

Volume

1

DEDICATED MICROS, INC.



NetVu Health Monitor (HM)

User Guide

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NetVu Health Monitor User Guide

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Introduction

Dedicated Micros' NetVu Health Monitor (HM) Tool is a windows service that provides both a continuous monitoring component as well as a user-interface through which the health of remote Dedicated Micros' DVR units are scrutinized.

Features and Functions

1. Continuous monitoring of DVRs
2. Scrutinizes the health of remote DVR units
3. Reviews events via an on-line screen (History) or via an exported report (Microsoft® Excel, Comma Separated Value (csv) or HTML (Hyper Text Markup Language))
4. Send notification via email for selected addresses and events
5. NOTE: The Health Monitor Tool is certified for NetVu DVR units only and therefore the results generated with DM's other DVRs cannot be guaranteed.
6. This tool is designed to be used with a single point of monitoring. Consequently, once certain events are read they will be reset or cleared. As a result, only one PC can be running the Health Monitor tool for any given DVR unit in order to ensure accuracy.

Health Monitor Architecture

The NetVu Health Monitor Tool runs as a Windows Service, i.e., minimized in the lower right hand corner of the desktop task bar.

Health Monitor Tool Setup

Click on NetVu Health Monitor from the Start Menu -> All Programs -> NetVu Health Monitor.

If this is the first time that NetVu Health Monitor has been accessed since the initial install, you should see the following popup message:

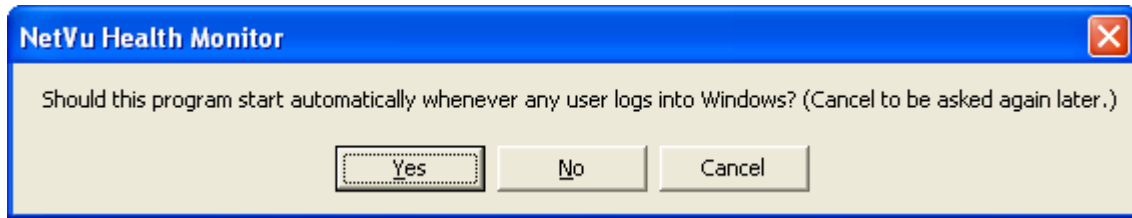


Figure 1 Press the 'Yes' Button

Pressing the Yes button (recommended) on the above dialog will cause the NetVu Health Monitor icon to be placed on the desktop task bar.

The NetVu Health Monitor Screen can be accessed in one of two ways:

- a. Right click on the Tool icon and select 'Show'
- b. Double Click on the Tool icon

Figure 2 NetVu Health Monitor



NOTE: To allow the Health Monitor Tool to run in the desktop task bar, click on the Minimize (-) button in the upper right-hand corner of the Health Monitor. Do not click on the 'X' button as this will actually close the Health Monitor. The PC on which the Health Monitor Tool resides must remain running at all times to ensure that the DVRs are polled. If this machine is shut down, then the Health Monitor will be unable to poll the DVR units.

System Requirements

- Windows XP ® (Service Pack 2) or Microsoft® Windows 2003 Server
- Pentium IV, 1.8 GHz processor
- 256 MB RAM
- 10/100Mb Ethernet half duplex network interface card
- Adobe® Reader® 6.0 is required to view the User Guide via the Help Button located on the main screen of the Tool

