



Getting Started with StorHouse/ Performance Monitor

StorHouse/Control Center
Release 2

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StorHouse/Performance Monitor



Welcome

Welcome to StorHouse/Control Center's StorHouse/Performance Monitor—software to help you monitor and analyze activity on your StorHouse systems. This guide contains an introduction to the software. It describes the features, explains how to set up StorHouse/Performance Monitor, and shows you how to create and work with reports.



About StorHouse

StorHouse® is FileTek's enterprise-wide solution for managing the capture, storage, movement, and access of gigabytes to petabytes of relational and non-relational detail data. StorHouse technology combines industry-leading, scalable storage devices and Open System processors with FileTek's specialized hierarchical storage management (HSM) software called StorHouse/SM and relational database management system (RDBMS) software called StorHouse/RM.

About StorHouse/Control Center

StorHouse/Control Center (CC) is FileTek's Windows®-based network computing system for providing administrative control of the StorHouse family of products. StorHouse/Control Center works with StorHouse/SM Release 4.2 and higher and consists of one or more StorHouse/Control Center servers that communicate with StorHouse/Control Center clients over a TCP/IP network. CCServer software, which runs on Windows NT, 2000, or XP Pro platforms, provides network connectivity to StorHouse. The StorHouse/Control Center clients, which run on Windows 95, 98, NT, 2000, or XP Pro platforms, consist of one or more of these graphical user interface (GUI) modules:

- *StorHouse/Admin* for performing StorHouse system administration and database administration tasks
- *CCAdmin* for monitoring and managing StorHouse/Control Center servers
- *StorHouse/Performance Monitor* for analyzing StorHouse activity and performance



While there are many possible StorHouse/Control Center configurations (multiple StorHouse systems with multiple StorHouse/Control Center servers and multiple StorHouse/Control Center clients running one or more modules), the following drawing shows a sample configuration with the basic components of StorHouse/Control Center.

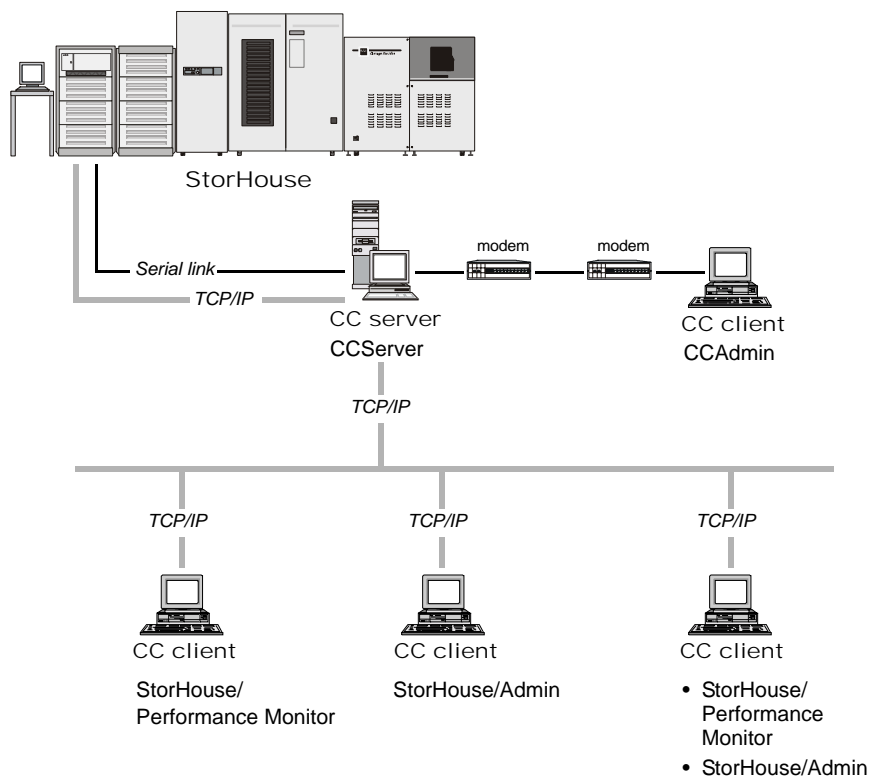


Figure i: Sample StorHouse/Control Center configuration



Audience

Getting Started with StorHouse/Performance Monitor is intended for the StorHouse system administrator. It assumes you understand StorHouse concepts such as volume sets and file sets, user log, system parameters, and VRAM™ files. This book also assumes you know how to use Windows-based products and are familiar with statistical graphing techniques.

What's inside

This guide is organized as follows:

- Chapter 1, “Basics,” describes the features of StorHouse/Performance Monitor.
- Chapter 2, “Setup,” explains the tasks you need to complete before using the software.
- Chapter 3, “Tour,” guides you through the windows, menus, and tool bar you use in StorHouse/Performance Monitor.
- Chapter 4, “Tutorial,” shows examples of how to create, manipulate, and save reports.



What you need

StorHouse/Performance Monitor requires the following hardware and memory:

- 200MHz Pentium processor (minimum) 300MHz (recommended)
- 32MB RAM (minimum) 128MB RAM (recommended)
- 10MB free disk space (minimum)
- 1 Ethernet port (must match speed of StorHouse)
- 800 x 600 256 Color SVGA Video minimum
- Windows 95/98, Windows NT 4.0 Service Pack 3, Windows 2000, or XP Pro Server or Workstation

If you're also running StorHouse/Admin or CCAdmin on the same computer, that machine should have an additional 10MB of free disk space (for a total of 20MB free space).

Installing the software

This guide assumes you have installed the StorHouse/Performance Monitor software. If you haven't installed it yet, refer to *Getting Started with StorHouse/Control Center* for instructions on installing all StorHouse/Control Center client modules, including StorHouse/Performance Monitor.



Notational conventions

This book uses the following conventions for presenting examples and identifying special terms:

Table i: Notational conventions

Convention	Meaning
<i>Italics</i>	New terms, emphasized text, and document names
Bold	Control names for boxes, check boxes, lists, and options
Quotation marks	Chapter and appendix titles
▼	Procedures

Getting online help

The integrated online help system provides the information to help you use StorHouse/Performance Monitor as well as StorHouse/Control Center. While this book is designed to explain the basics to get you started, the online help contains step-by-step procedures as well as a complete reference for using StorHouse/Control Center and StorHouse/Performance Monitor.

C H A P T E R

1



Basics

This chapter describes the features of StorHouse/Performance Monitor. It explains the types of information you can monitor and the different ways you can combine and display that information.

What you can monitor

StorHouse/Performance Monitor is a graphical tool for monitoring and analyzing the performance and activity of your StorHouse systems. With StorHouse/Performance Monitor, you can view current and historical activity, and you can graphically depict performance measures in easy-to-read reports.

How it works

When you create and view reports in StorHouse/Performance Monitor, you are not looking at live data or data resident on StorHouse. Instead, you are looking at data collected in *data files* and transferred to your PC or network. StorHouse logs information to the user log when certain events occur and writes summaries of this information to data files every 15 minutes. StorHouse logs information:

- When a system starts up and shuts down
- When a file is opened and closed
- Each time a volume is dismounted from a drive
- After a volume is moved from one device location to another
- At regular intervals to log library device usage statistics
- At regular intervals to log drive usage statistics

StorHouse doesn't collect this data automatically. You must set some StorHouse system parameters to enable information logging. Chapter 2 identifies which StorHouse system parameters affect data collection.

More about data files

There are three types of StorHouse/Performance Monitor data files.

Performance Data Files (PDFs). PDFs contain the data that StorHouse/Performance Monitor needs for all reports except those displaying volume set (VSET) access. A PDF file represents one month's data. For instance, there are 12 PDF files for 1999, one for each month. Data is stored within the file in 15-minute blocks called *data intervals*. So a typical PDF file at the end of a 31-day month contains 2,976 data intervals, or 96 data intervals for each day in the month (24 hours per day times 4 data intervals per hour equals 96 data intervals per day).



VSET Data Files (VDFs). VDFs—together with the VNF file—contain the information that StorHouse/Performance Monitor needs to create volume set activity reports. StorHouse creates a new VDF file every month. Each VDF file contains an entry for every VSET access event (close) and an indication whether the access is a read or write. The entries in the VDF file also include the time of the VSET access and an index number that references the actual name of the VSET in the VNF file.

VSET Name File (VNF). The VNF contains the name of every VSET accessed on a particular StorHouse system since the `SMVU_LOGGING` system parameter (see Chapter 2) was first turned on. The VNF is a list of actual VSET names. Each time you access a VSET that isn't listed in the VNF, StorHouse adds it to the VNF. The purpose of the VNF is simply to reduce the file size of the VDFs.

About PM File Copy

In order to obtain data files from StorHouse, you'll run a copy utility that's provided with StorHouse/Performance Monitor. This utility—called *PM File Copy*—copies data files from StorHouse to your PC drive or to a drive that you can access over a network.

Note: You can also use PM File Copy to copy user log files for other user-written programs (in addition to StorHouse/PM).

