



Enterprise Services Education

DDR4 unique identifier January 2016 Study guide

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Preface

DDR4 unique identifier

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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 ServicesEdu@lenovo.com

DDR4 unique identifier – Prerequisites and objectives

Prerequisite courses

There are no prerequisites for this course.

Objectives

After completing this course, you will be able to:

1. Identify unqualified DIMMs in Lenovo systems.

DDR4 unique identifier

Overview

DDR4 unique identifier

The DDR4 unique identifier provides a comprehensive solution to the unqualified DIMMs issue, discourages the use of unqualified DIMMs in Lenovo systems, and improves the memory field quality.

- Each TruDDR4 Memory DIMM has a unique signature programmed into the DIMM SPD.
 - UEFI uses a Lenovo proprietary algorithm to verify TruDDR4 Memory.
- When UEFI detects non-Lenovo DIMMs, the following message is logged: “Unqualified DIMMS Installed in System”
 - UEFI identifies DIMM slots that contain non-Lenovo DIMMs.
 - Properties below DIMM inventory in IMM show whether the DIMM is Unqualified.
 - Informational message in logs at all levels.

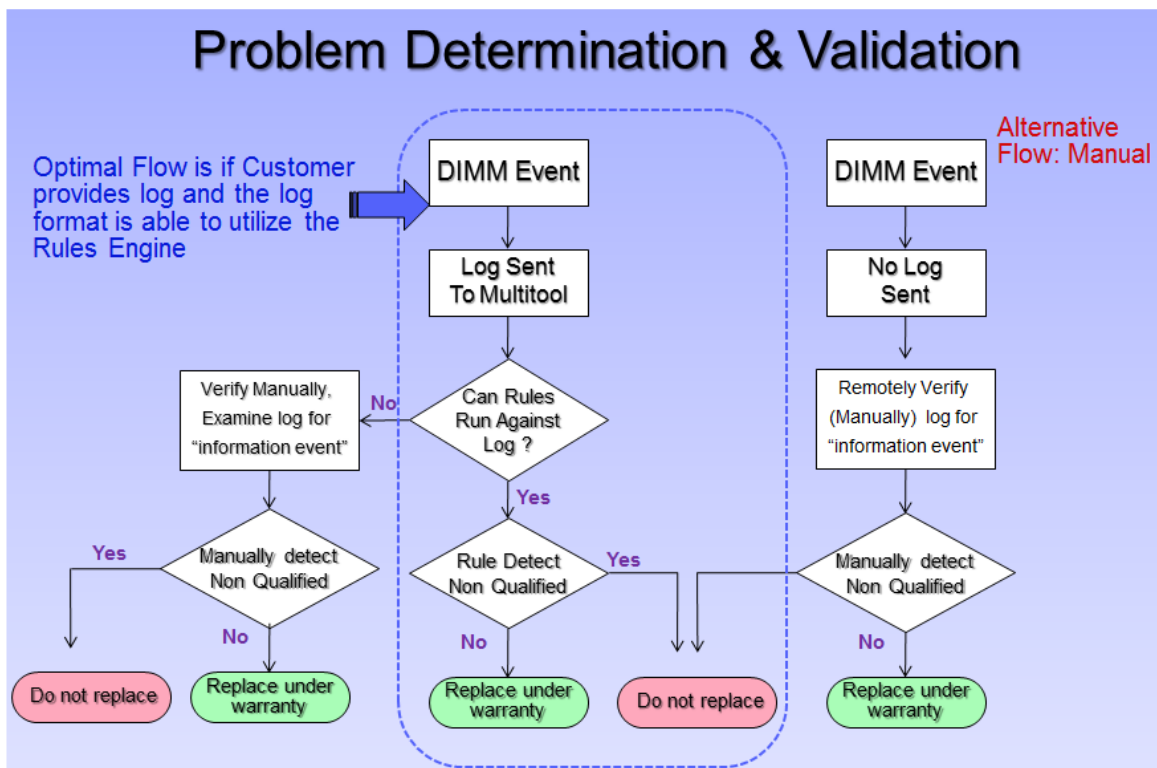


Figure 1: Problem determination and validation

DDR4 unique identifier – System configurations and diagrams

System configurations and diagrams

When non-authentic DIMMs are installed, the AUXlog format is "Unqualified DIMM Serial Number: XXXX-V20 found in Mem card Y Slot Z."

When non-authentic DIMMs deassert, the AUXlog format is "Unqualified DIMM in Mem card Y Slot Z Deassert."

