NVMe eModule
Introduction to the NVMe eModule

Implementing NVMe devices for faster and improved performance in memory-based storage

INTRODUCTION

An NVMe device is defined as a solid state device designed according to NVMe specifications. NVMe devices are controllers that can be connected to a PCIe Bus, U.2 slots and/or M.2 slots. The NVMe interface provides better performance than preceding technologies, such as SATA SSD and PCH SSD, and the major improvements made in accessing NVMe devices include maximum bandwidth and reduced latency.

The NVMe Aptio driver detects and configures NVMe devices connected to the system based on NVM Express, Revision 1.2. The NVMe driver is compatible with the Aptio 5.x core and the driver supports Legacy/EFI OS booting from NVMe devices. The following OSes have built in support for NVMe devices:

- Windows 8.1 and later
- Windows Server 2012 R2 and later
- Linux OS with kernel revision 3.3 and later
- Free BSD version 10.2
- Oracle Solaris version 11.2

Built-in support for NVMe devices allows for the devices to be detected and initialized during OS installation. Preceding OS versions (i.e. Windows 7 and below) do not have built-in NVMe support, therefore a driver with a mounted WINDOWS ISO image is needed to install the OS onto the NVMe device.

NVMe devices are accessed via simplified command sets known as Admin commands and I/O commands. NVMe devices are able to process multiple queues at a time, allowing for faster server processing.

MAJOR FEATURES SUPPORTED

The NVMe eModule supports the following features:

- Legacy/EFI booting
- HddSmart feature support
- HddSecurity feature support (SAT3)
- Opal Security support
- Booting to Opal security supported NVMe device
- NVMe Pass-Thru support

HIGHLIGHTS:

OSes with built-in NVMe device support:

- **Windows 8.1 and later versions**
- **Windows Server 2012 R2 and later versions**
- **Linux OS with kernel revision 3.3 and later versions**
- **Free BSD version 10.2**
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Related Components

- **HddSecurity**
- **HddSMART**
- **TCGStorageSecurity**

American Megatrends Inc. | ami.com
5555 Oakbrook Parkway, Bldg. 200
Norcross, GA 30093 | 770.246.8600

For more information: http://ami.com