

<Supported Storage List of SIOS Protection Suite for Linux v9>

Last Updated: June 21, 2018

The table below is a list of supported storages by LifeKeeper for Linux v9. Please use this when considering hardware configuration for your environment.

[About Supported Storages]

Storages used as shared storages in LifeKeeper require certification depending on types.

You need to use supported storages for shared storages such as SCSI/FC/SCSI/SAS that refer to the same data from multiple nodes for which LifeKeeper's 3D fencing with SCSI-2/3 Reservation is required.

Storages for which prerequisite is not to perform reservation with SCSI-2/3 using Quorum/Witness Server Kit also requires certification. Please check the table below.

[Configuration which does not require certification]

Following configuration doesn't require storage certification:
 - NAS storage (requires MAKE_UP Recovery Kit)
 - All disk devices that make up data replication by DataKeeper (both built-in and external)

[Unsupported hardware]

- Consumer storages that are connected via USB or IEEE1394 are not supported.

Vendor (*1)	Storage Model	Bus Type	Connect Type (*2)	Support Status	Required ARK(*3) (i.e. Multipath ARK)	Supported LK Version (*4)	Note		
DELL	Dell EqualLogic: PS4110 PS4120 PS5100 PS6110 PS6210 PS6600	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.2.2	With a large number of luns (over 20), change the REMOTEMOUT setting in /etc/default/LifeKeeper to REMOTEMOUT=600.		
			Single Path (DMMP)	YES	DMMP ARK				
		MD3300F MD3320F MD3600F	FC	vSphere (RDM)	No	-	v9.0 - v9.2.2		
				Multi Path (DMMP)	YES	DMMP ARK			
		MD3800 MD3820 MD3860	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.2.2		
				Single Path	No	-			
	MD3400 MD3420 MD3460	SAS	vSphere (RDM)	No	-	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
	SCV3000 Series: SCV3000 SCV3020	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
	SCV3000 Series: SCV2000 SCV2020 SCV2080	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.2.2			
			Single Path	No	-				
	Dell Storage SC4200	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
	Dell Compellent SC8000	FC	vSphere (RDM)	No	-	-			
			Multi Path (DMMP)	No	-				
	Fujitsu	ETERNUS DV90	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2		
				Multi Path (DMMP)	YES	DMMP ARK			
			ETERNUS: DX60 DX80 DX110 DX140 DX170 DX80 S2 DX90 S2 DX10 S2 DX10 S3 DX200 S3 DX500 S3 DX600 S3 DX700 S3 DX800 S3 DX20P DX20 S4 DX100 S4 DX200 S4 DX500 S4 AF250 AF350 AF250 S2 AF650 S2	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	When using the LifeKeeper DMMP ARK for multipath configurations it is necessary to set the following parameters in /etc/multipath.conf: prio alua path_grouping_policy group_by_prio failback immediate no_path_retry 10 path_checker tur * When using the ETERNUS Multipath Driver or using the vSphere(RDM) for multipath configurations, no configuration parameters need to be set. * ETERNUS Storage Cluster is supported. For details on the target models and support requirements, please contact Fujitsu Limited.
					Multi Path (DMMP)	YES	DMMP ARK		
			Hiachi Virtual Storage Platform G1000 Hiachi Virtual Storage Platform G1500 Hiachi Virtual Storage Platform F1500	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	
					Multi Path (DMMP)	YES	DMMP ARK		
		Hiachi Virtual Storage Platform	iSCSI	Multi Path (HCLM)	No	-	-		
				Single Path	No	-			
Hiachi Virtual Storage Platform Mid Range Family: Hiachi Virtual Storage Platform F900 (VSP F900) Hiachi Virtual Storage Platform F700 (VSP F700) Hiachi Virtual Storage Platform F370 (VSP F370) Hiachi Virtual Storage Platform F350 (VSP F350) Hiachi Virtual Storage Platform G900 (VSP G900) Hiachi Virtual Storage Platform G800 (VSP G800) Hiachi Virtual Storage Platform G370 (VSP G370) Hiachi Virtual Storage Platform G350 (VSP G350) Hiachi Virtual Storage Platform G150 (VSP G150)		FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
Hiachi Virtual Storage Platform Mid Range Family: Hiachi Virtual Storage Platform F600 (VSP F600) Hiachi Virtual Storage Platform F400 (VSP F400) Hiachi Virtual Storage Platform G600 (VSP G600) Hiachi Virtual Storage Platform G600 (VSP G600) Hiachi Virtual Storage Platform G400 (VSP G400) Hiachi Virtual Storage Platform G200 (VSP G200) Hiachi Virtual Storage Platform G100 (VSP G100)		FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
Hiachi Unified Storage VH (HUS VH)		FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (HCLM)	YES	HCLM ARK				
Hiachi Unified Storage 100 Series: Hiachi Unified Storage 150 (HUS 150) Hiachi Unified Storage 120 (HUS 120) Hiachi Unified Storage 110 (HUS 110)		FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (HCLM)	YES	HCLM ARK				
Hitachi		BR1200	iSCSI	Multi Path (HCLM)	No	-	-		
				Single Path	No	-			
			BR1250	SAS	Multi Path (RDAC)	YES	No Multipath ARK	v9.0 - v9.2.2	Both the single path and multipath configurations require the RDAC driver. Only the BR1200 configuration using the RDAC driver is supported. The BR1200 configuration using HCLM (HCLM ARK) is not supported.
					Single Path (RDAC)	YES	No Multipath ARK		
			BR150E BR150S	iSCSI	Multi Path (DMMP)	No	-	-	
					Single Path	No	-		
		Nembo Storage: AF3000 AF3000 AF7000 AF9000 CS1000H CS1000 CS3000 CS7000	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.2.2 - v9.2.2		
				Single Path	No	-			
	3PAR: 3PAR StoreServ 8200 3PAR StoreServ 8400 3PAR StoreServ 8440 3PAR StoreServ 8450	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