Installation

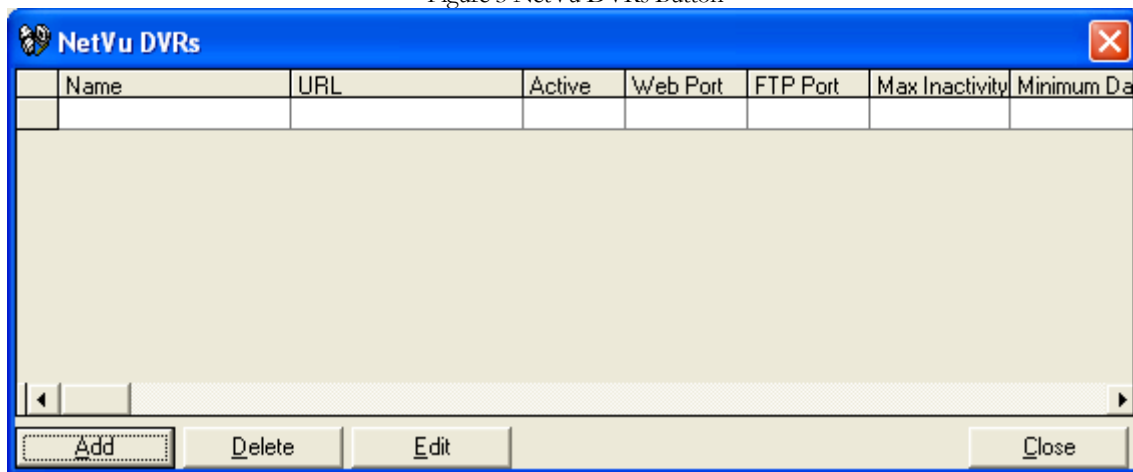
Refer to the 'Health Monitor (HM) Installation Guide' for the complete install procedures.

NetVu DVRs Button

This button is used to add DVR units to the Health Monitor Tool.

Click on the NetVu DVRs button in order to define the DVR units to be monitored.

Figure 3 NetVu DVRs Button



Use the scroll bar to see additional fields in the above list box dialog.

Click on the Add button and the Unit Information Screen will be displayed.

Figure 4 Add Button dialog

The screenshot shows a 'Unit Information' dialog box with the following fields and values:

- Unit Name: [Empty]
- IP/URL: [Empty]
- Active:
- Maximum Inactivity (Hours): 24
- Minimum Stored Video (Days): 30
- Access System Variables:
 - Web Port: 80
 - User: [Empty]
 - Password: [Empty]
- Username and Password for FTP:
 - FTP Port: 21
 - User: [Empty]
 - Password: [Empty]

Buttons: OK, Cancel

Complete the following information:

- ❖ **Unit Name:** Enter name or title that you would like to use to identify this DVR unit. This field can contain up to 50 characters in length. It will allow alpha, numeric, and/or special characters.
- ❖ **IP/URL:** Enter the IP address (e.g., xx.xxx.xx.xxx) or URL address (i.e. DNS name) for the DVR unit.
- ❖ **Active:** If this check box contains a check mark (✓), then this unit will be monitored. If there is no check mark (✓) then this unit will be defined to the Health Monitor Tool but will not be monitored until it has been activated.
- ❖ **Maximum Inactivity (Hours):** Refers to recording inactivity. Enter the number of hours allowed to pass for this particular DVR without recording any video prior to triggering an inactivity event.

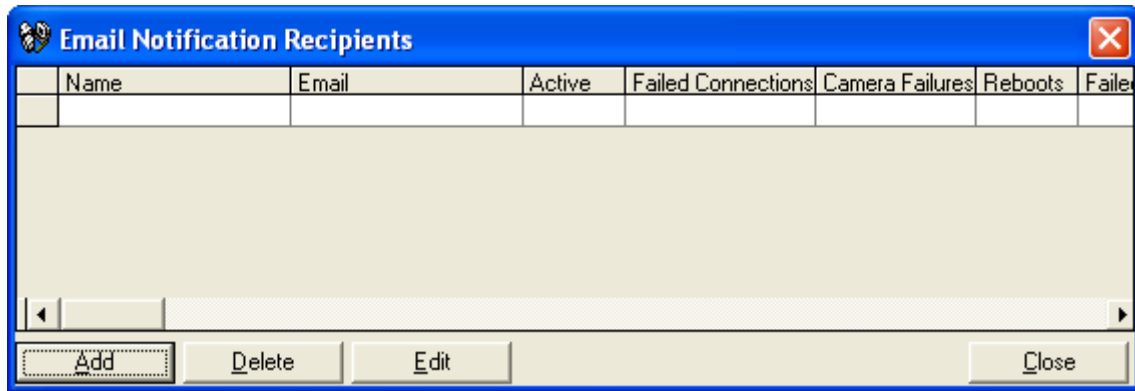
- ❖ **Minimum Stored Video (Days):** Impacts the Days Stored event. This field determines the number of days of unprotected video that is sufficient before an alarm sound is sent. This field defaults to 30 days unless overwritten by the user.
- ❖ **Web Port:** This field contains the port that will be used to connect to the DVR unit. By default, the HTTP port (80) will be used. HM allows a user to enter their own web port since some DVR's are installed behind routers that “remap” ports so that more than one DVR can sit behind a single IP address.. If it is necessary to use another port, enter it here.
- ❖ **User/Password:** The Access System Variables Section is only required if the DVR has been configured to require passwords to gain access to the system variables. Otherwise the user and password fields can be left blank. *Refer to the DM DVR User Guide (section titled 'Password Protecting the DVR') for more information.*
- ❖ **FTP Port:** This field contains the port that will be used to connect to the DVR for Drive Failure checking. By default, the FTP port (21) will be used. If it is necessary to use another port for FTP, other than 21, then enter it here.
- ❖ **User/Password:** Enter the user and password for FTP access to this DVR. The default is dmftp/ftp so unless it is necessary to use another login for FTP, enter ‘dmftp’ in the User field and ‘ftp’ in the Password field.

