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## 1- INTRODUCTION

HART is an acronym for **H**ardware **T**racker.

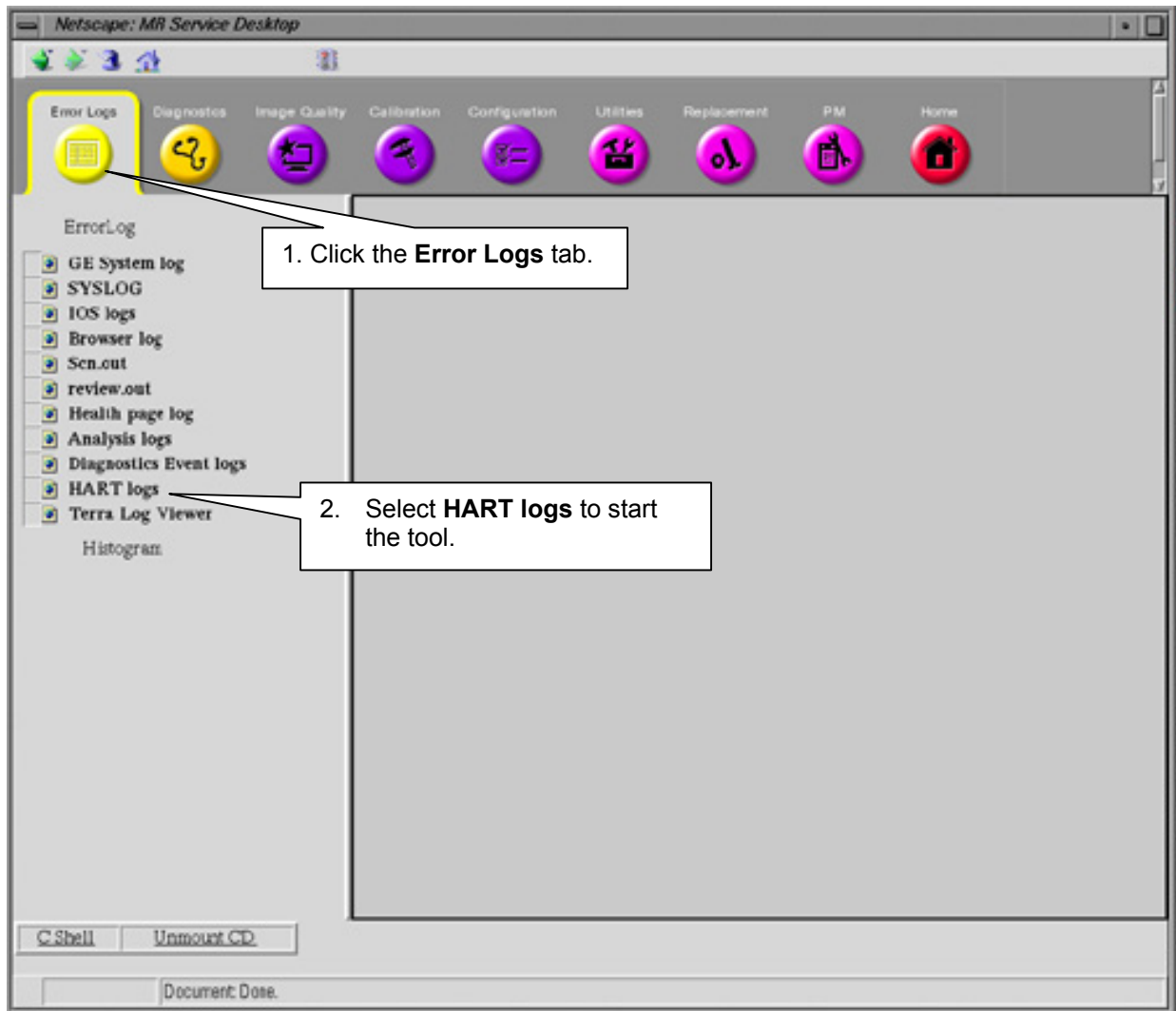
HART is a new service tool used to view the hardware configuration of the components in the MGD Chassis, RRF Chassis, and Driver Module. HART gives information about the current status of the boards and it can also track and report board replacements. Two logs are generated by HART: the Current Status Log, which is Class A, and the History Log, which is Class C.

Log File operations are as follows:

1. On boot up, if a HART log file, either Current or History, is not present, HART will create the new log file.
2. The HART logger will detect changes to the hardware configuration with reference to the contents of the current status file.
3. When a HART log file grows to a size of 3 MB, a backup will be made. Any existing backup will be overwritten.
4. After a backup for a HART log file is made, a fresh log file will be started.
5. HART log files are kept encrypted in the system.
6. Log files will be saved on the Save/Restore Info MOD.

