x3850x6 x3950 x6 M/T 6142, 3837, 3839 System Reboot

System reboots dependent on maintenance actions

GX71150C

January 2015
EBG Server Education

Legal Disclaimer

Lenovo

8001 Development Drive

Morrisville, North Carolina, 27560

Lenovo reserves the right to change product information and specifications at any time without notice. This publication might include technical inaccuracies or typographical errors. References herein to Lenovo products and services do not imply that Lenovo intends to make them available in all countries. Lenovo provides this publication as is, without warranty of any kind, either expressed or implied, including the implied warranties of merchantability or fitness for a particular purpose. Some jurisdictions do not allow disclaimer of expressed or implied warranties. Therefore, this disclaimer may not apply to you.

Data on competitive products is obtained from publicly obtained information and is subject to change without notice. Contact the manufacturer for the most recent information.

Lenovo and the Lenovo logo is a trademark or registered trademark of Lenovo Corporation or its subsidiaries in the United States, other countries, or both. Intel and the Intel logo is a trademark or registered trademark of Intel Corporation or its subsidiaries in the United States, other countries, or both. Other names and brands are the property of their respective owners.

The following terms are trademarks, registered trademarks, or service marks of Lenovo:

Access Connections, Active Protection System, Automated Solutions, Easy Eject Utility, Easy-Open Cover, IdeaCentre, IdeaPad, ImageUltra, Lenovo Care, MaxBright, NetVista, New World. New Thinking, OneKey, PC As A Service, Rapid Restore, Remote Deployment Manager, Rescue and Recovery, ScrollPoint, Secure Data Disposal, Skylight, Software Delivery Center, System Information Gatherer, System Information Reporter, System Migration Assistant, System x, Think Pad, ThinkAccessories, ThinkCenter, ThinkCentre, ThinkDisk, ThinkDrive, ThinkLight, ThinkPad, ThinkPlus, ThinkScribe, ThinkServer, ThinkStation, ThinkStore, ThinkVantage, ThinkVision, ThinkWorld, TopSeller, TrackPoint, TransNote, UltraBase, UltraBay, UltraConnect, UltraNav, VeriFace.

Legal Disclaimer

For more information, go to: http://www.lenovo.com/legal/copytrade.html.

The terms listed for the following partners are the property of their respective owners:

AMD

Intel

IBM

Microsoft

NVIDIA

Lenovo Training Solutions courseware is created, offered, delivered, and certified by Lenovo.

For more information, visit: www.lenovo.com/legal.

This document may not be copied or sold, either in part or in whole, to non-Lenovo personnel.

The information in this publication is current as of the date of the latest revision and is subject to change at any time without notice.

To provide feedback or receive more information about this course, send an e-mail to: x86ServerEdu@lenovo.com

Course Overview

Course Objectives

After completing this course, you will be able to:

1. Explain how many reboots will occur after performing specific maintenance activities.

x3850 X6 and x3950 X6- System Reboot

x3850 X6 and x3950 X6- System Reboot

- The amount of system reboots depends on the maintenance action performed.
- The following tables show the number of system reboots that could occur for each of the maintenance actions.

Memory

Action	Reboots	Notes	Typical Boot Sequence
No action	0-1	note 1	[System Initializing>System Initializing Memory->**Screen Blank Reboot #1**]->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS
Memory DIMM replacement	1	note 2	System Initializing>System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks->**Recalibrating System power**->screen blanks briefly->Boot to OS
Add memory to 1 Compute Book	1		
Change memory mode & removing memory. Changing mode to Independent no sparing/no mirroring from Lockstep w/Sparing	1		
Change memory mode & adding memory. Changing mode to Lockstep w/Sparing from Independent	1		
Replace DIMM pair with different size	1		
Add eXFlash DIMM(s)	1		
Change memory mode to Lockstep (from Independent mode)	1		System Initializing>System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS
Change memory mode to Independent with Mirror (from Lockstep)	1		
Change memory mode to Independent (from Independent w/Mirror)	1		
Change memory mode to Lockstep with Mirror (from Independent)	1		
Change memory mode to Independent w/Sparing (from Lockstep w/Mirror)	1		
Change memory mode to Lockstep w/Sparing (from Independent w/Sparing)	1		

Note 1: [System Initializing>System Initializing Memory->Screen Blank Reboot #1] - This very first set of sequences will not occur if the reboot of the system is initiated from the OS. If the system is DC powered on, this sequence will occur.

Note 2: **Recalibrating System power -** This process may take a minute or longer. Progress is displayed by a sequence of "." (periods) on two lines. The last line will have six "." , followed by three "!" symbols. The time between each "." on the last line could be up to 10 seconds.

