SIOS Protection Suite for Linux

Parameters List

v9.0.1

Core Parameters List

The table below lists and explains names and meanings of the Core parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
REMOTETIMEOUT	Number of seconds between when a process sends a request through the "lcdsendremote" function to another machine before it expects a response. If no response is received in this time interval, the function will try an alternate path if available.	Integers	900	LifeKeepe-r startup	
CONFIRMSODEF	The default action to take during machine failover processing when failover confirmation is configured. The default action is only taken when no manual response is received from the administrator within the timeout period (see CONFIRMSOTO).	0: proceed with failover 1: block the failover	0	As required	See the Confirm Failover and Block Resource Failover Settings.
CONFIRMSOTO	The time in seconds to wait for administrator action when failover confirmation is configured. When the timeout period expires the default action for CONFIMRSODEF is taken. Otherwise, the administrator action is taken.	Integers	600	As required	Machine failover processing will be delayed until administrator confirmation is received or the timeout period expires. See the Confirm Failover and Block Resource Failover Settings.
FAILFASTTIMER	Number of seconds between verifying that a reserved device is still reserved by the local system. If the device is not reserved then the system will halt and reboot.	Integers	5	LifeKeepe-r startup	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
SCSIERROR	Determines the action to take when a SCSI device cannot be opened, accessed, or another SCSI error occurs (e.g., timeout).	event: LifeKeeper's core should be informed that a device needs to be switched over to a backup system halt: The system should immediately be halted and rebooted to avoid data corruption	event	LifeKeeper startup	SCSIERROR does not override the action taken in the case of a lost SCSI reservation - a halt is always performed in that case.
LKCHECKINTERVAL	Application health monitoring wait time (in seconds) between checks. Set to zero to disable health monitoring.	Integers (0, 1 and over)	120	LifeKeeper startup	
FILESYSFULLWARN	The file system full threshold at which time warning messages will start appearing in the LifeKeeper log. Setting to 0 will disable monitoring.	Integers	90	As required	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
FILESYSFULLERRO-R	The file system full threshold at which time error messages will start appearing in the LifeKeeper log. Additionally the LKROOT/events/filesys/diskfull/notify script will be called when this threshold is reached. Setting to 0 will disable monitoring.	Integers	95	As required	
LK_TRAP_MGR	Network manager to receive SNMP traps. No traps are sent if this variable is not set.	String	(not set)	As required	This value can be configured using /opt/LifeKeeper/bin/lk_configsnmp.
LK_NOTIFY_ALIAS	Email address or address list used to receive notification messages when certain events occur in a LifeKeeper cluster. A null value indicates no notification will occur. The expected format is: LK_NOTIFY_ALIAS= - no notification is sent LK_NOTIFY_ALIAS=user1@domain1 - mail sent to user1 at domain1 LK_NOTIFY_ALIAS=user1@domain1,user2@domain1 - mail sent to user1 and user2 at domain1	String	(not set)	As required	This value can be configured using /opt/LifeKeeper/bin/ lk_ configngotifyalias.
LKSYSLOGTAG	Tag for syslog.	String	LifeKeepe-r	LifeKeepe-r startup	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
LKSYSLOGSELECTOR	Level for syslog.	user, daemon, local0, local1, ...or local7	local6	LifeKeeper startup	
LCMHBEATTIME	The interval, in seconds, used to send heartbeat messages to all nodes in a LifeKeeper cluster. The heartbeat requests are used to determine if the nodes are alive and communicating.	Integers	5	LifeKeeper startup	If a value is 0, it will be set to the default. For detailed information, refer to "Tuning the LifeKeeper Heartbeat" in SIOS Technical Documentation.
LCMNUMHBEATS	Number of consecutive missed heartbeats allowed before marking a communication path down.	Integers	3	LifeKeeper startup	If a value is 0, it will be set to the default. For detailed information, refer to "Tuning the LifeKeeper Heartbeat" in SIOS Technical Documentation.
LC_MESSAGES	Changes the language environment.	String	C	LifeKeeper startup	When changing the value, be aware that it may adversely affect the way LifeKeeper operates. The side effects depend on whether or not message catalogs are installed for various languages and utilities and if they produce text output that LifeKeeper does not expect.
GUI_WEB_PORT	Specifies the port to use for LifeKeeper Management Web servers (lkGUI).	Integers	81	Restarting steeleye-lighttpd	To reboot steeleye-lighttpd: /opt/LifeKeeper/sbin/sv restart /opt/LifeKeeper/etc/service/steeleye-lighttpd

