



# **LifeKeeper Single Server Protection**

**v9.1.1**

**Release Notes**

**Jan 2017**

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# LifeKeeper Single Server Protection Release Notes

## Version 9.1.1

### *Important!!*

***Read This Document Before Attempting To Install Or Use This Product!***  
***This document contains last minute information that must be considered before, during and after installation.***

## Introduction

This release notes document is written for the person who installs, configures and/or administers the LifeKeeper Single Server Protection for Linux product. The document contains important information not detailed in the formal LifeKeeper Single Server Protection documentation set such as system requirements, new features and links to product restrictions and troubleshooting hints and tips. It is important that you review this document before installing and configuring LifeKeeper Single Server Protection software.

## LifeKeeper Single Server Protection Product Description

LifeKeeper Single Server Protection allows for application monitoring in a single node configuration (i.e., no cluster requirements or restraints). Single node environments may be physical or virtual (vSphere, KVM, Amazon EC2). LifeKeeper Single Server Protection is built on the proven and stable architecture of SIOS LifeKeeper. LifeKeeper Single Server Protection provides superior application monitoring and can perform recovery of failed applications and system infrastructure items (e.g., NFS share, IP address, File System). If an application cannot be recovered for some reason, LifeKeeper Single Server Protection will initiate a restart of the node via a system reboot or via a VMware HA restart for VMware virtual machines configured for VM and Application Monitoring.

## Components

LifeKeeper Single Server Protection Software is bundled and runs on 64-bit systems (x86\_64, AMD64) and is comprised of the following components:

- LifeKeeper Single Server Protection Software
- SteelEye Management Console with LifeKeeper Single Server Protection vSphere Client Plug-in (optional software for VMware environments only)

## LifeKeeper Single Server Protection Optional Recovery Software

The following optional software provides resource definition and recovery software for the application versions listed:

Package	Package Name	Protected Applications
LifeKeeper Apache Web Server Recovery Kit	steeleye-ikAPA-9.1.1-6594.noarch.rpm	Apache Web Server v2, v2.2 and v2.4
LifeKeeper SAP Recovery Kit	steeleye-ikSAP-9.1.1-6594.noarch.rpm	SAP v7 Enhancement Package 1 and 2, SAP v7.1, SAP v7.3, SAP v7.4, and SAP v7.5 LifeKeeper Single Server Protection NFS Server Recovery Kit v8.1 LifeKeeper Single Server Protection Network Attached Storage Recovery Kit v8.1
LifeKeeper SAP DB / MaxDB Recovery Kit	steeleye-ikSAPDB-9.1.1-6594.noarch.rpm	SAP MaxDB v7.5, v7.6, v7.7, v7.8 and v7.9
LifeKeeper DB2 Recovery Kit	steeleye-ikDB2-9.1.1-6594.noarch.rpm	IBM DB2 Universal Database v9, v9.5, v9.7 and v10.1 IBM DB2 Enterprise Server Edition (ESE) v9, v9.5, v9.7 and v10.1 IBM DB2 Workgroup Server Edition (WSE) v9, v9.5, v9.7 and v10.1 IBM DB2 Express Edition v9, v9.5, v9.7 and v10.1
LifeKeeper Oracle Recovery Kit	steeleye-ikORA-9.1.1-6594.noarch.rpm	Oracle Database Standard Edition and Enterprise Edition v10g R2, v11g, v11g R2 and v12c (excluding ASM and pluggable database) Oracle Database Standard Edition One (SE1) v10g R2, v11g, v11g R2 and v12c (excluding ASM and pluggable database) Oracle Database Standard Edition 2 (SE2) v12c (except AWS EC2 system. See Known Issues and Restrictions > Oracle Recovery Kit. Also, excluding ASM and pluggable database)
LifeKeeper MySQL Recovery Kit	steeleye-ikSQL-9.1.1-6594.noarch.rpm	MySQL and MySQL Enterprise v5.1, v5.5, v5.6 and v5.7 MariaDB v5.5