Once you've copied the data files and told StorHouse/Performance Monitor where to find them, you can begin to create reports. See "Copying data files to your PC" on page 2-8 for instructions on how to use PM File Copy.



What you can do

With StorHouse/Performance Monitor, you can create reports, manipulate them, create and apply layouts, save reports as images, view raw data, monitor near real-time activity, display user log data, and create reports on user log data.

Create reports

When you create a report you do three things: select report data, choose a report type, and format the report.

Report data

StorHouse/Performance Monitor report data comes from a data file or a set of data files. You select report data by:

- Choosing a data source (StorHouse system/StorHouse/Control Center server)
- Setting the date range (beginning and ending month, day, and year)

You can refine your data selection by:

- Choosing specific shifts (hours and minutes during a day)
- Including specific days of the week (Sunday through Saturday)
- Using a combination of both (certain hours and minutes on certain days of the week)
- Using data from a start date/time through an end date/time, or for certain time periods on each day from a start date/time through an end date/time.



StorHouse/Performance Monitor will use the data source and time period to determine which data files to use for the report. You don't have to know anything about those data files.

Once you select your report data, you can base different reports on the same data. So you select your data once, then format as many different reports as you like with that data.

Report types

You choose a report type to generate a specific type of information. There are 24 basic report types, each of which you can modify in various ways. The online help defines these report types in detail and describes how they are calculated.

- | | |
|--------------------------------------|-------------------------------------|
| ■ Availability | ■ Open files |
| ■ Drive hard errors | ■ Open processing time |
| ■ Drive MB read | ■ Open response time |
| ■ Drive MB written | ■ Platter mount |
| ■ Drive soft errors | ■ Shelf activity |
| ■ Drive utilization | ■ StorHouse/SM response time |
| ■ Hit rate | ■ System data transfer (Read) |
| ■ Library activity | ■ System data transfer (Read/Write) |
| ■ Library all drives busy | ■ System data transfer (Write) |
| ■ Library hard errors | ■ User defined |
| ■ Library slots used | ■ Volume set activity |
| ■ Library soft errors | ■ Volume set activity (Read/Write) |
| ■ Library volumes on-line | ■ VRAM concurrent opens |
| ■ Library volumes used | ■ VRAM record transfer (Read) |
| ■ Library weighted drive utilization | ■ VRAM record transfer (Write) |
| ■ Mounts vs. Open for read | ■ VRAM record transfer (Read/Write) |



Report formats

You format a report type to determine how the report will display your data. When you format a report, you choose the following:

- Report style
- Summary level
- Graph format

Report style. This determines what the data actually represents. There are seven report styles:

- *Correlation* plots one performance measure against another, showing the relationship between them.
- *Distribution* shows how frequently a summarized value occurs for a performance measure.
- *Trend* shows how a performance measure changes (increases or decreases) over time.
- *Unit summary* plots a value per unit selected, such as library or VSET, combining all data points for the time period. For instance, you can compare library activity for each of your libraries during a particular month or year. When you choose a Unit summary report style, StorHouse/Performance Monitor automatically sets the summary level to Combined.
- *Daily profile* shows a typical day for a selected time period, summarized hourly or in 15-minute intervals. For example, you could plot the number of mounts per hour over a typical day in December. The first point would summarize the first hour of all days in December, the second point would summarize the second hour of all days in December, and so on.



- *Weekly profile* shows a typical week for a selected time period, summarized daily. When using a Weekly profile report style, you choose a date range and a graph format. StorHouse/Performance Monitor automatically sets the summary level to Daily, meaning that it will display each day of a typical week on the X-axis.
- *Monthly profile* shows a typical month for a selected time period, summarized daily. When using a Monthly profile report, you choose a date range and a graph format. StorHouse/Performance Monitor automatically sets the summary level to Daily, meaning that it will display each day of a typical month on the X-axis.

Summary level. This determines whether the collected data is summarized and to what degree. StorHouse/Performance Monitor summarizes the data (by averaging, finding the maximum, adding, and so on) and displays data intervals on the X-axis corresponding to the summary level.

The available summary levels vary by report type, but there are six total:

- *No summary* displays all data (each 15-minute interval) as one point per hour on the X-axis. If you exceed the limit of 3,000 data points, StorHouse/Performance Monitor will ask if you want to summarize to a higher level.
- *Hourly* summarizes four data intervals into a single point to be used in the selected report style (for trend and profile reports, one point per hour on the X-axis).
- *Daily* summarizes 96 data intervals into a single point to be used in the selected report style (for trend and profile reports, one point per day on the X-axis).
- *Weekly* summarizes 672 data intervals into a single point to be used in the selected report style (for trend and profile reports, one point per week on the X-axis).



- *Monthly* summarizes the data intervals into a single point to be used in the selected report style (for trend and profile reports, one point per month on the X-axis).
- *Combined* combines all data for the designated time period into one point for each unit measured. For instance, if you're measuring drive hard errors (unrecoverable errors), StorHouse/Performance Monitor will display—on the X-axis—one point for each drive. That point will indicate the total number of hard errors for the drive during the designated time period. StorHouse/Performance Monitor chooses Combined automatically when you select Unit Summary as the report style.



Graph format. This determines how the data is graphed. There are five graph formats:

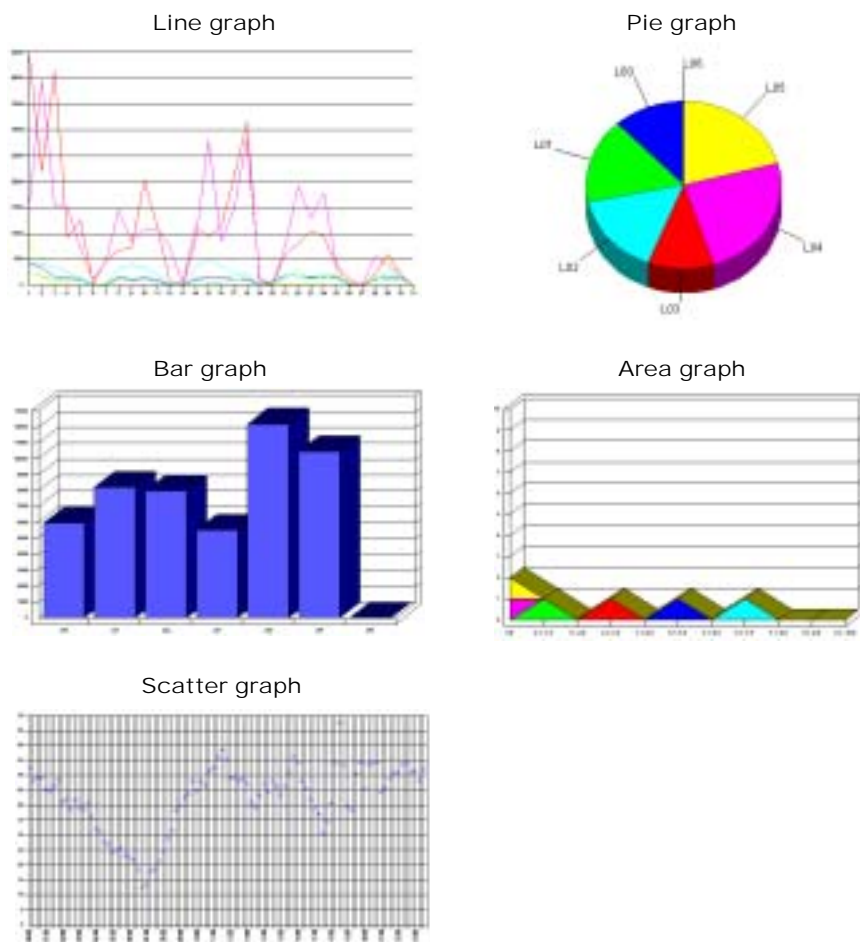


Figure 1-1: Graph formats



All graph formats, except pie, have an *X-axis* (across bottom) and a *y-axis* (along left side or right side). Typically, the X-axis displays data according to the summary level, and the y-axis displays a quantitative value, such as the number of mounts or percentage availability.

Manipulate reports

After you create a report, you can do the following.

Combine reports. You can display up to four reports in one window, then print the combined report. StorHouse/Performance Monitor selects the best orientation—landscape or portrait—for a combined report.

Export report data. If you need to use report data in another application, such as a word processor or spreadsheet, you can export the report data to a file at a specified location and file name.

Zoom in and out. Instead of viewing an entire report, you can zoom in to display a smaller area (selected report types). This is especially helpful for reports with many data points. When you zoom out, StorHouse/Performance Monitor automatically returns to the full-report viewing mode.

Show value at point. In addition to viewing data points as a graph, you can request the value of any point and determine the date and time the summarization began for the point.

Print reports. You can print StorHouse/Performance Monitor reports at any local or network printer set up for your computer. You can print in monochrome or color, landscape or portrait. StorHouse/Performance Monitor expands a report to fit the dimensions of the paper.

