VTrak E5000 SR2 Compatibility List

Version 1.09

Hardware and Software Tested and determined to be Compatible with the E5000 Firmware **11.04.0000.00 (Release Date: 07/20/2017)**

Earlier versions of VTrak E5000 may not have been tested with the items included in this document. See previous versions of the Compatibility list for earlier VTrak 5000 compatibility.

VTrak E5000 Systems Covered:

- **E5320 2U/24 , dual controller, 2.5" Drive Bays**
- **E5300 2U/12 , dual controller**
- **E5600 3U/16 , dual controller**
- **E5800 4U/24 , dual controller**

System Versions Covered:

- **VTrak E5000 Firmware**– Version 11.04.0000.00 [July 20, 2017]

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VTrak E5000 Compatibility List v1.09

Document History

Date	Editor	Revision	Comments
7/20/2017	R Brose	1.00	1. E5000 SR2 AVL release
8/7/2017	R. Brose	1.08	2. changed version number to global number for all VTRak FW Releases, added Mac OS 10.12.5
9/11/2017	R. Brose	1.09	3. Added MAC OS 10.12.6, HE-10 8TB, HGST Part Numbers

DEVICE COMPATIBILITY NOTE:

Basic compatibility between the 3rd party device and Promise device has been verified in typical configurations, unless otherwise stated.

DISCLAIMERS:

Only the versions available at time of testing have been verified, as listed. Corner cases may exist depending on user configuration etc. Individual 3rd party units may exhibit problems that did not show up in through the Promise test process. Published performance is not assured with configuration deviations.

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Hard Disk Drives

SAS

Vendor	Series	Model	Part Number	Firmware	Capacity	RPM	Interface	Form Factor	Format
HGST	Ultrastar He10	HUH721010AL5200	0F27352	A21D	10TB	7,200	12Gb/s SAS	3.5”	512e
		HUH721008AL5200	0F27356	A21D	8TB	7,200	12Gb/s SAS	3.5”	512e
	Ultrastar He8	HUH728080AL5200	0F23268	A907	8TB	7,200	12Gb/s SAS	3.5”	512e
		HUH728060AL5200	0F23270	A907	6TB	7,200	12Gb/s SAS	3.5”	512e
	Ultrastar 7K6000	HUS726060AL5210	0F22791	A907	6TB	7,200	12Gb/s SAS	3.5”	512e
		HUS726050AL5210	0F22793	A907	5TB	7,200	12Gb/s SAS	3.5”	512e
		HUS726040AL5210	0F22795	A907	4TB	7,200	12Gb/s SAS	3.5”	512e
		HUS726020AL5210	0F22799	A907	2TB	7,200	12Gb/s SAS	3.5”	512e
		HUS726040AL5215	0F22825	D907	4TB	7,200	12Gb/s SAS	3.5”	512e
	Ultrastar C10K1800	HUC101818CS4200	0B27978	AD02	1.8TB	10,000	12Gb/s SAS	2.5”	512e
		HUC101812CS4200	0B27977	AD02	1.2TB	10,000	12Gb/s SAS	2.5”	512e
		HUC1018904200	0B27975	AD02	900GB	10,000	12Gb/s SAS	2.5’	512e
		HUC1018604200	0B27974	AD02	600GB	10,000	12Gb/S SAS	2.5’	512e
		HUC101845CS4200	0B27973	AD02	450GB	10,000	12Gb/s SAS	2.5”	512e
		HUC101812CSS200	0B28807	A904,AD02	1.2TB	10,000	12Gb/s SAS	2.5”	512n
		HUC101890CSS200	0B27976	A904,AD02	900GB	10,000	12Gb/s SAS	2.5”	512n
		HUC101860CSS200	0B28808	A904,AD02	600GB	10,000	12Gb/s SAS	2.5”	512n
		HUC101830CSS200	0B28810	A904,AD02	300GB	10,000	12Gb/s SAS	2.5”	512n
	Ultrastar C15K600	HUC156060CSS200	0B28953	A904	600GB	15,000	12Gb/s SAS	2.5”	512n
		HUC156045CSS200	0B28954	A904	450GB	15,000	12Gb/s SAS	2.5”	512n
		HUC156030CSS200	0B28955	A904	300GB	15,000	12Gb/s SAS	2.5”	512n
Seagate	Enterprise Capacity 3.5 v5	ST6000NM0095	1Y2210—002	E002	6TB	7,200	12Gb/s SAS	3.5”	512e
		ST4000NM0025	1V4207-002	N002	4TB	7,200	12Gb/s SAS	3.5”	512n
		ST3000NM0025	1V420N-002	N002	3TB	7,200	12Gb/s SAS	3.5”	512n
	Enterprise Capacity 3.5 v5 SED	ST4000NM0135	2AR207-002	NF02	4TB	7,200	12Gb/s SAS	3.5”	512n
	Enterprise Capacity 2.5 HDD v3	ST2000NX0273	1FM201-002	E004	2TB	7,200	12Gb/s SAS	2.5”	512e
		ST1000NX0333	1FN201-002	E004	1TB	7,200	12Gb/s SAS	2.5”	512e