Package	Package Name	Protected Applications
LifeKeeper PostgreSQL Recovery Kit	steeleye- lkPGSQL-9.1.1- 6594.noarch.rpm	PostgreSQL v8.3, v8.4, v9, v9.1, v9.2, v9.3, v9.4 and v9.5 EnterpriseDB Postgres Plus Standard Server v8.4 and v9 EnterpriseDB Postgres Plus Advanced Server v8.3, v8.4, v9.1, v9.2, v9.3, v9.4 and v9.5 EnterpriseDB Postgres Plus Solutions Pack v9.1, v9.2 and v9.3
LifeKeeper Sybase ASE Recovery Kit	steeleye- lkSYBASE- 9.1.1- 6594.noarch.rpm	Sybase ASE 15.5, 15.7 and 16.0
LifeKeeper Postfix Recovery Kit	steeleye- lkPOSTFIX- 9.1.1- 6594.noarch.rpm	Postfix software provided with the supported Linux distributions installed and configured on each server. The same version of Postfix should be installed on each server.
LifeKeeper Samba Recovery Kit	steeleye-lkSMB- 9.1.1- 6594.noarch.rpm	Standard Samba file services provided with the supported Linux distributions
LifeKeeper NFS Server Recovery Kit	steeleye-lkNFS- 9.1.1- 6594.noarch.rpm	Linux kernel version 2.6 or later The NFS Server and client packages must be installed on SLES systems.
LifeKeeper Network Attached Storage Recovery Kit	steeleye-lkNAS- 9.1.1- 6594.noarch.rpm	NFS version of Mounted NFS file systems from an NFS server or Network Attached Storage (NAS) device v2, v3 and v4
LifeKeeper WebSphere MQ Recovery Kit	steeleye-lkMQS- 9.1.1- 6594.noarch.rpm	WebSphere MQ v7.1, v7.5 and v8.0 See Known Issues and Restrictions > Installation.
<a href="#">Quick Service Protection</a>	steeleye-lkQSP- 9.1.1- 6594.noarch.rpm	Quick Service Protection supplies functionality to easily protect OS services.

## Features of LifeKeeper Single Server Protection

Feature	Description
Temporal Recovery Logic	Local recovery attempt limits can be set providing improved application availability.

Feature	Description
Multi-Level Policies	Recovery options can be specified at the server and resource levels allowing clients to define the most appropriate recovery strategy for each application.
Notification Only/Maintenance Mode	Allows users to temporarily disable monitoring of one or more resources preventing LifeKeeper Single Server Protection from attempting to recover a resource that is undergoing maintenance.
VMware vSphere Integration	Integrates with VMware's vSphere platform to improve application availability while allowing organizations to realize the full benefits of server virtualization and automation. (VMware environments only)
vSphere Client Plug-in	Centralized management and monitoring through the vSphere Client. (VMware environments only)

## New Features of LifeKeeper Single Server Protection Version 9

Product	Feature
<b>New in This Release 9.1.1</b>	
LifeKeeper Core	SUSE Linux Enterprise Server 12 SP1 support. * SLES12.0 is not supported. * Btrfs is not supported.
	Red Hat Enterprise Linux Version 7.3 support.
	Oracle Linux Version 7.3 support. * UEK is not supported.
	vSphere 6.5 support (SMC feature is no longer supported with vSphere 6.5).
	<a href="#">Bug Fixes.</a>
PostgreSQL	PostgreSQL 9.5 support EnterpriseDB Postgres Plus Advanced Server v9.5 support For the details, refer to the SPS Optional Recovery Software Requirements, PostgreSQL Recovery Kit Administration Guide > Administration.
Sybase ASE	Sybase ASE 16.0 support.
MySQL	MySQL 5.7 support on RHEL 7.x/CentOS 7.x/OEL 7.x. * MySQL 5.7 on other OS is already supported.
SAP	SAP 7.5 support.
<b>New in This Release 9.1.0</b>	

Product	Feature
LifeKeeper Core	Red Hat Enterprise Linux 6.8 support (Certified in September 2016). CentOS 6.8, Oracle Linux 6.8 support (Certified in September 2016). *MD RecoveryKit is not supported on these OS.
	LifeKeeper API for Monitoring Added API to supply LifeKeeper status and log information.
	Quick Service Protection support Added functionality to easily protect OS services.
	Bug Fixes.
<b>New in Version 9.0.2</b>	
LifeKeeper Core	Support of Red Hat Enterprise Linux Version 7.2. ※ MySQL RK is not supporting RHEL 7.x/CentOS 7.x/OEL 7.x. ※ Support of RHEL 7.2 by each application must be confirmed by user.
	Update OpenSSL package to 1.0.1q
	Bug Fixes.
MQ	WebSphere MQ – Added support for Multi-version WebSphere MQ. With this support queue managers for 7.1, 7.5, and 8.x can all be protected on the same cluster node.
	Added the function that mqm group user can execute MQ command alternatively
	Bug Fixes.
IP, Filesystem, DMMP, EC2, PostgreSQL, Power Path, SAP, SAP DB/MaxDB, Oracle	Bug Fixes.
Licensing	Update the package of FlexNet
<b>New in Version 9.0.1</b>	
LifeKeeper Core	Bug Fixes.
DataKeeper	Bug Fixes.
<b>New in Version 9.0</b>	



## Bug Fixes

Product	Feature
LifeKeeper Core	Combined documents of <a href="#">Parameters List</a> , and added the lkchkconf command.
	vSphere 6 support (SMC feature is no longer supported with vSphere 6.)
	reiserfs filesystem is no longer supported.
	Arks supported with Red Hat Enterprise Linux Version 7.0/7.1, Community ENTerprise Operating System (CentOS) Version 7.0/7.1, and Oracle Linux Version 7.0/7.1 are the same as LifeKeeper for Linux v8.4.1. (Arks to be applied: PostgreSQL, MySQL, Oracle, DB2, Apache, Postfix, NFS, NAS, Samba)
	Bug Fixes.
GUI	JRE 8u51 support. (JRE 7 is no longer supported.)
	Chrome Browser is no longer supported.
	Bug Fixes.
FileSystem, PostgreSQL	Bug Fixes.