Click on the OK button to save your entry.

Notification List Button

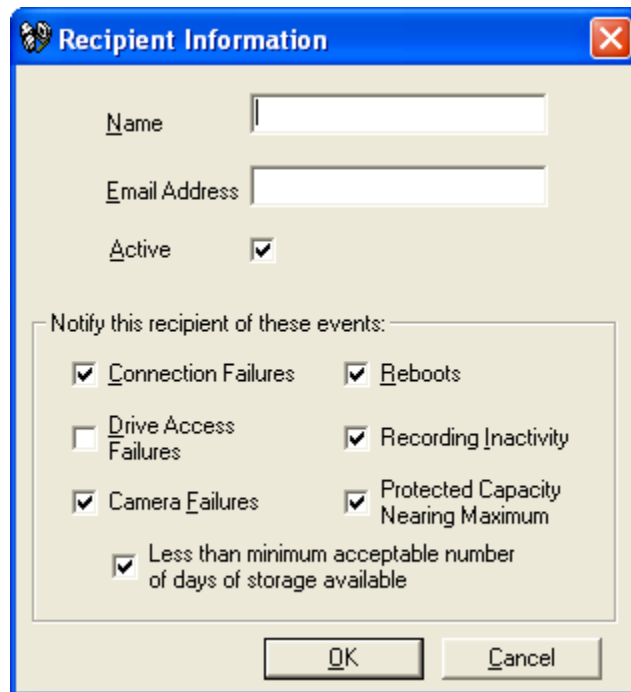
Click on the Notification List button to add email recipients. **NOTE:** For emails to be sent, the SMTP options need to be set through the Options button. *Refer to the 'Health Monitor (HM) User Guide section 'Options button' for more information on setting SMTP.*

Figure 5 Email Notification Recipients Dialog



Add a Recipient
Click on the Add button to bring up the following dialog.

Figure 6 Recipient Information Dialog



Complete the following information:

- ❖ **Name:** Enter the name that you will use to identify this email recipient. This field can be up to 50 characters in length, i.e. alpha, numeric, and/or special characters.
- ❖ **Email Address:** Enter the email address for this recipient in this field, i.e. JSmith@company.com.
- ❖ **Active:** If this check box contains a check mark (✓) then this email address will be included when the next email is sent for the specified event(s). If there is no check mark (✓) then this address will be defined to the Health Monitor Tool, but it will not be included on emails until it is activated.
- ❖ **Notify this recipient of these events:** A check mark (✓) next to one or more of these events will determine which events are received by this recipient. If there is no check mark (✓) then this address will not be included on emails generated for this particular event.
 - **Connection Failures:** Notification occurs on every check where a connection to a DVR unit cannot be established.
 - **Drive Access Failures:** Notification occurs whenever any internal hard drive fails to respond. This email will include the letter of the internal drive that failed.
 - **Camera Failures:** Notification occurs whenever a previously working camera is in failure or a camera failure has occurred during a single interval. Note: If the same camera(s) are in failure over consecutive intervals, emails will only be generated once.
 - **Reboots:** Notification occurs whenever the reboot count is greater than zero. This event monitors the number of DVR reboots that occurred during the last interval.
 - **Recording Inactivity:** This event determines whether any recording activity occurred on a unit during the last interval. Notification occurs on the first check where the limit is exceeded. The limit is the number of hours allowed to transpire with no recording activity. The limit can be set globally or individually, i.e., through the Options or NetVu DVRs button.
 - **Protected Capacity Nearing Maximum:** Notification occurs the first time the protected video reaches 90% of the allowable space for protected video. Notification reoccurs once this percentage reaches 98% and will continually occur until the percentage is lowered.
 - **Less than Minimum Acceptable Number of Days of Storage Available:** Notification occurs the first time the “Days Stored” value falls below the user defined number of days in the “Minimum Stored Video Days” field set globally or individually, i.e., through the Options or NetVu DVRs button.