Note: XXXX: the DIMM serial presence data (SPD) number

Y: memory card number

Z: memory slot number

Unqualified DIMM information in the IMM event log

Figure 2 shows an unqualified DIMM in the IMM event log.

IBM Integrated Management Module II

1 0 System Status Events Service and Support Server Management IMM Management Search . . .

Event Log

This page displays the contents of the IMM event log, and allows you to sort and filter the log. By default the log entries are displayed in reverse chronological order (most recent log entry first). For each log entry, the severity of the event is displayed along with a timestamp, source and a text mess. . . [more . .](#)

Last Collected Time: Thur, 1 Mar 2001 01:56:40

Filter: Time: All Date Search Events. . . Go

Severity	Source	Date	Event ID	Message
Total 9 items. 0 items selected.				
Error	Memory	1 Mar 2001, 01:55:12.223 AM	0x00580A2	Invalid memory configuration for Sparing Mode. Please correct memory configuration.
Informational	System	1 Mar 2001, 01:55:08.088 AM	0x005100B	Unqualified DIMM Serial Number : 503A596-V20 found in Mem card 0 Slot 1
Informational	System	1 Mar 2001, 01:49:38.246 AM	0x4000007300000000	The maximum power cap value changed from 261.80 watts to 201.20 watts.
Informational	System	1 Mar 2001, 01:49:35.601 AM	0x4000007200000000	The minimum power cap value changed from 172.70 watts to 112.10 watts.
Informational	System	1 Mar 2001, 01:49:19.677 AM	0x400000a700000000	The server is restarted by chassis control command.
Informational	System	1 Mar 2001, 01:49:17.621 AM	0x4000000f00000000	Attempting to Power On server SN# K VX0182 by user USERID.
Informational	Power	1 Mar 2001, 01:49:15.237 AM	0x816f00091301fff	Host Power has been turned on.
Informational	System	1 Mar 2001, 01:49:14.779 AM	0x4000001400000000	The Platform Event Log on system SN# K VX0182 cleared by user USERID.
Informational	System	1 Mar 2001, 01:49:10.675 AM	0x4000001400000000	The Audit Event Log on system SN# K VX0182

Figure 2: IMM event log

DDR4 unique identifier – System configurations and diagrams

Information about the UEFI setup firmware event page

Figure 3 shows unqualified DIMM information listed in the firmware event in UEFI.

