6 Reports and support tickets

A major feature of L&TT is the ability to generate reports and support tickets. In the event of a hardware problem, a report or support ticket can provide vital information to help diagnose and resolve the problem. Reports and support tickets can be generated on all operating systems supported by L&TT.

Much of the information stored within a device related to operational characteristics is used by various L&TT tests to analyze the health of the device. However, not all information can be used in this automated fashion. Some information requires review by qualified HP personnel to fully diagnose the situation. For this reason, a report or support ticket should be generated and e-mailed for further analysis when requested.

When a report or support ticket is generated, L&TT collects configuration information and executes a Device Analysis test on the selected device. This information can then be viewed, saved, printed, compared to another report or support ticket, or e-mailed. By default, a support ticket is saved as a single compressed tar file with a `.lzt` extension to the `logs` directory.

While support tickets contain highly technical data that is intended primarily for HP support personnel and developers, L&TT reports present the technical information in a more user-friendly way. You can think of a report as an enhanced, user-friendly support ticket. Currently, reports are only available for LTO drives, but support tickets for other devices are continually being upgraded to the new report format and will eventually replace support tickets. However, the classic" support ticket will always be available when the report is viewed with the detail level set to Everything or Factory only.

NOTE:

As of L&TT version 4.1, reports are only available for LTO drives. Support for other hardware will be added with later releases of L&TT.

The report viewer is built into the L&TT application and is used to view both support tickets and reports. View detaileddevice information and general information about the system it is connected to with the viewer. The user (or support technician) can change the detail level of the support ticket or report, browse through the information, and expand or collapse specific sections of the support ticket or report.

Keep the following information in mind when generating and viewing support tickets and reports:

- In the event of a device failure (or suspected failure), generate a report or support ticket for that device as soon as possible to increase the chance that relevant failure data is captured.
- If L&TT is used to generate a support ticket on a library that is managed by HP StorageWorks Command View for Tape Libraries Software (Command View TL), it will not include the IM and IFC logs. To ensure that all log data is captured, support tickets should be generated using the Command View TL GUI or CLI, as documented in the *HP StorageWorks Interface Manager and Command View for Tape Libraries Software user guide*. If the library is partitioned, be careful when interpreting support tickets because the values in the logs are based on the actual physical library, not the partitioned library, so drive and slot numbers do not directly match those numbers reported by the backup application.
- Regardless of the selected detail level, the log file always contains all of the information collected from the product. The report viewer filters and parses this information, depending on the detail level.

  L&TT reports and support tickets are saved in a proprietary format and require the report viewer. However, with the Windows version of L&TT, a report or support ticket can be converted to HTML format and printed or viewed by other users without the report viewer. As of L&TT version 4.2, you can also save a support ticket as an XML file.

  Make sure that the detail level is set to the desired level before generating the HTML report because the detail level within the HTML file cannot be changed.

- When generating a report or support ticket for standalonedevices, HP recommends that you keep the media in the drive in which it was present when the failure occurred. This allows error rate and other information relevant to that cartridge to be examined. When media is removed, many devices automatically clear this information. For tape automation products, it is generally better to have the drives empty of media to force the library drive/media log to be updated.
- The Windows version of L&TT is the preferred platform for working with reports and support tickets. Comparing or printing reports and support tickets is only supported with the Windows platform. E-mailing reports and support tickets is supported on all L&TT-supported operating systems with the exception of NetWare. You should view reports and support tickets with the Windows version of L&TT to provide unrestricted analysis.
- In the Windows version of L&TT, right-clicking any of the text in the report viewer displays a context menu with more options. To quickly see the entire support ticket or report, set the detail level to Everything or Factory only, right-click the top entry, and select **Expand All**.

Using a report or support ticket (Windows)

The use of reports and support tickets is essentially the same. The main difference is that reports have an enhanced format that presents more useful information to the average user. Support tickets contain log data and other information that is primarily intended for HP support personnel and developers. The procedure for accessing reports and support tickets is the same (with the exception of the **Health** button, which is explained below). However, reports are not yet available for all supported devices. If a report is available for the selected device, it will be generated. Otherwise, a support ticket will be generated.

Reports and support tickets can be generated in two ways:

- Generate reports and support tickets from the support screen. The support screen gives you the option of viewing, saving, or e-mailing the report or support ticket.

  To access the support screen:

  1. Select a device in the device list (By Product or By Connection tab).
  2. Click **Support** on the main toolbar.
- Generate reports with the **Health** button. This is the preferred method for quickly generating and displaying a report.
  1. Select a device in the device list (By Product or By Connection tab).
  2. Click **Health** on the main toolbar. The report is generated and automatically displayed in the report viewer using the *Normal* detail level.

  NOTE:

  If the report format is not yet available for the device selected in step 1, the **Health** button will be grayed out. In this case, use the support screen to generate a support ticket.

Using the support screen

Reports and support tickets are generated from the support screen. If the report format is available for the selected device, a report will be generated. Otherwise, a support ticket will be generated.