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	Enterprise Capacity v4	ST6000NM0034	1HT27Z-001	E005	6TB	7,200	12Gb/s SAS	3.5”	512e
		ST4000NM0034	1HT278-001	E005	4TB	7,200	12Gb/s SAS	3.5”	512e
		ST2000NM0034	1HT274-001	E005	2TB	7,200	12Gb/s SAS	3.5”	512e
	Enterprise Performance 10K	ST1200MM0088	1FF200-003	N003	1.2TB	10,000	12Gb/s SAS	2.5”	512n
		ST600MM0088	1FD200-004	N003	600GB	10,000	12Gb/s SAS	2.5”	512n
	Enterprise Performance 10k V9	ST2400MM0129	1XK203-001	C001	2.4TB	10,000	12Gbs SAS	2.5”	512e
		ST1800MM0129	IXJ203-001	C001	1.8TB	10,000	12Gbs SAS	2.5”	512e
		ST1200MM0129	1XH203-001	C001	1.2TB	10,000	12Gbs SAS	2.5”	512e
		ST600MM0099	1XE203-001	C001	600GB	10,000	12Gbs SAS	2.5”	512e
Toshiba	**Enterprise Capacity (Tomcat-R)**	MG04SCA60EE	HDEPF10GDA51	0901	6TB	7,200	12Gb/s SAS	3.5”	512e
		MG04SCA50EE	HDEPF11GDA51	0901	5TB	7,200	12Gb/s SAS	3.5”	512e
		MG04SCA40EE	HDEPF12GDA51	0901	4TB	7,200	12Gb/s SAS	3.5”	512e
		MG04SCA20EE	HDEPF14GDA51	0901	2TB	7,200	12Gb/s SAS	3.5”	512e
		MG04SCA40EN	HDEPF02GDA51	0901	4TB	7,200	12Gb/s SAS	3.5”	512n
		MG04SCA20EN	HDEPF04GDA51	0901	2TB	7,200	12Gb/s SAS	3.5”	512n
	Enterprise Performance	AL14SEB18EQ	HDEBJ10GEA51	0102	1.8TB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB12EQ	HDEBJ11GEA51	0102	1.2TB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB09EQ	HDEBJ12GEA51	0102	900GB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB06EQ	HDEBJ13GEA51	0102	600GB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB120N		0102	1.2TB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB090N		0102	900GB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB060N		0102	600GB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB045N		0102	450GB	10,000	12Gb/s SAS	2.5”	512e
		AL14SEB030N		0102	450GB	10,000	12Gb/s SAS	2.5”	512e

Note: **Drives with 4Kn formatting are not supported**

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SATA

Vendor	Series	Model	Part Number	Firmware	Capacity	RPM	Interface	Form Factor	Format
HGST	Ultrastar He8	HUH728080ALE600	0F23267	T907	8TB	7,200	SATA	3.5”	512e
		HUH728060ALE600	0F23269	T907	6TB	7,200	SATA	3.5”	512e
	Ultrastar 7K6000	HUS726060ALE610	0F23001	T7J0	6TB	7,200	SATA	3.5”	512e
Seagate	Enterprise Capacity 3.5 HDD V6	ST10000NM0016	1TT101-002	SNC0	10TB	7,200	SATA	3.5”	512e
	Enterprise Capacity 3.5 HDD	ST8000NM0055	1RM112-001	SN02	8TB	7,200	SATA	3.5”	512e
	Enterprise cloud	MC04ACA400E	HDERR11GEA51	PF2A	4TB	7,200	SATA	3.5”	512e

Note: **Drives with 4Kn formatting are not supported**

Solid State Drives

SAS SSD

The following drives have an SSD Trim Type of RZAT.