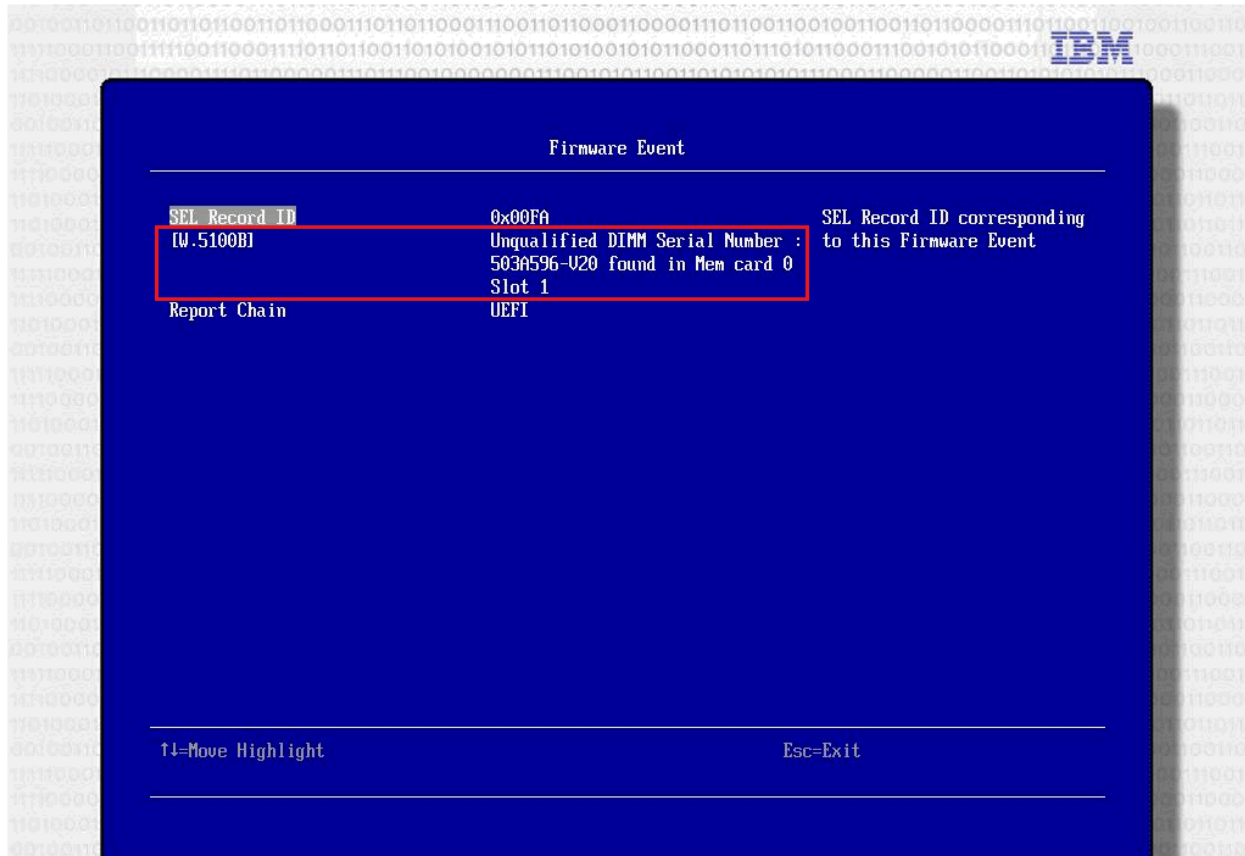


Figure 3: Firmware event

DDR4 unique identifier – System configurations and diagrams

Information about the UEFI setup system event log page

Figure 4 shows unqualified DIMM information in the system event log in UEFI.

