Lenovo

Enterprise Services Education

DDR4 unique identifier
January 2016
Study guide

ES41460

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Preface

DDR4 unique identifier

Current release date: January 2016

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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

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.

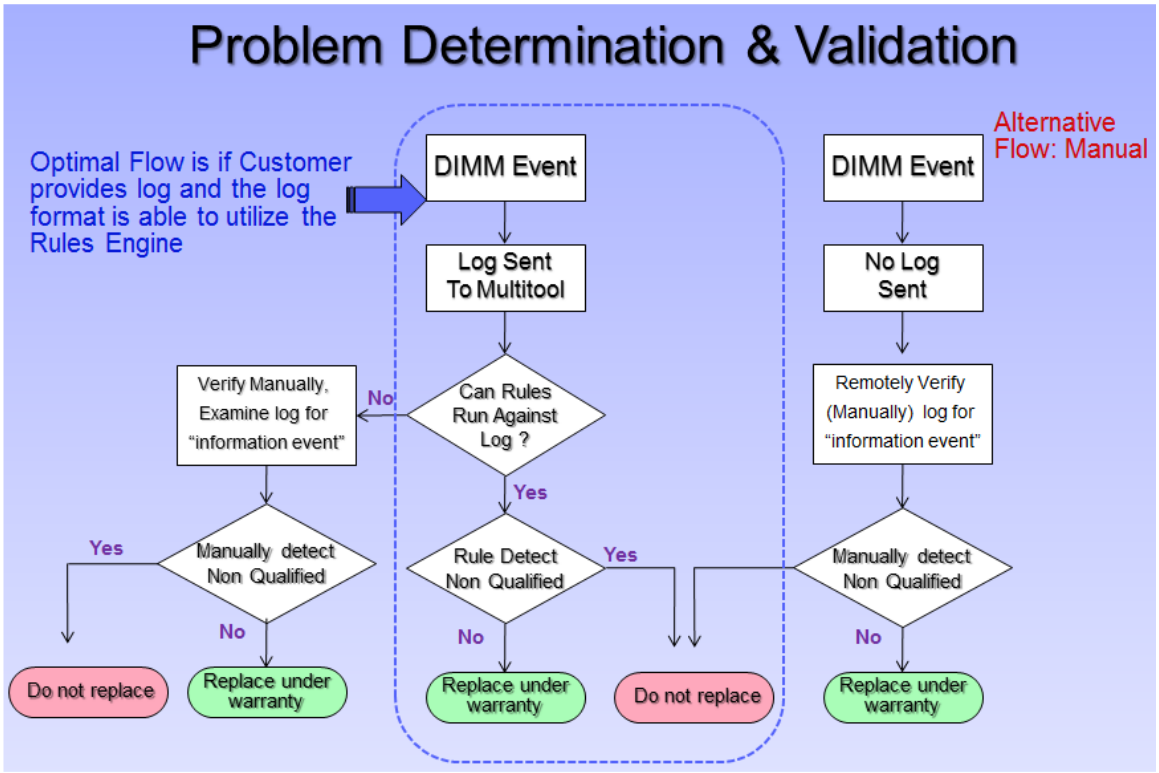

Figure 1: Problem determination and validation

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.

