LifeKeeper for Linux

7.4

Linux Configuration

January 2012

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Operating System	The default operating system must be installed to ensure that all required packages are installed. The minimal operating system install does not contain all of the required packages, and therefore, cannot be used with LifeKeeper.	
Kernel Updates	In order to provide the highest level of availability for a LifeKeeper cluster, the kernel version used on a system is very important. The table below lists each supported distribution and version with the kernel that has passed LifeKeeper certification testing.	
	Distribution/Version	**Supported Kernels**
	Red Hat Enterprise Linux 4 for x86 and AMD64/EM64T (AS and ES)	2.6.9-5.EL (default kernel) 2.6.9-5.0.3.EL 2.6.9-11.EL (Update 1) 2.6.9-22.EL (Update 2) 2.6.9-34.EL (Update 3) 2.6.9-42.EL (Update 4) 2.6.9-55.EL (Update 5) 2.6.9-67.EL (Update 6) 2.6.9-78.EL (Update 7) 2.6.9-89.EL (Update 8)
	Red Hat Enterprise Linux 5 and Red Hat Enterprise Linux 5 Advanced Platform for x86 and AMD64/EM64T	2.6.18-8.el5 2.6.18-8.1.1.el5 (default kernel) 2.6.18-53.el5 (Update 1) 2.6.18-92.el5 (Update 2) 2.6.18-128.el5 (Update 3) 2.6.18-164.el5 (Update 4) 2.6.18-194.el5 (Update 5) 2.6.18-238.el5 (Update 6) 2.6.18-274.el5 (Update 7)
	Red Hat Enterprise Linux 6 for x86 and AMD64/EM64T	2.6.32-71.el6
	SUSE SLES 10 for x86 and x86_64	2.6.16.21-0.8 (default kernel) 2.6.16.46-0.12 (SP1) 2.6.16.60-0.21 (SP2) 2.6.16.60-0.23 2.6.16.60-0.54 (SP3)
	SUSE SLES 11 for x86 and x86_64	2.6.27.19-5 2.6.32.12-0.7 (SP1)
	Asianux 2.0 for x86 and x86_64	2.6.9-11.19AX

	Oracle Enterprise Linux 4 for x86 and x86_64	2.6.9-55.0.0.0.2.EL (Update 5) 2.6.9-67.0.0.0.1.EL (Update 6) 2.6.9-78.0.0.0.1.EL (Update 7) 2.6.9-89.0.0.0.1.EL (Update 8)
	Oracle Enterprise Linux 5 for x86 and x86_64	2.6.18-8.el5 2.6.18-53.0.0.0.1.el5 (Update 1) 2.6.18-92.0.0.0.1.el5 (Update 2) 2.6.18-128.0.0.0.1.el5 (Update 3) 2.6.18-164.0.0.0.1.el5 (Update 4)
	The Community ENTerprise Operating System (CentOS) 4.0 for x86 and x86_64	2.6.9-55.EL (Update 5) 2.6.9-67.EL (Update 6) 2.6.9-78.EL (Update 7) 2.6.9-89.EL (Update 8)
	The Community ENTerprise Operating System (CentOS) 5.0 for x86 and x86_64	2.6.18-8.el5 2.6.18-53.el5 (Update 1) 2.6.18-92.1.10.el5 (Update 2) 2.6.18-128.el5 (Update 3) 2.6.18-164.2.1.el5 (Update 4)
	Note: This list of supported distributions and kernels is for LifeKeeper only. You should also determine and adhere to the supported distributions and kernels for your server and storage hardware, as specified by the manufacturer.	
Dynamic device addition	Prior to LifeKeeper startup, Linux must configure all devices. If a LifeKeeper protected device is configured after LifeKeeper is started, LifeKeeper must be stopped on each server that shares the device and then be restarted. This will enable the device detection and validation to confirm the configuration and enable LifeKeeper to access the device.	
LUN support	The Linux SCSI driver has several parameters that control which devices will be probed for Logical Units (LUNs): - List of devices that do not support LUNs – this list of devices are known to NOT support LUNs, so the SCSI driver will not allow the probing of these devices for LUNs. - List of devices that do support LUNs – this list of devices is known to support LUNs well, so always probe for LUNs. - Probe all LUNs on each SCSI device – if a device is not found on either list, whether to probe or not. This parameter is configured by make config in the SCSI module section. While most distributions (including SUSE) have the Probe all LUNs setting enabled by default, Red Hat has the setting disabled by default. External RAID controllers that are typically used in LifeKeeper configurations to protect data are frequently configured with multiple LUNs (Logical Units). To enable LUN support, this field must be selected and the kernel remade.	

	To enable Probe all LUNs without rebuilding the kernel or modules, set the variable max_scsi_luns to 255 (which will cause the scan for up to 255 LUNs). To set the max_scsi_luns on a kernel where the scsi driver is a module (e.g. Red Hat), add the following entry to /etc/modules.conf, rebuild the initial ramdisk and reboot loading that ramdisk:
	
	    `options scsi_mod max_scsi_luns=255`
	
	To set the max_scsi_luns on a kernel where the scsi driver is compiled into the kernel (e.g. SUSE), add the following entry to /etc/lilo.conf:
	
	    `append="max_scsi_luns=255"`
	
	Note: For some devices, scanning for 255 LUNs can have an adverse effect on boot performance (in particular devices with the BLIST_SPARSELUN defined). The Dell PV650F is an array where this has been experienced. To avoid this performance problem, set the max_scsi_luns to the maximum number of LUNs you have configured on your arrays such as 16 or 32. For example,
	
	    `append="max_scsi_luns=16"`

libstdc++ library requirement	While running the LifeKeeper Installation Support CD setup script, you may encounter a message regarding a failed dependency requirement for a libstdc++ library. This library is provided in one of several compat-libstdc++ rpm packages, depending on the hardware platform and Linux distribution you are running. Even on 64-bit systems, LifeKeeper requires the use of the 32-bit architecture package rather than the 64-bit version (x86_64) and will fail to start due to a missing required library if the 64-bit architecture version is installed. To avoid (or resolve) this problem, install the 32-bit architecture version of the compat-libstdc++ package found on the OS installation media and run (or re-run) the I/S CD setup script. Note that some distributions also carry more than one 32-bit version of this package (e.g. compat-libstdc++-296-2.96-132.7.2 and compat-libstdc++-33-3.2.3-47.3). In this situation, simply install both versions to ensure that the required library is installed.
libXp and libXt library requirements	Similar to the item above, you may also encounter installation messages regarding failed dependency requirements for the libXp and libXt libraries. LifeKeeper requires the 32-bit versions of these libraries, even on 64-bit platforms. On RHEL 4.0, the 32-bit libXp can be found in xorg-x11-deprecated-libs and the32-bit libXt can be found in xorg-x11-libs.
Running yum update after Life-Keeper is installed	When running yum update, you may encounter an error: ksh conflicts with pdksh. To resolve this problem, remove the pdksh rpm, run yum update and then re-install pdksh from the LifeKeeper Installation Support CD image.