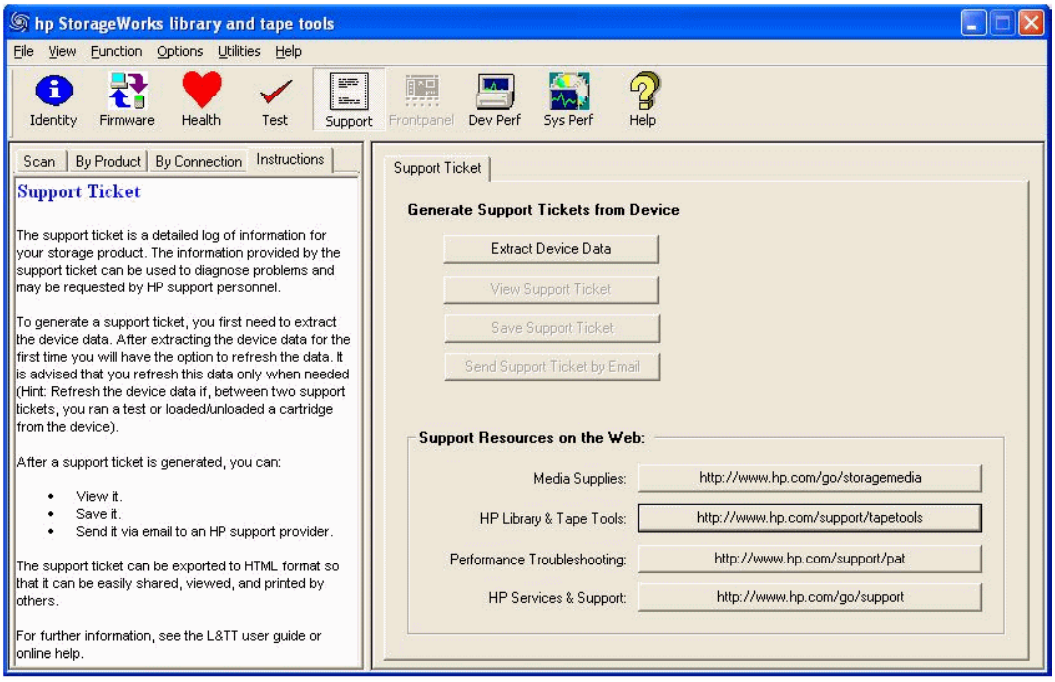

Figure 25 Support screen

To generate a report or support ticket, you must first extract the device data. Click **Extract Device Data** to generate the report or support ticket. After extracting the device data for the first time, the **Extract Device Data** button text changes to **Refresh Device Data**. You should refresh the device data whenever a change is made to the device that can affect the support ticket, such as running a test or loading/unloading a cartridge.

After extracting (or refreshing) the device data, the following three options become available:

- `View Support Ticket`—Click this button to view the report or support ticket in the report viewer. The report or support ticket can later be saved or sent via e-mail. For more information, see "Viewing a report or support ticket" on page 119.
- `Save Support Ticket`—Click this button to save the report or support ticket. For more information, see "Saving a report or support ticket" on page 121.
- `Send Support Ticketby E-mail`—Click this button to send the report or support ticket via e-mail to an HP support center (or other destination). Clicking this button opens a form that allows you to provide all the necessary information. Complete the form and click the **Send** button to send the e-mail. Using this option doesnot save a copy of the support ticket locally, so you are advised to click **Save Support Ticket** to save a copy for future reference. For more information, see "Sending a report or support ticket by e-mail" on page 123.

In addition to the above options, the bottom section of the support screen provides resources for finding support on the Web. Click any of the buttons in the Support Resources on the Web section of the screen to open a browser window and view the corresponding website.

Report and support ticket compression

When you save or e-mail a support ticket, L&TT generates a single, compressed support ticket file. The support ticket includes the master support ticket file, `sticket_header<time>.ltt`, and one or more `VidPid_UID.ltd` data files.

Viewing a report or support ticket

After a report or support ticket is generated, it is displayed in the report viewer. Click the "+" and "–" signs to expand and collapse sections of the support ticket. Use the standard navigation keys (**Home**, **End**, **Page Up**, **Page Down**, and the arrow keys), the Windows scroll bars, and the mouse to navigate through the document.

To print the report or support ticket, select **File > Print** from the menu bar within the report viewer.

Setting the detail level

Reports and support tickets can display information in several different levels of detail, depending on the setting displayed in Current Detail Level. The following detail level settings are available:

- Highlights only (not used with reports)
- Normal
- More details
- Everything (the highest level a customer can view)
- Factory only (Requires a factory password. Contact HP support to obtain a factory password.)

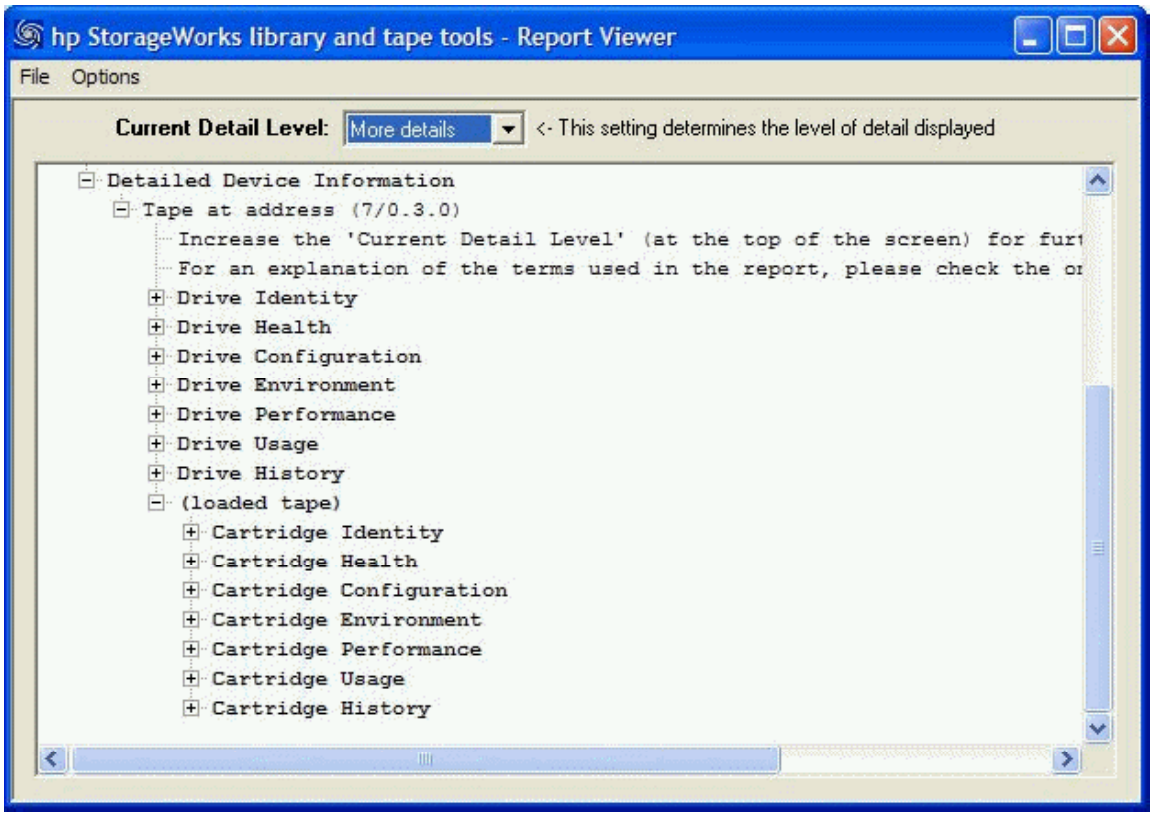

Figure 26 Example report

Other functionality

Right-click any line in the support ticket viewer to display a context menu that exposes additional functionality. Depending on the line that was clicked, the following items may or not be available (unavailable items are greyed out):