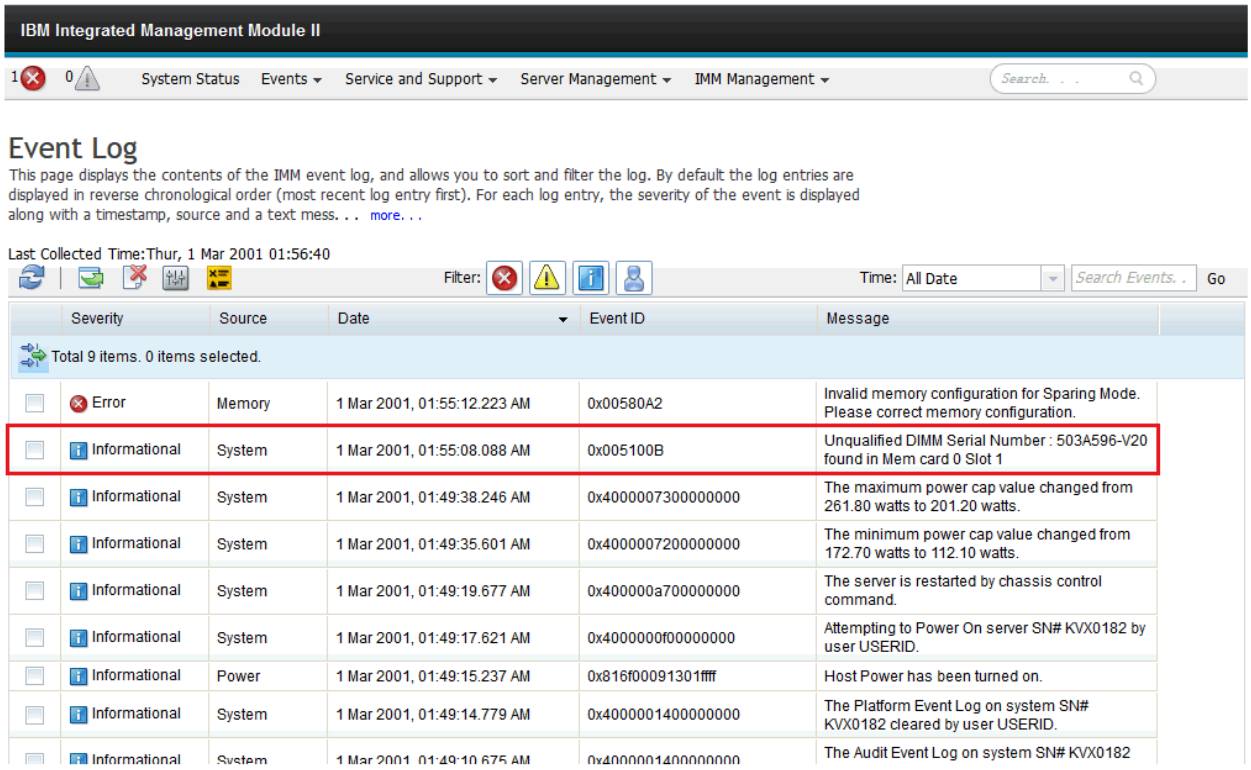

Figure 2: IMM event log

Information about the UEFI setup firmware event page

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

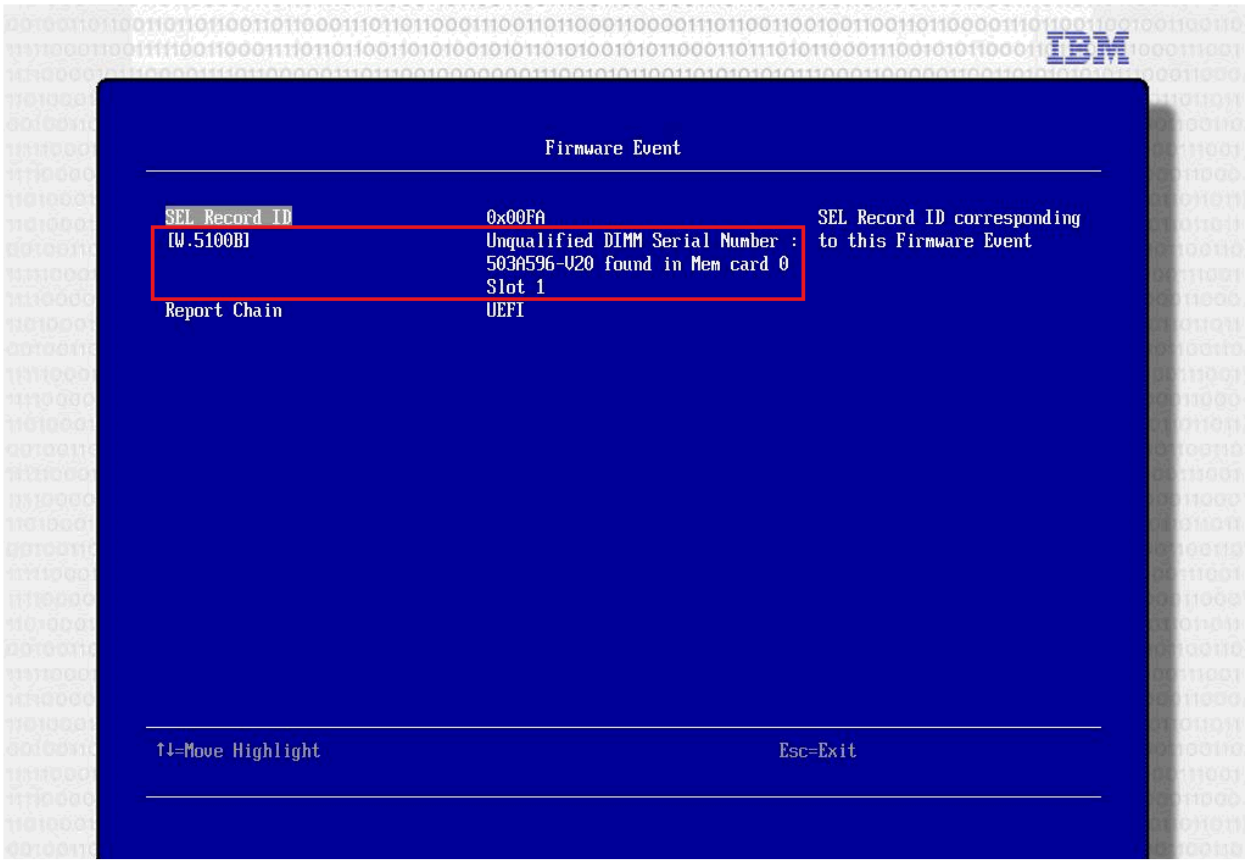