## Bug Fixes

The following is a list of the latest bug fixes and enhancements.

Bug	Description
7213	Moved LifeKeeper logging configuration to /etc/rsyslog.d.
7217	Added MySQL 5.7 support for systemd environments.
7222	Corrected startup failure caused when client connection existed at Queue Manager shutdown.
7225	Support Sybase ASE 16.
7226	Added expert mode to Sybase kit to skip creation of File System resource.
7231	Prevent the use of "-b" and "-r" options for perform_action when resources are taken out of service.
7247	Prevent installation on SLES 12.0.
7254	Updated lighttpd (vulnerability update)
7255	Modified lksupport command to use journalctl for log file collection on SLES12SP1.
7260	Modified Sybase ARK to use latest logging methods.

Bug	Description
7263	Addressed issue preventing link down recovery with bonded NICs on RHEL 7. * See here about the workaround for link down recovery on RHEL5, 6.
7269	Updated OpenSSL (vulnerability update)
7270	Corrected dependency issue between LVM and LifeKeeper in systemd environments.
7271	Added functionality to prevent a LifeKeeper restart when lkstart is issued multiple times.
7272	Addressed incorrect syslog.conf set up.
7282	Corrected dependency issue between NFS and LifeKeeper in systemd environment.
7286	Improved lksupport command to get systemd information.
7291	ping6 command option was corrected.

## System Requirements

### LifeKeeper Single Server Protection Product Requirements

LifeKeeper Single Server Protection is supported on any Linux platform that satisfies the minimum requirements included in the table below.

Description	Requirement
Linux Operating System*	See the <a href="#">Linux Configuration Table (Kernel Section only)</a> for specific operating system information.
Virtual Environments	<p>SPS for Linux is architected to be hypervisor-independent as long as the guest operating system running within the virtual machine is one of the supported versions listed in the <a href="#">Linux Configuration Table (Kernel Section only)</a>. The following virtual environments are examples of where SIOS Protection Suite for Linux has been deployed:</p> <ul style="list-style-type: none"> <li>• Citrix XenServer v5 or later</li> <li>• KVM</li> <li>• Oracle Virtual Machine (OVM)</li> <li>• VMware vSphere v4, v4.1, v5, v5.1, v5.5, v6.0 and v6.5</li> <li>• Amazon EC2</li> </ul> <p>Fibre channel SAN and shared SCSI cluster configurations are not supported with SPS for Linux running in a KVM and Citrix XenServer virtual machine.</p>

Memory	The minimum memory requirement for a system running LifeKeeper Single Server Protection is 512 MB. This is the minimum amount required by LifeKeeper Single Server Protection supported Linux distributions. System memory should be sized for the applications that will be running on the LifeKeeper Single Server Protection protected system as well.
Disk Space	The LifeKeeper Single Server Protection requires the following disk space: /opt – approx 100000-105000 (1024-byte) disk blocks (depending on kits installed) / - approx 110000 (1024-byte) disk blocks

## LifeKeeper Single Server Protection Support Software Requirements

The following table of Supporting Software is only required in VMware VMs configured for VM and Application Monitoring.

Product	Requirement(s)	Disk Space Required
VMware	VMware vSphere Client (for LifeKeeper Single Server Protection vSphere Client Plug-in functionality) VMware Tools installed and running on all protected virtual machines VMware Application HA monitoring must be enabled and set to VM and Application Monitoring for all protected virtual machines	Approximately 175 KB in <i>/opt</i> (for VMware Tools)

## Client Platforms and Browsers

The LifeKeeper Single Server Protection web client can run on any platform that provides support for Java Runtime Environment JRE8 update 51. The currently supported configurations are Firefox and Internet Explorer on Linux, Windows 2008 R2, Windows 7, Windows 8 or Windows Vista with JRE8 update 51. Other recent platforms and browsers will likely work with the SPS web client, but they have not been tested by SIOS Technology Corp. In addition, particular features of each browser also have not been tested.

IP addresses for LifeKeeper Single Server Protection components (e.g. the SteelEye Management Console and vCenter when installed in a VMware configuration) and protected Linux guests must be resolvable via DNS or the local hosts file (usually */etc/hosts* or *C:\windows\system32\drivers\etc\hosts*). Using the local hosts file minimizes the client connection time and allows the client to connect even in the event of a Domain Name Server (DNS) failure.

## Known Issues

See the Troubleshooting section in LifeKeeper Single Server Protection for Linux Technical Documentation for known issues, workarounds and other troubleshooting information.