Vendor	Series	Model	Part Number	Interface	Capacity	Firmware	Form Factor	Type
Micron	S650DC	MTFDJAL3T2MBS	MTFDJAL3T2MBS-2AN1ZAB	12Gb/s SAS	3200GB	M017,M108	2.5”	MLC
		MTFDJAL1T6MBS	MTFDJAL1T6MBS-2AN1ZAB	12Gb/s SAS	1600GB	M017,M108	2.5”	MLC
		MTFDJAK800MBS	MTFDJAK800MBS-2AN1ZAB	12Gb/s SAS	800GB	M017,M108	2.5”	MLC
		MTFDJAK400MBS	MTFDJAK400MBS-2AN1ZAB	12Gb/s SAS	400GB	M017,M108	2.5”	MLC
	S630DC	MTFDJAL3T8MBT	MTFDJAL3T8MBT-2AN1ZAB	12Gb/s SAS	3840GB	M017,M108	2.5”	MLC
		MTFDJAL3T2MBT	MTFDJAL3T2MBT-2AN1ZAB	12Gb/s SAS	3200GB	M017,M108	2.5”	MLC
		MTFDJAL1T9MBT	MTFDJAL1T9MBT-2AN1ZAB	12Gb/s SAS	1920GB	M017,M108	2.5”	MLC
		MTFDJAL1T6MBT	MTFDJAL1T6MBT-2AN1ZAB	12Gb/s SAS	1600GB	M017,M108	2.5”	MLC
		MTFDJAK960MBT	MTFDJAK960MBT-2AN1ZAB	12Gb/s SAS	960GB	M017,M108	2.5”	MLC

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		MTFDJAK800MBT	MTFDJAK800MBT-2AN1ZAB	12Gb/s SAS	800GB	M017,M108	2.5”	MLC
		MTFDJAK480MBT	MTFDJAK480MBT-2AN1ZAB	12Gb/s SAS	480GB	M017,M108	2.5”	MLC
		MTFDJAK400MBT	MTFDJAK400MBT-2AN1ZAB	12Gb/s SAS	400GB	M017,M108	2.5”	MLC
	S610DC	MTFDJAL3T8MBU	MTFDJAL3T8MBU-2AN1ZAB	12Gb/s SAS	3840GB	M017,M108	2.5”	MLC
		MTFDJAL1T9MBU	MTFDJAL1T9MBU-2AN1ZAB	12Gb/s SAS	1920GB	M017,M108	2.5”	MLC

SATA SSD

Vendor	Series	Model	Part Number	Interface	Capacity	Firmware	Form Factor	Type
Micron	**5100**	MTFDDAK240TCB	MTFDDAK240TCB-1AR1ZAB	6Gb/s SATA	240GB	MU021	2.5”	3D TLC
		MTFDDAK480TCB	MTFDDAK480TCB-1AR1ZAB	6Gb/s SATA	480GB	MU021	2.5”	3D TLC
		MTFDDAK960TCB	MTFDDAK960CB-1AR1ZAB	6Gb/s SATA	960GB	MU021	2.5”	3D TLC
		MTFDDAK1T9TCB	MTFDDAK1T9TCB-1AR1ZAB	6Gb/s SATA	1920GB	MU021	2.5”	3D TLC
		MTFDDAK3T8TCB	MTFDDAK3T8TCB-1AR1ZAB	6Gb/s SATA	3840GB	MU021	2.5”	3D TLC
	1100	MTFDDAK2T0TBN	MTFDDAK2T0TBN-1AR1ZABYY	6Gb/s SATA	2048GB	MOMU011	2.5”	3D TLC
	M510DC	MTFDDAK960MBP	M1EDDAK960MBP-1AN1ZAB	6Gb/s SATA	960GB	0013	2.5	MLC
Toshiba	**HK4E**	THNSN8200PCSE	THNSN8200PCSE	6Gb/s SATA	200GB	6101	2.5”	MLC
Samsung	**850 EVO**	MZ-75E250	MZ7LN250HMJP	6Gb/s SATA	249 GB	2B6Q	2.5”	V-nand
Seagate	**XF1230**	XF1230 -101920	2BY172-380	6Gb/s SATA	1920GB	354	2.5”	eMLC