Change report appearance. StorHouse/Performance Monitor provides a complete set of *report tools* for customizing the appearance of your



reports. For instance, you can edit report titles, change font style, change background formatting and color, reposition legends, and choose different graph formats from a gallery of 2D and 3D formats. See the online help provided with report tools for instructions on using these and other report tools functions.

Create and use layouts

A *layout* is a *report definition*, which includes:

- Report type (hit rate, library activity, and so on)
- Report style (distribution, trend, correlation, and so on)
- Summary level (daily, weekly, combined, and so on)
- Graph format (area, bar, line, and so on)

You can create a report once, save the layout, then use the layout as often as you like with different report data. This is useful when you want to use the same report format with different report data. You choose your report data, apply the layout, and create the report without formatting it.

For instance, you could create a Library Activity report with a Monthly profile report style, a Daily summary level, and a Bar graph format. After creating the report, you could save the layout, then use the layout over and over with different report data. All you have to do is select your report data.

Layouts are stored in *layout files*. A layout file can contain a single layout or multiple layouts. For instance, you might create a layout file that contains various types of drive error report layouts, or you might create one layout file that contains all of your layouts for a specific StorHouse system. You could also store each layout in a separate file. The file extension of a layout file is FPL (FileTek PM Layout).

You must designate a default directory for storing your layouts. StorHouse/Performance Monitor uses this directory whenever you create

a new layout file. For each data source, you can designate a different default layout directory. You'll identify your layout path when you set up your preferences. See Chapter 2 for more information.

In the following example, there's one layout file called `libraryactivity.FPL`. This layout file contains two layouts for the library activity report:

- The `unitcombinedbar` layout applies a Unit summary report style, Combined summary level, Bar graph to report data.
- The `weeklydailyscatter` layout applies a Weekly profile report style, Daily summary level, Scatter graph to report data.

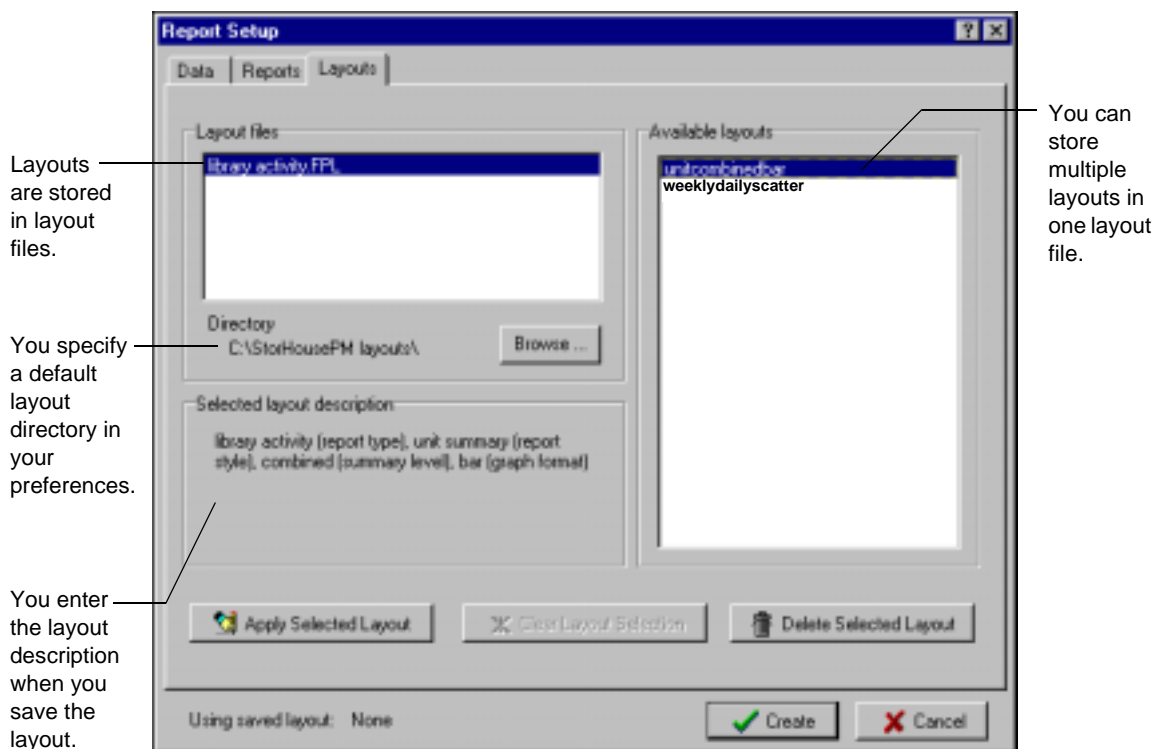


Figure 1-2: Report Setup dialog box, Layouts tab

Save reports

If you need to use a StorHouse/Performance Monitor report later, you can save it as an image. An *image* is a file that contains a picture of a report. Three available image types are: BMP, WMF, and JPEG. When you save a report as an image, you can change it in an image editing program, include it in word processor documents or presentations, attach it to an email, or do anything else that you can do with an image file.

View raw data

You can look at the data behind your reports, in other words, see the activity in each 15-minute data interval in a PDF file. This is useful for verifying actual activity that occurred during a 15-minute period on a specific day. After you can select a specific PDF file, you can scroll through all of the data intervals or you can set the day, hour, and quarter-hour to select a specific data interval.

Click to scroll up or down through the data intervals in a PDF file.

Each data interval shows activity that occurred during a 15-minute period.

Source PDF file: C:\Program Files\ControlCenter\2.0\bin\PM\data\reports\post5502.PDF

Time zone: 05

Current interval: Wed Dec 1, 1999 00:15

Day: 1 Hour: 0 Quarter: 1

View Interval

Opens:

Total: 123 Files: 123 Read: 0

Concurrent: 0 VRAM: 0

Libraries	L00	L01	L02	L03	L04	L05
Soft errors	0	0	0	0	0	0
Hard errors	0	0	0	0	0	0
Shell requests	0	0	0	0	0	0
Access requests	1	0	0	0	0	0
Soft errors drive 00	0	0	0	0	0	0
Soft errors drive 01	0	0	0	0	0	0

Raw Data Interval

Unavailable: 0

Seconds: 0

VRAM Records:

Read: 0

Written: 0

K bytes:

Read: 308160

Written: 182643

Time (seconds):

Open: 16 Shell: 0

Mount: 10 Proc: 248

Mounts:

Total: 1

First time: 1

Select File...




Figure 1-3: Raw Data Interval dialog box

Monitor near real-time activity

You can check the current status of the following:

- Mounts
- File opens
- % of volumes used
- MB read
- % CPU avg. utilization
- % of drives up
- MB written
- % of library space used
- % of drives busy
- Shelf operations
- % of disk space used

Note: % of drives up and % of drive busy are available only with StorHouse/SM Releases 5.0 or higher.

This near real-time information typically updates every minute, but the interval is an option you set for the StorHouse/Control Center server using the CCAdmin client module. StorHouse/Performance Monitor displays this activity on a bar graph by default, but you can also create a trend graph. Once you have selected the desired measures from the table below the bar graph and clicked Apply Changes, you can switch between the bar graph and trend gra lickin  and .

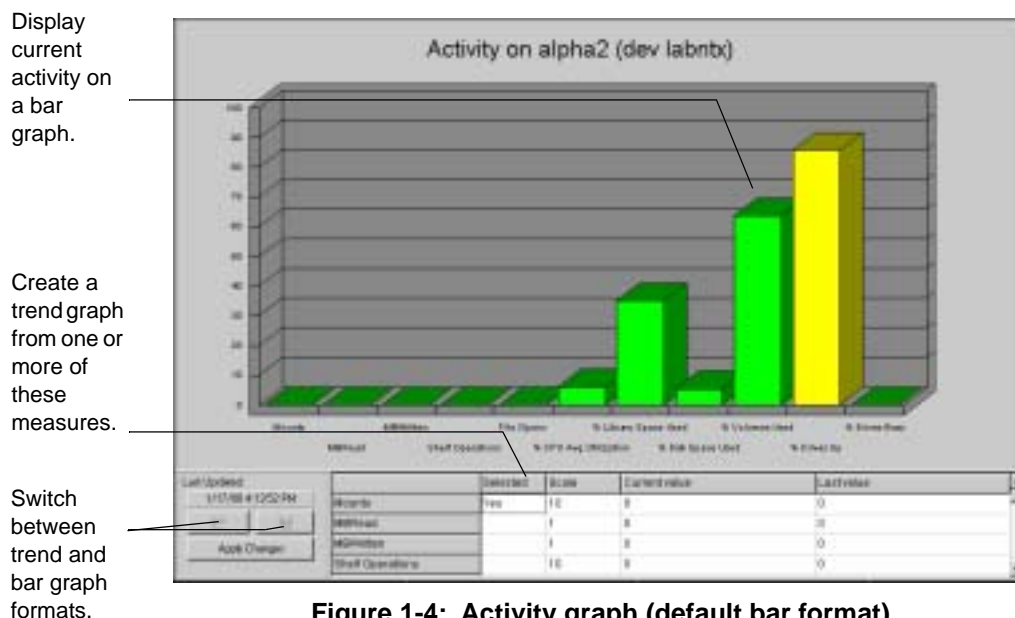


Figure 1-4: Activity graph (default bar format)

Display user log data

The User Log Browser lets you choose any available user log and display information about all record types or a subset of record types within the selected log. The browser displays a maximum of 200 records at a time. Before you can view user logs, you must copy them to your PC environment using PM File Copy.

