

下記の表は、LifeKeeper for Linux v9環境にご利用いただくことができます。認定済の共有ストレージの一覧表です。ハードウェアの構成詳細にご利用ください。

【認定済み共有ストレージについて】

LifeKeeperの共有ストレージとして利用するストレージは、種類によって認定が必要なものも不要なものがあります。

SCSI / FC / iSCSI / SAS など、LifeKeeperがSCSI-2/3 Reservationを用いてIOフェンシングを行うことが前提となる、複製ノードでの同一データを持つ共有ストレージは認定されたものをご利用いただく必要があります。下記の表に記載があるものをご確認ください。

またQuorum/Witness Server K8Eを利用してSCSI-2/3によるReservationを行わないことが前提となっているストレージについても、同じく認定が必要です。表でのご確認をお願いいたします。

【認定が不要な構成】

以下の構成においては、ストレージ認定がございません。

- ・NASストレージ(NAS Recoveryが必須です)
- ・DataKeeperによるDataReplicationを構成するディスク装置(内蔵、外付けを問いません)

【ご利用いただけるハードウェア】

- ・USBやIEEE1394など接続する、コンシューマー向けストレージの利用はサポートされません。

ベンダー名 (*1)	ストレージモデル名	バスタイプ	接続構成 (*2)	サポート可否	必要なARK(*3) (マルチパス/ARK有)	サポートする LUNのバージョン (*4)	注意事項																						
DELL	Dell EqualLogic: PS4100 PS4110 PS6100 PS6110 PS6210 PS6610	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.3.1	LUN 数が多い場合 (20 以上) は、/etc/default/lfkkeeper の REMOVIETIMEOUT 設定を REMOVIETIMEOUT=600 に変更してください。																						
			Single Path (DMMP)	YES	DMMP ARK																								
			vSphere (RDM)	No	-			v9.0 - v9.3.1																					
				Multi Path (DMMP)	YES				DMMP ARK																				
			FC	Multi Path (DMMP)	YES			DMMP ARK	v9.0 - v9.3.1																				
				Single Path	No			-																					
	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.3.1																								
		Single Path	No	-																									
	MD3800F MD3820F MD3850F MD3860F	FC	vSphere (RDM)	No	-	v9.0 - v9.3.1																							
			Multi Path (DMMP)	YES	DMMP ARK																								
			Single Path	No	-																								
			iSCSI	Multi Path (DMMP)	YES		DMMP ARK	v9.0 - v9.3.1																					
				Single Path	No		-																						
			SAS	vSphere (RDM)	No		-	v9.0 - v9.3.1																					
	Multi Path (DMMP)	YES		DMMP ARK																									
	MD3400 MD3420 MD3460	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																							
			Multi Path (DMMP)	YES	DMMP ARK																								
			Single Path	No	-																								
			iSCSI	Multi Path (DMMP)	YES		DMMP ARK	v9.0 - v9.3.1																					
				Single Path	No		-																						
			SCV3000 Series: SCV3000 SCV3020	FC	vSphere (RDM)		YES	No Multipath ARK	v9.0 - v9.3.1																				
	Multi Path (DMMP)	YES			DMMP ARK																								
	Single Path	No			-																								
	iSCSI	Multi Path (DMMP)			YES	DMMP ARK	v9.0 - v9.3.1																						
Single Path		No			-																								
SCV2000 Series: SCV2000 SCV2020 SCV2080	FC	vSphere (RDM)			YES	No Multipath ARK	v9.0 - v9.3.1																						
		Multi Path (DMMP)	YES	DMMP ARK																									
		Single Path	No	-																									
		iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.3.1																							
			Single Path	No	-																								
		Dell Storage: SC5020 SC5020 SC4020	FC	vSphere (RDM)	YES	No Multipath ARK		v9.0 - v9.3.1																					
Multi Path (DMMP)	YES			DMMP ARK																									
Single Path	No			-																									
iSCSI	Multi Path (DMMP)			YES	DMMP ARK	v9.0 - v9.3.1																							
	Single Path			No	-																								
Dell Compellent: SC9000 SC8000	FC			vSphere (RDM)	No	-	-																						
		Multi Path (DMMP)	No	-																									
		Single Path	No	-																									
		iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.3.1																							
			Single Path	No	-																								
		Fujitsu	ETERNUS: DX60 S2 DX80 S2 DX90 S2 DX410 S2 DX440 S2 DX4100 S2 DX8700 S2 DX60 S3 DX100 S3 DX200 S3 DX500 S3 DX600 S3 DX8700 S3 DX9900 S3 DX200F DX60 S4 DX100 S4 DX200 S4 DX500 S4 DX600 S4 AF250 AF650 AF250 S2 AF650 S2	FC	vSphere (RDM)	YES		No Multipath ARK	v9.0 - v9.3.1																				
Multi Path (DMMP)	YES				DMMP ARK																								
Single Path	No				-																								
iSCSI	Multi Path (DMMP)				YES	DMMP ARK	v9.0 - v9.3.1																						
	Single Path				No	-																							
Hitachi Virtual Storage Platform G1000 Hitachi Virtual Storage Platform G1500 Hitachi Virtual Storage Platform F1500	FC				vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																					