NOTE: This tool is designed so that it will not alarm when the DVR unit is first set up and has not been recording long enough to actually have several days of video. Therefore, it is possible to see a lower number of days than is valid with no alarm generated while the DVR is initializing.

Online help is available for each check box in the “Notify this recipient of these events” section by moving the cursor over the field label.

Click OK to add the recipient to the Health Monitor tool after the recipient information is completed.

Edit a Recipient

To make changes to a recipient entry, click to the left of the Name field so that the entire record is highlighted, and then click on the Edit button.

Delete a Recipient

To delete a recipient entry, click to the left of the Name field so that the entire record is highlighted, and then click on the Delete button to remove the recipient from the Health Monitor tool.

Options Button

This button is used to set global settings. Click on the Options button to open the Options screen.

Figure 7 Options Dialog

The screenshot shows the 'Options' dialog box with the following settings:

- History Window:** Keep check data for 7 days.
- Startup Behavior:** Auto-start at Windows Logon is checked.
- Check Frequency:** Interval is set to 1 hour.
- Email Settings:** SMTP Server, Mail From, User Name, and Password fields are empty.
- Thresholds:** Default Maximum Inactivity (Hours) is 24; Default Minimum Stored Video (Days) is 30.

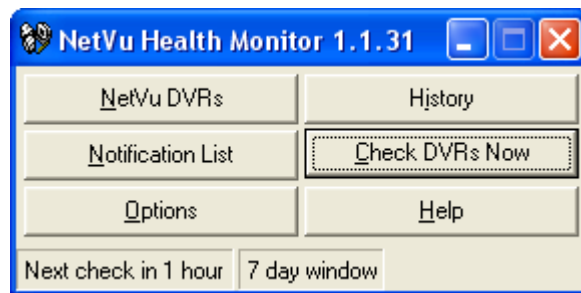
Complete the following information:

- ❖ **Keep check data for xx days:** Enter the number of days to retain data in the database for the Health Monitor Tool. The default value is 7 days. Keep in mind that all data older than the number of days listed will be permanently deleted from the database and therefore will no longer be available for viewing or exporting purposes. This entry will also be displayed at the bottom of the NetVu Health Monitor screen to the right side.
- ❖ **Auto-start at Windows Logon:** If this check box contains a check mark (✓) then the Health Monitor Tool will be started automatically and placed on the desktop task bar upon login of the PC with the

Health Monitor Tool. If there is no check mark (✓) then the user will be required to start the Health Monitor Tool via the Start Menu-> All Programs-> NetVu Health Monitor.

NOTE: This field is defaulted to ON. It is highly recommended to run the NetVu Health Monitor as an automatic service.

- ❖ **Check Frequency:** Select an interval for the automatic checks to take place. The default value is 1 hour. For more values, click on the arrow to access the dropdown box. The maximum value is 1 day (24 hrs). When this interval is reached, the Health Monitor Tool will automatically check each of the active DVRs listed in the NetVu DVRs screen. The time that the next check will take place is displayed at the bottom left side of the NetVu Health Monitor screen. In the screen below, the next check will occur in 1 hour.