Once you access the browser, you can select one or more user log records using the following criteria:

- **To and From date and time** – The browser automatically fills in the starting and ending dates and times from the file you selected. However, you can edit these dates and times to limit your file search.



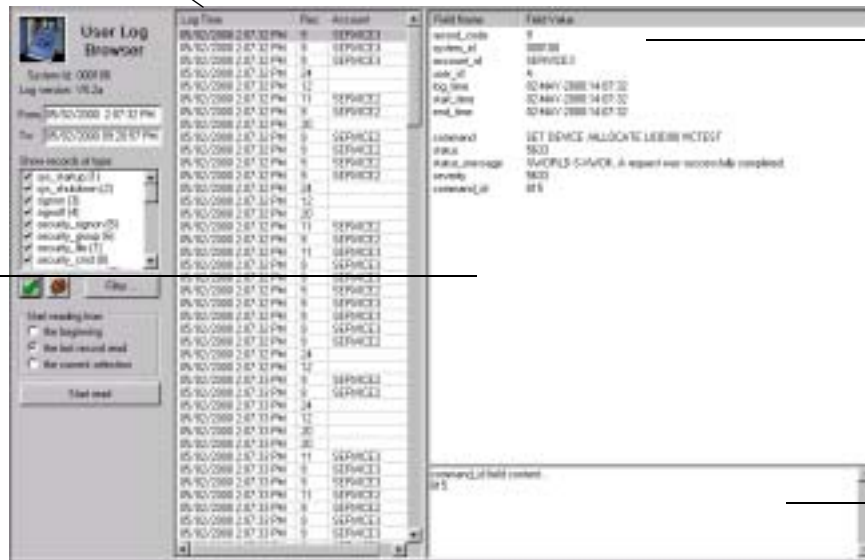
- **Show records of type list** – This list includes all the record types in the user log. You select or deselect specific check boxes to include only the records you want.
- **Filter option** – This allows you to select records by field values.
- **Start reading from options** – Your choices include **the beginning** (check to read the first 200 records in the log); **the last record read** (check to read the next 200 records in the log after the last record previously read); and **the current selection** (check to read the next 200 records from the currently selected record in your list).

You can stop the browser from reading records at any point, then continue reading records again from that point or from any record within your list of returned records.

Once you have selected a specific record, you can also:

- Display all the fields of the record by selecting it
- Select any field within a record and view specific data
- Print detail about the selected record

When you click a record in the Log Time list, information on the record's fields display in the top right-hand window.



When you click a specific field here, information on that field displays in the bottom right-hand window.

Figure 1-5: User Log Browser working window

The User Log Report Generator lets you create reports based on user log data. You select one or more log files and a report type. With the Report Generator, you can:

- View the report as columns of text
- Export the data as a tab-delimited file for use with other applications
- Print the data
- Graph the data

Here is the User Log Report Generator Setup dialog box:

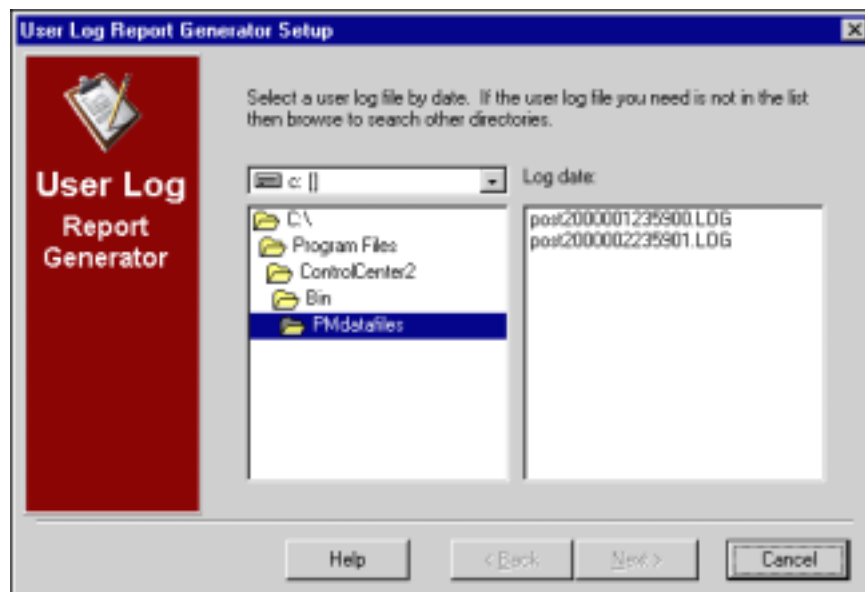


Figure 1-6: User Log Report Generator Setup dialog box

You can create the following report types with the User Log Generator:

- Device Activity
- File Activity Distribution
- Library Activity
- SQL Response Time Distribution
- SQL Response Time Summary
- Volume Activity
- VSET Activity Distribution
- Workflow Distribution

StarTek Control Center - [StarHouse PM]

File Display Options Window Help

Device Activity

CC Modules

- CCAdmin V2
- StarHouse Admin - status on dev_labels
- StarHouse Admin - status on dev_labels
- StarHouse PM
- Online Docs
- Applications

Device	# Mounts	KB Read	KB Written	# Soft Errors	# Hard Errors	# Mount Retries
L00D90	4	64 538 233	0	0	0	0
L00D91	2	65 524 432	0	3	0	0
L01D90	5	7 331	12 076	0	0	0
L01D91	2	14 792	20	0	0	0
L01D92	0	0	0	0	0	0
L01D93	0	0	0	0	0	0
L02D90	0	0	0	0	0	0

StarHouse/Performance Monitor

You can right-click on any report to graph selected columns for all rows, or you can select specific rows and right-click to graph selected columns. You can graph the data in any of these formats:

- FileTek Proprietary and Confidential



Basics

C H A P T E R

2



Setup

This chapter explains the tasks you need to complete before using StorHouse/Performance Monitor. These tasks include:

- Setting StorHouse system parameters for collecting data
- Setting StorHouse/Performance Monitor preferences
- Copying data files to your PC
- Setting default printers

This chapter assumes you've installed the StorHouse/Performance Monitor software. If you haven't installed it yet, refer to *Getting Started with StorHouse/Control Center* for installation instructions.

Setting system parameters for collecting data

StorHouse/Performance Monitor reports rely on data collected by StorHouse. You must set certain StorHouse system parameters to enable data collection. You can set these parameters with StorHouse/Admin, or if you don't have StorHouse/Admin yet, with your standard StorHouse interactive interface.

Note: Some of these system parameters also affect the collection of data for the StorHouse user log. Refer to the StorHouse *Command Language Reference Manual* or to the StorHouse/Admin online help for complete information about these system parameters.

- ▼ To set StorHouse system parameters with StorHouse/Admin
1. Start StorHouse/Admin.
 2. In the System menu, click Configure.
 3. In the System Configuration dialog box, find each of the following parameters and set them as described.

Table 2-1: System parameters

Parameter	Set to	Description
LOG_ACCOUNT	StorHouse account name	Specifies the account that will store StorHouse/Performance Monitor data files in StorHouse.
LOG_DEVICE	True	Enables logging of device information records.
LOG_FILE	True	Enables logging of file open and close information records.

**Table 2-1: System parameters (continued)**

Parameter	Set to	Description
LOG_FSET	File set name	Determines the file set that will store StorHouse/Performance Monitor data files in StorHouse.
LOG_GROUP	File access group name	Determines the file access group that will store StorHouse/Performance Monitor data files in StorHouse.
LOG_INTERVAL	15 minutes	Controls the interval for logging polled records.
LOG_POLL	True	Enables logging of polled (interval) records.
LOG_SYSTAT	True	Enables logging of system startup and shutdown records.
LOG_VOLUME	True	Enables logging of volume mount, dismount, and movement information records.
LOG_VSET	Volume set name	Determines the volume set that will store StorHouse/Performance Monitor data files in StorHouse.
SMVU_EOM_DELAY	Value between 1 and 15	Determines how many days past the end of the month StorHouse will continue to collect data for StorHouse/Performance Monitor data files in the previous month. This is necessary to accurately calculate some information, such as file opens.
SMVU_LOGGING	True	Turns on the collection of StorHouse/Performance Monitor data.

