



msi[®]

Intel[®] VROC Configuration User Guide

Introduction

Intel® Virtual RAID on CPU (Intel® VROC) is a software package for RAID volume management with the Intel® Core™ X-Series Processor and the MSI® X299-Series Motherboard. These CPUs have a new hardware architecture. Intel VROC leverages this architecture to enable NVMe RAID, connect via a PCIe connection and directly manage on the CPU.

Intel VROC provides compelling RAID performance that unleashes the full potential of NVMe drives. This reliable RAID solution for data protection is easy to scale with flexible drive configurations.

System Requirement

- Motherboard: MSI® X299-Series Motherboard
- Processor: Intel® Core™ X-Series Processor (44-lane or 28-lane CPU) (6-core or above)
- Upgrade Key: Intel® VROC Upgrade Key (purchased separately)
 - Standard Key - supports RAID 0,1,10 with Intel® NVMe SSD Devices & 3rd party SSD Devices
 - Premium Key - supports RAID 0,1,5,10 with Intel® NVMe SSD Devices & 3rd party SSD Devices
 - Intel SSD Only Key - supports RAID 0,1,5,10 with Intel® NVMe SSD Devices
- SSD: At least two SSD Devices

Creating Virtual RAID

To create a RAID with VROC:

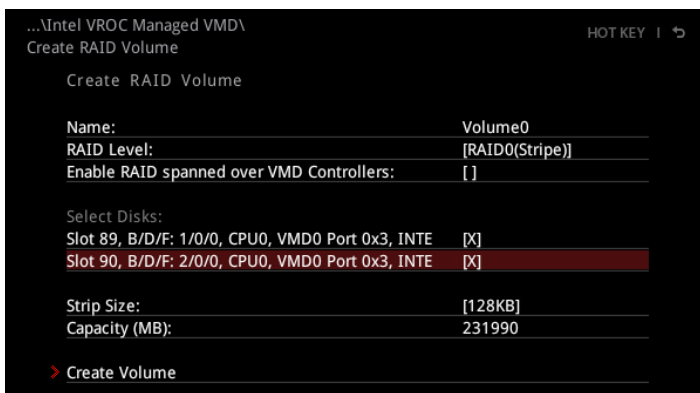
1. Power off the computer.
2. Install the **VROC Upgrade Key** to the **VRAID1** connector on the motherboard.
3. Install the Intel® NVMe SSD Devices in the PCIe slots or M.2 slots controlled by **CPU PCIe lanes**.
4. Power on and press **DEL** key to enter the BIOS interface.
5. Go to the **BIOS > SETTINGS > Advanced > VROC Configuration**



*The PCIe slots list in **CPU PCIe Lanes Configuration** screen shown is for reference only.

6. Set the installed slots to **Enabled**.
7. Press **F10** to save configuration and exit.

8. Go to the **BIOS > SETTINGS > Advanced > Intel(R) Virtual RAID on CPU > All Intel VMD Controllers > Create RAID Volume**



9. If you want to install the operating system onto the RAID array, you must install Intel® NVMe SSD Devices in the same VMD controller. If you install Intel® NVMe SSD Devices in separate VMD controllers, set **Enable RAID spanned over VMD Controllers** to **[X]** by pressing space key.
10. Select at least two disks by pressing space key, and then click the **Create Volume** item.