indication
GUI elements	GUI elements such as tab titles, area names, and field labels appear in **this font**. Main titles such as window, dialog box, and wizard titles appear in **this font**.
Document titles	Document titles appear in *this font*.
TUI elements	In a Text-based User Interface, text the system displays appears in `this font`.
System output	Terminal sessions and information that the system displays appear in `this font`.
CLI commands	CLI command keywords appear in **this font**. Variables in a CLI command appear in *this font*.
[ ]	Elements in square brackets are optional.

Text Type	Indication
{x | y | z}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.



Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.



Tip Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.



Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.



Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.



Warning IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Related Cisco UCS Documentation

Documentation Roadmaps

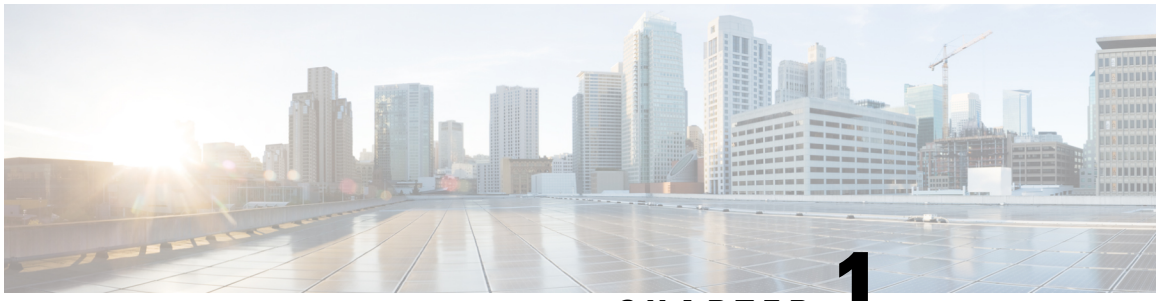
For a complete list of all B-Series documentation, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/overview/guide/UCS_roadmap.html

For a complete list of all C-Series documentation, see the *Cisco UCS C-Series Servers Documentation Roadmapdoc roadmap* available at the following URL: https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/overview/guide/ucs_rack_roadmap.html.

For information on supported firmware versions and supported UCS Manager versions for the rack servers that are integrated with the UCS Manager for management, refer to Release Bundle Contents for Cisco UCS Software.

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to ucs-docfeedback@external.cisco.com. We appreciate your feedback.



CHAPTER 1

UCS Server BIOS Tokens

- Server BIOS Tokens in Release 6.0(2b), on page 1
- Server BIOS Tokens in Release 6.0(1b), on page 16

Server BIOS Tokens in Release 6.0(2b)

This document provides new and changed server BIOS token information in Cisco UCS Manager release, 6.0(2b). The servers supported in this release 6.0(2b) continue utilizing the BIOS tokens from the previous release.

For detailed information on server-specific tokens introduced in earlier versions, refer Cisco UCS Server BIOS Tokens, Release 4.3 and Cisco UCS Server BIOS Tokens, Release 4.2

Cisco UCS Manager supports the following servers in 6.0(2b):

- Cisco UCS 410c M8 Compute Node

Note This platform is supported from 6.0(2b) onwards.

- Cisco UCS X210c M8 Compute Node
- Cisco UCS X215c M8 Compute Node
- Cisco UCS C240 M8 Server
- Cisco UCS C220 M8 Server
- Cisco UCS C245 M8 Server
- Cisco UCS C225 M8 Server
- Cisco UCS X410c M7 Compute Node
- Cisco UCS X210c M7 Compute Node
- Cisco UCS X210c M6 Compute Node
- Cisco UCS C240 M7 Server
- Cisco UCS C220 M7 Server

- Cisco UCS C220 M6
- Cisco UCS C240 M6
- Cisco UCS C245 M6
- Cisco UCS C225 M6
- Cisco UCS B200 M6
- Cisco UCS B200 M5
- Cisco UCS B480 M5
- Cisco UCS C220 M5
- Cisco UCS C240 M5
- Cisco UCS C240 SD M5
- Cisco UCS C480 M5
- Cisco UCS C480 M5 ML
- Cisco UCS S3260 M5
- Cisco UCS C125 M5

New/Changed BIOS Tokens for 6.0(2b)

Name	Default Value	Supported Values	Platform	New/Changed
Speculative Lock	Enabled	• Enabled • Disabled	• C220 M8 • C240 M8 • X210c M8	New
Uncore Frequency Scaling IO	Mode 1	• Mode 1 • Mode 0	• C220 M8 • C240 M8 • X210c M8	New
GPU Direct CPU1	Disabled	• Enabled • Disabled	• X210c M7 • X410c M7 • X210c M8 • X215c M8	New