- ❖ **SMTP Server:** Enter the IP address for your company's mail server.
- ❖ **Mail From:** Enter the email address that will be listed as the originating email address for all notifications sent from the Health Monitor Tool.
- ❖ **User Name:** Enter the user id for the email address listed in the Mail From: field.
- ❖ **Password:** Enter the password for the email address listed in the Mail From: field.
- ❖ **Default Maximum Inactivity (Hours):** Enter the highest number of hours that would be acceptable for the DVR units to not be recording. Since this setting is at the global level it can also be overridden per unit via the "NetVu DVRs" button. NOTE: The default value is 24 hours.
- ❖ **Default Minimum Stored Video (Days):** The number of days of video that must be retained on all DVR Units. The Health Monitor Tool will check to ensure that all DVR units have at least this many days of unprotected video at all times. Since this setting is at the global level it can also be overridden per unit via the "NetVu DVRs" button. NOTE: The default value is 30 days.

History Button

The History button contains the polling results.

There are two methods of reviewing data:

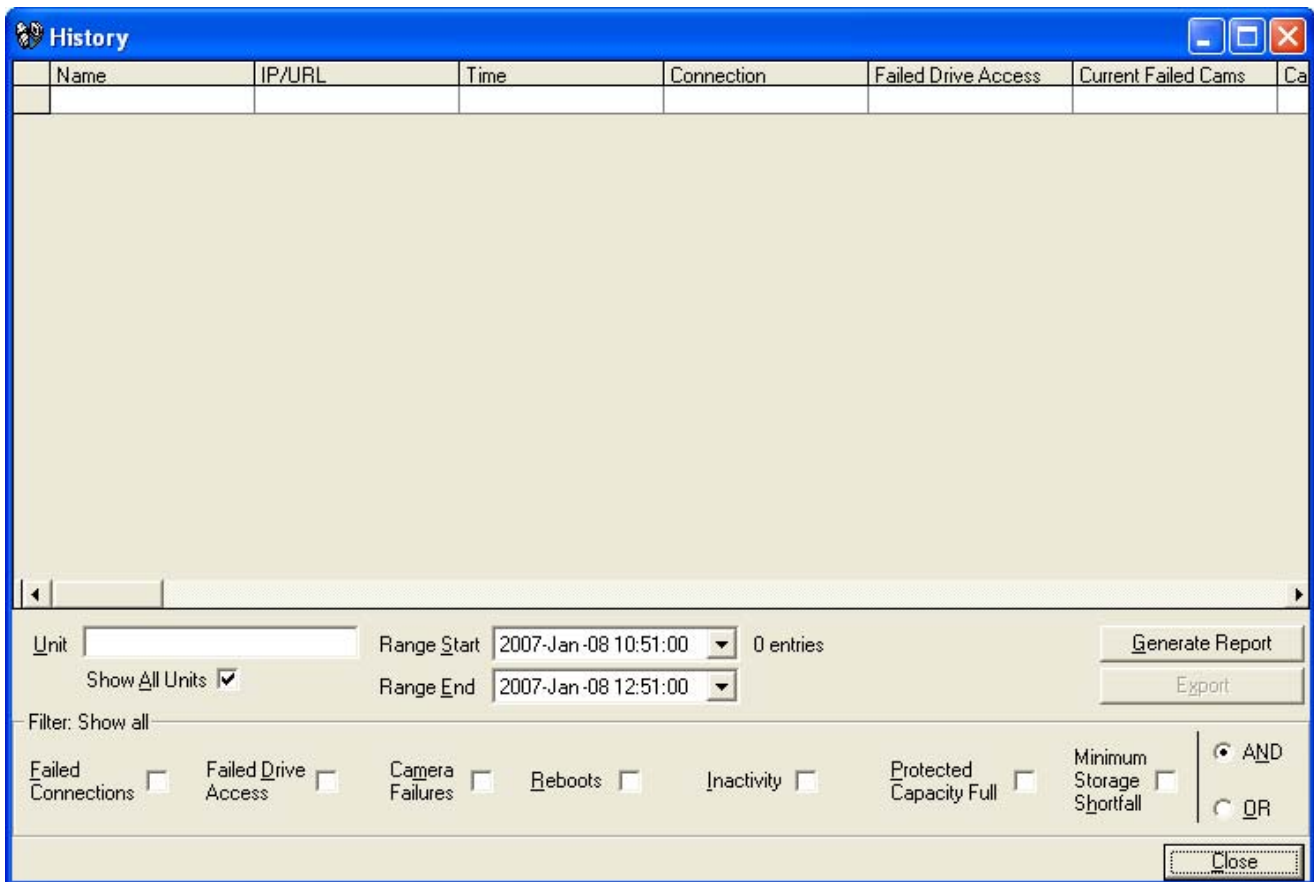
- a. Online via the Generate Report button from the History Screen
- b. Exporting the data via the Export button from the History Screen

NOTE: Health Monitor will attempt to connect to the DVR for 10 seconds. If it is unable to begin verification of the event within that time frame 'NONE' will be written to the History screen Connection column for that DVR. In order to recheck the event, click the Check DVRs Now Button to initiate a manual check or wait for the next automated scheduled check to be performed.

