

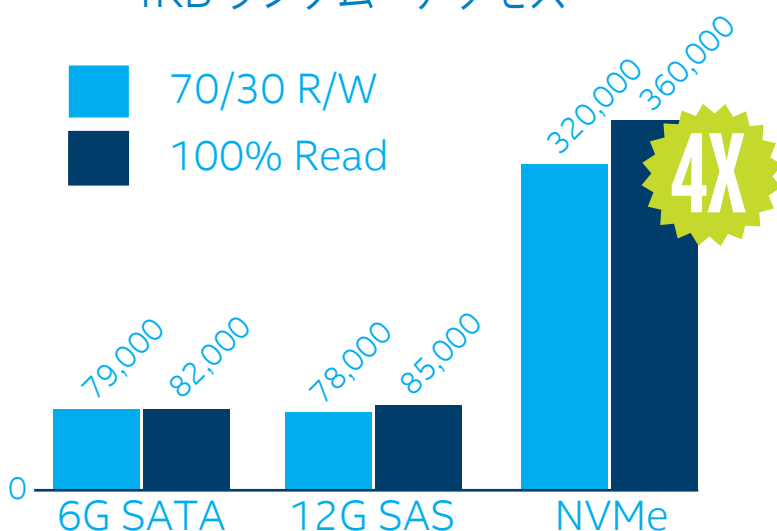
NVMe™ 対応 INTEL® SSD データセンター 仮想環境のパフォーマンス向上を体験

NVMe IO は Supermicro* 2U SuperServer* において、SATA や SAS ストレージ以上の利益をもたらします。データセンター環境のボトルネックを低減し、パフォーマンスを向上させます。

NVMe™によって4倍のパフォーマンス

NVMe に対応した Intel® SSD データセンターファミリーによって、ストレージのボトルネックを排除し、データセンターのパフォーマンスを改善、仮想環境において **SATA や SAS の4倍のパフォーマンス向上¹** を実現します。

4KB ランダム・アクセス



Intel® SSD データセンターファミリーの NVMe 効果を適用すると¹:

- QoS (Quality of Service) 最適化
- 高密度VM環境
- 低遅延
- ボトルネック削減



CONFIGURATION

Software Requirements:

VMware ESXi 6.0* installation ISO image	Facilitates Installation of ESXi 6.0
VMware vSphere* Client	Management Interface for ESXi
Windows* Server 2008 R2 Installation ISO image	Facilitates creation of the Windows VMs used in the Demos
VMware* Tools	Enables use of Paravirtual SCSI controllers on the VMs in the demo
MobaXterm* SSH Client	Allows the Intel® NUC to communicate with ESXi server
HBA ESXi* Driver VIB package	Enables ESXi to use the HBAs installed in the server

Hardware Requirements:

Supermicro* 2U Super Server* 2028U-TNR4T+	ESXi host
Intel® SSD DC S3710 Series (200GB, 2.5")	Boot Drive for ESXi
Intel® SSD DC S3710 Series (800GB, 2.5")	Datastore for SATA-based VM
12Gb/s SAS SSD (800GB)	Datastore for SAS-based VM
Intel® SSD DC P3700 Series (800GB, 2.5")	Datastore for NVMe-based VM
9300-8i 12 Gb/s HBA	Dedicated IO controller for the SATA and SAS SSDs
Intel® NUC (BOXNUC5I7RYH)	Client PC used for connecting to ESXi server and VMs housed therein

¹ Performance based on configuration software and hardware requirements above, workload configuration 4K Random Workloads ran on IOMeter* 1.1.0 with 100% Read and 70/30 Read/Write.



プラットフォーム選択ガイド

NVMe対応 Intel® SSD データセンターファミリーには、以下の Supermicro* サーバ・プラットフォームが認定されています:



SuperServer®

1U Ultra (up to 10 Drives)
2U Ultra (up to 48 Drives)
1U DCO/WIO (up to 2Drives)

2U EX DP 32 DIMMs (up to 4 Drives per Node)
2U TwinPro (up to 4 Drives per Node)
4U FatTwin (up to 4 Drives per Node)

2U DCO/WIO (up to 4 Drives)
7U SuperBlade (up to 3 Drives)