- **Expand All**—Expands all subitems.
- **Event Explanation**—Opens the **Event** window that displays additional information about the event. You can view the data in either ASCII or hexadecimal format. This feature is available for items preceded with the blue information icon ( ). See Viewing embedded data for more information.
- **Event Data**—Opens the **Event Data** window that displays L&TT-specific information about the event.
- **Copy**—Copies the current line to the Windows clipboard.
- **Reference Data**—Opens the **Reference Data** window that displays reference information pertinent to the current line such as valid ranges and applicable values.
- **Find Sub-Tree**—Search for a particular sub-tree.
- **Copy Sub-Tree**—Copies the current sub-tree to the Windows clipboard.

Viewing embedded data

When viewing a support ticket for an interfacecontroller in an Enterprise Tape Library having an Interface Manager card with firmware revision 1160 or higher, the support ticket only displays a Data node that contains an HTML report page compressed into a zip file. This HTML report page contains all the data previously displayed through the report viewer for the Interface Controller support ticket and more. The Data node is preceded with the blue information icon ( ), as shown in Figure 27.

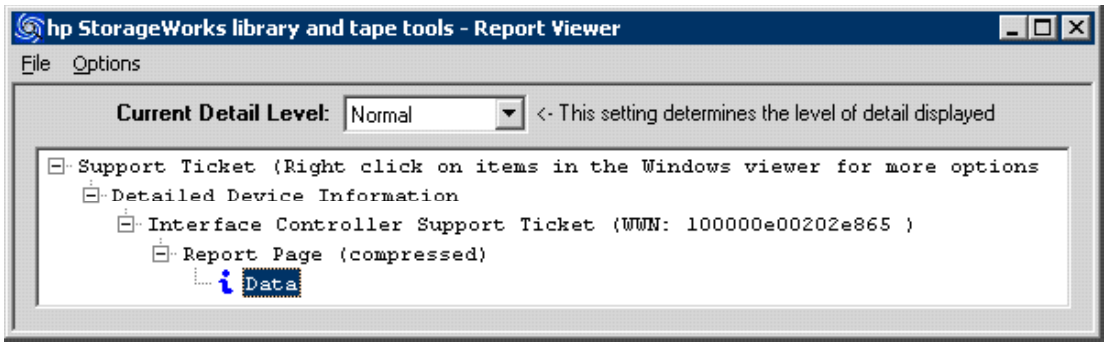

Figure 27 Support ticket with embedded data

To view the embedded data:

1. Double-click `Data` to openthe **Event** viewer.

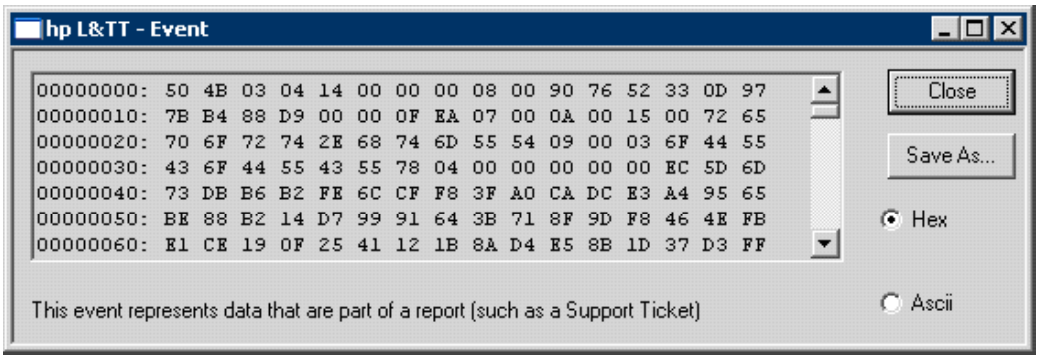

Figure 28 Event viewer

2. Select **Hex** to view and save the file as a binary file.
3. Click **Save As** and save the file with a `.zip` extension.
4. Extract `report.htm` from the `.zip` file and openit in a browser window.

NOTE:

If you are using Internet Explorer, depending on security settings, you may see a message stating that Internet Explorer has blocked ActiveX content. In this case, click the security alert at the top of the browser window and select **Allow Blocked Content** from the context menu.

Saving a report or support ticket

When you save a support ticket, L&TT generates a single, tarred, zipped support ticket with the `.lzt` file type in the logs directory. The support ticket is named `st_<date>_<time>_<serial number>.lzt` by default. The support ticket is a compressed, tarred file containing the master ticket file, `sticket_header<time>.ltt`, and one or more `VidPid_UID.ltd` data files for each device.

NOTE:

For legacy 3.x large libraries, including SureStore 2/20, SureStore 4/40, SureStore 6/60, SureStore 6/140, SureStore 10/100, SureStore 1/9, and the MSL5000 and MSL6000 series libraries, the tarred support ticket contains a single compressed `.dat` file.

To view the saved support ticket, openthe `.lzt` file using Windows Explorer, or use the `Load` command on the L&TT **File** menu.

TIP:

To view or e-mail the individual files, rename the `.lzt` file so it has a `.tar` file extension and use WinZip to extract the files to a single directory. The master ticket file will have a `.ltt.lzo` extension, and the data files will have `.ltd.lzo` extensions. You can open the master ticket file with Windows Explorer or with the `Load` command on the L&TT **File** menu.

