



VTrak E5000/EFA5310 SR3.1 Compatibility List

Version 1.12

Firmware 11.06.0000.00 Release Date: 06/08/2018

VTrak E5000 Systems Covered:

- EFA5310 2U/24 , dual controller, 2.5" Drive Bays
- 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 11.06.0000.00 [Jun. 08, 2018]

Document History

Date	Editor	Revision	Comments
08/15/2016	F Londono	1.00	Initial list for VTrak E5x00 Compatibility
08/22/2016	R Brose	1.01	Changed FW Version, updating OS, Switch, hba
8/29/2016	R Brose	1.02	Corrected SFP data, Vmware ESXi, Window Server, Hyper-V, formatting.
8/30/2016	F Londono	1.03	Minor formatting adjustments
11/4/2016	F Londono	1.04	Added Toshiba, HGST and Seagate drives
2/3/2017	F Londono	1.05	Added SATA HDD and SSD
2/14/2017	F Londono	1.06	Updated firmware HGST, added Toshiba 2.5" drive and Seagate SSD
2/24/2017	R. Brose	1.07	Changed FW Version, HD's, Drivers, OS's, switches, sfp's updated for SR1 Release.
4/20/2017	F Londono	1.08	Added Micron 5100 SSD, Samsung 850 EVO, Toshiba SATA
9/11/2017	R.Brose	1.09	Added MAC OS 10.12.6, HE-10 8TB, HGST Part Numbers
01/23/2018	KJ Hsu	1.10	Changed E5000 FW Version to SR3 Added Samsung SSD_850-EVO-Pro-1TB Added (Micron) Crucial SSD_MX300-CT1050MX-1TB Added HGST SATA HUA722010CLA330-1TB Added HGST SAS HUH721212AI5200-12TB Change the Prefect Path to v4.1.0.12 on Windows 2012 R2 and 2008 R2.
04/10/2018	KJ Hsu	1.11	Change the compatibility version Add Toshiba MG07ACA12TE Add Toshiba MG07ACA14TE Add HGST Ultra He12 HUH721212ALE604
06/13/2018	KJ Hsu	1.12	Change title to "VTrak E5000/EFA5310 SR3.1 Compatibility List" Revise FW version and release date to "Firmware 11.06.0000.00 Release Date:06/08/2018" Revise E5310 to EFA5310 Update OS item "ALUA support with native Microsoft Multipath I/O (MPIO) in Windows Server 2016" Added Seagate ST12000NM0007 Added Toshiba AL15SEB24EQ Added WDC WD6002FRYZ-01WD5B0

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 He12	HUH721212AL5200	0F29530	A3D0	12TB	7,200	12Gb/s SAS	3.5"	512e
		HUH721010AL5200	0F27352	A21D	10TB	7,200	12Gb/s SAS	3.5"	512e
	Ultrastar He10	HUH721008AL5200	0F27356	A21D	8TB	7,200	12Gb/s SAS	3.5"	512e
		HUH728080AL5200	0F23268	A907	8TB	7,200	12Gb/s SAS	3.5"	512e
	Ultrastar He8	HUH728060AL5200	0F23270	A907	6TB	7,200	12Gb/s SAS	3.5"	512e
		HUS726060AL5210	0F22791	A907	6TB	7,200	12Gb/s SAS	3.5"	512e
	Ultrastar 7K6000	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	HUC101812CSS200	0B28807	A904	1.2TB	10,000	12Gb/s SAS	2.5"	512n
		HUC101890CSS200	0B27976	A904	900GB	10,000	12Gb/s SAS	2.5"	512n
		HUC101860CSS200	0B28808	A904	600GB	10,000	12Gb/s SAS	2.5"	512n
		HUC101830CSS200	0B28810	A904	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
	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

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	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
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
		AL15SEB24EQ	AL15SEB24EQ	0102	2.4TB	10,500	12Gb/s SAS	2.5"	512e

Note: Drives with 4Kn formatting are not supported

SATA

Vendor	Series	Model	Part Number	Firmware	Capacity	RPM	Interface	Form Factor	Format
HGST	Ultrastar 7K2000	HUA722010CLA330	0A39289	A3EA	1TB	7,200	SATA	3.5"	512e
	Ultrastar 7K6000	HUS726060ALE610	0F23001	T7J0	6TB	7,200	SATA	3.5"	512e
	Ultrastar He8	HUH728080ALE600	0F23267	T907	8TB	7,200	SATA	3.5"	512e
		HUH728060ALE600	0F23269	T907	6TB	7,200	SATA	3.5"	512e
	Ultrastar He12	HUH721212ALE604	0F30146	LGNT3D0	12TB	7,200	SATA	3.5"	512e
Seagate	Enterprise Capacity 3.5 HDD	ST8000NM0055	1RM112-001	SN02	8TB	7,200	SATA	3.5"	512e
	Enterprise Capacity 3.5 HDD V6	ST10000NM0016	1TT101-002	SNCO	10TB	7,200	SATA	3.5"	512e
	Enterprise Capacity 3.5 HDD V7	ST12000NM0007	2A1101-001	SN01	12TB	7,200	SATA	3.5"	512e
	Enterprise cloud	MC04ACA400E	HDERR11GEA51	PF2A	4TB	7,200	SATA	3.5"	512e
Toshiba	Enterprise Capacity HDD-MG07	MG07ACA12TE	HDEPW11GEA51	101	12TB	7,200	SATA	3.5"	512e
		MG07ACA14TE	HDEPW10GEA51	101	14TB	7,200	SATA	3.5"	512e
WD	WD Gold	WD6002FRYZ-01WD5B0	2W10001	1M02	6TB	7,200	SATA	3.5"	512e