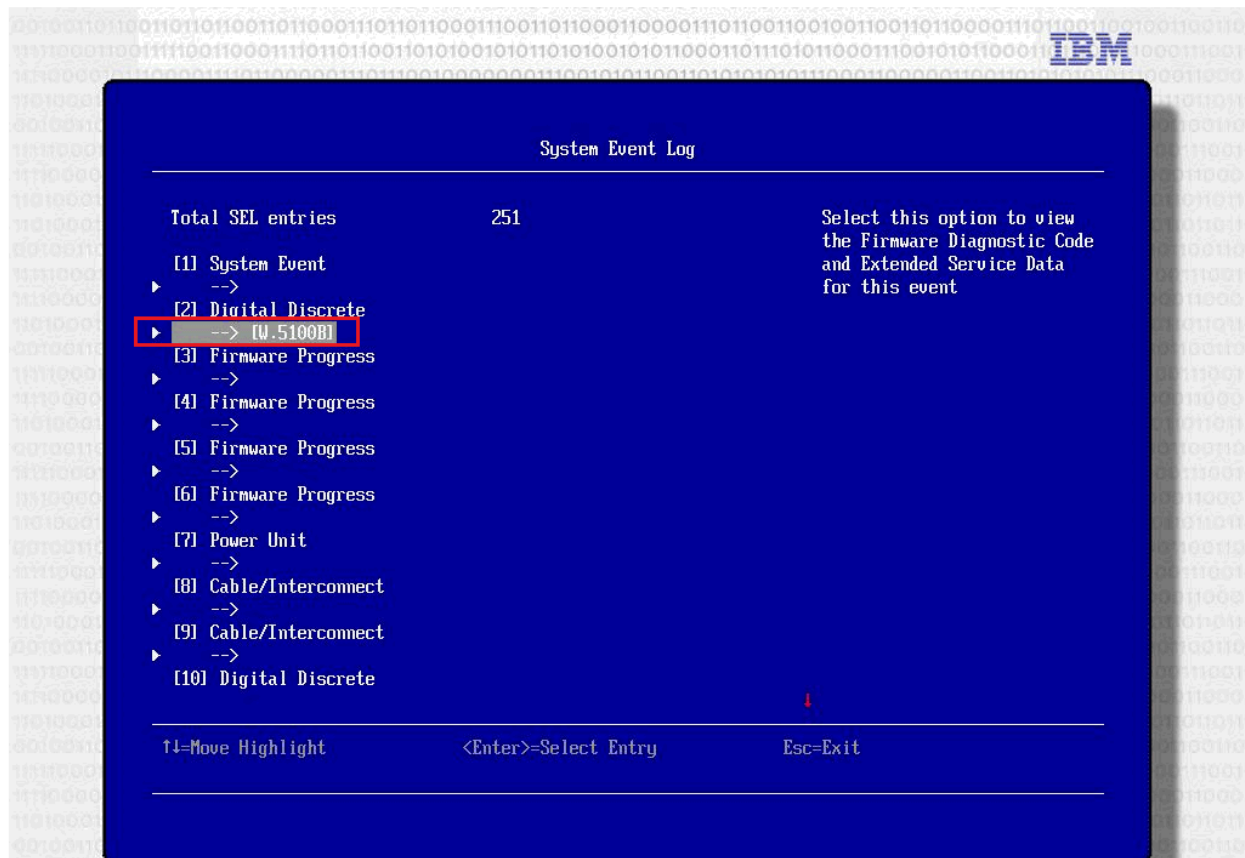


Figure 4: System event log

DDR4 unique identifier – System configurations and diagrams

Information about the UEFI setup POST event viewer page

Figure 5 shows unqualified DIMM information listed below the POST event viewer in UEFI.

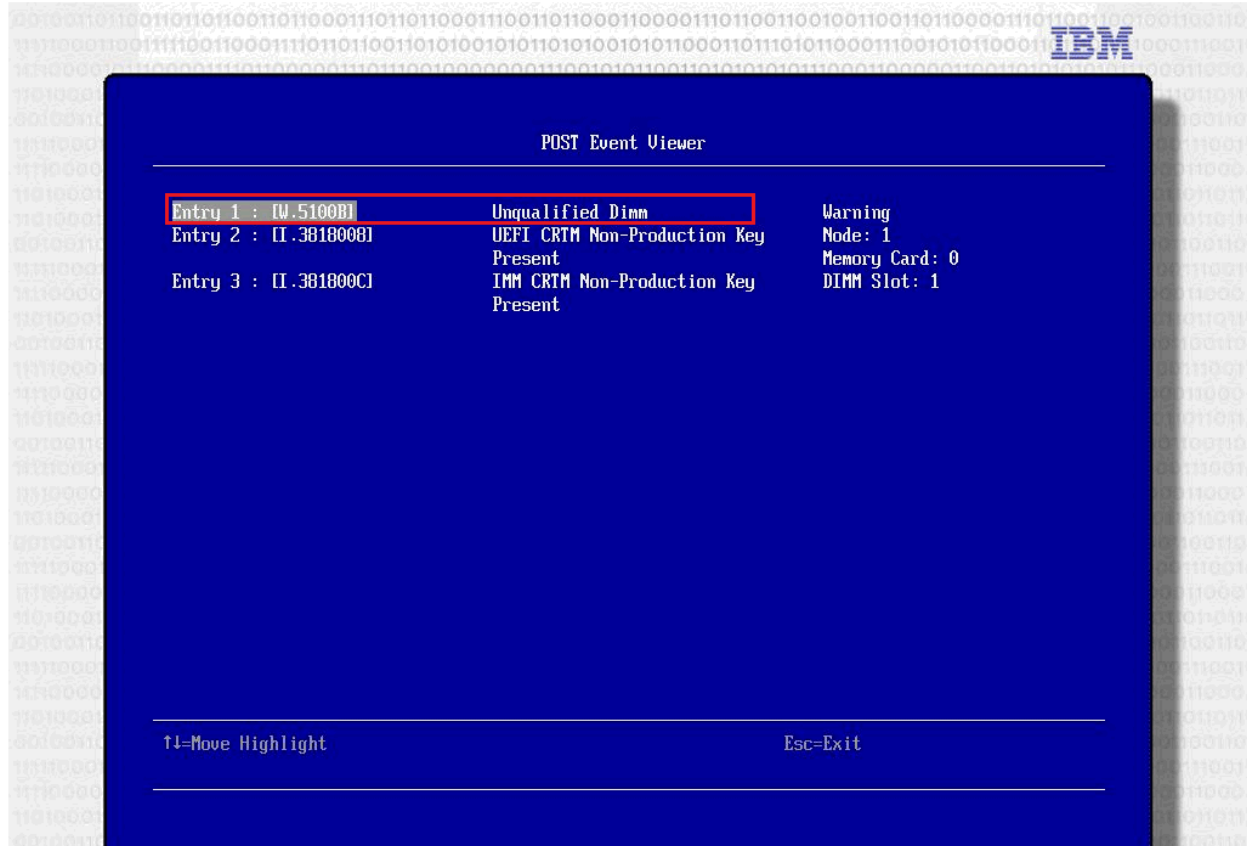


Figure 5: POST event viewer

DDR4 unique identifier – Summary

Summary

This course enabled you to:

1. Identify non-Lenovo DIMMs in Lenovo systems.