	3PAR: 3PAR StoreServ 7400 3PAR StoreServ 7400C 3PAR StoreServ 7440 3PAR StoreServ 7440C 3PAR StoreServ 7450c	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	Note: 3PAR StoreServ 7400 returns a reservation conflict with the default path checker setting. To avoid this conflict, set the following parameter in "/etc/default/LifeKeeper": DMMP_REGISTRATION_TYPE=hsa * User friendly device mapping is not supported. Set the following parameter in "multipath.conf": "user_friendly_names no" * When using the vSphere(RDM) for multipath configurations, no configuration parameters need to be set.		
			Multi Path (DMMP)	YES	DMMP ARK				
3PAR: 3PAR StoreServ 7200 3PAR StoreServ 7200c	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	Note: 3PAR StoreServ 7200 returns a reservation conflict with the default path checker. To avoid this conflict, set the following parameter in "/etc/default/LifeKeeper": DMMP_REGISTRATION_TYPE=hsa * User friendly device mapping is not supported. Set the following parameter in "multipath.conf": "user_friendly_names no" * When using the vSphere(RDM) for multipath configurations, no configuration parameters need to be set.			
		Multi Path (DMMP)	YES	DMMP ARK					
3PAR: 3PAR StoreServ 9450 3PAR StoreServ 20800 R2 3PAR StoreServ 20840 R2 3PAR StoreServ 20850 R2	FC	vSphere (RDM)	YES	No Multipath ARK	v9.2.1 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					
3PAR: 3PAR StoreServ 20450 3PAR StoreServ 20800 3PAR StoreServ 20840 3PAR StoreServ 20950	FC	vSphere (RDM)	YES	No Multipath ARK	v9.1 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					
3PAR StoreServ 10400	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					
HPE	3PAR StoreServ 10800	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	Note: 3PAR StoreServ 10800 FC returns a reservation conflict with the default path checker setting. To avoid this conflict, set the following parameter in "/etc/default/LifeKeeper": DMMP_REGISTRATION_TYPE=hsa * User friendly device mapping is not supported. Set the following parameter in "multipath.conf": "user_friendly_names no" * When using the vSphere(RDM) for multipath configurations, no configuration parameters need to be set.		
			Multi Path (DMMP)	YES	DMMP ARK				
MSA: MSA2050 MSA2052	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.2 - v9.2.2				
		Single Path	No	-					
MSA: MSA2042	SAS	vSphere (RDM)	No	-	-				
		Multi Path (DMMP)	No	-					
MSA: MSA1040 MSA2040	FC	vSphere (RDM)	YES	No Multipath ARK	v9.1 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					
MSA: MSA1040 MSA2040	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.1 - v9.2.2				
		Single Path	No	-					
LeftHand OS (LeftHand) Series LeftHand OS version 12.6	FC	vSphere (RDM)	YES	No Multipath ARK	v9.1 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					
LeftHand OS (LeftHand) Series LeftHand OS version 11.0 / 11.5 / 12.5	iSCSI	vSphere (RDM)	No	-	-				
		Multi Path (DMMP)	YES	DMMP ARK					
HP P9500	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					
IBM	IBM SAN Volume Controller * * IBM TotalStorage Proven	FC	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.2.2			
			Single Path	YES	No Multipath ARK				
		IBM Storwize V7000	iSCSI	Multi Path (DMMP)	No	-	v9.0 - v9.2.2	The IBM Storwize V7000 (Firmware Version 6.3.0.1) has been certified by partner testing using iSCSI (ocsi-iniator-ubuntu-2.0.8720-34-ahb-ahb_s4) with DMMP (device-mapper-1.02.66-6-el6, device-mapper-multipath-0.4.9-46.el6). The test was performed with LifeKeeper for Linux v7.5 using BRKEL 2. Restriction: IBM Storwize V7000 must be used in combination with the Quorum/Witness Server Kit and STONITH. See the online documentation for the LifeKeeper version that you are using for more information. http://docs.us.ibm.com/	
				Single Path	No	-			
		IBM Storwize V3700	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2		
				Multi Path (DMMP)	YES	DMMP ARK			
	IBM XIV Storage System	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	If you are creating more than 32 LUNs on an IBM XIV Storage System using LifeKeeper, please contact IBM for further details.		
			Multi Path (DMMP)	YES	DMMP ARK				
	Lenovo	Lenovo Storage V3700 V2 Lenovo Storage V3700 V2 3P	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2		
				Multi Path (DMMP)	YES	DMMP ARK			
			IBM Storwize V1700	iSCSI	Multi Path (DMMP)	No	-	-	
					Single Path	No	-		
FlashArray/m Series //m10 //m20 //m50 //m70			FC	vSphere (RDM)	No	-	v9.0 - v9.2.2		
				Multi Path (DMMP)	YES	DMMP ARK			
EMC storage for use LifeKeeper acquired the E-Label certification. See the matrix below for the EMC storage support. http://www.emc.com/intoperability		iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.2.2			
			Single Path	No	-				
EMC storage: M10 M100 M110 M300		SAS	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2	LifeKeeper for Linux v9.1 or later can be used for EMC (Storage:StoragePathSaver) (NECSPS) Recovery Kit on RHEL7 environment.		
			Multi Path (DMMP)	YES	DMMP ARK				
EMC storage: M510 M500 M510 M700 M710		FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2			
			Multi Path (DMMP)	YES	DMMP ARK				
FA-400 Series	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.2.2				
		Single Path	No	-					
EMC storage: M510 M500 M510 M700 M710	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.2.2				
		Multi Path (DMMP)	YES	DMMP ARK					