					Multi Path (HCLM)	YES	HCLM ARK																						
					Multi Path (DMMP)	YES	DMMP ARK																						
					Single Path	YES	-																						
					iSCSI	Multi Path (HCLM)	No			-	-																		
						Single Path	No			-																			
	Hitachi Virtual Storage Platform				FC	vSphere (RDM)	YES	No Multipath ARK		v9.0 - v9.3.1																			
			Multi Path (HCLM)	YES		HCLM ARK																							
			Single Path	YES		-																							
			iSCSI	Multi Path (HCLM)	No	-	-																						
				Single Path	No	-																							
				Single Path	No	-																							
Hitachi Virtual Storage Platform Mid Range Family: Hitachi Virtual Storage Platform F900 (VSP F900) Hitachi Virtual Storage Platform F700 (VSP F700) Hitachi Virtual Storage Platform F370 (VSP F370) Hitachi Virtual Storage Platform F350 (VSP F350) Hitachi Virtual Storage Platform G900 (VSP G900) Hitachi Virtual Storage Platform G700 (VSP G700) Hitachi Virtual Storage Platform G370 (VSP G370) Hitachi Virtual Storage Platform G350 (VSP G350) Hitachi Virtual Storage Platform G150 (VSP G150) Hitachi Virtual Storage Platform G130 (VSP G130)	FC		vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																							
			Multi Path (HCLM)	YES	HCLM ARK																								
			Multi Path (DMMP)	YES	DMMP ARK																								
			Single Path	YES	-																								
			iSCSI	Multi Path (DMMP)	YES		DMMP ARK	v9.0 - v9.3.1																					
				Single Path	YES		No Multipath ARK																						
	Hitachi Virtual Storage Platform Mid Range Family: Hitachi Virtual Storage Platform F800 (VSP F800) Hitachi Virtual Storage Platform F600 (VSP F600) Hitachi Virtual Storage Platform F400 (VSP F400) Hitachi Virtual Storage Platform G800 (VSP G800) Hitachi Virtual Storage Platform G600 (VSP G600) Hitachi Virtual Storage Platform G400 (VSP G400) Hitachi Virtual Storage Platform G200 (VSP G200) Hitachi Virtual Storage Platform G100 (VSP G100)		FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																						
		Multi Path (HCLM)		YES	HCLM ARK																								
		Multi Path (DMMP)		YES	DMMP ARK																								
		iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.0 - v9.3.1																							
			Single Path	YES	No Multipath ARK																								
			Single Path	YES	No Multipath ARK																								
Hitachi Unified Storage VM (HUS VM)	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																								
		Multi Path (HCLM)	YES	HCLM ARK																									
		Single Path	YES	-																									
		iSCSI	Multi Path (HCLM)	No		-	-																						
			Single Path	No		-																							
		Hitachi Unified Storage 100 Series: Hitachi Unified Storage 150 (HUS 150) Hitachi Unified Storage 130 (HUS 130) Hitachi Unified Storage 110 (HUS 110)	FC	vSphere (RDM)		YES	No Multipath ARK	v9.0 - v9.3.1																					
	Multi Path (HCLM)			YES	HCLM ARK																								
	Single Path			YES	-																								
	iSCSI		Multi Path (HCLM)	No	-	-																							
			Single Path	No	-																								
			Single Path	No	-																								
	Hitachi	BR1200	iSCSI	Multi Path (HCLM)	No	-	-																						
Multi Path (DMMP)				No	-																								
Single Path				No	-																								
SAS			Multi Path (RDAC)	YES	No Multipath ARK	v9.0 - v9.3.1																							
			Single Path (RDAC)	YES	No Multipath ARK																								
			Multi Path (HCLM)	No	-																								
BR1250		iSCSI	Multi Path (DMMP)	No	-	-																							
			Single Path	No	-																								
			Single Path	No	-																								
		SAS	Multi Path (NECSPS)	YES	NEC SPS ARK		v9.0 - v9.3.1																						
			Single Path (NECSPS)	YES	NEC SPS ARK																								
			Single Path (NECSPS)	YES	NEC SPS ARK																								
BR1650E BR1650S	FC	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																								
		Multi Path (HCLM)	YES	HCLM ARK																									
BR1650E BR1650S	iSCSI	Multi Path (HCLM)	No	-	-																								
		Single Path	No	-																									