Figure 3: Firmware event

Information about the UEFI setup system event log page

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

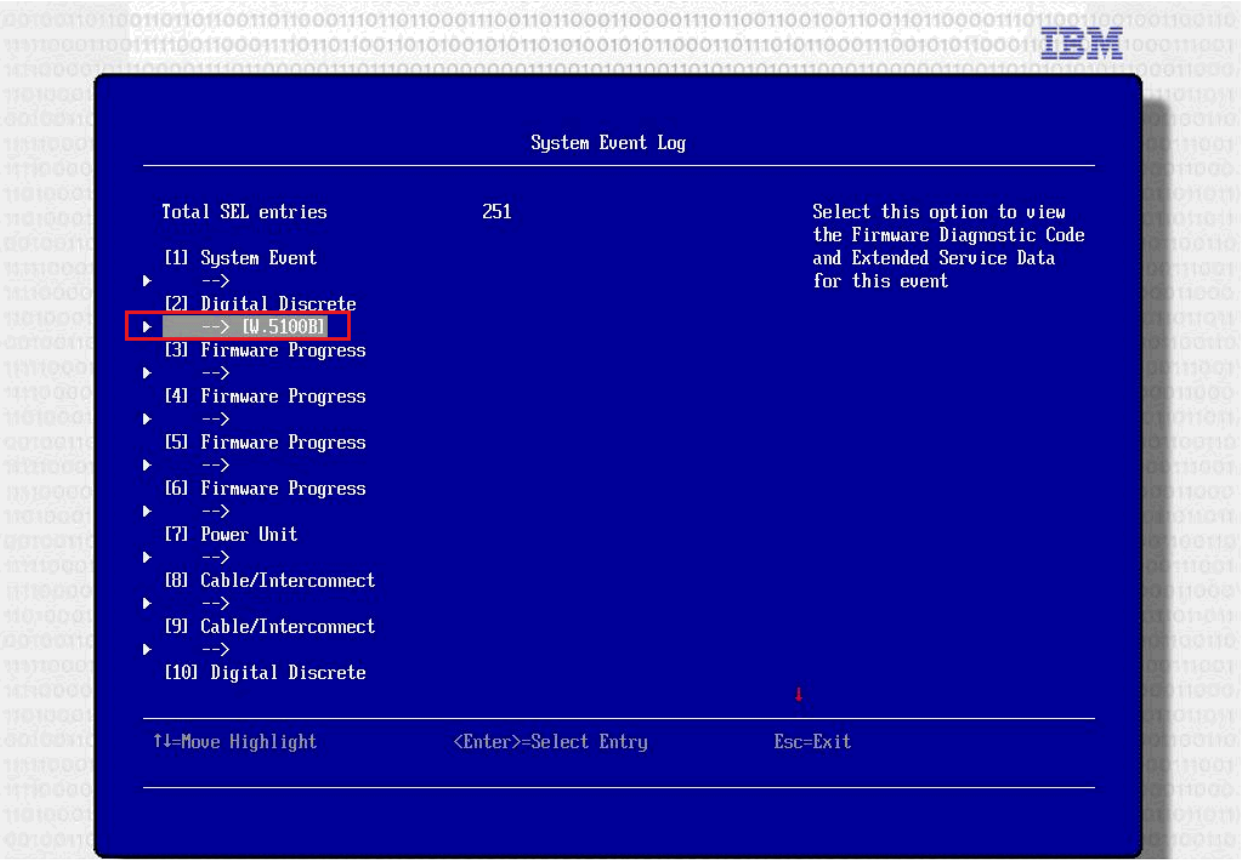

Figure 4: System event log

Information about the UEFI setup POST event viewer page