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
API_SSL_PORT	Specifies the port used for the LifeKeeper API.	Integers	778	Restarting steeleye-lighttpd	To reboot steeleye-lighttpd: /opt/LifeKeeper/sbin/sv restart /opt/LifeKeeper/etc/service/steeleye-lighttpd
LOGMGR_LOGLEVEL	Specifies the log level of Generic Applications.	LK_INFO or LK_ERROR	LK_ERROR	LifeKeeper startup or restarting the lk_logmgr process	

EC2 Parameters List

The table below lists and explains names and meanings of the EC2 parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
EC2_RESTORE_ TIMEOUT	Timeout for the resource restore, in seconds.	Integers	300	As required	
EC2_REMOVE_ TIMEOUT	Timeout for the resource remove, in seconds.	Integers	300	As required	
EC2_RECOVER_ TIMEOUT	Timeout for the local recovery, in seconds.	Integers	300	As required	
EC2_QUICKCHECK_ TIMEOUT	Timeout for the quickCheck, in seconds.	Integers	100	As required	
EC2_MAX_RETRY	Number of retries that will be attempted when a resource action or EC2 API command fails.	Integers	3	As required	
IP_NOLINKCHECK	Disables the link check for the protected network interface.	0: enabled 1: disabled	0	As required	This value only applies when protecting an Elastic IP.
IP_WAIT_LINKDOWN	Number of seconds to wait in between taking the protected network interface down and back up. A delay between these two actions is necessary in some environments.	Integers	5	As required	This value only applies when protecting an Elastic IP.
IP_MAX_LINKCHK	The maximum number of seconds to wait for the link to come back up after it has been repaired. In some environments, it may be necessary to increase this value.	Integers	5	As required	This value only applies when protecting an Elastic IP.

IP Parameters List

The table below lists and explains names and meanings of the IP parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
IP_PINGTRIES	Number of ping retries that will be performed during an IP health check.	Integers	3	As required	
IP_PINGTIME	Time in seconds that LifeKeeper will wait for a ping reply during IP health checks.	Integers	1	As required	When using a manually configured *Ping List* rather than the broadcast ping mechanism, any value greater than 3 for this tunable is ineffective, because the Linux TCP/IP implementation always returns a "Destination Host Unreachable" error after 3 seconds with no reply, regardless of the timeout value specified in the ping command.
NOIPUNIQUE	Disables the IP uniqueness checking done when an IP resource is brought in-service. By default LifeKeeper will ensure the IP address is not in use somewhere else on the network.	0: enabled 1: disabled	0	As required	
NOBCASTPING	Disables the broadcast ping mechanism for checking the health of IP resources.	0: enabled 1: disabled	0	As required	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
IP_NOLINKCHECK	Disables the link status check portion of the IP health check.	0:enabled 1: disabled	0	As required	
IP_MAX_LINKCHK	The maximum number of seconds to wait for the link to come back up after it has been repaired. In some environments, it may be necessary to increase this value.	Integers	5	As required	
IP_WAIT_LINKDOWN	Number of seconds to wait in between taking the protected network interface down and back up. A delay between these two actions is necessary in some environments.	Integers	5	As required	

MD Parameters List

The table below lists and explains names and meanings of the MD parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
MD_ASSEMBLE_ OPTIONS	User-defined options to use during mdadm --assemble.	String	(not set)	As required	Refer to "Software RAID Recovery Kit Notes and Restrictions" of Software RAID (md) Recovery Kit documentation.

