Software License and Instructions for Driver Recompile

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for
Intel Server Control IPMI Driver Source Code for Red Hat* Linux

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IPMI Linux Driver Build Instructions

Intel Server Control software is used to monitor the health of a server system and to report on changes in the health condition. To do this, the software uses a driver (also known as the IPMI driver) to communicate with server hardware. Under Red Hat* Linux versions 7.1 or 7.2, a driver is shipped from Intel that works under the standard kernel version. Any change in the basic kernel will render Intel Server Control software inoperable. To address this issue, Intel provides the driver source code so that users who needed to recompile their Red Hat Linux 7.1 or 7.2 kernel will be able to recompile the Intel Server Control driver as well.

The following instructions may be used to recompile the Intel Server Control software driver under a different Red Hat Linux kernel. This driver recompile will allow Intel Server Control to report system health and alert users to changes in system status.

Important Note:
The kernel used for recompiling the Intel Server Control driver must be exactly the same as the kernel on the system where Intel Server Control will be installed. No variation is permitted. eg: using 2.4.9-31 and 2.4.9-31 Enterprise Edition are not the same kernel and may result in high memory usage and unreliable heath condition reporting. For best results, the driver recompile should be done on the same server system that will have Intel Server Control software installed. It is important that when the recompile of the new driver is done, no older Intel Server Control driver be installed. See step 2 below.

To build the IPMI driver on a Linux system, you must have Red Hat Linux 7.1 or 7.2 installed. The kernel headers RPM must be installed as well. The kernel sources RPM is optional.

Please follow the steps as described below to build the Linux IPMI driver:

Step 1:

i) Execute ‘mount /mnt/floppy’ which contains the linux-drvr.tz file;
ii) Change directories to the floppy; ‘cd /mnt/floppy’
iii) Create two directories on the hard drive; ‘mkdir /usr/local/src’ ‘mkdir /usr/local/src/ipmi’
iv) Copy the file using the following command: ‘cp linux-drvr.tz /usr/local/src/ipmi/linux-drvr.tz’
v) Change directories and extract the file located in /usr/local/src/ipmi with the following command: ‘tar xvfz linux-drvr.tz’
vi) After un-taring the linux-drvr.tz change directories by entering the command as follows, ‘cd linux-drvr/src’ (two levels below the current location)

Step 2: A script file (named ‘package’) will be used to compile the IPMI driver. Two arguments are required on the command line when running the script file. The first argument is a build number (this can be anything) and the second argument is references the kernel type based on the number of installed processors, eg: "up" for a single or uni-processor enabled system and "smp" representing a multi processor enabled system

Note: You must login as root in order to build the driver rpm. Please make sure the system used to build the new Intel Server Control driver does not have a previous IPMI driver rpm installed. Use the command ‘rpm –qa | grep ipmi’ to check for a previous installation.

- Example 1: To build the "up" version of Red Hat Linux v7.1 or v7.2 driver rpm, enter the command as follows,
./package 3.5 up

This command causes the ipmidrvr-2.4.2.2-1.i386.rpm for v7.1 or ipmidrvr-2.4.7.10-1.i386.rpm for v7.2 to be placed in linux-drvr/src/install/iscinstall directory. (/usr/local/src/ipmi/linux-drvr/src/install/iscinstall)

- Example 2: To build the "smp" version of Red Hat Linux v7.1 or v7.2, enter the command as follows,
./package 3.5 smp

This command causes the ipmidrvr-2.4.2.2smp-1.i386.rpm for v7.1 or ipmidrvr-2.4.7.10smp-1.i386.rpm for v7.2 to be placed in linux-drvr/src/install/iscinstall directory. (/usr/local/src/ipmi/linux-drvr/src/install/iscinstall)

Step 3: Continue by completing the Intel Server Control v3.5.x installation of the DMI Service Provider and SNMP packages. Use the server resource CD that came with the system. Also, refer to the ISC 3.5.x installation guide.

i) Uninstall ucd-snmp (rpm –e ucd-snmp). Typically dependencies will be identified and must be removed before the ucd-snmp package can be removed.
ii) On the system resource CD, change directories to /ISC/Software/linux/dmisnmp
iii) Execute ‘rpm –i dmisp-1.0-6.i386.rpm’
iv) Execute ‘rpm –i ucd-snmp-4.1.1-15smux.i386.rpm’
v) Execute ‘rpm –i ucd-snmp-utils-4.1.1-15smux.i386.rpm’
vi) Execute ‘rpm –i dmi2snmp-1.0-15.i386.rpm

Step 4: Install the driver built in Step 2. (Do not execute the ‘installme’ script described in the Intel Server Control Users Guide) Change to the /usr/local/src/ipmi/linux-drvr/src/install/iscinstall directory and execute the following command:

rpm -i ipmidrvr-2.4.2.2smp-1.i386.rpm (change the package name as appropriate for the kernel version)

Step 5: Continue by completing the Intel Server Control v3.5.x installation of the server Instrumentation.

i) On the server resource CD, change directories to the appropriate location for the version of Red Hat Linux installed;

/mnt/cdrom/ISC/Software/linux/7.1

or

/mnt/cdrom/ISC/Software/linux/7.2

ii) Execute the following command:

rpm -i isc-3.5.1-1.i386.rpm if installing Intel Server Control version 3.5.1

or

rpm –i isc-3.5.2-1.i386.rpm if installing Intel Server Control version 3.5.2

Step 6: Reboot the system.

Optional Steps for developers:

The following steps are optional and will be useful for the user who wants to develop their own application using the IPMI driver.

The linux-drvr/imbapi creates a library that is needed to communicate with the driver. To make this library, run the commands as follows,

'cd linux-drvr/imbapi'

'make'

The driver (imb built in /usr/local/IPMI/linux-drvr/src/imb directory) can be loaded dynamically using insmod. For the imbapi library to communicate with the driver, you need to create a device node.
The following sample script can be used to do so:

```
/sbin/insmod imb
maj=`cat /proc/devices | awk '/imb/{print $1}'`

if [ -c /dev/imb]
then
        rm -f  /dev/imb
        /bin/mknod /dev/imb c $maj 0
else
        /bin/mknod /dev/imb c $maj 0
fi
```

Note that the driver gets a major device id assigned by the kernel. The id is not predefined.