Name	Default Value	Supported Values	Platform	New/Changed
GPU Direct CPU2	Disabled	• Enabled • Disabled	• X210c M7 • X410c M7 • X210c M8 • X215c M8	New
GPU Direct CPU3	Disabled	• Enabled • Disabled	X410c M7	New
GPU Direct CPU4	Disabled	• Enabled • Disabled	X410c M7	New
xGMI Link Configuration	Auto	• Auto • 3 xGMI Links • 4 xGMI Links	C225 M6, C245M6	Changed **Note** *2 xGMI Links value is not supported.*

New BIOS Tokens for Cisco UCS 410c M8 Compute Node

Name	Default Value	Supported Values
GPU Direct CPU1	Disabled	• Enabled • Disabled
GPU Direct CPU2	Disabled	• Enabled • Disabled
GPU Direct CPU3	Disabled	• Enabled • Disabled
GPU Direct CPU4	Disabled	• Enabled • Disabled
Uncore Frequency Scaling IO	Mode 1	• Mode 1 • Mode 0

Name	Default Value	Supported Values
Speculative Lock	Enabled	• Enabled • Disabled
FRB 2 Timer	Enabled	• Enabled • Disabled
OS Watchdog Timer Policy	Power Off	• Power Off • Reset
OS Watchdog Timer Timeout	10 minutes	• 5 minutes • 10 minutes • 15 minutes • 20 minutes
OS Watchdog Timer	Disabled	• Enabled • Disabled
Flow Control	None	• None • RTS-CTS
Baud rate	115.2k	• 9.6k • 19.2k • 38.4k • 57.6k • 115.2k
Terminal type	VT100	• PC-ANSI • VT100 • VT100-PLUS • VT-UTF8
Console redirection	Disabled	• COM 0 • COM 1 • Disabled

Name	Default Value	Supported Values
Security Device Support	Enabled	• Enabled • Disabled
Trusted Platform Module State	Enabled	• Enabled • Disabled
SHA-1 PCR Bank	Enabled	• Enabled • Disabled
SHA256 PCR Bank	Enabled	• Enabled • Disabled
SHA384 PCR Bank	Disabled	• Enabled • Disabled
TPM Pending Operation	None	• None • TpmClear
TPM Minimal Physical Presence	Disabled	• Enabled • Disabled
Intel Virtualization Technology	Enabled	• Enabled • Disabled
Intel Trusted Execution Technology Support	Disabled	• Enabled • Disabled
NUMA	Enabled	• Enabled • Disabled
Select Memory RAS Configuration	ADDDC Sparing	• Mirror Mode 1LM • Partial Mirror mode 1LM • Maximum Performance • ADDDC Sparing
Select PPR type	Hard PPR	• Disabled • Hard PPR

Name	Default Value	Supported Values
Above 4G Decoding	Enabled	• Enabled • Disabled
Hardware Prefetcher	Enabled	• Enabled • Disabled
Adjacent Cache Line Prefetcher	Enabled	• Enabled • Disabled
DCU Streamer Prefetch	Enabled	• Auto • Enabled • Disabled
DCU IP Prefetcher	Enabled	• Enabled • Disabled
Processor C1E	Enabled	• Enabled • Disabled
Processor C6 Report	Auto	• Auto • Enabled • Disabled
Turbo Mode	Enabled	• Enabled • Disabled
EIST PSD Function	HW ALL	• HW ALL • SW ALL
Boot Performance Mode	Max Performance	• Max Performance • Max Efficient
Uncore Frequency Scaling	Mode 1	• Mode 1 • Mode 0
SpeedStep (Pstates)	Enabled	• Enabled • Disabled

Name	Default Value	Supported Values
Configurable TDP Level	Normal	• Normal • Level 1 • Level 2
Hyper-Threading [ALL]	Enabled	• Enabled • Disabled
CPU Performance	Custom	• Enterprise • High Throughput • HPC • Custom
CDN Control	Enabled	• Enabled • Disabled
Processor CMCI	Enabled	• Enabled • Disabled
Adaptive Memory Training	Enabled	• Enabled • Disabled
OptionROM Launch Optimization	Enabled	• Enabled • Disabled
BIOS Techlog Level	Minimum	• Maximum • Normal • Minimum
VMD Enable	Disabled	• Enabled • Disabled
PCIe RAS Support	Enabled	• Enabled • Disabled
Power ON Password	Disabled	• Enabled • Disabled

