Zoned Namespaces (ZNS)
Permits data to be aligned to the physical media of the SSD, improving overall device performance and cost while increasing the media capacity that can be made available to the host.

Enables media to be configured into Endurance Groups, exposing granularity of access to the SSD and improving control.

Provides access to data on an NVMe SSD controller using a key rather than a block address. NVMe-KV allows applications to directly communicate to the drive using key-value pairs, avoiding the overhead of translation tables between keys and logical blocks.

NVMe Technology Is Everywhere:
- Solid State Disks
- Disaggregated Storage Architectures
- Cell Phones
- Servers
- Mobile Computing
- Storage Arrays
- Data Centers

Specification Development
- NVMe Express, Inc. developed multiple specifications to deliver high bandwidth and low latency storage in all types of computing environments.

NVMe 2.0 Refactored Specifications
- A simplified format, easing the development of NVMe technology and allowing for rapid innovation.
- NVMe architecture can continue to enable the natural evolution of the flash technology ecosystem, so that NVMe technology can continue to shape emerging markets.
- Introduce new features that continue to expand the limits of NVMe technology.

New Features for NVMe 2.0 Specifications
- Zoned Namespaces (ZNS)
  Permits data to be aligned to the physical media of the SSD, improving overall device performance and cost while increasing the media capacity that can be made available to the host.
- Key Value (KV)
  Provides access to data on an NVMe SSD controller using a key rather than a block address. NVMe-KV allows applications to directly communicate to the drive using key-value pairs, avoiding the overhead of translation tables between keys and logical blocks.
- Endurance Group Management
  Enables media to be configured into Endurance Groups, exposing granularity of access to the SSD and improving control.
- Rotational Media
  Enables support for Hard Disk Drives (HDDs) on NVMe technology with updates to features, management capabilities and other enhancements required for HDD support.