Table 2-1: System parameters (continued)

Parameter	Set to	Description
SMVU_PUT_CYCLE	24	Specifies the interval in hours at which the StorHouse/Performance Monitor data files are written from the StorHouse system directories on magnetic disk to user files on level L. By setting the value to 24, you ensure that StorHouse puts a new version of the most current StorHouse/Performance Monitor data files in the user directories daily. This keeps your data current. (Note that you can only view data up to the date and time the file was last put.)
SMVU_VER_LIMIT	Value between 1 and 32,768	Sets the number of versions of StorHouse/Performance Monitor data files kept in the system.

Setting preferences

Preferences determine default values for creating reports. You can define different preferences for each of your data sources, and you can change these preferences at any time, even when you create reports. The following figure is an example set of preferences.

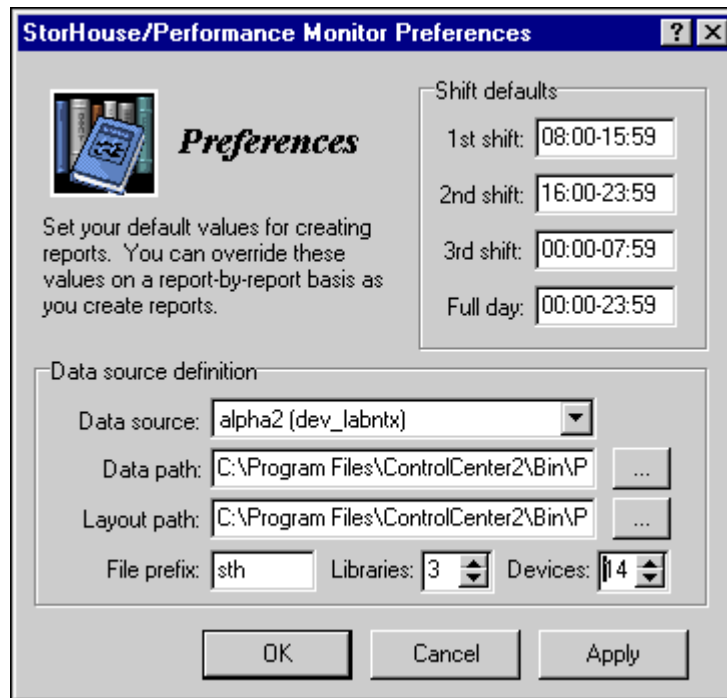


Figure 2-1: StorHouse/Performance Monitor Preferences dialog box

▼ To set StorHouse/Performance Monitor preferences

1. In the Options menu, click Preferences.
2. In the StorHouse/Performance Monitor Preferences dialog box, set the Shift defaults.

Shifts determine the hours and minutes of a reporting time period. You can set the beginning and ending times of three shifts as well as a full day. Hours and minutes are two digits (24-hour clock) and must be in 15-minute intervals. For example: 13:00, 12:45, 08:30.

Note: The other preferences apply to a specific data source, but shift defaults apply to all data sources that you've defined.

3. In the **Data source** box, click a data source from the list.

If you have one data source, only that name will appear in the box. If you have multiple data sources, you can scroll down the list and click one. Remember that you set preferences for one data source at a time.

4. In the **Data path** box, set the path to the directory that will contain your StorHouse/Performance Monitor data files.

This is the directory where you'll copy data files using PM File Copy. This directory can be on your hard drive or on an accessible network drive. You can type the path manually or browse to the directory. Once you set the path, StorHouse/Performance Monitor will create the directory for you.

Note: You can use the same data file directory for all data sources. If you do, see the note in step 6 below.

5. In the **Layout path** box, set the path to the directory that will contain your layout files.

This path tells StorHouse/Performance Monitor where to look for your stored layouts. You can type the path manually or browse to the directory. Once you set the path, StorHouse/Performance Monitor will create the directory for you. You can use the same layout directory for all data sources.

6. In the **File prefix** box, type a file prefix (four characters or fewer) for this data source.

The file prefix determines how PM File Copy will name data files in your PC environment. For instance, if you assign the prefix Alph, then PM File Copy will name the data files (for this data source) Alph9911.PDF, Alph9911.VDF, and so on. See "Copying data files to your PC" on page 2-8 for more information about data file names.



Note: You can use the same data file directory for all data sources, but each file prefix must be unique for each data source. Also, StorHouse/PM will automatically set the value of the **File Prefix** box if you browsed for a file in Step 4.

7. In the **Libraries** box, set the number of library devices for this data source.

This value affects the number of libraries that appear in certain reports. A library device includes both optical and tape libraries. If you add a library to the data source, update this value to reflect that change. The maximum number of libraries is 16.

Note: StorHouse/PM sets this number automatically if you are monitoring near real-time activity for the data source on StorHouse/SM systems Release 5.0 and above.

8. In the **Devices** box, set the maximum number of devices available for any library.

For instance, if you have two libraries, and one library has two devices and the second library has four devices, you'd set this value to 4. This value affects the number of devices that appear in certain reports. If you add a device, update this preference to reflect the change. The maximum number of devices for any library is 16.

Note: StorHouse/PM sets this number automatically if you are monitoring near real-time activity for the data source on StorHouse/SM systems Release 5.0 and above.

9. Click OK to save your preferences.

Copying data files to your PC

Once StorHouse begins to collect data, you must make that data accessible to StorHouse/Performance Monitor. You do this by using PM File Copy to copy data files from StorHouse to your PC drive or network drive. Before copying data files, it's important to understand a little about them.

Number of data files. Remember that there are three types of data files: PDFs, VDFs, and VNFs. You need all three types to create reports. A typical StorHouse system creates one PDF file per month and one VDF file per month. StorHouse creates one and only one VNF file but updates it whenever a new VSET is accessed. You'll copy the VNF file and all the PDF and VDF files for the date range you want.

Data file names on StorHouse. On StorHouse, the VNF file is named VNF. The PDF files start with PDF followed by the year and month, for example, PDF9911. The VDF files start with VDF followed by the year and month, for example, VDF9911. So the PDF9911 file contains performance data collected for November 1999, and the VDF9911 contains VSET data collected for November 1999.

Data file names on your PC. During the copy procedure, PM File Copy renames the data files using the file prefix you assigned for the data source in your preferences. For example, if the prefix is Alph and you copied PDF9911 and VDF9911, PM File Copy would rename those files as Alph9911.PDF and Alph9911.VDF, using the prefix to identify the data source, the numbers to indicate the year and month during which the data was collected, and the file extension (PDF or VDF) to indicate the file type. PM File Copy renames the VNF as AlphVNMS.VNF.

What you need to access data files. You need a StorHouse account and password to log in to StorHouse and access the data files. That account must have access privileges to the group specified by the



LOG_GROUP system parameter (see Table 2-1 on page 2-3). If the account doesn't have the correct privileges, you won't see any data files.

▼ To copy data files from StorHouse to your PC or network

1. On the selection bar, click Applications.
2. Click the PM File Copy shortcut.

You'll see the Login dialog box. The following screen shows sample values.

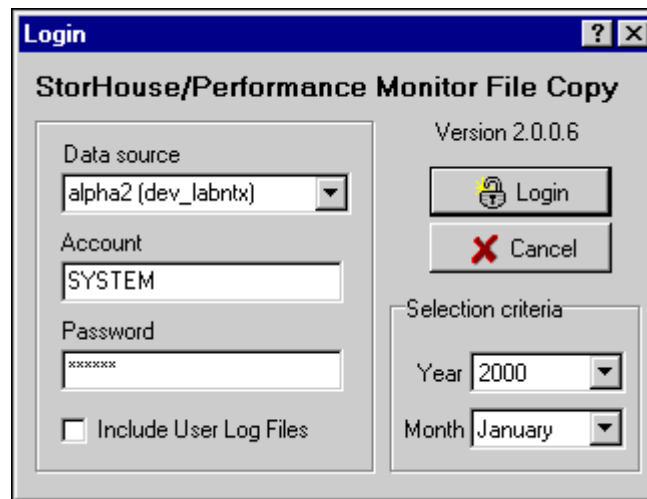


Figure 2-2: StorHouse/PM File Copy Login dialog box

3. In the **Data source** list, click the data source that contains the StorHouse system where the StorHouse/Performance Monitor data files reside.
4. In the **Account** box, type your StorHouse account name.
5. In the **Password** box, type your StorHouse account password.

6. Do not select the **Include User Log Files** check box, unless you want to use the User Log Browser or the User Log Report Generator.

If you select it, PM File Copy will also look for user log files, which can take a long time.

7. In the **Year** list, accept the default (current year), click another year, or click All to display data files for all the years that you've been collecting StorHouse/Performance Monitor data.
8. In the **Month** list, accept the default (current month), click another month, or click All to display data files for all months in the selected year(s).
9. Click Login.

Here is a sample File Retrieval dialog box you'll see when you successfully log in to StorHouse.