Name	Default Value	Supported Values
Cores Enabled	All	• All • 4–86
USB Port Front	Enabled	• Enabled • Disabled
USB Port KVM	Enabled	• Enabled • Disabled
USB Port:M.2 Storage	Enabled	• Enabled • Disabled
Workload Configuration	IO Sensitive	• Balanced • IO Sensitive
Sub NUMA Clustering	Disabled	• Auto • Disabled • Enabled
UPI Prefetch	Auto	• Enabled • Disabled • Auto
XPT Prefetch	Auto	• Enabled • Disabled • Auto
Power Performance Tuning	OS	• OS • BIOS • PECI
Energy/Performance Bias Config	Balanced Performance	• Performance • Balanced Performance • Power • Balanced Power

Name	Default Value	Supported Values
Package C State	C0 C1 State	• No limit • Auto • C0 C1 State • C2 • C6 Non Retention
LLC Prefetch	Enabled	• Enabled • Disabled
Hardware P-States	HWPM Native Mode	• HWPM Native Mode • HWPM OOB Mode • Native Mode with no Legacy • Disabled
IPV6 PXE Support	Enabled	• Disabled • Enabled
Energy Efficient Turbo	Disabled	• Disabled • Enabled
Processor EPP Profile	Balanced Performance	• Performance • Balanced Performance • Power • Balanced Power
Patrol Scrub	Enable at End of POST	• Enable at End of POST • Disabled
Intel Speed Select	Auto	• Auto • Level 0 • Level 1 • Level 2 • Level 3 • Level 4

Name	Default Value	Supported Values
Intel Dynamic Speed Select	Disabled	• Enabled • Disabled
BME DMA Mitigation	Disabled	• Enabled • Disabled
Partial Memory Mirror Mode	Disabled	• Percentage • Disabled
Partial Mirror Percentage	5.00	• Between 5.00 (min) - 40.00 (max)
Memory size limit in GB	0	• Between 0 (min) - 65535 (max)
Network Stack	Enabled	• Enabled • Disabled
External SSC Enable	Off	• 0P3_Percent • 0P5_Percent • Hardware • Off
IPv4 PXE Support	Enabled	• Enabled • Disabled
IIO eDPC Support	On Fatal and Non-Fatal Errors	• Disabled • On Fatal Error • On Fatal and Non-Fatal Errors
Total Memory Encryption (TME)	Disabled	• Enabled • Disabled
Multikey Total Memory Encryption	Disabled	• Enabled • Disabled
SW Guard Extensions (SGX)	Disabled	• Enabled • Disabled

Name	Default Value	Supported Values
SGX Factory Reset	Disabled	• Enabled • Disabled
SGX Pkg info In-Band Access	Disabled	• Enabled • Disabled
SGX QoS	Enabled	• Enabled • Disabled
Select Owner EPOCH Input Type	Manual User Defined Owner EPOCHs	• SGX Owner EPOCH activated • Change to New Random Owner EPOCHs • Manual User Defined Owner EPOCHs • SGX Owner EPOCH deactivated
SGX Write Enable	Enabled	• Enabled • Disabled
SGX Auto MP Registration Agent	Disabled	• Enabled • Disabled
SProcessor Epoch 0	0	• Between 0 (Min) - ffffffffffffffff (Max) **Note** Hash byte 7-0
SProcessor Epoch 1	0	• Between 0 (Min) - ffffffffffffffff (Max) **Note** Hash byte 7-0
SGX PUBKEY HASH0	0	• Between 0 (Min) - ffffffffffffffff (Max) **Note** Hash byte 7-0

Name	Default Value	Supported Values
SGX PUBKEY HASH1	0	• Between 0 (Min) - ffffffffffffffff (Max) **Note** Hash byte 15-8
SGX PUBKEY HASH2	0	• Between 0 (Min) - ffffffffffffffff (Max) **Note** Hash byte 23-16
SGX PUBKEY HASH3	0	• Between 0 (Min) - ffffffffffffffff (Max) **Note** Hash byte 31-24
Memory Thermal Throttling Mode	CLTT with PECI	• CLTT with PECI • Disabled
Enhanced Memory Test	Auto	• Enabled • Disabled • Auto
IPv4 HTTP Support	Enabled	• Disabled • Enabled
IPv6 HTTP Support	Enabled	• Disabled • Enabled
NTB Test Mode	Disabled	• Enabled • Disabled
NTB Device Type	Upstream	• Upstream • Downstream
UMA	Hemisphere(2-clusters)	• Hemisphere(2-clusters) • Disable(All2All)