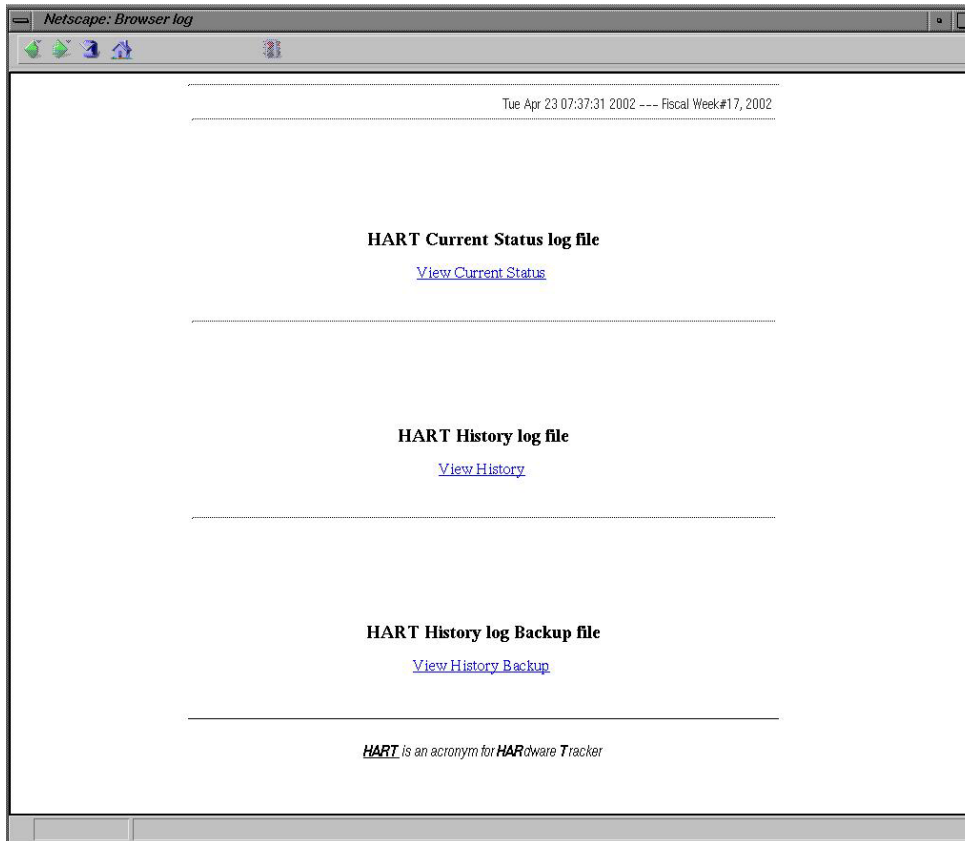
## 2- OPENING THE HART VIEWER

1. On the host computer, open the [Service Desktop Manager].
2. On the Service Desktop Manager, click the [Service Browser] button.
3. In the Service Browser, select the Error Logs Tab. Follow the instructions on Illustration 2-1, below.



**STARTING THE HART VIEWER**  
ILLUSTRATION 2-1

Clicking the **HART logs** link will open the HART log selection page. See Illustration 2-2.



**HART START PAGE**  
ILLUSTRATION 2-2

The three available choices are:

- HART Current System Log
- HART History Log
- HART History Log Backup

### 3- HART CURRENT SYSTEM LOG

The Current Status Log will display the current hardware configuration in the MGD Chassis, RRF Chassis, and Driver Module. During every system reboot and TPS Reset, HART and queries an ID chip on most of the newer boards. The results of this query are displayed in the current HART log. This gives the HART log information about each board's install date, board type, board location, board revision, firmware revision, serial number, current date, and power-on diagnostic results. See Table 3-1 for a breakdown of the information in the HART log.

TABLE 3-1  
HART LOG FIELD DEFINITIONS

FIELD	DEFINITION
Install Date	The first time a board is installed and a TPS reset occurs, the date is stored in this field.
Board Type	Board name or acronym
Board Location	Board slot number. Note that daughter boards have the same slot number, but a letter designation.
Board Revision	The revision of the board.
Firmware Revision	The firmware revision, if any.
Serial Number	The unique serial number given by the ID chip. This number does NOT match the bar code serial number on the board.
Current Date	The date and time you access the Hart Log Program
Power On Diag Results	Whether or not the program was successful in reading the serial number of the board.

**NOTE**

If a board does NOT have information available via the ID chip, one or more of the fields may be empty.

Illustration 3-1 shows an example of a HART Current Status Log.