Sending a report or support ticket by e-mail

From the Support screen, click **Send Support Ticket by E-mail** to generate the support ticket and immediately send it via e-mail to an HP support center (or other destination). The E-mail Support Ticket dialog box opens.

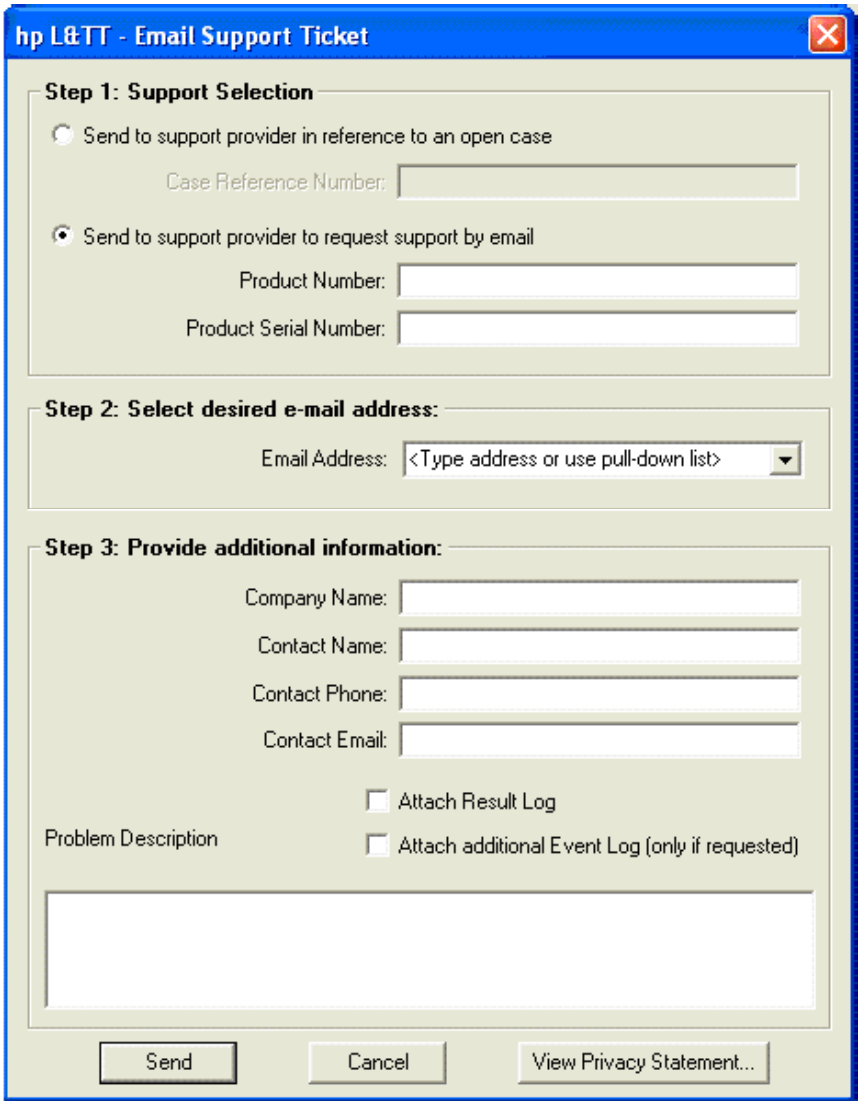

Figure 29 E-mail support ticket dialog box

Before L&TT can e-mail a report or support ticket, you must either have a MAPI-compliant e-mail program (such as Microsoft Outlook or Outlook Express), or you must set up an e-mail account through the Windows Control Panel or Internet Explorer. For more information about setting up an e-mail account, see "How do I configure e-mail to send support tickets?" on page 171

The E-mail Support Ticket dialog box is divided into three steps:

1. In Step 1, indicate whether this is a new support request or an existing case.
   - If this is a new support request, select **Send to support provider to request support by e-mail**. Enter the product number and product serial number in the appropriate fields.

- If this is an ongoing support case, select **Send to support provider in reference to an open case** and enter the case reference number in the appropriate field.

2. In Step 2, enter the destination e-mail address. Use the dropdown box to select from a list of HP support providers, or enter the e-mail address manually. Two valid e-mail addresses are offered, both for the North American region:
   - LTT North America Support Call Center lttna@hp.com (for all North America except 3rd party outsourcer use)
   - LTT North America Support Call Center lttna20@hp.com (for 3rd party outsourcer use)

NOTE:

Customer support personnel typically provide an e-mail address to users who are e-mailinga support ticket as a resultof a support call request. In this case, the user should enter the e-mail address exactly as provided by the support person. In the European region, this will usually be provided in the form: "<xxx>@cases.brussels.hp.com" where *xxx* is the actual assigned case number. This associates the support case number with the support ticket, making resolution and tracking more manageable.

3. In Step 3, specify the following additional information:
   - *Contact information*—Enter your company name, contact name, contact phone, and contact e-mail address.
   - *Attach Result Log*—Attach the support ticket to the e-mail for analysis by HP service personnel.
   - *Attach additional Event Log (only if requested)*—Sendthe event log if requested by HP service personnel.
   - *Problem description*—Enter a detailed description of the problem you are having.

When you have completed the form, click **Send**.

NOTE:

L&TT defaults to 10 MB for maximum size for any e-mail. If your e-mail setup will not permit e-mail files as large as 10 MB, click **L&TT Options > Preferences**, click the check box for maximum e-mail size, and then enter a smaller number. If you attempt to e-mail a support ticket using L&TT that is larger than the maximum e-mail size, L&TT will not send the e-mail. In this case, you can save the `.lzt` support to your disk. Rename the file to have a `.tar` file extension, and then use WinZip to expand the support ticket into a single `.ltt.lzo` file and one or more `.ltd.lzo` files. You can e-mail these files individually.

Comparing reports or support tickets

To compare two reports or two support tickets and generate a report of the differences:

1. Generate or openthe first report or support ticket to be compared.
2. In the report viewer, select **File > Compare**. The Open dialog box opens.
3. Select the report or support ticket to which you want to compare and click **Open**. The comparison results are displayed in a separate window.

