

# Supported RAID on the Z800, Z600 and Z400

Introduction: The purpose of this mini white paper is to highlight the supported RAID configurations for the following HP Workstation models: Z800, Z600 and Z400.

Maximum hard drives supported: The following table shows the maximum number of hard drives supported for each Workstation. The table includes SATA Hard Disk Drives (HDD), SATA Small Form Factor (SFF) drives and SAS drives.

Workstation	SATA HDD	SATA SFF	SAS HDD	SAS SFF
Z800	5	6	5	N/A
Z600	3	4	3	N/A
Z400	4	4	4	N/A

**SATA RAID:** SATA RAID is supported on all platforms using the on-board Intel ICH10R SATA controller when in "RAID+AHCI" SATA emulation mode. The emulation mode can be set in BIOS using the following navigation: Storage -> Storage Options -> SATA Emulation. For Windows OS's, RAID arrays are managed using the Intel Matrix Storage Manager (IMSM). JBOD, RAID 0/1/5/10 are supported in configurations up to two arrays and to the platform drive maximum. In addition the IMSM has the following limits: RAID0 – 2 or more drives; RAID1 – 2 drives; RAID5 – 3 or 4 drives; RAID10 – 4 drives. Up to 4 of the on-board SATA ports can be configured for eSATA with no additional limitations (requires optional bulkhead cable). Both SATA and eSATA support 3.0Gbits/s in all configurations, as well as full AHCI and NCQ support. Note that if using the IMSM for RAID management that the SATA RAID OROM must be enabled in BIOS. The RAID Option ROM can be enabled in BIOS using the following navigation: Advanced -> Device Options -> SATA RAID Option ROM Download.

**SAS RAID (Z600/Z400):** On the Z600/Z400 platforms SAS RAID is supported using either the LSI Logic 3041E Host Bus Adapter (HBA) or LSI Logic MegaRAID SAS 8888ELP HBA. Both support up to 3.0Gbits/s as well as a hot spare. Both are managed using MegaRAID Storage Manager (MSM) 2.35 or higher. The SAS RAID Option ROM must be enabled in BIOS to boot from SAS devices as well as to allow RAID configuration. The SAS RAID Option ROM can be enabled in BIOS using the following navigation: Advanced -> Slot# -> Slot# Option ROM Download – PCIe x#.

**3041E HBA:** The 3041E HBA uses a PCIe x4 interface and provides 4 ports. RAID arrays supported are RAID 0/1/10(1E). Up to two arrays can be configured with the following limits: RAID0 – 2 or more drives; RAID1 – 2 drives; RAID1E – 3 or more drives.

**8888ELP HBA:** The 8888ELP HBA uses a PCIe x8 and provides 8 ports. RAID arrays supported are RAID 0/1/5/10/50. Up to 15 arrays on a max of 32 drives can be configured with the following limits: RAID0 – 2 or more drives; RAID1 – 2 drives; RAID5 – 3 or more drives, RAID10 – even number drives starting with 4, RAID50 – even number drives starting with 6.

**SAS RAID (Z800):** On the Z800 platform SAS RAID is supported using the on-board LSI Logic 1068E controller and the LSI Logic MegaRAID SAS 8888ELP HBA. Both support up to 3.0Gbits/s and a hot spare. Both are managed using MegaRAID Storage Manager (MSM) 2.35 or higher.

**1068E controller:** The 1068E controller provides 8 ports. RAID arrays supported are RAID 0/1/10(1E). Up to two arrays can be configured with the following limits: RAID0 – 2-5 drives; RAID1 – 2 drives; RAID1E – 3 or more drives (up to 8 externally).

**8888ELP HBA:** The 8888ELP HBA uses a PCIe x8 and provides 8 ports. RAID arrays supported are RAID 0/1/5/10/50. Up to 15 arrays on a max of 32 drives can be configured with the following limits: RAID0 – 2 or more drives; RAID1 – 2 drives; RAID5 – 3 or more drives, RAID10 – even number drives starting with 4, RAID50 – even number drives starting with 6.