**HART Current Status**  
 (Tue Jul 23 09:41:58 2002 --- Fiscal Week#90, 2002)

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**System Id:** 1234  
**File creation date:** Jul 21 2002  
**File content description:** HART Current Status file shows the current configuration of MR system. Subsystems use HART API to log their configuration whenever they boot up and/or reset. Therefore this file should always have the most current depiction of the subsystem.

**System Information:**  
 Magnet Strength = 15000

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InstallDate	BoardType	BoardLocation	BoardRevision	FirmwareRevision	SerialNumber	CurrentDateTime	PowerOnDiagResults
Jul 21 2002	APS Board	MGD Slot 1 Front	01-W3288F04J	Mar 19 2002, 15:57:20	5090054	Jul 23 2002, 9:15:25	Serial Number Confirmation Unavailable
Jul 21 2002	IT MGD Board	MGD Slot 1A Front	B			Jul 23 2002, 9:15:25	Serial Number Information Not Available
Jul 21 2002	AP Board	MGD Slot 2 Front	3		138	Jul 23 2002, 9:15:36	
Jul 21 2002	Compute Node	MGD Slot 2A Front				Jul 23 2002, 9:15:36	
Jul 21 2002	Compute Node	MGD Slot 2B Front				Jul 23 2002, 9:15:36	

**PARTIAL HART EXAMPLE CURRENT STATUS OUTPUT**  
 ILLUSTRATION 3-1

#### 4- HART HISTORY LOG

The HART History Log displays a history of board replacements within the MGD Chassis, RRF Chassis, and Driver Module. The history file is created when the Current HART Log is created. At first-time start-up, the history log content should match the current log.

If a board is replaced or fails in such a way that HART cannot read the ID chip, an entry is added to the History log indicating that either a different board has been installed or a board is missing. The HART History file is triggered after querying the hardware. It compares the values to the current log. A change is flagged if it detects a change in board serial number, revision number or firmware revision. In this case, a new row is created with the replacement board name, etc., but also the old serial number and the new serial number. In addition, a user can leave comments in history log entries. This feature is intended to be used by service to document the cause for events.

The HART History Log will be useful in the following cases:

- During troubleshooting, it will detect a change from its previous configuration.
- Where there have been intermittent errors and board replacements, it will help remind or inform other site FE's who might be troubleshooting the system.
- It will assist the On-Line Center or on-site engineers in remotely detecting changes.
- Pro-Diags can retrieve history files and flag high-failure-rate board information and provide feedback to Engineering.

See Illustration 4-1 for an example of History Log output.

**HART History**  
 (Fri Sep 27 05:53:49 2002 --- Fiscal Week#39, 2002)

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System Id: 54321  
 File creation date: Sep 18 2002  
 File content description: HART History File shows t  
 refer the HART Current file for the most current depl  
 System Information:  
 Magnet Strength = 15000

1. The output can be sorted by Board Type. Use the pull down here to select.

ALL <==== Sort by Board Location

2. Press this button to sort by selection.

InstallDate	Board Type	BoardLocation	BoardRevision	FirmwareRevision	OldSerialNumber	NewSerialNumber	CurrentDateTime	Comments
Sep 20 2002	EMPTY	MGD Undefined Slot					2002.14.5.46	<COMMENTS> Edit
Sep 18 2002	APS Board	MGD Slot 1 Front	01-W3288F04J	Mar 19 2002. 15:57:20	_____	5436642	Sep 18 2002. 1.9.47	<COMMENTS> Edit
Sep 20 2002	EMPTY	MGD Slot 1 Front			_____		Sep 20 2002. 14.5.45	<COMMENTS> Edit

3. To add comments into entries, press the [Edit] button. See Illustration 4-2 for an example of edit entry.

EXAMPLE HISTORY LOG OUTPUT  
 ILLUSTRATION 4-1

**Enter comments ...**

**Board Installation Date : Sep 20 2002**  
**Board Type : EMPTY**  
**Board Location : MGD Undefined Slot**  
**Board Revision :**  
**Firmware Revision :**  
**Old Serial Number : \_\_\_\_\_**  
**New Serial Number :**

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**History log record comment (Please edit the textarea below for your comments) :**

Type your comments here

1. Type comments needed in this space. Use the [Delete] key to back space, if necessary.
2. Press the [Submit] button to add comments.

**COMMENT ENTRY FORM**  
ILLUSTRATION 4-2

## REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
0	Apr 26, 2002	Hawthorne	Initial Version
1	Sept 27, 2002	Hawthorne	Added information on adding comments into history log entries.
2	Jan. 23, 2003	C. MacDonald	Edits per D. Thomé