Name	Default Value	Supported Values
Virtual Numa	Disabled	• Disabled • Enabled
XPT remote prefetch	Auto	• Enabled • Disabled • Auto
LLC Dead Line	Enabled	• Enabled • Disabled • Auto
Enhanced CPU Performance	Disabled	• Auto • Disabled
UPI Link Enablement	Auto	• Auto • 1 • 2 • 3
UPI Power Manangement	Disabled	• Enabled • Disabled
UPI Link Speed	Auto	• 16.0GT/s • 20.0GT/s • 24.0GT/s • Auto • Use Per Link Setting
LIMIT CPU PA to 46 Bits	Enabled	• Enabled • Disabled
Adaptive Refresh Management Level	Default	• Default • Level A • Level B • Level C

Name	Default Value	Supported Values
Rank Margin Tool	Disabled	• Enabled • Disabled
DMA Control Opt-In Flag	Disabled	• Enabled • Disabled
Error Check Scrub	Enabled with result collection	• Disabled • Enabled without Result Collection • Enabled with Result Collection
PRMRR Size	256M	• Invalid Config. • 128M • 256M • 512M • 1G • 2G • 4G • 8G • 16G • 32G • 64G • 128G • 256G • 512G
Trust Domain Extension (TDX)	Disabled	• Enabled • Disabled
TDX Secure Arbitration Mode (SEAM) Loader	Disabled	• Enabled • Disabled

Name	Default Value	Supported Values
MMIO High Base	32T	• 512G • 1T • 2T • 4T • 16T • 24T • 32T • 40T • 56T • Auto
MMIO High Granularity Size	256G	• 1G • 4G • 16G • 32G • 64G • 256G • 1024G • Auto
IOAT Configuration	Enabled	• Disabled • Enabled
DFX OSB	Enabled	• Auto • Enabled • Disabled
Re-Size BAR Support	Disabled	• Enabled • Disabled
PreBoot DMA Protection	Disabled	• Enabled • Disabled

Name	Default Value	Supported Values
UEFI Memory Map Special Purpose Memory Flag	Enabled	• Enabled • Disabled
ACPI SRAT Special Purpose Memory Flag	Enabled	• Enabled • Disabled
Latency Optimized Mode	Disabled	• Enabled • Disabled
Run Time Post Package Repair	Disabled	• Enabled • Disabled

Related Documentation

- Server BIOS Tokens, Release 4.3
- Server BIOS Tokens, Release 4.2
- Server BIOS Tokens, Release 4.1

Server BIOS Tokens in Release 6.0(1b)

This document provides new and changed server BIOS token information in Cisco UCS Manager release, 6.0(1b). The servers supported in this release 6.0(1b) continue utilizing the BIOS tokens from the previous release and no new servers are added in this release.

For detailed information on server-specific tokens introduced in earlier versions, refer Cisco UCS Server BIOS Tokens, Release 4.3 and Cisco UCS Server BIOS Tokens, Release 4.2

Cisco UCS Manager supports the following servers in 6.0(1b):

- Cisco UCS X215c M8
- Cisco UCS X210c M8
- Cisco UCS X410c M7
- Cisco UCS X210c M7
- Cisco UCS X210c M6
- Cisco UCS C240 M8
- Cisco UCS C220 M8
- Cisco UCS C245 M8
- Cisco UCS C225 M8
- Cisco UCS C240 M7

- Cisco UCS C220 M7
- Cisco UCS C240 M6
- Cisco UCS C220 M6
- Cisco UCS C245 M6
- Cisco UCS C225 M6
- Cisco UCS B200 M6
- Cisco UCS B200 M5
- Cisco UCS B480 M5
- Cisco UCS C240 M5
- Cisco UCS C240 SD M5
- Cisco UCS C220 M5
- Cisco UCS C480 M5
- Cisco UCS C480 M5 ML
- Cisco UCS S3260 M5
- Cisco UCS C125 M5

New/Changed BIOS Tokens for 6.0(1b)

Name	Default Value	Supported Values	Servers/Platform	New/Changed
IIO eDPC Support	On Fatal and Non-Fatal Errors	Disabled, On Fatal Error, On Fatal and Non-Fatal Errors	X210c M8, X210c M7, X410c M7	New

Related Documentation

- Server BIOS Tokens, Release 4.3
- Server BIOS Tokens, Release 4.2
- Server BIOS Tokens, Release 4.1