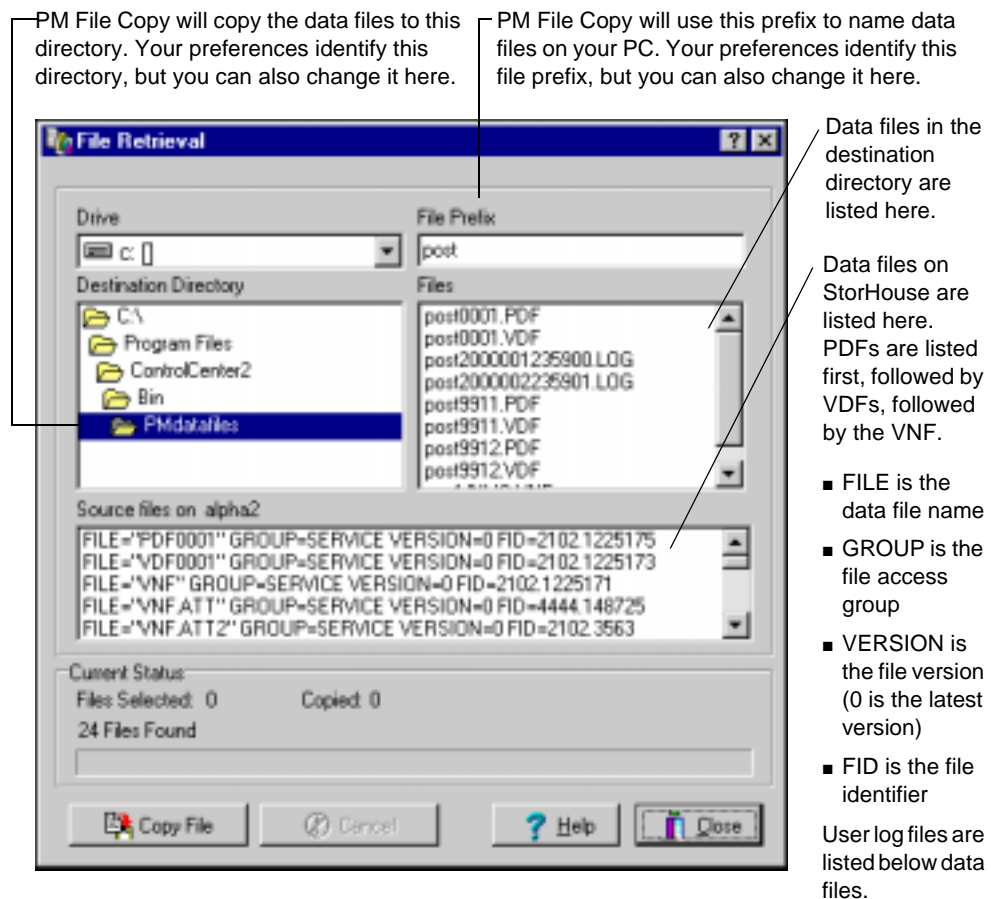


Figure 2-3: File Retrieval dialog box

- Click the file(s) you want to copy. To select multiple files, hold down the Shift key then click to select all files in a range, or hold down the Alt key then click to select particular files in a range.

If there are no files listed, the StorHouse account you used to log in may not have the correct privileges to access the group that contains the data files.

11. Click Copy File.

If the file already exists on the destination directory, PM File Copy will ask if you want to overwrite it. If you're recopying the VNF file, click Yes.

12. Click Close.

Setting default printers

You can print StorHouse/Performance Monitor reports at any local or network printer set up for your PC. You can print two ways:

- By clicking the Print button on the tool bar. StorHouse/Performance Monitor automatically prints reports at the default printer you set using the Printer setup button on the tool bar.
- By using report tools. StorHouse/Performance Monitor automatically prints reports at your Windows default printer.

▼ To set the default printer using printer setup

1. Click the Printer setup button on the tool bar.
2. Scroll down the list and click the printer you want to use as a default.
3. Click OK.



▼ To set your Windows default printer

1. In the Windows Start menu, point to Settings and then click Printers.
2. Click the printer you want to use as the default for printing from report tools.
3. In the File menu, click Set as Default.
4. Close the window.



C H A P T E R

3



Tour

This chapter takes you on a tour of StorHouse/Performance Monitor. It describes the windows you'll see and the menus and tool bar you'll use to navigate the system. It also explains how to start and close StorHouse/Control Center and StorHouse/Performance Monitor.

Starting the program

Once you've installed StorHouse/Performance Monitor, you can start and run the module within StorHouse/Control Center.

▼ To start StorHouse/Performance Monitor

1. Double-click the StorHouse/Control Center desktop shortcut to start StorHouse/Control Center.



Figure 3-1: StorHouse/Control Center desktop shortcut

You'll see the StorHouse/Control Center splash window (see page 3-3 for an example). The selection bar will contain a shortcut called StorHouse PM. If you have installed other StorHouse/Control Center client modules on this PC (including other StorHouse/Performance Monitor modules), the selection bar will contain those shortcuts, too.

2. Click the StorHouse PM shortcut in the selection bar.

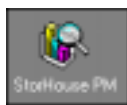


Figure 3-2: StorHouse/PM shortcut

You'll see the StorHouse/Performance Monitor window (see page 3-6 for an example).



The StorHouse/Control Center splash window

When you start StorHouse/Control Center, the first window you see is the StorHouse/Control Center splash window.

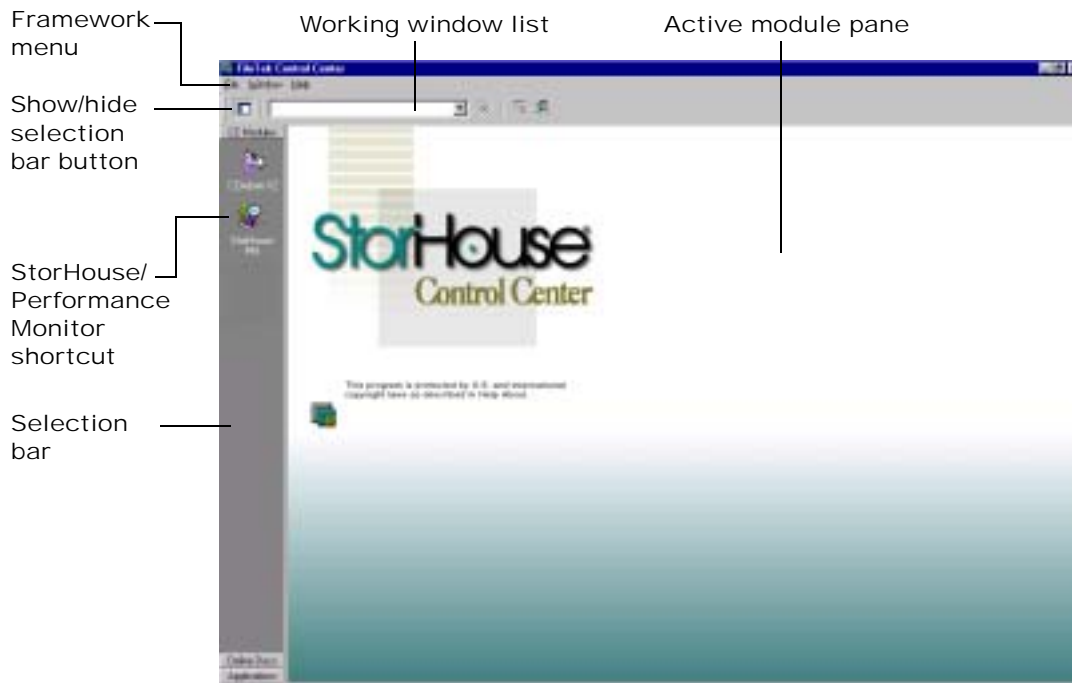


Figure 3-3: StorHouse/Control Center splash window

The following sections describe the components of the StorHouse/Control Center splash window.

Framework menu

The File, Window, and Help menus are part of the StorHouse/Control Center framework and are available in all StorHouse/Control Center modules. Any additional menu selections are specific to a StorHouse/Control Center module.

Selection bar

The *selection bar* contains three groups of shortcuts: CC Modules, Online Docs, and Applications. You can add and delete your own shortcuts to and from each group on the selection bar by clicking the Show/hide selection bar button. You can also hide or show the selection bar. See the StorHouse/Control Center online help for more information about working with the selection bar.

CC Modules

Click this tab to display the shortcuts for installed StorHouse/Control Center client modules and their data sources. A *data source* is the combination of a specific StorHouse system attached to a specific StorHouse/Control Center server. You'll see a StorHouse/Performance Monitor shortcut for your current data source after installation.

Online Docs

Click this tab to list any online documents you can launch from StorHouse/Control Center. You can add a shortcut for any document you want to open here. For instance, you could open a document saved in the Adobe Portable Document Format (PDF) with Adobe Acrobat Reader or a word processor document with Microsoft Word.



Applications

Click this tab to list programs, such as spreadsheets, you can launch from StorHouse/Control Center. You can create shortcuts for any of your available applications. You'll see the PM File Copy shortcut after installation.

Note: Both FileTek's StorHouse/Performance Monitor data files and Adobe's Portable Document Format files use the PDF file extension. Remember that PDF data files contain information used for creating reports, while Adobe PDF files contain information describing the content and format of an electronic document.