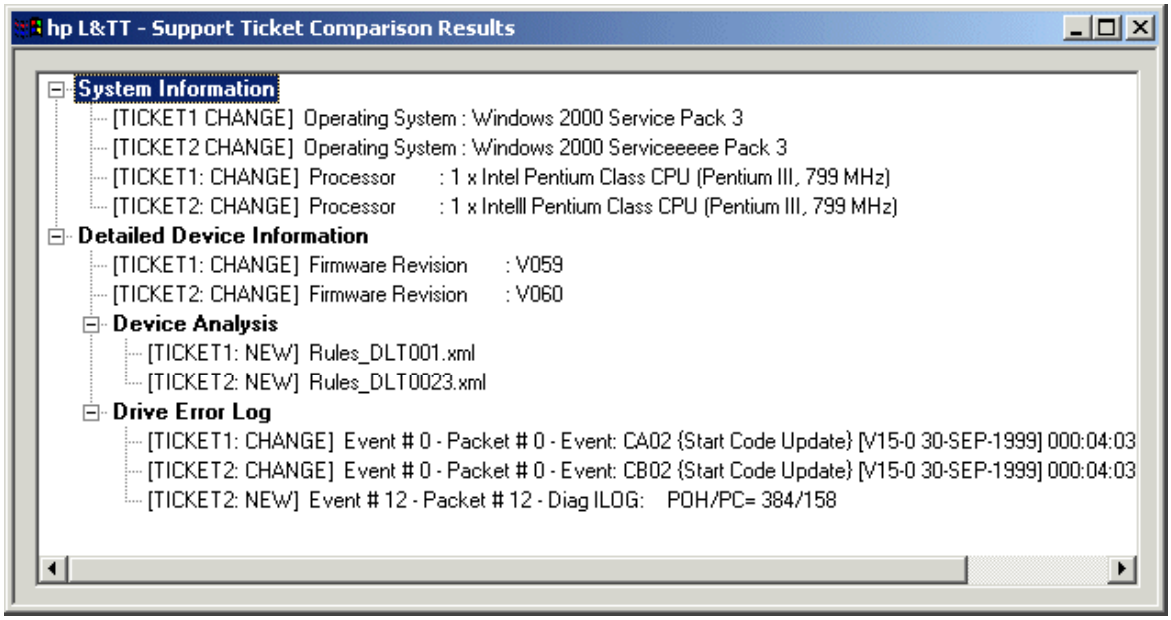

Figure 30 Support ticket comparison results

Interpreting a report

The information displayed in the report will vary greatly depending on the device being analyzed and the detail selected. The following report sections may or may not be displayed for any particular device:

- Identity—This section identifies both the drive and the interfaces.
- Health—This section contains a summary of whether the drive is Fit For Purpose (FFP). If there are any issues identified, then they are explained and corrective action suggested. The Health section also highlights remaining margin relating to the remaining life of the drive/media.
- Configuration—This section allows you to check the configuration settings of the drive or interface. The items in this section are usually set by the backup application or HBA.
- Environment—This section displays any known information about the environment in which the device is operating (such as temperature).
- Performance—This section displays information regarding the recent performance of the device, such as recent native transfer rates, compression ratios, and so forth.
- Usage—This section shows usage information for the device since it was new.
- History—This section displays any significant events that have happened (and have been recorded by the device).

For a more detailed explanation of device-specific information displayed in each section, see "Device-specific report analysis" on page 127.

Understanding the margin ratings

When a report is generated, several tests are performed to measure drive performance for every aspect of operation. Each function that is tested is assigned a margin rating. Margin is expressed as a percentage where 0% is no margin, but the device should still work. 100% is full margin, or production quality. A working drive will have positive margin, whereas negative margin indicates an issue. The percentages are also mapped to simple wording as follows:

< 0%	Warning
>= 0% and < 25%	Fair
>= 25% and < 50%	Good
>= 50%	Great

Corrective action should be considered if the margin does not meet the levels of confidence that the data requires. For example, a nightly backup probably doesn't need the same level that a ten year archive does. In general, corrective action is only required if Warning is shown, but Fair suggests possible future issues, and corrective action could prevent such issues from occurring.

Corrective action could take the form of:

- Cleaning the drive
- Trying another tape (look at the tape history to see if other drives have had similar issues)
- Checking the environment. Temperature extremes can have an effect. Contamination can be a significant issue.

If in doubt, run the L&TT Drive Assessment test with a trusted (or new) tape. This is the test approved by HP support to give the most accurate assessment of drive health. If a drive passes this test, it is considered to be good. If it fails (and the tape is good), then HP support will exchange the drive.

Things to look for

After generating the report, look for the following trouble indicators:

- Device Analysis Rules—These are device-specific items that L&TT tests. These rules are displayed in the Drive Health section under Device Analysis. This is the first place to look for health information and advice on corrective action.
- Drive health varying with different tapes—In this case, the tapes are most likely causing the variation.
- Tape health varying with different drives—In this case, the drives are most likely causing the variation.
- A drop of margin over time—Rapid drops can indicate contamination.
- Tapes nearing the end of their working life—Older tapes are less reliable and may need to be replaced.
- Drives nearing the end of their normal working life—This is unlikely because the estimated lifespan of HP drives is very high.

Device-specific report analysis

This section explains device-specific report data. Currently, the report format is only available for LTO drives and media. As support for the report format is added to other devices, the information will be added to this section.

Click the relevant link to jump to that section:

- LTO drives
- LTO media

LTO drives

The report groups information into the following standardized sections, and wherever possible, identifies the drive and media as separate devices.

- Identity
- Health
- Configuration
- Environment
- Performance
- Usage
- History

Identity

This section shows the identification of both the drive and the interfaces. The Format entry also indicates compatibility.

Health

This section is split into two main sections: Device Analysis and Write/Read margin data.

- The Device Analysis section shows the output of the device rules. This is the first place to look for health information and advice on corrective action.
- The Write/Read margin data section shows the write and read margin of the last five tapes (current and previous four tapes).
  - The summary line (top line of this section) shows the average and worst margin values found in the available history. The Current tape and four Previous tape lines show margin information for the last five tapes used. If there is a margin warning for one tape, then that suggests a suspect tape. Cross check with the cartridge history below or try the tape in another drive. If there is a margin warning for all tapes then the drive itself is suspect. Try cleaning the drive and run the Drive Assessment test to check the drive.
  - The Head life, Reposition life, and Load/unload life lines show life figures for the drive.