Note: Drives with 4Kn formatting are not supported

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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	2.5"	MLC
		MTFDJAL1T6MBS	MTFDJAL1T6MBS-2AN1ZAB	12Gb/s SAS	1600GB	M017	2.5"	MLC
		MTFDJAK800MBS	MTFDJAK800MBS-2AN1ZAB	12Gb/s SAS	800GB	M017	2.5"	MLC
		MTFDJAK400MBS	MTFDJAK400MBS-2AN1ZAB	12Gb/s SAS	400GB	M017	2.5"	MLC
	S630DC	MTFDJAL3T8MBT	MTFDJAL3T8MBT-2AN1ZAB	12Gb/s SAS	3840GB	M017	2.5"	MLC
		MTFDJAL3T2MBT	MTFDJAL3T2MBT-2AN1ZAB	12Gb/s SAS	3200GB	M017	2.5"	MLC
		MTFDJAL1T9MBT	MTFDJAL1T9MBT-2AN1ZAB	12Gb/s SAS	1920GB	M017	2.5"	MLC
		MTFDJAL1T6MBT	MTFDJAL1T6MBT-2AN1ZAB	12Gb/s SAS	1600GB	M017	2.5"	MLC
		MTFDJAK960MBT	MTFDJAK960MBT-2AN1ZAB	12Gb/s SAS	960GB	M017	2.5"	MLC
		MTFDJAK800MBT	MTFDJAK800MBT-2AN1ZAB	12Gb/s SAS	800GB	M017	2.5"	MLC
		MTFDJAK480MBT	MTFDJAK480MBT-2AN1ZAB	12Gb/s SAS	480GB	M017	2.5"	MLC
		MTFDJAK400MBT	MTFDJAK400MBT-2AN1ZAB	12Gb/s SAS	400GB	M017	2.5"	MLC
	S610DC	MTFDJAL3T8MBU	MTFDJAL3T8MBU-2AN1ZAB	12Gb/s SAS	3840GB	M017	2.5"	MLC
		MTFDJAL1T9MBU	MTFDJAL1T9MBU-2AN1ZAB	12Gb/s SAS	1920GB	M017	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
Crucial	MX300	CT1050MX300SSD1	CT1050MX300SSD1	6Gb/s SATA	1TB	M0CR060	2.5"	TLC
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
		SSD 850 PRO 1TB MZ-7KE1T0BW	SSD 850 PRO 1TB MZ-7KE1T0BW	6Gb/s SATA	1TB	EXM04B6Q	2.5"	V-NAND
Seagate	XF1230	XF1230 -101920	2BY172-380	6Gb/s SATA	1920GB	354	2.5"	eMLC

Operating Systems

Supported Operating Environments			
Vendor	Core Platform	Type	Notes

Microsoft	Windows Server 2008 R2 SP1	x64	ALUA support with PerfectPath v4.1.0.12
	Windows Server 2012 R2	x64	ALUA support with PerfectPath v4.1.0.12
	Hyper-V Windows Server 2012 R2	x64	ALUA support with PerfectPath v4.1.0.11
	Windows Server 2016	x64	ALUA support with native Microsoft Multipath I/O(MPIO) in Windows Server 2016
	OS X 10.10	x64	LUN Affinity/ALUA natively supported.
	OS X 10.11	x64	LUN Affinity/ALUA natively supported.
	OS X 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 6.7(2.6.32-573)	x64	ALUA support with Promise MPIO v0.0.0.12
	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 v0.0.0.12
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 v6.0	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

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
Finisar	FTLF8529P3BCV	Digital Diagnostic SFP, 850 nm, 14.025/8.5/4.25 GBd Low Voltage (3.3 V) - 70°C
Cisco	DS-SFP-FC16G-SW	Digital Diagnostic SFP, 850 nm, 14.025/8.5/4.25

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	3.42	8.05.44	8.07.00.47.07.0-k	8.07.00.47.12.0-k	9.2.3.20	N/A
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
	SANLink3 – Thunderbolt to 16G FC	N/A	1.1.65.43	N/A	N/A	N/A	3.0.2

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:

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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)

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.