View History Data Online via Generate Report

Click on the History button from the NetVu Health Monitor screen. The following dialog will be displayed.

Figure 7 History Button Dialog



History Screen Columns

- ❖ **Name:** This column displays the data entered in the NetVu DVRs Unit Information dialog when the DVR unit was added to the Health Monitor Tool. This is the name given to identify the DVR unit.
- ❖ **IP/URL:** This column displays the data entered in the NetVu DVRs Unit Information dialog when the DVR unit was added to the Health Monitor Tool. This is the IP address or the DNS name that the Health Monitor Tool will use to gain access to the DVR unit.
- ❖ **Time:** The date and time that the check occurred on the DVR unit. This may have been triggered by the user manually requesting a check via the Check DVRs Now or by the timed interval check automatically executed via the Options -> Check Frequency field.
- ❖ **Connection:**
 - This column will display the results of a connection attempt to the DVR unit. If the attempt is successful then 'OK' will be displayed in this column; however if an attempt failed then 'None' will be displayed in this column. If 'None' is listed in the Connection column then all other columns will reflect an 'N/A' since the health of the unit cannot be verified.
 - A Connection failure will generate an email if it is selected in the Email Recipients dialog (*See Notification List Button section for more information*).
- ❖ **Failed Drive Access:**
 - This column will list the letter of the hard drive that failed. NOTE: Only internal hard drives will be verified with the Health Monitor Tool and FTP is used to perform this check. Consequently, the FTP userid/password must be correctly defined in the Health Monitor in order for this check to be successful.
 - An email will be generated for each occurrence of this event if it is selected in the Email Recipients dialog. (*See Notification List Button section for more information*).
- ❖ **Current Failed Cams:**
 - This column will display the number of any camera that is not responding at the time that the polling took place.
 - An email will be generated for the first occurrence of this event if the Camera Failures option is selected in the Email Recipients dialog. (*See Notification List Button section for more information*).
- ❖ **Cam Fails During Interval:**
 - This column reveals changes to camera statuses during the interval period.

- a. Example 1: If camera #4 goes down for 10 seconds and the interval period is one hour, the result will be that the Current Failed Cams column would display 'None' and the Cam Fails During Interval column would display '4'.
 - b. Example 2: If Camera #5 goes down and stays down for one hour (interval period), then the Current Failed Cams column would display '5' and the Cam Fails During Interval column would display '5'.
 - c. Example 3: If Camera 9 and 10 both go down and stay down for several hours, the results would be: First Check -> Current Failed Cams column would display '9, 10' and the Cam Fails During Interval column would display '9 to 10'. Second Check -> Current Failed Cams column would display '9, 10' and Cam Fails During Interval column would display 'None'.
- An email will be generated for this event if the Camera Failures option is selected in the Email Recipients dialog (*See Notification List Button section for more information*).

❖ **Reboots:**

- This event will list the number of times during the interval period that the DVR unit was restarted or shut down and brought back online.
- An email will be generated for all occurrences of this event if the reboots option is selected in the Email Recipients dialog (*See Notification List Button section for more information*).

❖ **Time Since Recording:**

- This column will verify the amount of time since the last recorded video. Therefore if 0:00:00 is listed it would indicate that no time has transpired since the last recorded video. In other words, this unit is continuously recording. If this column displays 0:10:00 it would indicate that no camera on this unit has recorded any video for the past ten minutes. Once this period of time is greater than the Maximum Inactivity (Hours) assigned to this unit, an email will be generated if the inactivity option is selected in the Email Recipients dialog and the record will be tagged as an alarm (indicated by an asterisk (*) next to the time).
- *See Notification List Button section for more information on emails generated for this event.*

❖ **Protected Capacity Used (%):**

- This column displays the percentage of used space for protected video. Each DVR has a specified amount of hard drive space allotted for protected video and the Health Monitor will keep track of the remaining space.