Configuration

This section shows configuration information for the drive and its associated interface controller.

- In the Drive section, useful configuration information is listed which can assist with troubleshooting potential drive problems. For example, the report records the current data compression setting of the drive, and whether the backup application has prevented media removal.
- In the Interface section, verify that the negotiated burst rate is as expected. This value should match the data shown for the interface controller in the Drive Identity section (the name of the controller generally indicates the maximum speed that the interface can handle).

Environment

This section shows temperature data for the drive. Verify that all temperatures shown are within normal limits.

Performance

This section shows burst performance figures for the drive, and estimated native performance figures for the last four tapes.

- Maximum data rates show the highest rate that the data compression engine has seen. Figures are high because of buffering. These values show the maximum possible rates with very high compression ratios.
- Average data rates before compression are what the host has seen. Average rates after compression are the native rates for the tape.
- Write and read compression ratios are calculated over the same data. These figures are reset on tape load, in which case Unknown is shown.
- Performance figures are estimated from various drive logs.

Usage

This section shows usage data for the drive since it was new, as well as the amount of data transferred over the current and previous four tapes.

The Tape pulled item is expressed in full volume equivalents as that is closest to a customer model. HP media documentation also uses this unit.

History

This section displays drive logs that show what the drive has been doing. The event log shows high-level information on commands received, internal processing, and any errors returned to the host (including tape alert information).The event log also includes history from Device Analysis and Drive Assessment tests. The times shown are relative to the last power on.

LTO media

This section displays information on the currently loaded tape (header displays loaded tape), or the tape that was loaded last (header displays ejected tape). If you are using genuine HP media, more information is displayed in this section than would be with non-HP media.

This section has several sections and sub-sections:

- The Identity section shows the identity of the media. Note that the *Barcode* item is not used by all products.
- The Health section is split into three sections:
  - The Data on tape section shows margin measurements for the data on the tape. Data on tape is written in wraps where each wrap is a pass up or down the tape. Each generation of LTO has a different number of wraps. Each wrap has a measure of margin revealing any bad spots on the tape. The summary line (top line of the section) highlights the worst margin found and should be used for a measure of minimum quality of the whole tape. The last used wrap usually displays *partially written*. Only fully written wraps can be measured for margin.

    To the right of the margin indicator for each wrap is a text-based bar chart that graphically shows the margin rating. The zero in the middle represents 0% margin, and the carat (^) represents the actual margin of the wrap. This is helpful to visualize margin across the tape if a bad area covers more than one wrap.
  - The Drive measurements section shows data from the error rate counters of the drives the cartridge was used in. The summary line shows the worst margin found in the available history. If there is a margin warning for one drive but good margin for the other drives, then that suggests a suspect drive. Try cleaning the drive and run the Drive Assessment testto check

it. If there is a margin warning for all drives, then the cartridge itself is suspect. Cross check this information with the *Drive History* section of the report.

  - The Write/read life and Load/unload life items show cartridge life estimates based on usage and published expected life figures with HP drives. Because HP drives are tuned to work with genuine HP media, HP media can be expected to have a longer usage life.

- The Configuration section shows whether the cartridge is write protected and WORM enabled. Note that WORM is only supported with LTO3 and later drives.
- The Environment section shows data for the current and previous drive environment. Watch for warnings even in previous drives. This information can be useful to track down system hot spots or cooling issues.
- The Performance section shows performance data for the cartridge in the current drive, as well as the previous two drives. Performance figures from previous drives are estimated from the amount of data transferred and the time spent pulling tape. If less than 60 seconds of tape pulling have occurred, then the message Not enough data is displayed because the estimate is likely to be inaccurate.
- The Usage section includes how much of the cartridge capacity has been used (all figures native) and usage over the available history of previous drives. The total write/read data volume and load count since new are also shown.

Generating and viewing a support ticket (CSI)


To generate and view a report or support ticket in the CSI environment:

1. From the Main screen, select the device for which to create a report or support ticket. The device information screen opens.
2. Enter the `support` command to access the Support screen. Alternatively, if the report format is available for the selected device, then you can use the `health` command to access the Support screen.


NOTE:

The functionality of the Support screen is the same, regardless of which command you used to access it.

3. From the Support screen, enter the `extract` command (or the `refresh` command).

   After extracting a report or support ticket for a device for the first time, the `extract` command is replaced with the `refresh` command. Refresh the device data whenever a change is made to the device that can affect the support ticket, such as running a test or loading/unloading a cartridge.
4. After extracting (or refreshing) a report or support ticket, do one of the following:
   - Enter the `view` command to view the support ticket.
   - Enter the `save` [<*arg*>] command to save the report or support ticket.

     L&TT generates a support ticket in the **`logs`** directory. The report or support ticket can later be viewed (using the `load` command from the Main screen) or sent via e-mail.

     - If no argument is specified, L&TT generates a single, compressed file in the logs directory. By default, the name of this file is `st_<date>_<time>_<serialnumber>.lzt`, although you can specify another name on a subsequent screen if desired. The support ticket is a compressed, tarred version of the following files:
       - `sticket_header<time>.ltt`
       - One or more `VidPid_UID.ltd`
     - If you specify an argument with a path and filename, as in this example:

       `/opt/temp/abc.lzt`

       L&TT creates the support ticket `abc.lzt` in the `/opt/temp` directory.
     - If you specify an argument with only a filename, as in this example:

       `abc.lzt`

       L&TT creates the tarred support ticket `abc.lzt` inside the `/opt/ltt/logs` directory. L&TT will add the `.lzt` extension if it is not included in the filename.
   - Enter the `send` command to send the report or support ticket by e-mail. See "Sending a support ticket by e-mail (CSI)" on page 131 for more information.

When viewing the support ticket, use **Ctrl+U** and **Ctrl+D** to scroll up and down through the results. You can also use the `find` and `page` commands to quickly locate information.