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

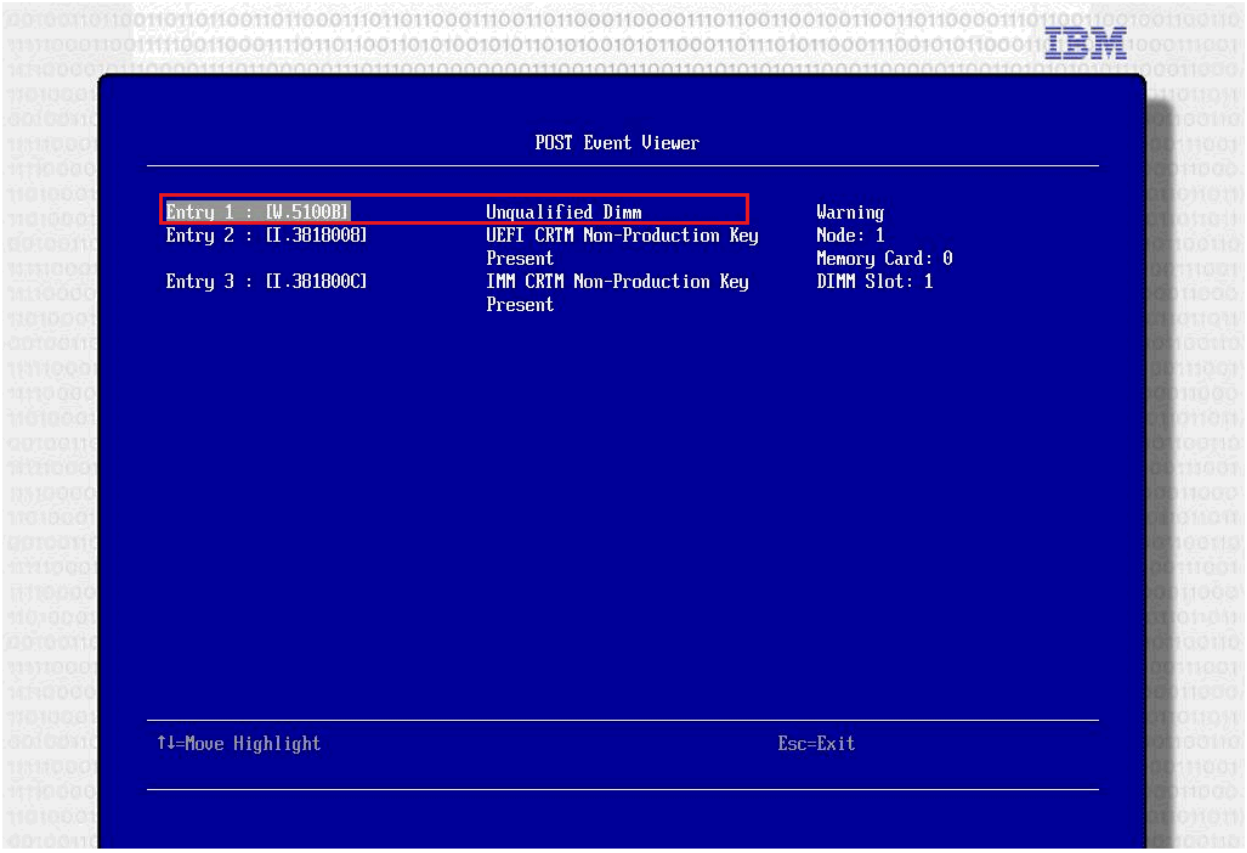

Figure 5: POST event viewer

Summary

This course enabled you to:

1. Identify non-Lenovo DIMMs in Lenovo systems.