- An asterisk (*) will indicate when 90% or more of the Protected space has been used. An email will be generated if the Protected Capacity option is selected in the Email Recipients dialog when the percentage reaches 90%, will send another email when the percentage has reached 98%, and will continuously send emails hereafter until the percentage has decreased below 98%.
- *See Notification List Button section for more information on emails generated for this event.*

❖ **Days Stored:**

- This column displays the number of days currently retained on the DVR for unprotected recorded video.
- The threshold for this event is set by the user in the Minimum Stored Video Days field when defining each DVR Unit to the Health Monitor Tool.
- An asterisk (*) will indicate when the days of stored video has fallen below the threshold.
- The Health Monitor Tool is designed so that it will not alarm when the DVR Unit is first set up and has not been recording long enough to actually have several days of video. Therefore, it is possible to see a lower number of days than is valid and no alarm being generated while the DVR is initializing. An email is generated on the first occurrence of this event if the minimum days stored option is selected in the Email Recipients dialog.
- *See Notification List Button section for more information on emails generated for this event.*

Display a Unit

- In order to display one or more DVR units vs. all units, click off the ‘Show All Units’ check box and select the units you wish to include. A check mark (✓) next to a unit will ensure it is included on the History screen.

View Record Dates

- Enter the Start and End date/time that will be used to retrieve data from the database by one of the following methods:
 - Click directly in the Range Start/Range End field to type a new date/time, use the up and down arrows to increment/decrement the selected field, or the drop-down arrow can be used to access a calendar view.

Select Type of Records to View

- The Filter: Show All section (hold your cursor over each check box for detailed help) contains checkboxes that provide the option of querying the data presented in the History screen. If a check mark (✓) is next to a filter then records with those events will be included in the report. For example, if

Failed Connections is checked, then only records that contain Connection=NONE will be displayed and all records with Connection=OK will be excluded.

- To combine queries click on either the AND or OR radio button.
 - All 'AND' queries will only include records that match all the selected criteria. For example, if Reboots AND Failed Drive Access are selected, only those records that contain BOTH Reboots \neq 0 AND Failed Drive Access \neq NONE will be displayed when the Generate Report button is invoked.
 - All 'OR' queries will include records that have one or the other of the selected criteria. For example, if Reboots OR Failed Drive Access is selected as the filter, the results would be all the records that contain Reboots \neq 0 OR Failed Drive Access \neq NONE. In this example, a record could contain Reboots = 3 with Failed Drive Access = NONE as well as a record that contains Reboots = 0 and Failed Drive Access = C.

When any changes have been made to the search criteria, click on the Generate Report Button to refresh the screen.

- ❖ ***NOTE: For additional clarification of data displayed in the History Screen, refer to the Trouble Shooting Section at the end of this guide.***

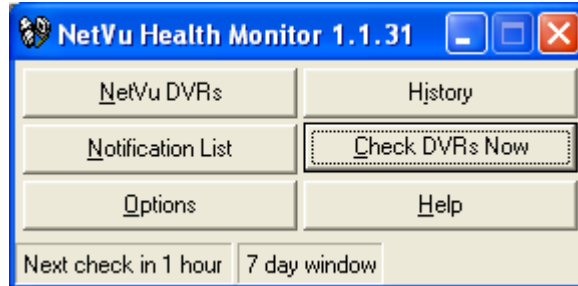
View History Data via Export Data

- ❖ Click on the Export button in order to export the records listed on the History screen to either an Excel worksheet, a CSV (Comma Separated Value) file, or an HTML document.
- ❖ The file type options are located in the Save As Type drop down list.
- ❖ The Export button will generate a file name in the form of yyyyymmddhhmmss (the date/time of export) for each file or the user can overwrite this name and create a name of their choosing.
- ❖ The location of the saved file can be changed by clicking on the Save In drop box and navigating to the path where you would like to save the file.
- ❖ Click the Save button to create the file.

