



# **LifeKeeper Single Server Protection**

**v9.3.1**

**Release Notes**

**November 2018**

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# LifeKeeper Single Server Protection Release Notes

## Version 9.3.1

### *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-9.3.1-6750.noarch.rpm	Apache Web Server v2.4
LifeKeeper SAP Recovery Kit	steeleye-ikSAP-9.3.1-6750.noarch.rpm	SAP NetWeaver 7.0 including Enhancement Package 1,2 and 3 SAP NetWeaver 7.3 including Enhancement Package 1 SAP NetWeaver 7.4 SAP NetWeaver 7.5 SAP NetWeaver AS for ABAP 7.51 innovation package
LifeKeeper SAP DB / MaxDB Recovery Kit	steeleye-ikSAPDB-9.3.1-6750.noarch.rpm	SAP MaxDB v7.6, v7.7, v7.8 and v7.9
LifeKeeper DB2 Recovery Kit	steeleye-ikDB2-9.3.1-6750.noarch.rpm	IBM DB2 Universal Database v10.5 and v11.1 IBM DB2 Enterprise Server Edition (ESE) v10.5 and v11.1 IBM DB2 Workgroup Server Edition (WSE) v10.5 and v11.1 IBM DB2 Express Edition v10.5 and v11.1
LifeKeeper Oracle Recovery Kit	steeleye-ikORA-9.3.1-6750.noarch.rpm	Oracle Database Standard Edition v11g R2 and v12c R2 (excluding ASM and pluggable database) Oracle Database Enterprise Edition v11g R2, v12c and v12c R2 (excluding ASM and pluggable database) Oracle Database Standard Edition One (SE1) v11g R2, v12c and v12c R2 (excluding ASM and pluggable database) Oracle Database Standard Edition 2 (SE2) v12c and v12c R2 (except AWS EC2 system. See Known Issues and Restrictions > Oracle Recovery Kit. Also, excluding ASM and pluggable database)
LifeKeeper MySQL Recovery Kit	steeleye-ikSQL-9.3.1-6750.noarch.rpm	MySQL and MySQL Enterprise v5.5, v5.6, v5.7 and v8.0 MariaDB v5.5 and v10.0

Package	Package Name	Protected Applications
LifeKeeper PostgreSQL Recovery Kit	steeleye- lkPGSQL-9.3.1- 6750.noarch.rpm	PostgreSQL v9.3, v9.4, v9.5,v9.6 and v10 EnterpriseDB Postgres Plus Advanced Server v9.3, v9.4 and v10.0 EDB Postgres Advanced Server v9.5, v9.6 and v10.0
LifeKeeper Sybase ASE Recovery Kit	steeleye- lkSYBASE- 9.3.1- 6750.noarch.rpm	Sybase ASE 15.7 and 16.0
LifeKeeper Postfix Recovery Kit	steeleye- lkPOSTFIX- 9.3.1- 6750.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- 9.3.1- 6750.noarch.rpm	Standard Samba file services provided with the supported Linux distributions
LifeKeeper NFS Server Recovery Kit	steeleye-lkNFS- 9.3.1- 6750.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- 9.3.1- 6750.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- 9.3.1- 6750.noarch.rpm	WebSphere MQ v7.5 IBM MQ v8.0 and v9.0 See Known Issues and Restrictions > Installation.
<a href="#">Quick Service Protection</a>	steeleye-lkQSP- 9.3.1- 6750.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 Version 9.3.1</b>	
LifeKeeper Core	Upgraded the OpenSSL package to 1.0.2p
	Support Red Hat Enterprise Linux 6.10
	Support CentOS 6.10
	Support Oracle Linux 6 Update 10
MySQL	Support MySQL 8.0
Install	<a href="#">Bug fixes</a>
<b>New in Version 9.3</b>	
LifeKeeper Core	Red Hat Enterprise Linux Version 7.5 is supported.
	CentOS7.5 is supported.
	Oracle Linux Version 7.5 is supported.
	Support VMware vSphere 6.7. (Certified in October 2018)
	Bug fixes
Install	The installation script has been renewed. For details, please click <a href="#">here</a> .
Oracle, Samba, MQ, Sybase, Filesystem, Generic Application, QSP	Bug fixes
<b>New in Version 9.2.2</b>	

Product	Feature
PostgreSQL	Support PostgreSQL 10
	EDB Postgres Advanced Server v10.0 is now supported. (Certified in April 2018)
SAP,NAS	Bug fixes
<b>New in Version 9.2.1</b>	
LifeKeeper Core	Support Oracle Linux 7.4
	Support CentOS 7.4
	Support SUSE Linux Enterprise Server 12 SP3 * The kernel should be updated to 4.4.82-6.9.1 for SUSE Linux Enterprise Server 12 SP3
	Bug fixes
PostgreSQL	Support EDB Postgres Advanced Server 9.6
MQ	Support IBM MQ 9.0
<b>New in Version 9.2</b>	
LifeKeeper Core	Support Red Hat Enterprise Linux 7.4
	SNMP trap can be sent to multiple targets
	Virtualization environment Nutanix Acropolis Hypervisor is supported. (SPS is not supported)
	Bug fixes
IP	IP resources using real IP (primary IP address configured for NIC) can be created
PostgreSQL	Support PostgreSQL 9.6
MQ	Support IBM MQ 9.0 (Certified in December 2017)
SAP, SAP MaxDB, Route53, Install	Bug fixes
<b>New in Version 9.1.2</b>	
LifeKeeper Core	SUSE Linux Enterprise Server 12 SP2 is supported.
	CentOS7.3 is supported.
	Red Hat Enterprise Linux Version 6.9 is supported.
	UEK kernel of Oracle Linux Version 7.3 is supported.
	Bug fixes
Oracle	Oracle 12c R2 is supported.
DB2	DB2 11.1 is supported.
IP, QSP, MySQL, NFS	Bug fixes



Product	Feature
<b>New in Version 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).
	Bug fixes
PostgreSQL	PostgreSQL 9.5 support EDB Postgres 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 Version 9.1.0</b>	
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.

Product	Feature
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>	
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
7501	Made minor corrections to the installation script which was renewed in v9.3

## 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>• KVM</li> <li>• Oracle Virtual Machine (OVM)</li> <li>• VMware vSphere v5, v5.1, v5.5, v6.0, v6.5 and v6.7</li> <li>• Amazon EC2</li> <li>• Nutanix Acropolis Hypervisor</li> </ul> <p>vSAN configuration is supported for vSphere 6.5 or later except RDM which is not supported by VMWare.</p> <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	<p>The LifeKeeper Single Server Protection requires the following disk space:</p> <p>/opt – approx 100000-105000 (1024-byte) disk blocks (depending on kits installed)</p> <p>/ - approx 110000 (1024-byte) disk blocks</p>

### 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 (Firefox 51 or earlier) and Internet Explorer on Linux, Windows Server 2008 R2, Windows Server 2012 R2, Windows Server 2016, Windows 7, Windows 8 or Windows 10 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.