HPE	Nimble Storage: AF20 AF200 AF40 AF60 AF80 AF1000 AF3000 AF5000 AF7000 AF9000 CS1000H CS1000 CS3000 CS5000 CS7000 HF20C HF20H HF20 HF40 HF60	iSCSI	Multi Path (DMMP)	YES	DMMP ARK	v9.2.2 - v9.3.1																							
			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 - v9.3.1																				
					Multi Path (DMMP)		YES	DMMP ARK																					
					Single Path		No	-																					
					3PAR: 3PAR StoreServ 7400 3PAR StoreServ 7400c 3PAR StoreServ 7440 3PAR StoreServ 7440c 3PAR StoreServ 7450 3PAR StoreServ 7450c		FC	vSphere (RDM)		YES	No Multipath ARK	v9.0 - v9.3.1																	
								Multi Path (DMMP)		YES	DMMP ARK																		
								Single Path		No	-																		
								3PAR: 3PAR StoreServ 7200 3PAR StoreServ 7200c		FC	vSphere (RDM)		YES	No Multipath ARK	v9.0 - v9.3.1														
											Multi Path (DMMP)		YES	DMMP ARK															
											Single Path		No	-															
											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 - v9.3.1											
														Multi Path (DMMP)		YES	DMMP ARK												
														Single Path		No	-												
														3PAR: 3PAR StoreServ 20450 3PAR StoreServ 20800 3PAR StoreServ 20840 3PAR StoreServ 20850		FC	vSphere (RDM)		YES	No Multipath ARK	v9.1 - v9.3.1								
																	Multi Path (DMMP)		YES	DMMP ARK									
																	Single Path		No	-									
																	3PAR StoreServ 10400		FC	vSphere (RDM)		YES	No Multipath ARK	v9.0 - v9.3.1					
																				Multi Path (DMMP)		YES	DMMP ARK						
																				Single Path		No	-						
																				iSCSI		Multi Path (DMMP)	No		-	-			
																						Single Path	No		-				
																						3PAR StoreServ 10800	FC		vSphere (RDM)		YES	No Multipath ARK	v9.0 - v9.3.1
																									Multi Path (DMMP)		YES	DMMP ARK	
	Single Path	No				-																							
	iSCSI	Multi Path (DMMP)				No																			-		-		
		Single Path	No	-																									
		MSA: MSA2050 MSA2052	FC	vSphere (RDM)		YES			No Multipath ARK																v9.2 - v9.3.1				
				Multi Path (DMMP)		YES			DMMP ARK																				
				Single Path	No	-																							
				iSCSI	Multi Path (DMMP)	YES	DMMP ARK		v9.2 - v9.3.1																				
	Single Path				No	-																							
	MSA: MSA2042				FC	vSphere (RDM)	YES	No Multipath ARK		v9.1 - v9.3.1																			
			Multi Path (DMMP)			YES	DMMP ARK																						
			Single Path			No	-																						
			iSCSI			Multi Path (DMMP)	YES	DMMP ARK			v9.1 - v9.3.1																		
				Single Path		No	-																						
				MSA: MSA1040 MSA2040		FC	vSphere (RDM)	YES	No Multipath ARK			v9.0 - v9.3.1																	
					Multi Path (DMMP)		YES	DMMP ARK																					
		Single Path			No		-																						
		iSCSI			Multi Path (DMMP)		YES	DMMP ARK	v9.0 - v9.3.1																				
			Single Path		No		-																						
			StoreVirtual (LeftHand) Series LeftHand OS version 12.6		FC		vSphere (RDM)	YES			No Multipath ARK		v9.1 - v9.3.1																
						Multi Path (DMMP)	YES	DMMP ARK																					
	Single Path					No	-																						
	iSCSI					Multi Path (DMMP)	YES	DMMP ARK			v9.1 - v9.3.1																		
		Single Path				No	-																						
		HP P9500				FC	vSphere (RDM)	YES	No Multipath ARK					v9.0 - v9.3.1															
Multi Path (DMMP)							YES	DMMP ARK																					
Single Path				No			-																						
X77 Storage System				FC			vSphere (RDM)	YES	No Multipath ARK						v9.0 - v9.3.1														
							Multi Path (HCLM)	YES	HCLM ARK																				
							Multi Path (DMMP)	YES	DMMP ARK																				
							Single Path	YES	-																				
					iSCSI		Multi Path (DMMP)	No	-							-													
							Single Path	No	-																				
				IBM SAN Volume Controller + * IBM TotalStorage Proven			FC	Multi Path (DMMP)	YES	DMMP ARK							v9.0 - v9.3.1												
	Single Path							YES	No Multipath ARK																				
	iSCSI							Multi Path (DMMP)	No	-	-																		
						Single Path		No	-																				
					IBM Storwize V7000	FC		vSphere (RDM)	YES	No Multipath ARK						v9.0 - v9.3.1													
