Sentinel UNIX Driver 7.1.0 ReadMe

Overview

The Sentinel[TM] UNIX Driver provides a communication path between your application and the Sentinel keys (parallel and USB) on your UNIX system.

What's New in This Release?

Commands for Obtaining Sentinel Parallel Port Driver Information

You can now obtain information about the Sentinel UNIX driver (parallel port) using the following commands:

Command	Description
`/sbin/modinfo PATH[a]/ mdrbdr.o`	❑ **Filename**: */PATH<Superscript>a/mdrbdr.o* ❑ **Description**: "Sentinel SuperPro Parallel Port Device Driver Version 7.1.0." ❑ **Author**: "SafeNet, Inc. (http://www.safenet-inc.com)" ❑ **License**: "Proprietary. Send bug reports to *http:// www.safenet-inc.com*." ❑ **Parm**: address int, description "Parallel Port I/O address. Default is 0x378."
`cat /proc/sentinel/ sud_parallel`	❑ **Major version (major)**: 7 ❑ **Minor version (minor)**: 1 ❑ **Revision (rev)**: 0 ❑ **Port (port)**: 0x378

a. PATH is the actual location of driver binary for which information is required

Installation

This section contains what you should know before you install the Sentinel UNIX Driver:

Compatibility

The Sentinel parallel port driver is compatible with the following Linux distributions:

■ Red Hat Enterprise 3.0 (kernel version 2.4.21.0-4EL) SMP/Non-SMP

■ Fedora Core 2 (kernel version 2.6.5) Non-SMP

- Fedora Core 3 (kernel version 2.6.9) Non-SMP

- Red Hat 9.0 (kernel version 2.4.20, 2.6.9, and 2.6.10) SMP/Non-SMP

- Suse 9.1 (kernel version 2.6.4-52) SMP/Non-SMP

- SuSE 9.1 (kernel version 2.6.5.-7) SMP/Non-SMP

- Suse 9.2 (kernel version 2.6.8-24) SMP/Non-SMP

Sentinel UNIX Driver Files

File	Description
sntl-sud-7.1.0-0.i386.rpm	RPM to install the parallel port driver and/or USB daemon.
drvr_install.sh	Shell script to install the parallel driver and/or USB daemon.
drvr_uninstall.sh	Shell script to uninstall the parallel driver and/ or USB daemon.
driver/readme.pdf	This file.

Installation Instructions

Note: In order to set up the Sentinel UNIX Driver, you must be a super user (root).

You can install the Sentinel UNIX Driver by:

- Running the install script (*drvr_install.sh*)

- Using the `rpm -i <pathname>` command

Choose parallel, USB, or both the device drivers—depending on the Sentinel key's form factor.

Note: Do not interrupt the installation process while it is in progress as it may cause the system to go into an unstable state.

Post-installation Directory Structure

The post-installation directory structure will contain any of the following components, depending on your installation choices:

File	Description
/opt/sentinel/sud/drvr_uninstall.sh	Script to uninstall the Sentinel UNIX Driver.
/opt/sentinel/sud/parallel/load_drvr: /opt/sentinel/sud/parallel/XX/Y.Y/ZZ/ mdrbdr.o[a]	The Sentinel parallel port driver module.
/opt/sentinel/sud/usb/usbdaemon	The Sentinel USB daemon binary.
/opt/sentinel/sud/usb/load_daemon.sh	Script for starting, stopping and restarting the USB daemon
/opt/sentinel/sud/readme.pdf	This file.

a. XX refers to the Linux platform, Y.Y refers to the version of the kernel, and ZZ refers to SMP/non-SMP

Notes on Using the Sentinel USB Daemon (*load_daemon.sh*)

The USB daemon starts automatically when the system is booted. However, you may use *load_daemon.sh* to start, stop and restart the USB daemon.

The following commands can be used for Sentinel USB daemon:

Command	Description
sh load_daemon.sh start	Starts the USB daemon.
sh load_daemon.sh stop	Stops the USB daemon.
sh load_daemon.sh restart	Restarts the USB daemon. Use this instead of stopping-starting sequence.
sh load_daemon.sh status	To view the USB daemon status, if running or stopped.

Uninstallation

To uninstall the Sentinel UNIX driver you can use any of the following options:

Running the Uninstallation Script (*drvr_uninstall.sh*)

Run the uninstallation script *drvr_uninstall.sh* from */opt/sentinel/sud.* It will uninstall the Sentinel UNIX driver.

Manually Uninstalling

Use the `rpm -e sntl-sud-7.1.0` command to uninstall the Sentinel UNIX driver.

Troubleshooting Tips

This section resolves a few issues that you may encounter while using the Sentinel UNIX Driver. If you face a problem that is not listed below, contact Technical Support:

How to configure a PCI parallel port?

