Appendix B

Accessing the RAIDWatch Software

B.1 Software Installation Requirements

The RAIDWatch management software provides a GUI interface to the subsystem. Before you can access the software manager by connecting to Ethernet port, your must:

1. Create a reserved space on your arrays.

2. Set up the related TCP/IP configurations

B.1.1 What Is the "Disk Reserved Space?"

RAIDWatch and Reserved Space:

There is no need to install the RAIDWatch program on your management computer. In order to simplify the installation process, the subsystem firmware already contains RAIDWatch's software agents. In the event of RAID controller failure, the manager interface can "failover" to an existing controller so that operators' access to the system will not be interrupted.

Firmware uses a small section of disk space from data drives to keep user's configuration data and the manager's main operating program. The segregated disk space is called "Disk Reserved Space."

Safety Considerations:

For the safety reasons, it is necessary to create a reserved space on more than one logical drive. A logical drive is the basic configuration unit of a RAID array consisting of multiple hard drives. A notice prompt by firmware will remind you of this whenever you start creating a logical drive.

Firmware then automatically duplicates these data and distributes them to all the reserved space on drives. Even if one hard drive or one logical drive fails, an exact replica still resides on other drives.

B.1.2 Web-Based Management

Once an IP address is obtained and the manager program copied to the reserved space, the subsystem's Ethernet port behaves like an HTTP server.

B.1.3 Requirements

1. **Firmware revision 3.31**.

2. **Management Station**: Pentium or above compatible (or equivalent PC) running Windows NT 4/Windows 2000; Solaris 7 & 8 (SPARC, x86); AIX 4.3; or Red Hat Linux 6.1 (kernel v2.2.xx); Red Hat 7/8, SUSE 7.

3. ***Standard web browser***. A computer running RAIDWatch manager must support:

    - TCP/IP

- Java Runtime: a package is bundled with RAIDWatch installer or can be downloaded from SUN Micro's web site.

B.2 Connecting Ethernet port:

Use a LAN cable to connect the Ethernet port on the subsystem's RAID controller unit. Use only shielded cable to avoid radiated emissions that may cause interruptions to your IO traffic.

B.3 Configuring the Controller

To prepare the controller for using the RAIDWatch manager, do the following:

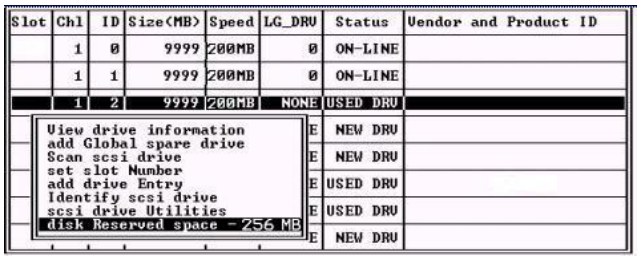
1. ***Use a Terminal Emulator to Begin Configuration***:

   Connect the subsystem's serial port to a PC running a VT-100 terminal emulation program or a VT-100 compatible terminal.

   Make sure the included Audio Jack cables is already attached to enclosure serial port (audio jack) or the host computer's serial port. The Null Modem converts the serial signals for connecting to a standard PC serial interface.

2. ***Create a Reserved Space on Drives :***

   Use arrow keys to select "View and Edit SCSI Drives" from the terminal main menu. Select and press Enter on a drive to display a pull-down menu. Scroll down to "disk Reserved space." Select the Create option and a 256MB section will be formatted. Press the ESC key to return to the drive selection menu and continue the same process with other drives. Wait for the formatting process to complete.



Another way to create a reserved space on multiple hard drives is to create a logical drive along with the "reserved space" option.

The logical drive can be temporary. If you delete the logical drive later, the reserved space and its data will be unaffected. These drives can later be used to create a new logical drive without making changes.

A meta-filesystem is created on the 256MB reserved space. You will be prompted to confirm the creation of a reserved space whenever you create a logical drive.