Support ticket compression

When you save or e-mail a support ticket, L&TT generates a single, compressed support ticket file. The support ticket includes the master support ticket file, `sticket_header<time>.ltt`, and one or more `VidPid_UID.ltd` data files.

NOTE:

L&TT defaults to 10 MB for maximum size for any e-mail. If your e-mail setup will not permit e-mail files as large as 10 MB, click **L&TT Options > Preferences**, click the check box for maximum e-mail size, and then enter a smaller number. If you attempt to e-mail a support ticket using L&TT that is larger than the maximum e-mail size, L&TT will not send the e-mail. In this case, you can save the `.lzt` support to your disk. Rename the file to have a `.tar` file extension, and then use WinZip to expand the support ticket into a single `.ltt.lzo` file and one or more `.ltd.lzo` files. You can e-mail these files individually.

Sending a support ticket by e-mail (CSI)

To generate a support ticket and send it via e-mail:

1. From the Main screen, select the device for which to create a support ticket. The device information screen opens.
2. Enter the `support` command to access the Support screen.
3. From the Support screen, enter the `send` command to display the Send Support Ticket screen.

   The Send Support Ticket screen displays a list of several parameters that must be entered before the support ticket can be sent. The screen displays the current values for each parameter.
4. Enter the number of the first parameter, and then enter the parameter data at the prompt.
5. Repeat step4 for each remaining parameter and option. When entering the e-mail address, two valid e-mail addresses are offered, both for the North American region:
   - LTT North America Support Call Center lttna@hp.com (for all North America except 3rd party outsourcer use)
   - LTT North America Support Call Center lttna20@hp.com (for 3rd party outsourcer use)

   NOTE:

   Customer support personnel typically provide an e-mail address to users who are e-mailing a support ticket as a resultof a support call request. In this case, the user should enter the e-mail address exactly as provided by the support person. In the European region this will usually be provided in the form: "<xxx>@cases.brussels.hp.com" where *xxx* is the actual assigned case number. This associates the support case number with the support ticket, making resolution and tracking more manageable.
6. When all the required parameters and options have been specified, enter the `send` command to generate and send the support ticket.

Loading or opening support tickets

L&TT version 4.2 supports opening the following support ticket file types:

- .lzt — tarred support ticket
- .ltt — master ticket file (Windows only)
- .ltd — data files
- .lzo — compressed files, including .lzt.lzo, .ltt.lzo, .ltd.lzo
- .dat — L&TT 4.0/4.1 and L&TT 3.x data files (Windows only)

To load or opena support ticket on Windows (GUI), do one of the following:

- In the L&TT main screen **File** menu, select **Load Support Ticket**.
- In the L&TT Report Viewer **File** menu, select **Load as**.
- Open the file in Windows Explorer, except `.dat` files.

To load a support ticket from the CSI:

- In the main screen, enter `load <path and filename>`.

Using XML support tickets

Starting with L&TT version 4.2, L&TT can generate a support ticket in XML format. The XML-format support ticket includes additional properties that do not appear in the report viewer view, but are helpful when comparing multiple support tickets for a device.

Generating an XML support ticket (GUI)

GUI To generate an XML support ticket on Windows:

1. In the **Support Ticket** pane, click the **View support ticket** tab to openthe **Report Viewer**.
2. Select the **Current Detail Level**.
3. In the **File** menu, click **Save as XML file**.

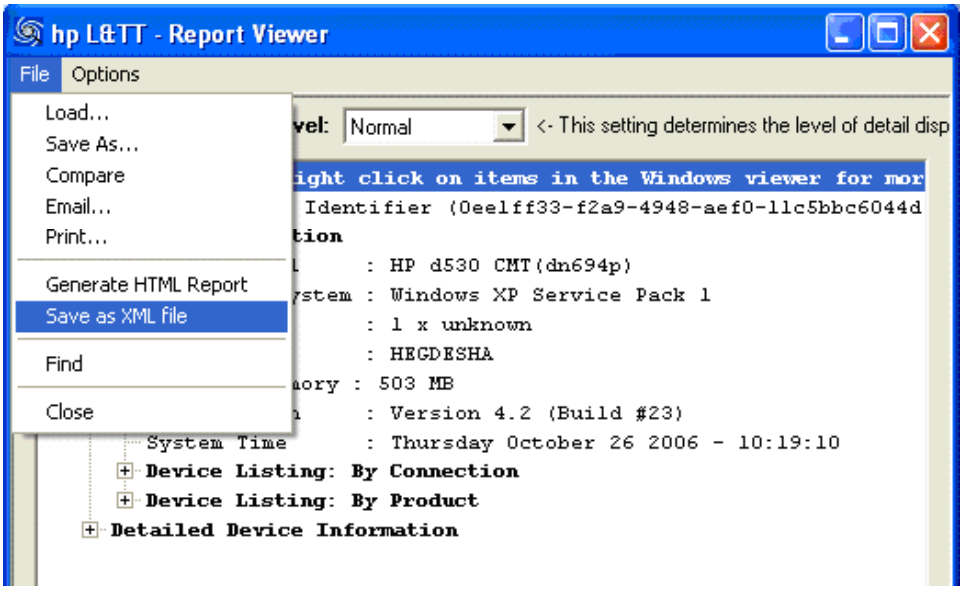

Figure 31 Save as XML file menu item

4. Enter the file name. By default, L&TT saves the support ticket in the `logs` folder with the name `SupportTicket.xml`.

To generate an XML support ticket from a saved support, open the saved ticket in the Report Viewer and follow the directions above to generate the XML support ticket.

Generating an XML support ticket (CSI)

To generate an XML support ticket, extract the report or support ticket and then do the following:

1. Enter the **View** command to view the support ticket.
2. If you want to change the **Current detail level**, enter `detail<level>`.
3. Enter `savexml [<arg>]` to save the support ticket in XML format.
   - If no argument is specified, L&TT saves the XML ticket with the default filename `SupportTicket.xml` in the `/opt/ltt/logs` directory.