(*1): EMC storage for use
LifeKeeper acquired the E-Label certification. See the matrix below for the EMC storage support.
http://www.emc.com/intoperability

(*2): Connecting Configurations
 vSphere (RDM) Connected a shared disk using Raw Device Mapping (RDM) on the VMware ESX server
 Multi Path (DMMP) Multipath configuration of the shared disk using the Device Mapper Multipath driver
 Multi Path (EMPD) Multipath configuration of the shared disk using the ETERNUS Multipath Driver
 Multi Path (HCLM) Multipath configuration of the shared disk using the Hitachi Dynamic Link Manager driver
 Multi Path (RDAC) Multipath configuration of the shared disk using the IBM Redundant Disk Array Controller driver
 Multi Path (NECSPS) Multipath configuration of the shared disk using the Storage StoragePathSaver driver
 Single Path (DMMP) Single path configuration of the shared disk using the Device Mapper Multipath driver
 Single Path (RDAC) Single path configuration of the shared disk using the IBM Redundant Disk Array Controller
 Single Path Single path connection not using a specific multipath driver

(*3): Multipath Software
 The support information by maker must be referred about the connectivity information of each Multipath software.
 Please refer to the release notes for the details about Multipath software support by LifeKeeper.

(*4): Supported version of LifeKeeper
 This document is written for LifeKeeper for Linux v9.
 If you are using a previous version of LifeKeeper, you must refer to the Release Notes for that version of the supported storage list.