MQ Parameters List

The table below lists and explains names and meanings of the MQ parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
MQS_QUICKCHECK_ TIMEOUT_SC	Timeout in seconds for the server connect check.	Integers	10	As required	
MQS_QUICKCHECK_ TIMEOUT_CC	Timeout in seconds for the client connect check.	Integers	10	As required	
MQS_QUICKCHECK_ TIMEOUT_PUTGET	Timeout in seconds for the PUT/GET check.	Integers	10	As required	
MQS_QUICKCHECK_ TIMEOUT_PS	Timeout in seconds for checking whether publish/subscribe is in use.	Integers	5	As required	
MQS_QUICKCHECK_ TIMEOUT_CLUSTER	Timeout in seconds for checking whether the queue manager is part of an WebSphere MQ cluster or not.	Integers	5	As required	
MQS_QUICKCHECK_ TIMEOUT	Timeout in seconds for the quickCheck script.	Integers	40	As required	If the value is less than 10 seconds, it will be set to the default.
MQS_QMGR_START_ TIMEOUT	Timeout in seconds for the queue manager start command to complete.	Integers	60	As required	
MQS_CMDS_START_ TIMEOUT	Timeout in seconds for the command server start command to complete.	Integers	30	As required	
MQS_LISTENER_ START_TIMEOUT	Timeout in seconds for the listener start command to complete.	Integers	30	As required	
MQS_LISTENER_LIST_ TIMEOUT	Timeout in seconds for the listener list command to complete.	Integers	10	As required	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
MQS_CHECK_ TIMEOUT_ACTION	The action in case a server connect check or client connect check times out.	ignore: a message about the timeout is logged, but no recovery is initiated sendevent: local recovery is initiated in case a server connect check timed out	ignore	As required	
MQS_LISTENER_ CHECK_DELAY	Time in seconds between the start of the listener and the check for the successful listener start. The default of 2 seconds should be sufficient to detect port in use conditions.	Integers	2	As required	If the value is less than 2 seconds, it will be set to the default.
NO_AUTO_STORAGE_ DEPS	Determines if the shared storage checks and file system resource creation step are performed for the queue manager and log storage directories during MQ resource hierarchy creation. A value of 0 indicates these tasks will be perform. A value of 1 will bypass these tasks.	0 or 1	0	As required	
MQS_DSPMQVER_ TIMEOUT	Timeout in seconds for the dspmqver command (needed to find out the version of WebSphere MQ), must be at least 2 seconds.	Integers	5	As required	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
MQS_SKIP_CRT_ MISSING_Q	Determines if missing test queue is automatically created. A value of 0 indicates missing test queues will automatically be created. A value of 1 indicates this process will be skipped.	0 or 1	0	As required	
MQS_FORCE_ CLEANIPC	WebSphere MQ IPC clean up action on stop. Set to 1 does not execute the clean up action.	0 or 1	0	As required	
MQS_IGNORE_ CLEANIPC_EXITCODE	WebSphere MQ IPC clean exit code action. Set to 0 maintains the exit code.	0 or 1	0	As required	

NFS Parameters List

The table below lists and explains names and meanings of the NFS parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
FAILOVERNFSLOCKS	Enables file lock failover for NFS v2/v3 exports.	true: enabled false: disabled	false	As required	This parameter is not required due to NFSv4 file locking mechanisms. The parameter is not applicable on SuSE Enterprise Linux.
RESTARTMOUNTD	Enables the stop and restart of rpc.mount on all NFS restores.	true: enabled false: disabled	true	As required	

Oracle Parameters List

The table below lists and explains names and meanings of the Oracle parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
ORACLE_ORATABLOC	Specifies alternate directory locations where the oratab file is located. By default /etc/oratab is used.	String	/var/opt/oracle	As required	
LK_ORA_NICE	Determines whether a recovery attempt will occur on a database connection failure caused when the maximum number of allowed connections has been reached. A recovery attempt when the maximum number has been reached can cause a failover to the standby node.	0: execute the recovery attempt 1: prevent the recovery attempt	0	As required	

PostgreSQL Parameters List

The table below lists and explains names and meanings of the PostgreSQL parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
LKPGSQL_KILLPID_ TIME	Time in seconds to wait after a process id is killed before rechecking for this process.	Integers	3	As required	If the value is less than the default, it will be set to the default.
LKPGSQL_CONN_ RETRIES	Replaces LKPGSQLMAXCOUNT – number of times to try a client connection after an action (start or stop).	Integers	12	As required	If the value is less than the default, it will be set to the default.
LKPGSQL_ACTION_ RETRIES	Number of times to attempt start or stop action before failing the action command.	Integers	4	As required	If the value is less than the default, it will be set to the default.
LKPGSQL_STATUS_ TIME	Timeout in seconds for the status command.	Integers	17 + (3 * LKPGSQL_ KILLPID_ TIME)	As required	If the value is less than the default, it will be set to the default.
LKPGSQL_QCKHANG_ MAX	Number of quickCheck script hangs allowed before a failover/sendevent is triggered for the database instance.	Integers	2	Creating a resource	If the value is less than 1, it will be set to the default.
LKPGSQL_CUSTOM_ DAEMON	Allows a user to specify additional aliases for the post-gres daemons (post-gres.bin,postmaster,postgres,edb-postgres).	String	(not set)	Creating a resource	
LKPGSQL_IDIRS	Replaces LKPGSQL_IPORTS – contains datadir entries for instances that will be shutdown using the immediate option only.	String	(not set)	As required	