- If you specify an argument with a path and filename, as in this example, `/opt/temp/abc.xml`
  L&TT saves the XML ticket with the name `abc.xml` in the `/opt/temp` directory.
- If you specify an argument with the filename only, as in this example, `abc.xml`
  L&TT saves `abc.xml` in the `/opt/ltt/logs` directory.

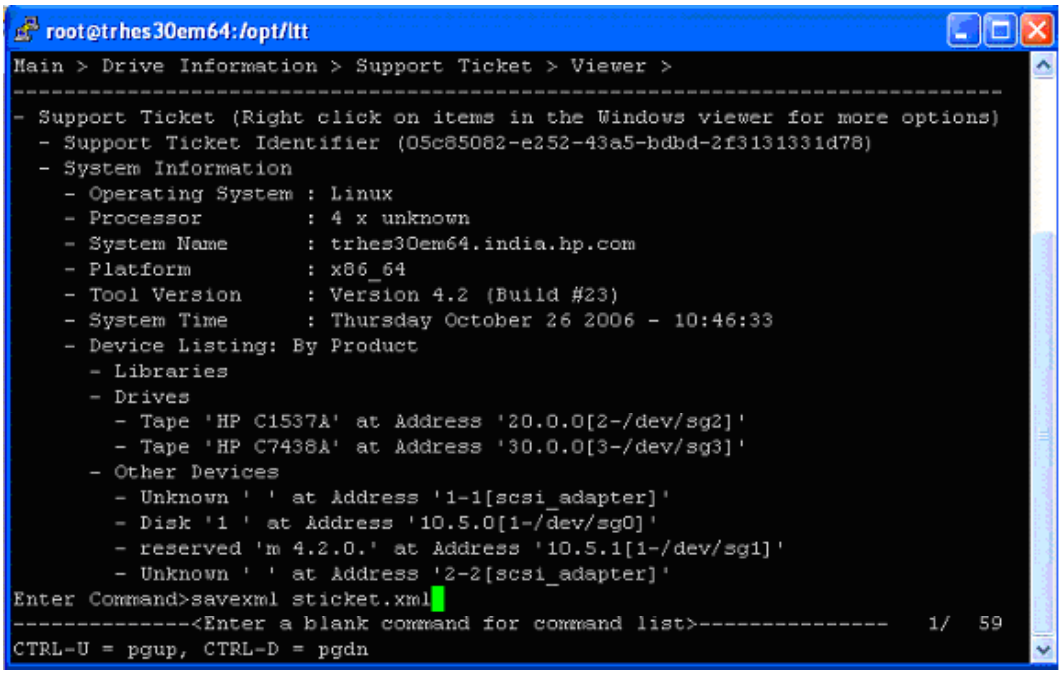

Figure 32 Saving an XML support ticket

Common information reported for all products

NOTE:

For standalone devices (such as DDS drives), HP recommends that you generate a report or support ticket when the drive still contains the media with which the drive may have failed. This allows error rate and other information relevant to that cartridge to be examined. When media is removed, many products automatically clear this information. However, for most SureStore tape libraries it is better to have the drives empty; this forces the library drive/media log to be updated.

The following information is included in the support ticket regardless of what products are being analyzed:

- System information provides basic host system information such as operating system, processor type, system name, physical memory size, and the current version of L&TT being used. This information also includes a snapshot of the SCSI bus configuration determined by the I/O scan, showing connected devices listed physically and logically.
- L&TT history provides a brief history of the L&TT functions the user has accessed such as whether ASPI was installed, how many times L&TT has been run, and which functions have been used.

Using the event log

L&TT can generate a detailed event log that captures all L&TT diagnostic interaction, all SCSI commands sent and received by the program, and any software interactions or issues. The information it contains is intended for use by L&TT programmers as a tool for debugging software issues within the program itself.

Generating an event log (Windows)

GUI To generate an event log (Windows):

1. Run L&TT and select **Options > Preferences**.
2. Check the **Add I/O history to event log** option and click **OK**.
3. Exit and restart L&TT.
4. Replicate the problem encountered.
5. Navigate to the `logs` directory in the L&TT installation directory. Locate the `Eventlog.ltt` file.
6. Attach the `Eventlog.ltt` file to an e-mail and send it to the L&TT team for diagnosis.
7. Return to L&TT and select **Options > Preferences**.
8. Uncheck the **Add I/O history to event log** option and click **OK**.

△ CAUTION:

This option should not be left enabled because it can potentially use hundreds of megabytes of disk space.

NOTE:

In the log directory you may also see other event log entries such as `EventLog_backup1.ltt`, `EventLog_backup2.ltt`, `EventLog_backup3.ltt`, and so on. The versions of the event log are numbered in historical order.

Because the event log stores a SCSI trace of the interaction between the product and the L&TT software, it can be used as a simple SCSI analyzer. To do this, select the `Add I/O history to event log` option (as described in steps 1 and 2 previously) and make sure that you view the event log at the "factory only" detail level.

In escalations or integration situations, this can sometimes eliminate the need for a SCSI analyzer. All SCSI commands and responses can be found in the event log if the `Add I/O history to event log` option is enabled.

NOTE:

The event log can only capture I/O traffic from L&TT. It cannot be used to analyze traffic from other applications or the OS.

Generating an event log (CSI)

CSI To generate an event log (CSI):

1. From the Main screen, enter **preferences**.
2. Enter **4** at the command prompt, and select the check box.
3. Enter **5** at the command prompt, and then enter the value **128**.
4. Exit and restart L&TT.
5. Replicate the problem encountered.

6. Navigate to the `logs` directory in the L&TT installation directory. Locate the `Eventlog.ltt` file.
7. Attach the `Eventlog.ltt` file to an e-mail and send it to the L&TT team for diagnosis.

△ **CAUTION:**

This option should not be left enabled because it can potentially use hundreds of megabytes of disk space.

NOTE:

In the log directory you may also see other event log entries such as `EventLog_backup1.ltt`, `EventLog_backup2.ltt`, `EventLog_backup3.ltt`, and so on. The versions of the event log are numbered in historical order.

NOTE:

The event log can only capture I/O traffic from L&TT. It cannot be used to analyze traffic from other applications or the OS.