Compute Books, I/O Books, Adapters

Action	Reboots	Notes	Typical Boot Sequence
Remove an empty I/O Book	1		System Initializing>System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS
Add an empty I/O Book	1		
Add storage (HDD/SSD)	1	note 2	System Initializing>System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->**Recalibrating System power**->screen blanks briefly->Boot to OS
Add 2nd internal Storage Adapter and Storage	1		
Add one PCIe adapter to an already installed but empty I/O book	1	note 2,3	
Add two PCIe adapters to an already installed but empty I/O book	3	note 2,3	System Initializing>System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->**Screen Blank Reboot #2**->System Initializing>System Initializing Memory->**Screen Blank Reboot #3**->System Initializing>System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->**Recalibrating System power**->screen blanks briefly->Boot to OS
Remove an I/O Book (with adapters installed)			
Add an I/O Book (with 2 adapters installed)			
Remove one of two adapters from an I/O book			
Remove (last) adapter from an I/O book (leaving all slots empty)			
Add 1 Compute Book (for total of 2 in system)			
Add 3 Compute Books			
Installing Primary I/O Book (action that might be similar to FRU replacement where the FRU's Primary I/O Book's UEFI/IMM is down level and is updated. Factory configuration defaults differ from end user configuration)	5		System initializing -> System initializing memory->**Screen Blank Reboot #1** ->System initializing -> System initializing memory->Warning Secure Region Update In Progress. Do Not Power Off->**Screen Blank Reboot #2**->System initializing->System initializing memory->**Screen Blank Reboot #3**->System initializing -> System initializing memory->Loading Value-add Driver(s)->**Screen Blank Reboot #4**->System initializing->System initializing memory->**Screen Blank Reboot #5**->System initializing->System initializing memory->Loading Value-add Drivers->Screen Blank->splash screen counting->no key pressed, boot normally->screen blanks briefly->**Recalibrating System power**->screen blanks briefly->Boot to OS
Swap Compute Books	1		System Initializing>System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS

Note 2: **Recalibrating System power -** This process may take a minute or longer. Progress is displayed by a sequence of "." (periods) on two lines. The last line will have six "." , followed by three "!" symbols. The time between each "." on the last line could be up to 10 seconds.

Note 3: Additional reboot(s) might occur if the adapter(s) being installed requires additional resources that require UEFI to reconfigure.

UEFI/Firmware Update

Action	Reboots	Notes	Typical Boot Sequence
System FW update (Primary Only, update via BoMC)	3	note 4	System Initializing->System Initializing Memory->**Screen Blank Reboot #1**->System Initializing->System Initializing Memory->Warning Secure Region Update In Progress. Do Not Power Off->**Screen Blank Reboot #2**-->System Initializing>System Initializing Memory->**Screen Blank Reboot #3**->System Initializing->System Initializing Memory->Loading Value-add Drivers->[another reboot could occur here]->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS
System FW update (Backup Only, update via BoMC)	3		
System FW update (Primary and Backup Simultaneously via IMM, **not a recommend practice**)	6-7	note 4, 7	System initializing -> System initializing memory->**Screen Blank Reboot #1** ->System initializing -> System initializing memory->Warning Secure Region Update In Progress. Do Not Power Off->**Screen Blank Reboot #2**->System initializing memory->**Screen Blank Reboot #3**->System initializing -> System initializing memory->Warning Secure Region Update In Progress. Do Not Power Off->**Screen Blank Reboot #4**->System initializing->System initializing memory->**Screen Blank Reboot #5**->System initializing->System initializing memory->Loading Value-add Drivers->**Screen Blank Reboot #6**->System initializing->System initializing memory->(maybe another **Screen Blank Reboot #7**->SI->SIM)->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS
8S system - updating Primary UEFI bank only, on both nodes, via BoMC	6-7	note 4, 7	System initializing -> System initializing memory ->**Screen Blank Reboot #1** -> System initializing -> System initializing memory -> Warning Secure Region Update Process Do Not Power Off -> **Screen Blank Reboot #2** ->System initializing -> System initializing memory -> **Screen Blank Reboot #3** -> System initializing -> System initializing memory ->Warning Secure Region Update Process Do Not Power Off -> **Screen Blank Reboot #4** -> System initializing -> System initializing memory->**Screen Blank Reboot #5** -> System initializing -> System initializing memory -> Loading value-add drivers -> **Screen Blank Reboot #6** -> System initializing -> system initializing memory -> Loading value-add drivers -> Scanning system connecting devices -> screen blanks briefly -> Splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS
Misc. UEFI (F1) setting change	1	note 5,6	System Initializing->System Initializing Memory->**Screen Blank Reboot #1** ->System Initializing->System Initializing Memory->>Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->Boot to OS

Note 4: It is possible an extra reboot could occur depending upon the level change of the FW.

Note 5: UEFI setting change: Disabled option ROM, Enabling option ROM, these options do not result in the "Recalibration System Power" message.

Note 6: UEFI setting change: Disabled On Board Devices - after splash screen, prior to boot, the "Recalibration System Power" message appears.

Note 7: The duration of the Screen Blank after the "Warning: Secure Region Update Process Do Not Power Off" message, could be as long as 8 seconds.

Power

Action	Reboots	Notes	Typical Boot Sequence
Adding additional power supplies (2 installed going to 4)	1	note 1	[System Initializing>System Initializing Memory->**Screen Blank Reboot #1**]->System Initializing->System Initializing Memory->Loading Value-add Drivers->System scanning, connecting boot device(s)->screen blanks for couple seconds->splash screen counting->no key pressed, boot normally->screen blanks briefly->->**[Recalibrating System power]** -> screen blanks briefly->Boot to OS
Change Power configuration (from 1+1 to no redundancy)	0-1		
Change Power configuration (from no redundancy to 2+2)	0-1		

Note 1: [System Initializing>System Initializing Memory->Screen Blank Reboot #1] - This very first set of sequences will not occur if the reboot of the system is initiated from the OS. If the system is DC powered on, this sequence will occur.