Intel® SSD DC P3500 Series - Standard-Endurance

Capacity	Form Factor	Intel® Model #	Intel® PN	Supermicro* PN
400 GB	HHHL	SSDPEDMX400G4	939934	HDS-AVM-SSDPEDMX400G4
400 GB	2.5-Inch U.2	SSDPE2MX400G4	939931	HDS-2VM-SSDPE2MX400G4
800 GB	HHHL	SSDPEDMX800G4	939935	HDS-AVM-SSDPEDMX800G4
800 GB	2.5-Inch U.2	SSDPE2MX800G4	939932	HDS-2VM-SSDPE2MX800G4
1.2 TB	HHHL	SSDPEDMX012T4	939935	HDS-AVM-SSDPEDMX012T4
1.2 TB	2.5-Inch U.2	SSDPE2MX012T4	939932	HDS-2VM-SSDPE2MX012T4
2 TB	HHHL	SSDPEDMX020T4	939936	HDS-AVM-SSDPEDMX020T4
2 TB	2.5-Inch U.2	SSDPE2MX020T4	939933	HDS-2VM-SSDPE2MX020T4

Intel® SSD DC P3600 Series - Mid-Endurance

Capacity	Form Factor	Intel® Model #	Intel® PN	Supermicro* PN
400 GB	HHHL	SSDPEDME400G4	937368	HDS-AVM-SSDPEDME400G4
400 GB	2.5-Inch U.2	SSDPE2ME400G4	937374	HDS-2VM-SSDPE2ME400G4
800 GB	HHHL	SSDPEDME800G4	937370	HDS-AVM-SSDPEDME800G4
800 GB	2.5-Inch U.2	SSDPE2ME800G4	937375	HDS-2VM-SSDPE2ME800G4
1.2 TB	HHHL	SSDPEDME012T4	937371	HDS-AVM-SSDPEDME012T4
1.2 TB	2.5-Inch U.2	SSDPE2ME012T4	937376	HDS-2VM-SSDPE2ME012T4
1.6 TB	HHHL	SSDPEDME016T4	937372	HDS-AVM-SSDPEDME016T4
1.6 TB	2.5-Inch U.2	SSDPE2ME016T4	937377	HDS-2VM-SSDPE2ME016T4
2 TB	HHHL	SSDPEDME020T4	937373	HDS-AVM-SSDPEDME020T4
2 TB	2.5-Inch U.2	SSDPE2ME020T4	937378	HDS-2VM-SSDPE2ME020T4

Intel® SSD DC P3700 Series - High-Endurance







Capacity	Form Factor	Intel® Model #	Intel® PN	Supermicro* PN
400 GB	HHHL	SSDPEDMD400G4	937360	HDS-AVM-SSDPEDMD400G4
400 GB	2.5-Inch U.2	SSDPE2MD400G4	937364	HDS-2VM-SSDPE2MD400G4
800 GB	HHHL	SSDPEDMD800G4	937361	HDS-AVM-SSDPEDMD800G4
800 GB	2.5-Inch U.2	SSDPE2MD800G4	937365	HDS-2VM-SSDPE2MD800G4
1.6 TB	HHHL	SSDPEDMD012T4	937362	HDS-AVM-SSDPEDMD012T4
1.6 TB	2.5-Inch U.2	SSDPE2MD012T4	937366	HDS-2VM-SSDPE2MD012T4
2 TB	HHHL	SSDPEDMD016T4	937363	HDS-AVM-SSDPEDMD016T4
2 TB	2.5-Inch U.2	SSDPE2MD016T4	937367	HDS-2VM-SSDPE2MD016T4




Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software, or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com Test document performance of components on a particular tests, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase. For more complete information about performance and benchmark results visit <http://www.intel.com/performance>. Intel and the Intel logo are trademarks of Intel Corporation in the U.S. and other countries. *Other names and brands may be claimed as the property of others. Copyright© 2015 Intel Corporation. All rights reserved.

















NVMe™ 対応 Supermicro X10 SuperServer®

Super Server*	 SuperStorage	 Ultra	 Ultra	 Ultra	 Ultra	 Ultra
SKU	SSG-2028R-NR48N	SYS-2028U-TN24R4T+	SYS-1028U-TN10RT+†	SYS-1028U-TNR4T+ / TNRT+ / TNRT+ / TNRT+ / TNRT+ / TNRT+ / TNRT+	SYS-2028U-TNR4T+ / TNRT+ / E1CNR4T+ / E1CNR4T+ / E1CNR4T+	SYS-6028U-TNR4T+ / TNRT+ / E1CNR4T+ / E1CNR4T+ / E1CNR4T+
Form Factor	2U	2U	1U	1U	2U	2U
Drive Bays	48x2.5"	24x2.5"	10x2.5"	10x2.5"	24x2.5"	12x3.5"
2.5" NVMe SSD Support	48	24	10	2	4	4

