



A select number of hyperscale datacenters have defined a specification with distinct parameters for NVMe SSDs. In particular, the Open Compute Project (OCP5) specifies the value/mainstream swim lane (table above) and a majority of SSD vendors have opted to go after the low power envelope segment. The sub-12W PCIe NVMe performance far exceeds today's SATA SSDs which are deployed in large datacenters and therefore, the focus is to maintain or lower cost rather than add much performance.

While this strategy is reasonable for some who run a handful of applications (hyperscale datacenters), a typical enterprise datacenter might host many hundreds (if not thousands) of applications and therefore, continue to demand as much performance as NVMe SSDs can muster.

Application Workload

With the significant performance improvements that Smart IOPS' TruRandom offers over the existing enterprise NVMe SSD in the marketplace, customers are able to reduce their hardware footprint, increase number of VMs per host and improve overall system efficiency. These improvements provide savings in CapEx and OpEx which include reduced software licensing fees and related maintenance contracts, physical datacenter real estate, cooling and energy use. Smart IOPS' Data Engine SSDs—powered by TruRandom—bring the highest degree of power and efficiency at the lowest \$/IOPS to the enterprise datacenter. Data Engine NVMe SSDs are a potent and efficient solution that shortens time to value and drives unmatched infrastructure ROI while offering a powerful platform for next generation cloud and enterprise applications.

Data Engine NVMe SSDs deliver an unprecedented price-to-performance improvement versus the competing enterprise NVMe SSDs. A wide array of enterprise and hyperscale application workloads can take immediate advantage of this improvement to deliver over 1.7 million IOPS, 6,800 MB/s disk throughput—all the while sustaining ultra-low latencies. This sets a new industry record for the highest performance with the least amount of hardware.

The Smart IOPS' TruRandom technology heralds a new age for big data analysis for large datasets by making them fast, efficient and cost-effective. Leveraging TruRandom-based SSDs, datacenters can enable applications that best leverage information resources to make data-driven business decisions.

Footnote References

1. "Why NVMe Express" NVMe Express Organization
2. Enterprise SSD product classification
3. "SAP HANA Architecture"
4. "Smart IOPS Data Engine Datasheet"
5. "Open Compute Project Storage Specification"
6. "QCT SDS solution for Red Hat Ceph Storage"

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Smart IOPS™

21060 Homestead Road | Suite 206 | Cupertino, CA | 95014 | 408-216-8100
www.smartiops.com