Check DVRs Now Button

The Check DVRs Now button performs immediate polling of the DVRs that are added to the NetVu Health Monitor. Click on the History button in order to review the results online.

Figure 7 Check DVRs Now Button



Help Button

Figure 7 Help Button



The Help button can be used to display the Health Monitor User Guide in the form of a pdf document.

Using the Tool

Methods of Retrieving/Polling Data

- There are two methods that can be used to poll the DVR Units:

- a. Immediate Polling (manual) can be done via the Check DVRs Now Button. Click on the History button in order to review the results online.
- b. Timed interval polling (automatic) can be conducted by selecting a Check Frequency interval via the Options screen (*See Options Button section above*). The countdown until the next check will be displayed on the NetVu Health Monitor screen. Click on the History button in order to review the results.

Methods of Retrieving/Polling Data

- There are two methods that can be used to review data:
 - a. Online via the History Screen (Generate Report Button)
 - b. Exporting the data via the History Screen (Export Button)

See History Button section above for more information.

Trouble Shooting HM

Issue	Reason	Solution
Health Monitor is not running	The Health Monitor process is not running.	Restart the Tool via Start Menu -> All Programs -> NetVu Health Monitor
Not polling DVR units	The PC that the Tool is located on may be turned off.	Check that the PC running the Tool is powered on.
Emails are not being generated	Email address could be incorrect, inactive, or the event being generated is not selected to generate emails.	Click on the Notification List Button and verify that the email address is correct, that it is active, and that the event being generated is in fact selected to generate emails. In order to make changes to an entry, click to the left of the Name field so that the entire record is highlighted, and click on the Edit button. Click on the Options button and confirm that all information entered is correct for the Mail Server.

<p>A DVR unit is not being monitored.</p>	<p>Information listed for the unit may be incorrect.</p>	<p>Click on the NetVu DVRs button and verify the information listed for this unit. To make changes to an entry, click to the left of the name field until the record is highlighted, and click on the Edit button.</p>
<p>History screen does not display the records requested by the user.</p>	<p>History Screen may need to be refreshed.</p>	<p>After rechecking the criteria selected at the bottom of the History screen, click on the Generate Report button to refresh the screen.</p>
<p>Export Report does not contain all the records requested by the user.</p>	<p>History Screen may need to be refreshed.</p>	<p>Return to the History Screen and first confirm that all records are displayed on this screen; adjust the filter, DVR units to show, etc; click on the Generate Report button to refresh the screen. Then click on the Export button only after all required records are visible on the History screen.</p>
<p>Export Report will not export to an Excel format.</p>	<p>Microsoft Excel may not be installed on the computer that is running the Health Monitor Tool.</p>	<p>If Microsoft Excel is not installed on the computer that is running Health Monitor, then the export will not be successful. Suggest using either CSV or HTML formats instead of the Excel format in this scenario.</p>
<p>History Screen Error</p>	<p>The Health Monitor Tool timed out during the check of that particular event.</p>	<p>Health Monitor will attempt to connect to the DVR for 10 seconds. If it is unable to begin verification of the event within that time frame 'error' will be written to the History screen. In order to recheck the event, click the Check DVRs Now Button to initiate a manual check or wait for the next automated scheduled check to be performed.</p>

History Screen – Unauthorized Access	DVR unit has restrictions placed on its system variables, i.e. CGI Commands.	The corresponding username and password must be entered into the Unit Information Screen. Highlight the DVR Unit in the DVR Units screen and click on the Edit button. Enter the user and password information in the Access System Variables Section.
History Screen – N/A	A failed connection attempt to the DVR Server	The Connection event will be triggered and all other tests will be unable to complete.
History Screen – FTP Login Error is displayed in the Failed Drive Access column.	An invalid userid and/or password listed in the Health Monitor Tool for this DVR Unit.	DVR Units button; highlight the DVR Unit and click the Edit button. Correct the FTP user and/or password information. The default is dmftp/ftp unless the FTP defaults have been changed for this particular DVR unit.
Email – Unauthorized Access	This particular DVR has had restrictions placed on its system variables, i.e., CGI Commands.	The corresponding username and password must be entered into the Unit Information Screen via the DVR Units Button -> Edit Button->Access System Variables Section.

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