Super Server*	 DCO/WIO	 DCO/WIO	 TwinPro	 TwinPro	 EX DP 32 DIMMs	 FatTwin
SKU	SYS-1028R-WTNRT / WTNR	SYS-6028R-TDWNR	SYS-2028TP-DNCR / DNCTR / DNCFR	SYS-6028TP-DNCR / DNCTR / DNCFR	SYS-2028UT-BTNRT / B1C1NRT	SYS-F628R3-RTBN+ / RTBPTN+
Form Factor	1U	2U	2U / 2 Node	2U / 2 Node	2U / 2 Node	4U / 4 Node
Drive Bays	10x2.5"	12x3.5"	12x2.5" (per Node)	6x3.5" (per Node)	10x2.5" (per Node)	8x3.5" (per Node)
2.5" NVMe SSD Support	2	4	4 (per Node)	4 (per Node)	2 (per Node)	2 (per Node)

Super Server*	 FatTwin	 SuperBlade	 SuperBlade	 Ultra	 Ultra	 Ultra
SKU	SYS-F618R2-RTN+ / RTPTN+	SBI-7128R-C6N	SBI-7428R-C3N/T3N	SYS-2048U-RTR4†	SYS-6028U-TR4†	SYS-1028UX-CR-LL1 / LL2 †
Form Factor	4U / 8 Node	7U / 10 Blades	7U / 14 Blades	2U	2U	1U
Drive Bays	6x2.5" (per Node)	up to 60x 2.5" in 7U	up to 42x 2.5" in 7U	24x2.5"	12x2.5"	10x2.5"
2.5" NVMe SSD Support	2 (per Node)	3 (per Node)	3 (per Node)	4‡	4‡	2‡

Super Server*	 DCO	 WIO	 FatTwin	 FatTwin	 DCO	 WIO
SKU	SYS-1028R-MCT / MCTR	SYS-1028R-WC1R / WC1RT	SYS-F628R3-RC1B+ / RC1BPT+	SYS-F618R2-RC1+ / RC1PT+	SYS-6027R-CDNRT+	SYS-1027R-WC1NR / WC1NRT
Form Factor	2U	1U	4U / 4 Node	4U / 8 Node	2U	1U
Drive Bays	8x2.5"	10x2.5"	8x3.5" (per Node)	6x2.5" (per Node)	12x3.5"	10x2.5"
2.5" NVMe SSD Support	2‡	2‡	2 (per Node)‡	2 (per Node)‡	4	2

*Supermicro コンプリートシステムとしてのみの販売となります。

‡ NVMeをサポートするために必要な追加パーツ詳細情報は、Supermicro ウェブサイト(www.supermicro.com)をご覧ください。

NVMe™ 対応 INTEL® SSD データセンターファミリーの効果²...

拡張性、柔軟性、安定性



NVMeはパフォーマンスの拡張性が高く、柔軟なフォームファクタ、安定性を実現

SATA SSD と比較した優位性



最適な技術と特徴



NVMeは低消費電力と、良好なセキュリティ特性を提供

優れた帯域幅



1レーンあたり1 GB/s、ドライブ毎に1~16レーンでCPUにダイレクト接続、HBAのコストとオーバーヘッドを排除

アプリケーションや処理量³に応じて最適な SSD を選択

Intel® SSD	P3700	P3600	P3500
HPC			
Scientific/ Financial	✓		
Embedded			
Factory Control Systems			✓
Medical HD Imaging	✓		
OLTP Database			
B2B (Online B2B)			✓
B2C (Online retail sales)		✓	
OLAP Database (Big Data Analytics)			
Departmental DB			✓
Distributed DB/Warehouse		✓	✓
Big Data / Hadoop	✓		
Virtualization			
Virtual Desktops			✓
Virtual Servers		✓	✓
Large Scale Virtualization	✓		
Boot / OS			
Boot Only			✓
Secure OS		✓	✓
Unique Workloads			
Email			✓
Machine Generated Data		✓	✓
Content Delivery / Web Servers / Web Services			
Static Web Content			✓
On-Demand Streaming	✓		

HIGH

Intel® SSD DC P3700 Series

Lifetime Endurance up to:
17 Drive Writes Per Day
Sequential Read/Write:
2800/2000 MBs
Random Read/Write:
460/175K IOPS

MID

Intel® SSD DC P3600 Series

Lifetime Endurance up to:
3 Drive Writes Per Day
Sequential Read/Write:
2600/1700 MBs
Random Read/Write:
450/56K IOPS

LOW

Intel® SSD DC P3500 Series

Lifetime Endurance up to:
0.3 Drive Writes Per Day
Sequential Read/Write:
2500/1700 MBs
Random Read/Write:
450/35K IOPS

² Tests document performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Configurations: Intel® S2600CP server, Intel® Xeon® E5-2690v2 x2, 64GB DDR3, Intel® SSD DC P3700 Series 400GB, LSI 9207-8i, Intel® SSD DC S3700, HGST 6GBps SAS
³ Intel® SSD Data Center Family for NVMe performance information based on: www.intel.com/content/www/us/en/solid-state-drives/intel-ssd-dc-family-for-pcie-brief.html