Active module pane

The *active module pane* is the area where you use StorHouse/Performance Monitor or any other StorHouse/Control Center Module. StorHouse/Performance Monitor opens as a window within the active module pane. The Real-time Activity Monitor, the Raw Data Viewer, and any reports that you create exist as working windows within the StorHouse/Performance Monitor main window. You can view and work with one working window at a time. For instance, you can view one report, or use the Real-time Activity Monitor, but you cannot view multiple reports or view the Real-time Activity Monitor and a report at the same time.

Note: The StorHouse/Performance Monitor behaves like any other window. You can minimize it, maximize it, move it, and resize it. However, you cannot move it outside the active module pane.

Working window list

The *working window list* contains a scroll list of all active working windows. In StorHouse/Performance Monitor, this list will contain the different reports you create, and will also include the Real-time Activity

Monitor and Raw Data Viewer once you activate them. You can quickly navigate between your reports using the working window list.

The StorHouse/Performance Monitor window

You can access all StorHouse/Performance Monitor functions from the StorHouse/Performance Monitor window. Just click the StorHouse/PM shortcut on the selection bar to display this window.

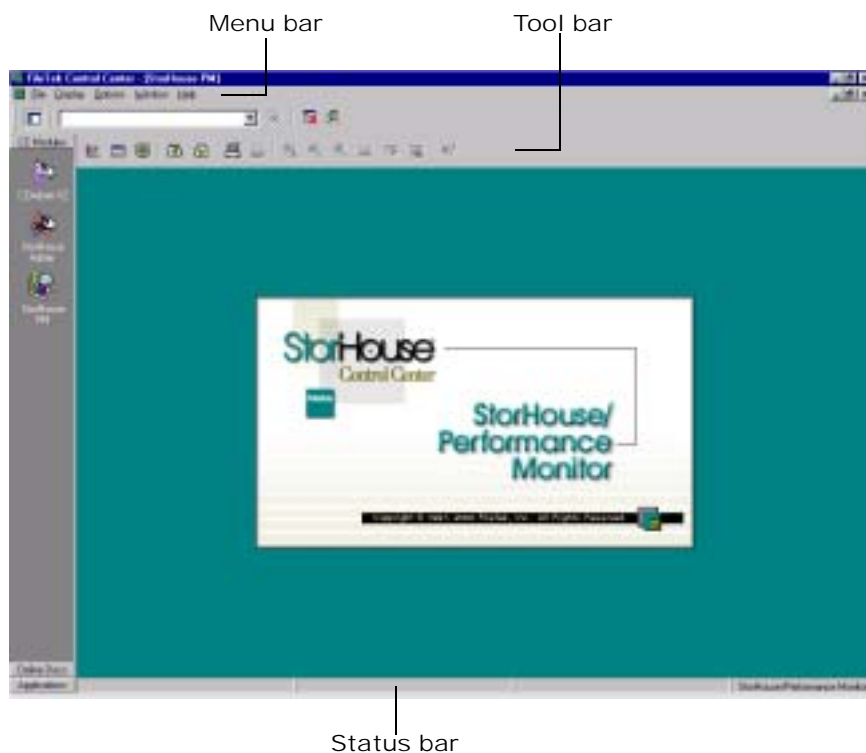


Figure 3-4: StorHouse/Performance Monitor window



Before learning about the StorHouse/Performance Monitor reports, it is important to understand the navigational and informational components of the StorHouse/Performance Monitor window:

- Menu bar
- Tool bar
- Status bar

Menu bar

The StorHouse/Performance Monitor menu bar looks like this:



Figure 3-5: Menu bar

The pull-down menus contain the following functions:

Table 3-1: Menu functions

Menu	Choose this	To do this
File	Configuration Wizard	Create a shortcut for a StorHouse/Control Center module, online document, or an application
	Data Source Manager	Define a StorHouse system and StorHouse/Control Center server to StorHouse/Control Center
	Selection Bar	Hide or show the selection bar
	Exit	Leave StorHouse/Performance Monitor and StorHouse/Control Center

Table 3-1: Menu functions (continued)

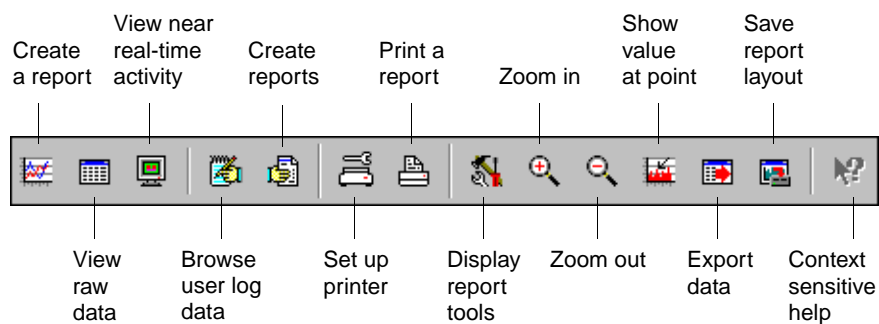
Menu	Choose this	To do this
Display	New Report	Create a new StorHouse/Performance Monitor report
	Raw Data	View 15-minute data intervals in PDF files
	Activity Monitor	Monitor near real-time StorHouse activity
	User Log Browser	Display a user log file
	User Log Reports	Create a user log report
	Combine Reports	Combine up to four reports on one window
Options	Report Tools	Enhance a report's appearance or save a report as an image
	Zoom In	View a smaller area of a report
	Zoom Out	View an entire report
	Show Value at Point	Display the date, time, and value of a data point
	Export Data	Save report data as a file at the location and with a file name you specify
	Save Report Layout	Save a report definition
	Preferences	Set up or change shift defaults (global), data file path, layout path, file prefix, and number of libraries and devices for data sources
Window	Tile Vertical	Arrange open modules in smaller sizes to fit on top of each other
	Tile Horizontal	Arrange open modules in smaller sizes to fit next to each other
	Cascade	Overlap modules so that each title bar is visible
	Close	Close the current open module
	Close All	Close all open modules

**Table 3-1: Menu functions (continued)**

Menu	Choose this	To do this
Help	StorHouse/PM	Get StorHouse/Performance Monitor help, software version number, and copyright data
	CC Contents and Index	Get help for: <ul style="list-style-type: none"> ■ StorHouse/Control Center framework ■ StorHouse/Admin ■ StorHouse Command Language ■ StorHouse/Performance Monitor ■ PM File Copy ■ CCAAdmin ■ Database administration ■ StorHouse SQL
	Using Help	Learn how to use Windows online help
	About	Get StorHouse/Control Center software version number and copyright data

Tool bar

The tool bar provides quick access to functions that you can also access with the menu bar. Simply click a button to use the function.

**Figure 3-6: Tool bar**

Status bar

The status bar contains messages or supplemental information for selected reports. For instance, when you want to show the value of a data point on a report, StorHouse/Performance Monitor displays the value of that point in the status bar.

Here is a sample status bar:



Figure 3-7: Status bar

Exiting the system

There are several ways you can close StorHouse/PM, StorHouse/Control Center, or both from any StorHouse/PM working window.

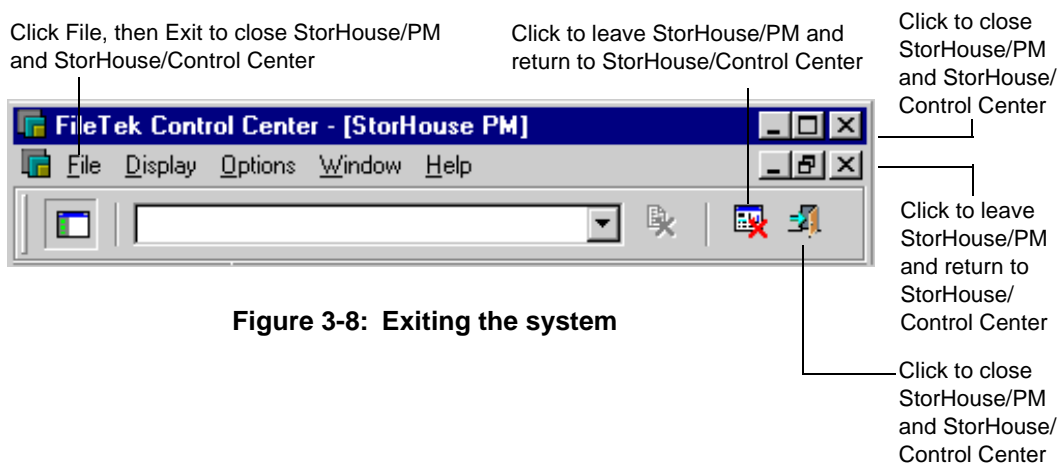


Figure 3-8: Exiting the system



Tutorial

This chapter shows examples of how to create and work with reports. You will see how to select report data, format a report, show the value of a data point, redefine a report, combine reports, create and use a layout, and save a report as an image. It also explains how to monitor near real-time activity, display a user log, and create a user log report.