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Operating Systems

Supported Operating Environments			
Vendor	**Core Platform**	**Type**	**Notes**
Microsoft	Windows Server 2008 R2 SP1	x64	ALUA support with PerfectPath v4.1.0.11
	Windows Server 2012 R2	x64	ALUA support with PerfectPath v4.1.0.11
	Hyper-V Windows Server 2012 R2	x64	ALUA support with PerfectPath v4.1.0.11
	Windows Server 2016	x64	ALUA support with PerfectPath v4.1.0.11
Apple	OS X 10.10	x64	LUN Affinity/ALUA natively supported.
	OS X 10.11	x64	LUN Affinity/ALUA natively supported.
	OSX 10.12.4, 10.12.5, 10.12.6	x64	LUN Affinity/ALUA natively supported.
RedHat	RHEL 6.6.64(2.6.32-642)	x64	ALUA support with Promise MPIO v0.0.0.13
	RHEL 6.8 (2.6.32-642)	X64	ALUA support with Promise MPIO v0.0.0.13
	RHEL 7.0(3.10.0-123)	x64	ALUA support with Promise MPIO v0.0.0.13
	RHEL 7.2 (3.10.0-327)	x64	ALUA support with Promise MPIO v0.0.0.13
SUSE	SLES 11 sp4 (3.0.101.63.1)	x64	ALUA support with Promise MPIO v0.0.0.13
	SLES 12 sp1 (3.12.49-11)	x64	ALUA support with Promise MPIO v0.0.0.13
VMware	ESXi Server v6.5	x64	LUN Affinity/ALUA natively supported

Fibre Channel Switches and SFPs

Switches

Fibre Channel Switches			
Vendor	**Model**	**Ports**	**Firmware**
Brocade	Brocade 6505	24x16Gb	V7.4.1a
	Brocade 6510	40x16Gb	V7.4.1a
Cisco	MDS 9148s (BIOS 2.1.17)	48x16Gb	V6.2(13b)
	MDS 9148 (BIOS 1.0.19)	48x8Gb	V6.2(13b)
QLogic	SANbox 5802V	20x8Gb	v8.0.14.13.00

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SFP's

16G SFP Interoperability Matrix (Shortwave)		
Vendor	**Model**	**Description**
Avago	AFBR-57F5PZ	Digital Diagnostic SFP, 850 nm, 14.025/8.5/4.25 GBd Low Voltage (3.3 V) - 85°C
	AFBR-57F5MZ	Digital Diagnostic SFP, 850 nm, 14.025/8.5/4.25 GBd Low Voltage (3.3 V) - 85°C
Cisco	DS-SFP-FC16G-SW	Digital Diagnostic SFP, 850 nm, 14.025/8.5/4.25
Finisar	FTLF8529P3BCV	Digital Diagnostic SFP, 850 nm, 14.025/8.5/4.25 GBd Low Voltage (3.3 V) - 70°C

8G SFP Interoperability Matrix (Shortwave)		
Vendor	**Model**	**Description**
Avago	AFBR-57D7APZ	Digital Diagnostic SFP, 850 nm, 8.5/4.25/2.125 GBd Low Voltage (3.3 V) - 85°C
Finisar	FTLF8528P2BCV	Digital Diagnostic SFP, 850 nm, 8.5/4.25/2.125 GBd Low Voltage (3.3 V) - 70°C
	FTLF8528P2BNV	Digital Diagnostic SFP, 850 nm, 8.5/4.25/2.125 GBd Low Voltage (3.3 V) - 85°C
	FTLF8528P3BCV	Digital Diagnostic SFP, 850 nm, Tri-Rate 2.125/4.25/8.5 Gb/s Fibre Channel (3.3 V), Extended Temperature, -5C to70°C
	FTLF8528P3BNV	Digital Diagnostic SFP, 850 nm, Tri-Rate 2.125/4.25/8.5 Gb/s Fibre Channel (3.3 V), Commercial Temperature, -5C to 85°C

16 Gb Fibre Channel Host Bus Adapters

Vendor	Model	BIOS	Firmware	Linux 6.7, 7.2	Sles 12 SP1/Sles11 SP4	Windows 2012 R2, 2008 R2	Mac
Brocade	BR-1860	3.2.7.0	3.2.6.0	3.2.7.0	3.2.7.0	3.2.6.0	N/A
Emulex	LightPulse LPe16002B-M6	11.1.212.0	11.1.217.0	11.0.240.0	11.0.240.0	11.1.145.16	N/A
Qlogic	QLE2672-CK	3.32	8.03.01	8.07.00.27.0-K2	8.07.00.27.0-K2	9.2.1.20	N/A
	QLE2692	3.43	8.05.44	:8.07.00.47.07.0-k	8.07.00.47.12.0-k	9.2.3.20	NA
ATTO	Celerity FC162E (16G)	10.6.103.8	1/26/2016	N/A	1.51	1.30	2.0.0
Promise	SANLink2 – Thunderbolt to 16G FC	N/A	1.1.65.30	N/A	N/A	N/A	2.0.6