								Multi Path (DMMP)	YES	DMMP ARK																			
Single Path								No	-																				
iSCSI								Multi Path (DMMP)	YES	DMMP ARK Quorum/Witness Server K8E		v9.0 - v9.3.1																	
								Single Path	No	-																			
								IBM Storwize V7100	FC	vSphere (RDM)								YES	No Multipath ARK	v9.0 - v9.3.1									
			Multi Path (DMMP)			YES				DMMP ARK																			
			Single Path			No				-																			
			iSCSI			Multi Path (DMMP)	No			-			-																
Single Path						No	-																						
IBM XIV Storage System	FC					vSphere (RDM)	YES			No Multipath ARK	v9.0 - v9.3.1																		
		Multi Path (DMMP)				YES	DMMP ARK																						
		Single Path			No	-																							
		iSCSI			Multi Path (DMMP)	YES	DMMP ARK		v9.0 - v9.3.1																				
			Single Path		No	-																							
			Lenovo		Lenovo Storage V3700 V2 Lenovo Storage V3700 V2 XP	FC	vSphere (RDM)			YES		No Multipath ARK	v9.0 - v9.3.1																
	Multi Path (DMMP)						YES			DMMP ARK																			
	Single Path						No	-																					
	iSCSI						Multi Path (DMMP)	No		-		-																	
		Single Path					No	-																					
		IBM Storwize V3700		FC			vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																			
						Multi Path (DMMP)	YES	DMMP ARK																					
Single Path						No	-																						
SAS						vSphere (RDM)	No	-	-																				
	Multi Path (DMMP)					No	-																						
	Single Path					No	-																						
	NEC			NEC (Storage): M10e M11e M110 M300 M12e M120 M320		FC	vSphere (RDM)	YES				No Multipath ARK		v9.0 - v9.3.1															
					Multi Path (NECSPS)		YES	NECSPS ARK																					
					Single Path (NECSPS)		YES	NECSPS ARK																					
iSCSI					Multi Path (NECSPS)		YES	NECSPS ARK	v9.0 - v9.3.1																				
					Single Path (NECSPS)		No	-																					
SAS					vSphere (RDM)		No	-	v9.0 - v9.3.1																				
		Multi Path (NECSPS)		YES	NECSPS ARK																								
		Single Path (NECSPS)		YES	NECSPS ARK																								
		NEC (Storage): M310 M310F M320F M500 M510 M700 M710 M710F		iSCSI	vSphere (RDM)	YES	No Multipath ARK	v9.0 - v9.3.1																					
					Multi Path (NECSPS)	YES	NECSPS ARK																						
					Single Path (NECSPS)	YES	NECSPS ARK																						
FC					Multi Path (NECSPS)	YES	NECSPS ARK		v9.0 - v9.3.1																				
	Single Path (NECSPS)				No	-																							
Pure Storage	FA-400 Series		FC		vSphere (RDM)	YES	No Multipath ARK		v9.0 - v9.3.1																				
				Multi Path (DMMP)	YES	DMMP ARK																							
				Single Path	No	-																							
				iSCSI	Multi Path (DMMP)	No	-				-																		
					Single Path	No	-																						
				FlashArray//m Series //m10 //m30 //m50 //m70	FC	vSphere (RDM)	No			-	v9.0 - v9.3.1																		
	Multi Path (DMMP)		YES			DMMP ARK																							
	Single Path	No	-																										
	FC	vSphere (RDM)	No			-	v9.0 - v9.3.1																						
		Multi Path (DMMP)	YES			DMMP ARK																							
	FlashArray//x Series //x10 //x20 //x50 //x70	FC	vSphere (RDM)			No	-			v9.0 - v9.3.1																			
			Multi Path (DMMP)	YES	DMMP ARK																								
Single Path			No	-																									
FC			vSphere (RDM)	No	-	v9.0 - v9.3.1																							
			Multi Path (DMMP)	YES	DMMP ARK																								
(*)1: EMCストレージのご利用に関して			LifeKeeperはEMC Labの認定を取得していません。EMC社のストレージのサポート状況については以下のリンク先をご参照ください。 http://www.emc.com/interoperability																										
	(*)2: 接続構成の要項																												
	vSphere (RDM)	VMware ESXサーバーで共有ディスクをRaw Device Mapping (RDM)で接続した構成 (*5)																											
	Multi Path (DMMP)	Device Mapper Multipathを使用した共有ディスクのマルチパス構成																											
	Multi Path (EMPP)	ETERNUS Multipath Driverを使用した共有ディスクのマルチパス構成																											
	Multi Path (HCLM)	Hitachi Dynamic Link Managerを使用した共有ディスクのマルチパス構成																											
	Multi Path (RDAC)	IBM Redundant Disk Array Controllerを使用した																											