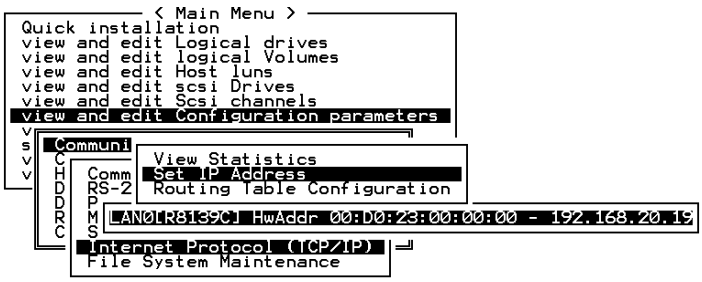
The controller will take a while formatting the space on drives before logical drives can be successfully initialized.

3. ***Assign an IP Address to Ethernet Ports:***

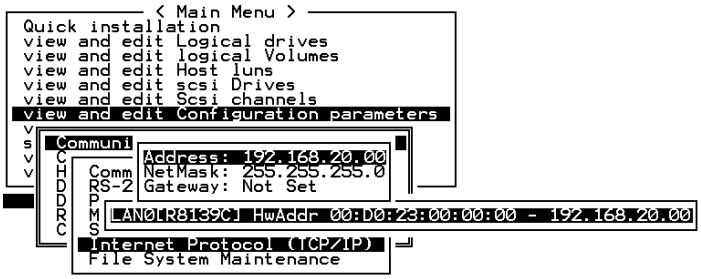
Assign an IP address to the controller Ethernet port and specify the Net Mask and gateway values. Reset the controller for the configuration to take effect.

Select "View and Edit Configuration Parameters" from the main menu. Select "Communication Parameters" -> "Internet

Protocol (TCP/IP)" -> press [ENTER] on the chip hardware address -> and then select "Set IP Address."



Provide the IP address, NetMask, and Gateway values accordingly.



PING the IP address to make sure the link (controller's IP address) is up and running.

4. ***FTP the Manager Programs to the Reserved Space.***

The main RAIDWatch programs can be FTP'ed to the reserved section, allowing you to manage the array from any management station using Internet browsers.

i. Login as "root" and there is no password.

ii. List of file names:

Company
enclosure.txt
grm.htm
grm.jar
ipaddr.txt
multiraid.txt
version.txt

iii. File Location: These are available in the following directory: X:\RsvSpace where X is the CD-Rom letter. Make sure to ftp only these files.

iv. Once all the above files are in the reserved space, proceed to ftp the \data directory, located on X:\ RsvSpace\usr\hybrid to the following location of the reserved space: \usr\hybrid.

v. Proceed to install Java run-Time environment from the CD (If the Host computer is P4 based, it is required to install Java JRE version1.3.1).

vi. Reset the subsystem using the Reset command for the configuration to take effect.

NOTE:
One logical drive with the reserved space configuration is sufficient for running the manager. However, reserved space in multiple logical drive can guarantee.

5. ***Starting the Manager:***

Start your web browser and enter the IP address assigned to the controller followed by "grm.htm" as your URL (e.g., http://222.212.121.123/grm.htm).

B.4 NPC Onboard

Create an NPC configuration file (in a simple text file format), save it as “agent.ini”, and FTP it to under the root directory of the reserved section of your array, then reset the controller for the sub-module to work.

Listed below is a sample configuration. Specify your configuration using simple defining parameters as shown below.

```
[SNMP_TRAP]
ENABLED=0     (1=on; 0=off)
SEVERITY=1    (level of messages to be received: 1. notification,
              2. warning, 3. alert.  “1” covers events of all
              levels.  “3” sends only the most serious events.)
COMMUNITY=public
RECEIVER1=XXX.XXX.XXX.XXX,2 ("2" specifies the level of
                            events to be received by this receiver)
[EMAIL]
ENABLED=0
SEVERITY=1
SUBJECT=Event Message
SENDER_MAIL_BOX=XXXX@XXXXX.XXX
SMTP_SERVER=127.0.0.1
RECEIVER1=XXXX@XXXXX.XXX,3
RECEIVER2=XXXX@XXXXX.XXX,1
RECEIVER3=XXXX@XXXXX.XXX,2
RECEIVER4=XXXX@XXXXX.XXX,1
[BROADCAST]
ENABLED=0
SEVERITY=1
RECEIVER=XXX.XXX.XXX.XXX, 1
RECEIVER=XXX.XXX.XXX.XXX, 1
```

NOTE:
NPC will be automatically activated if any of the notifier settings (email, SNMP, or broadcast) is set to "enabled." See line 2 of the configuration file.

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