1. Obtain the PCI parallel port address from the */proc/pci* file. At a time, only one address can be specified.

2. Edit the *load_drvr* file available at the */opt/sentinel/sud/parallel* path. The entry:
   `/sbin/insmod -NXL /opt/sentinel/sud/parallel/XX`[a]`/Y.Y`[b]`/ZZ`[c]`/mdrbdr.o` should be modified to: `/sbin/insmod -NXL /opt/Sentinel/sud/parallel/XX<Superscript>a/YY<Superscript>b/ZZ`[C]`mdrbdr.o address=<address>`.
   The address of the I/O port was obtained in step 1. For example,
   `/sbin/insmod -NXL /opt/sentinel/sud/parallel/XX<Superscript>a/YY<Superscript>b/ZZ`[C]`mdrbdr.o address=0xdcf8` will check the $0xdcf8$ port.

3. Unload the driver using the rmmod mdrbdr command—followed by reloading it using the following command: `sh opt/sentinel/sud/parallel/load_drvr`. Now you are ready to access the key.

I have upgraded to 7.x.x version of Sentinel UNIX Driver and my USB keys are not able to communicate with the application that was complied with Sentinel SuperPro 6.3.0 (or an earlier) release?

If your application is complied using Sentinel SuperPro 6.3.0 (or earlier) libraries and is unable to communicate with the USB keys, verify if *u.daemon* file is missing from the */temp/* or */opt/Sentinelsud/USB/* directory. In the absence of the *u.daemon* file you need to execute the *OldClntSprt.sh* script using the following methods:

■ **Manual Execution**
   Use the `sh /opt/sentinel/sud/usb/oldClntSprt.sh create` command.
■ **Automatic Execution**
   Add the following command as a cron job to the cron daemon (it requires administrator privileges):
   `sh /opt/sentinel/sud/usb/oldClntSprt.sh Create`

The second option is required only if */tmp* is dumped on a period basis and the application is dependent on *u.daemon* which exists in */tmp/* directory.

How to check which location of the *u.daemon* file the user application depends on?

If an application is unable to communicate with USB keys, then to check the location of u.daemon file do any one of the following:

■ Create symbolic link */tmp/u.daemon* to */var/run/sentinel/u.daemon* using the command:
   `ln -s /var/run/sentinel/u.daemon`
   If the application is able to communicate with the USB key then the client application depends on */tmp/* directory location.
■ Create symbolic link */opt/Sentinel/SUD/USB/u.daemon* to */var/run/sentinel/u.daemon* using the command:
   `ln -s /var/run/sentinel/u.daemon/optSentinel/SUD/USB/u.daemon`
   If the application is able to communicate with the USB key then the client application depends on */optSentinel/SUD/* directory location.

I find some files in the /tmp directory while running USB daemon

Do NOT delete the following files created by the USB daemon on runtime in the */tmp* directory: *u.daemon* and *u.daemon_pid*. Deleting them will terminate the USB daemon. Otherwise, restart the USB daemon to start afresh.

Will disabling the parallel port affect the functioning of Sentinel UNIX Driver?

If you have disabled the parallel port on your system after installing the Sentinel UNIX Driver, make sure that the Sentinel parallel driver is also uninstalled. Otherwise, this may hinder successful functioning of the Sentinel USB daemon.

Unable to detect the USB key?
You need to ensure that both the USB core system and the USB file system are loaded. ❑ If the LED on the USB key is OFF, use the `ismod` command to view the list of modules loaded. The "usbcore" and "usb-uhci" or "usb-ohci" (depending on the hardware specifications) modules must be shown. If not, use the `insmod` command to load each of them. The objects are available at the */lib/modules/'uname -r'/kernel/drivers/usb* path, where the kernel version may vary depending on your operating system. ❑ If the LED on the USB key is ON, use the `df -a` command to verify If the USB device file system (usbdevfs) is mounted or not. If not, mount it using the given command: mount -t usbdevfs none /proc/bus/usb **Note**: For Fedora ensure *uhci_hcd* or *ehci_hcd* module is loaded into kernel that is required to communicate with the USB key.

    a. XX is the Linux platform.
    b. Y.Y is version of kernel.
    c. ZZ is SMP or non-SMP

Contacting Technical Support

We are committed to supporting this product. If you have questions, need additional assistance, or encounter a problem, please contact our Technical Support using one of the methods listed in the following table:

Technical Support Contact Information

Customer Connection Center (C^3)	
http://c3.safenet-inc.com	
Americas	
Internet	*http://www.safenet-inc.com/support/index.asp*
E-mail	support@safenet-inc.com
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Telephone	(800) 545-6608
Europe	
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Fax	+44 (0) 1276 608080
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Pacific Rim	
E-mail	support@safenet-inc.com

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Telephone	(61) 3 9882 8322
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China	
Telephone	(86) 10 8851 9191
Fax	(86) 10 6872 7342
India	
Telephone	(91) 11 2691 7538
Fax	(91) 11 2633 1555
Taiwan and Southeast Asia	
Telephone	(886) 2 27353736
Fax	(886) 2 27352383