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
LKPGSQL_SDIRS	Contains datadir entries for instances that will be shut-down using the smart option.	String	(not set)	As required	
LKPGSQL_ DISCONNECT_ CLIENT	Controls whether active clients will be disconnected in the event of a postmaster crash. When the value is set to 1, client processes will be sent a SIGTERM signal to force them to disconnect from the database. This action will only be taken if the postmaster process is not running during local recovery.	0: enabled 1: disabled	1	As required	This parameter cannot be used for PostgreSQL 8.2 and later.
LKPGSQL_ DISCONNECT_ CLIENT_BYTAG	Similar to LKPGSQL_DISCONNECT_CLIENT, this setting limits the action to the comma separated list of tags specified by this tunable.	String	(not set)	As required	This parameter cannot be used for Post-greSQL 8.2 and later.
LKPGSQL_RESUME_ PROC	Determines if a process found in the stopped state (state = ~T) will be resumed when detected or ignored.	0:ignore 1:resume	1	As required	
LKPGSQLDEBUG	Turns on debug for PostgreSQL database kit as well as for the postgres database. Valid entry range: 0 – 5. This parameter will be passed on to the postmaster database using the option –d <LKPGSQLDEBUG>.	Integers (0 - 5)	0	As required	If a value is not within the allowable range, it will be set to the default.

Quorum Parameters List

The table below lists and explains names and meanings of the Quorum parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
QUORUM_MODE	Specifies the quorum mode.	majority tcp_remote none or off	majority	As required	Refer to "Quorum/Witness" in SIOS Technical Documentation.
QUORUM_HOSTS	Specifies the remote host name. This only applies when the QUORUM_MODE is tcp_remote.	String	(not set)	As required	Refer to "Quorum/Witness" in SIOS Technical Documentation.
WITNESS_MODE	Specifies the witness_remote_verify mode.	remote_verify none or off	remote_verify	As required	Refer to "Quorum/Witness" in SIOS Technical Documentation.
QUORUM_TIMEOUT_SECS	The time allowed for tcp/ip witness connections to complete. Connections that don't complete within this time are treated as failed/unavailable. This only applies when the QUORUM_MODE is tcp_remote.	Integers	20	As required	Refer to "Quorum/Witness" in SIOS Technical Documentation.
QUORUM_LOSS_ACTION	Specifies the action when quorum is lost.	fastkill fastboot osu	fastboot	As required	Refer to "Quorum/Witness" in SIOS Technical Documentation.
QUORUM_DEBUG	Specifies the debug mode.	0: enabled 1: disabled	0	As required	Refer to "Quorum/Witness" in SIOS Technical Documentation.

SAP Parameters List

The table below lists and explains names and meanings of the SAP parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
SAP_CONFIG_ REFRESH	Refresh time in seconds of the Configuration properties page.	Integers	LKCHECKINTERVAL/2	As required	If the value is less than 5 seconds, it will be set to the default.
SAP_CREATE_NAS	Automatically includes a NAS resource for NAS mounted file systems.	0: disabled 1: enabled	1	As required	
SAP_QUICKCHECK_ TIMEOUT	Timeout in seconds for the quickCheck process.	Integers	60	As required	
SAP_RESTORE_ TIMEOUT	Timeout in seconds for the restore process.	Integers	1048 + SAP_ QUICKCHECK_ TIMEOUT	As required	
SAP_REMOVE_ TIMEOUT	Timeout in seconds for the remove pro-cess.	Integers	540 + 2 * SAP_ QUICKCHECK_ TIMEOUT	As required	
SAP_RECOVER_ TIMEOUT	Timeout in seconds for the recover process.	Integers	SAP_RESTORE_ TIMEOUT + SAP_ REMOVE_TIMEOUT	As required	If the value is less than the default, it will be set to the default.
SAP_DEBUG	Enables debugging.	0: disabled 1: enabled	0	As required	

DataKeeper Parameters List

The table below lists and explains names and meanings of the DataKeeper parameters. These values are tuned by editing the */etc/default/LifeKeeper* configuration file.

Parameter Name	Meaning	Setting Value	Default Value	When to Apply	Notes
LKDR_CHUNK_SIZE	Sets the chunk size of bitmap in kilobits.	Integers	256	Creating a resource	
LKDR_SPEED_LIMIT	Specifies the maximum bandwidth that a resync will ever take - this should be set high enough to allow resyncs to go at the maximum speed possible.	Integers	50000	Rebooting a resource	
LKDR_SPEED_LIMIT_MIN	Specifies how fast the resync should be allowed to go when there is other I/O going on at the same time. As a rule of thumb, this should be set to half or less of the drive's maximum write throughput in order to avoid starving out normal I/O activity when a resync occurs.	Integers	20000	Rebooting a resource	
LKDR_ASYNC_LIMIT	Specifies the value of write queues to target device for an async mirror. If a value is 1, it will be set to the default.	Integers	256	Creating a resource	
LKDR_NO_FULL_SYNC	Suppresses a force full resync of newly added targets.	0:not suppress 1:suppress	0	As required	For detailed information, refer to "Avoiding Full Resynchronizations".