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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'kexec.8' command

$ man kexec.8

kexec(8) User Manuals kexec(8)

NAME

kexec - directly boot into a new kernel

SYNOPSIS

/sbin/kexec [-v (--version)] [-f (--force)] [-x (--no-ifdown)] [-y (--no-sync)] [-l (--load)] [-p (--load-panic)] [-u (--unload)] [-e (--exec)] [-t (--type)] [--mem-min=addr] [--mem-max=addr]

DESCRIPTION

kexec is a system call that enables you to load and boot into another kernel from the currently running kernel. kexec performs the function of the boot loader from within the kernel. The primary difference be? tween a standard system boot and a kexec boot is that the hardware ini? tialization normally performed by the BIOS or firmware (depending on architecture) is not performed during a kexec boot. This has the effect of reducing the time required for a reboot.

Make sure you have selected CONFIG_KEXEC=y when configuring the kernel.

The CONFIG_KEXEC option enables the kexec system call.

USAGE

Using kexec consists of

(1) loading the kernel to be rebooted to into memory, and

(2) actually rebooting to the pre-loaded kernel.

To load a kernel, the syntax is as follows:

kexec -l kernel-image --append=command-line-options --ini?

trd=initrd-image

where kernel-image is the kernel file that you intend to reboot to.

Insert the command-line parameters that must be passed to the new ker?
nel into command-line-options. Passing the exact contents of
/proc/cmdline into command-line-options is the safest way to ensure
that correct values are passed to the rebooting kernel.

The optional initrd-image is the initrd image to be used during boot.

It's also possible to invoke kexec without an option parameter. In that
case, kexec loads the specified kernel and then invokes shutdown(8).

If the shutdown scripts of your Linux distribution support kexec-based
rebooting, they then call kexec -e just before actually rebooting the
machine. That way, the machine does a clean shutdown including all
shutdown scripts.

EXAMPLE

For example, if the kernel image you want to reboot to is /boot/vm?
linux, the contents of /proc/cmdline is root=/dev/hda1, and the path to
the initrd is /boot/initrd, then you would use the following command to
load the kernel:

kexec -l /boot/vmlinux --append=root=/dev/hda1 --ini?
trd=/boot/initrd

After this kernel is loaded, it can be booted to at any time using the
command:

kexec -e

OPTIONS

-d (--debug)

Enable debugging messages.

-S (--status)

Return 1 if the type (by default crash) is loaded, 0 if not. Can
be used in conjuction with -l or -p to toggle the type. Note
this option supersedes other options and it will not load or un?
load the kernel.

-e (--exec)

Run the currently loaded kernel. Note that it will reboot into

the loaded kernel without calling shutdown(8).

-f (--force)

Force an immediate kexec call, do not call shutdown(8) (contrary to the default action without any option parameter). This option performs the same actions like executing -l and -e in one call.

-h (--help)

Open a help file for kexec.

-i (--no-checks)

Fast reboot, no memory integrity checks.

-l (--load) kernel

Load the specified kernel into the current kernel.

-p (--load-panic)

Load the new kernel for use on panic.

-t (--type=type)

Specify that the new kernel is of this type.

-s (--kexec-file-syscall)

Specify that the new KEXEC_FILE_LOAD syscall should be used ex? clusively.

-c (--kexec-syscall)

Specify that the old KEXEC_LOAD syscall should be used exclu? sively (the default).

-a (--kexec-syscall-auto)

Try the new KEXEC_FILE_LOAD syscall first and when it is not supported or the kernel does not understand the supplied image fall back to the old KEXEC_LOAD interface.

There is no one single interface that always works.

KEXEC_FILE_LOAD is required on systems that use locked-down se? cure boot to verify the kernel signature. KEXEC_LOAD may be also disabled in the kernel configuration.

KEXEC_LOAD is required for some kernel image formats and on ar? chitectures that do not implement KEXEC_FILE_LOAD.

-u (--unload)

Unload the current kexec target kernel. If a capture kernel is

being unloaded then specify -p with -u.

-v (--version)

Return the version number of the installed utility.

-x (--no-ifdown)

Shut down the running kernel, but restore the interface on reload.

-y (--no-sync)

Shut down the running kernel, but skip syncing the filesystems.

--mem-min=addr

Specify the lowest memory address addr to load code into.

--mem-max=addr

Specify the highest memory address addr to load code into.

--entry=addr

Specify the jump back address. (0 means it's not jump back or preserve context)

--load-preserve-context

Load the new kernel and preserve context of current kernel dur? ing kexec.

--load-jump-back-helper

Load a helper image to jump back to original kernel.

--reuseinitrd

Reuse initrd from first boot.

--print-ckr-size

Print crash kernel region size, if available.

SUPPORTED KERNEL FILE TYPES AND OPTIONS

Beoboot-x86

--args-elf

Pass ELF boot notes.

--args-linux

Pass Linux kernel style options.

--real-mode

Use the kernel's real mode entry point.

elf-x86

--append=string

Append string to the kernel command line.

--command-line=string

Set the kernel command line to string.

--reuse-cmdline

Use the command line from the running system. When a panic kernel is loaded, it strips the crashkernel parame? ter automatically. The BOOT_IMAGE parameter is also stripped.

--initrd=file

Use file as the kernel's initial ramdisk.

--ramdisk=file

Use file as the kernel's initial ramdisk.

bzImage-x86

--append=string

Append string to the kernel command line.

--command-line=string

Set the kernel command line to string.

--reuse-cmdline

Use the command line from the running system. When a panic kernel is loaded, it strips the crashkernel parame? ter automatically. The BOOT_IMAGE parameter is also stripped.

--initrd=file

Use file as the kernel's initial ramdisk.

--ramdisk=file

Use file as the kernel's initial ramdisk.

--real-mode

Use real-mode entry point.

multiboot-x86

--command-line=string

Set the kernel command line to string.

--reuse-cmdline

Use the command line from the running system. When a panic kernel is loaded, it strips the crashkernel parame? ter automatically. The BOOT_IMAGE parameter is also stripped.

--module=mod arg1 arg2 ...

Load module mod with command-line arguments arg1 arg2 ... This parameter can be specified multiple times.

multiboot2-x86

--command-line=string

Set the kernel command line to string.

--reuse-cmdline

Use the command line from the running system. When a panic kernel is loaded, it strips the crashkernel parame? ter automatically. The BOOT_IMAGE parameter is also stripped.

--module=mod arg1 arg2 ...

Load module mod with command-line arguments arg1 arg2 ... This parameter can be specified multiple times.

ARCHITECTURE OPTIONS

--console-serial

Enable the serial console.

--console-vga

Enable the VGA console.

--elf32-core-headers

Prepare core headers in ELF32 format.

--elf64-core-headers

Prepare core headers in ELF64 format.

--reset-vga

Attempt to reset a standard VGA device.

--serial=port

Specify the serial port for debug output.

--serial-baud=baud_rate

Specify the baud rate of the serial port.