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8 Gb Fibre Channel Host Bus Adapters

Vendor	Model	BIOS	Firmware	Fcode	Linux 6.7, 7.2	Windows 2012 R2, 2008 R2	Mac
Brocade	FC425	v3.2.6.0	v3.2.6.0		3.2.6.0	v3.2.6.0	NA
	FC825	v3.2.6.0	v3.2.6.0		3.2.6.0	v3.2.6.0	NA
Emulex	LightPulse LPe12000	5.03a0	2.01A11	3.10a6		10.4.246.0	NA
	LightPulse LPe12002	5.03a0	2.01A11	3.10a6		11.0.247.0-5	NA
	LightPulse LPe12004	5.03a0	2.01A11	3.10a6		10.4.246.0	NA
	LightPulse LPe1250	2.12a11	2.01A11	3.10a6		10.0.720.0	NA
	LightPulse LPe11000	2.12a11	2.01A11	3.10a6		10.0.720.0	NA
	LightPulse LPe11002	2.12a12	2.82A3	3.10a6		10.0.720.0	NA
	LightPulse LPe11004	2.12a11	2.01A11	3.10a6		10.0.720.0	NA
	LightPulse LPe1150	2.12a11	2.01A11	3.10a6		10.0.720.0	NA
Qlogic	SANblade QLE2562	3.29	802.00		8.07.00.18.06.0	9.1.17.21	NA
	SANblade QLE2564	3.29	802.00		8.07.00.18.06.0	9.1.17.21	NA
LSI	LSI7204EP	2.02.06	1.3.20.0	1.00.49		N/A	1.05.06.00
	LSI7404EP	2.02.06	1.3.20.0	1.00.49		N/A	1.05.06.00
ATTO	Celerity FC162E (16G)	02/28/13	06.01.00		1.40	1.30	1.40
ATTO	Celerity FC84EN	02/28/13	06.01.00		1.90	1.80	2.40
	Celerity FC82EN	02/28/13	06.01.00		1.90	1.90	2.40
	Celerity FC42ES	3.25	3.35			1.70	2.35
Promise	SANLink2		1.1.58.0				2.0.6

Supported Promise attached Subsystems

The supported Expansion subsystems include:

Vendor	Platform	Description
Promise	VTrak J5320s	2U/24-bay JBOD, 12Gbs SAS to 12Gbs SAS (or 6Gbs SAS/SATA), 2.5” Drive Bays
	VTrak J5300s	2U/12 JBOD, 12Gbs SAS to 12Gbs SAS (or 6Gbs SAS/SATA)
	VTrak J5600s	3U/16 JBOD, 12Gbs SAS to 12Gbs SAS (or 6Gbs SAS/SATA)
	VTrak J5800s	4U/24 JBOD, 12Gbs SAS to 12Gbs SAS (or 6Gbs SAS/SATA)

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Vendor	Platform	Description
Promise	VTrak J630s	3U/16-bay JBOD, 6Gbs SAS to 6Gbs SAS/SATA
	VTrak J830s	4U/24-bay JBOD, 6Gbs SAS to 6Gbs SAS/SATA
	VTrak J930s	4U/60-bay JBOD, 6Gbs SAS to 6Gbs SAS

SAS Cables

Promise PN	Vendor	Vendor PN	Description
G51130261000009	JPC	P3602U701000-2	External mini SAS to External mini SAS 8644 to 8644 12G 1M
G51130263000001	JPC	P3602U703000-1	External mini SAS to External mini SAS 8644 to 8644 12G 3M
G51130361000017	FCI	10117771-2010HLF	Mini SAS HD 4X 36P To Mini SAS 2.1 26P.1M
G51130363000000	FCI	10117771-3030HLF	Mini SAS HD 4X 36P To Mini SAS 2.1 26P.3M

Cables are tested for compatibility with Promise hardware only and are not tested to full electrical and mechanical specifications.

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