# Dell PowerEdge Boot Optimized Storage Solution – BOSS-S2

## Tech Note by

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## Summary

Our 2nd generation SATA HW RAID BOSS solution (BOSS-S2) was enhanced to provide critical RAS features that include the rear facing drives on our new rack servers, so a server does not need to be taken offline in case of a SSD failure and full hot-plug support for our Enterprise class M.2 SATA SSDs. When operating a RAID 1 mirror, a surprise removal and addition of a new SSD will automatically kickoff a rebuild on the new RAID 1 member SSD that was added without ever having to halt the operations.

Available on PowerEdge YX5X systems, BOSS-S2 is a robust, redundant, low-cost solution for boot optimization.

## Introduction

New for the Dell PowerEdge R6525 & R7525 and future servers, the Boot Optimized Storage Solution (BOSS-S2) provides key, generational feature improvements to the existing value proposition and highly popular BOSS-S1. BOSS was originally designed to provide a highly reliable, cost effective solution for segregating operating system boot drives from data on server-internal storage. Many customers, particularly those in the Hyper-Converged Infrastructure (HCI) arena and those implementing Software Defined Storage (SDS), require separating their OS drives from data drives, and require hardware RAID mirroring (RAID 1) for their OS drives. The main motivation for this is to create a server configuration optimized for application data. Providing a separate, redundant disk solution for the OS enables a more robust and optimized compute platform.

The Boot Optimized Storage Solution (BOSS-S2) is a simple, highly reliable and cost-effective solution to meet the requirements of our customers. The M.2 devices offer the same performance as 2.5” SSDs and support rear facing drive accessibility with full hot-plug support to include Surprise Remove. Our design frees up and maximizes available drive slot for data requirements.

BOSS-S2 also enables a Secure method to update the Firmware and prevents any unauthorized threats to the firmware. The firmware payload is verified using a cryptographic digital signature, offering a secure update. By default, the BOSS-S2 controller state is secure and locked, which is unlocked only during the firmware update process. Following the update, the controller automatically returns to the default, locked state to prevent any unauthorized updates to the firmware.

Managing BOSS-S2 is accomplished with standard, well-known management tools such as iDRAC, OpenManage Systems Administrator (OMSA), and Command Line Interface (CLI).

## Key features of BOSS-S2

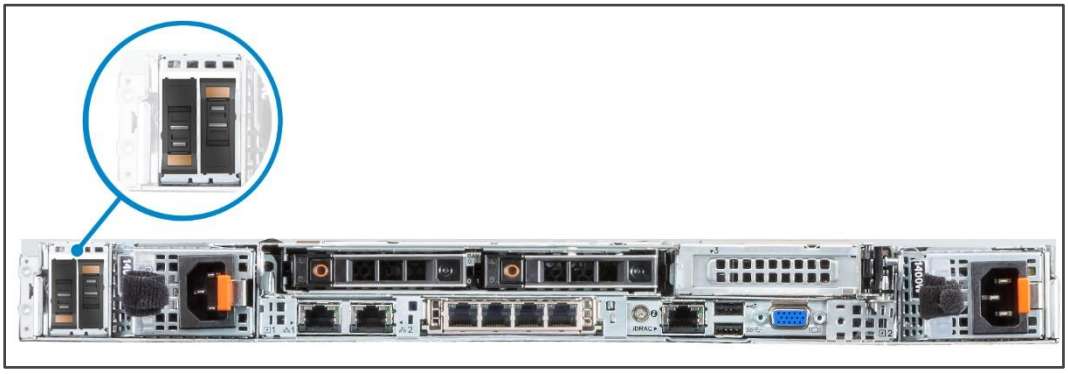

*Figure 1: Rear view of the system*

- Supports One (1) or Two (2) 80 mm M.2 Enterprise Class SATA SSDs
- M.2 devices are read-intensive (1 DWPD) with 240 GB or 480 GB capacity
- Fixed function hardware RAID 1 (mirroring) or pass-through
- Rear facing module for quick and easy accessibility to the M.2 SSDs
- Full Hot-Plug support
- M.2 drive LED functionality
- Managing BOSS-S2 is accomplished with standard, well-known management tools such as iDRAC, OpenManage Systems Administrator (OMSA), and Command Line Interface (CLI).

## Conclusion

For more information on BOSS-S2 User's Guide, see https://dl.dell.com/topicspdf/boss-s2_ug_en-us.pdf

For general information on iDRAC User's Guide, see https://topics-cdn.dell.com/pdf/idrachaloug_en-us.pdf

For general information on iDRAC 4.30.30.30 Release notes, see https://topics-cdn.dell.com/pdf/idrac9-lifecycle-controller-v4x-series_release-notes43_en-us.pdf

For general information on OMSA 9.5 User's Guide, see https://topics-cdn.dell.com/pdf/openmanage-server-administrator-v95_users-guide_en-us.pdf

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