For all reports except the user log reports, assume that your StorHouse system has three libraries and you'd like to compare their usage for the month of December 1999. You're a 24 x 7 shop, so your time period will include all hours (all shifts) and all days of the week. The Library Activity report is your best performance measure because it shows the number of mounts per library over time. You've installed the software, set your preferences, copied data files to your PC, completed other setup tasks, and are ready to begin.

Note: Step numbers shown on figures correspond to the step numbers in the procedures.



Selecting report data

First, select your report data by choosing a data source, then setting the time period (in this example, the month of December 1999, all shifts, and all days of the week). The default values (Libraries, Devices, Time periods for shifts) come from your preferences. You can change those default values here, if needed. For instance, if you wanted the report to show one library instead of three, you'd change the Libraries box to 1.

Tip: Depress a button to select. A depressed button has color. Notice the Full day button is depressed (colored arrows) as well as all Included days buttons (glowing yellow light bulbs). These are the defaults, which you want (all shifts and all days of the week).

▼ To select report data

1. In the Display menu, click New Report. The Data tab displays.
2. In the Report Setup dialog box, click the data source in the **Data source** list.
3. Click the starting date in the Starting data area.
4. Click the ending date in the Ending date area.

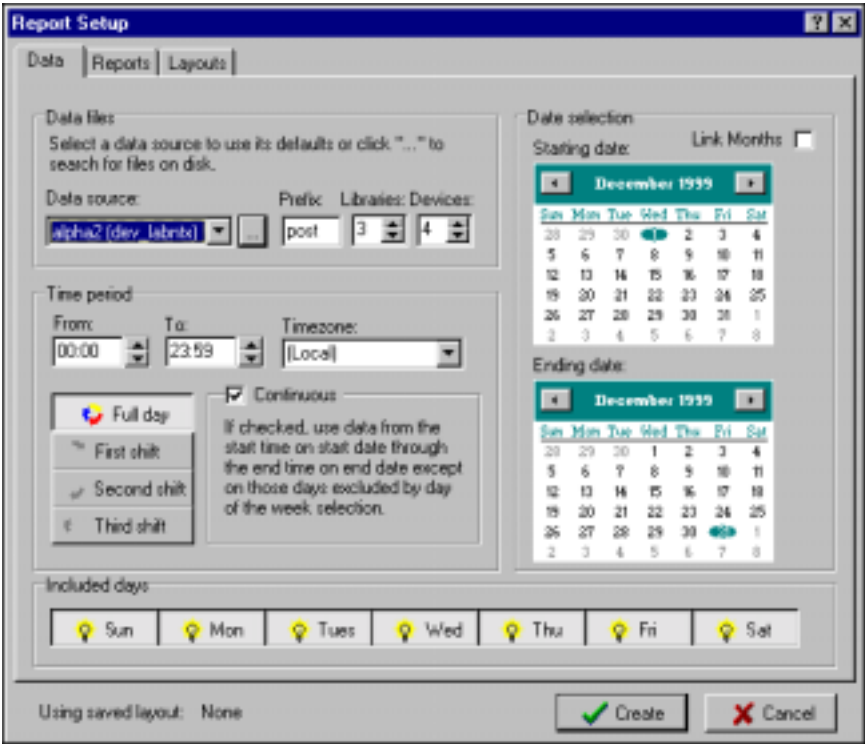


Figure 4-1: Report Setup dialog box – Data tab (data for report)



Formatting the report

Next, format the report by choosing a report type, report style, summary level, and graph format. This format will combine all mounts for each library during the time period. For this example, we'll use the Library Activity report type, the Unit summary report style (note that when you click Unit summary, StorHouse/Performance Monitor automatically selects the Combined summary level for you), and the Bar report format.

▼ To format the report

1. Click the Reports tab.
2. In the Report Setup dialog box, click the report type in the list.
3. Click the report style in the Report style area.
4. Click the report format in the Format area.
5. Click Create.

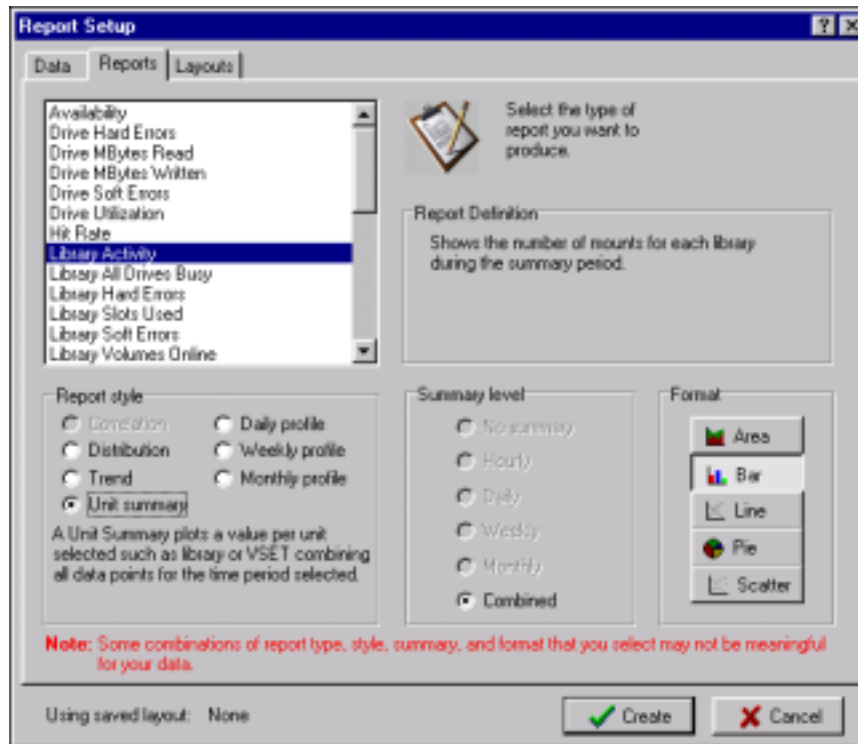


Figure 4-2: Report Setup – Reports tab



Viewing the report

Here's the result. Each bar on the graph is a data point representing a different library. In this example, library L01 was the most active and library L02 was the least active during December 1999.

While report types, styles, and formats vary from report to report, each report contains these basic components:

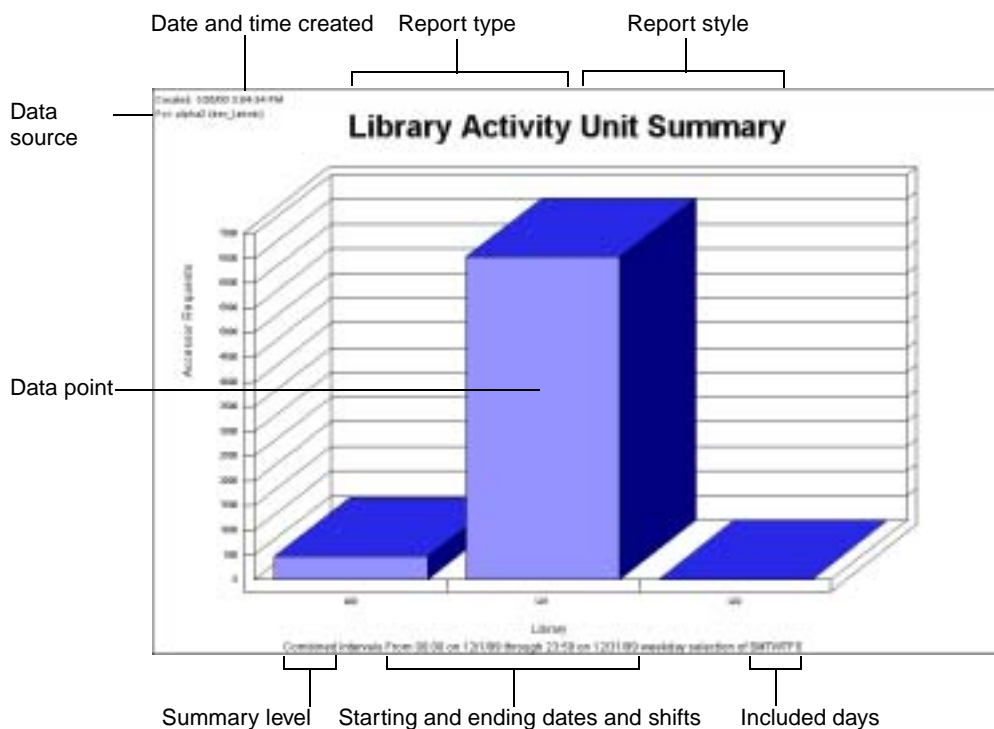


Figure 4-3: Library Activity Unit Summary report



Showing the value of a point

In this example, the y-axis lists the number of accessor requests in increments of 500. Most data points fall above or below one of those increments. You can see the exact value of any data point, such as L01.

▼ To show the value of a point

1. Click the Show Value at Point tool bar button.
2. Click the desired data point.
3. Read the value of the data point on the status bar.

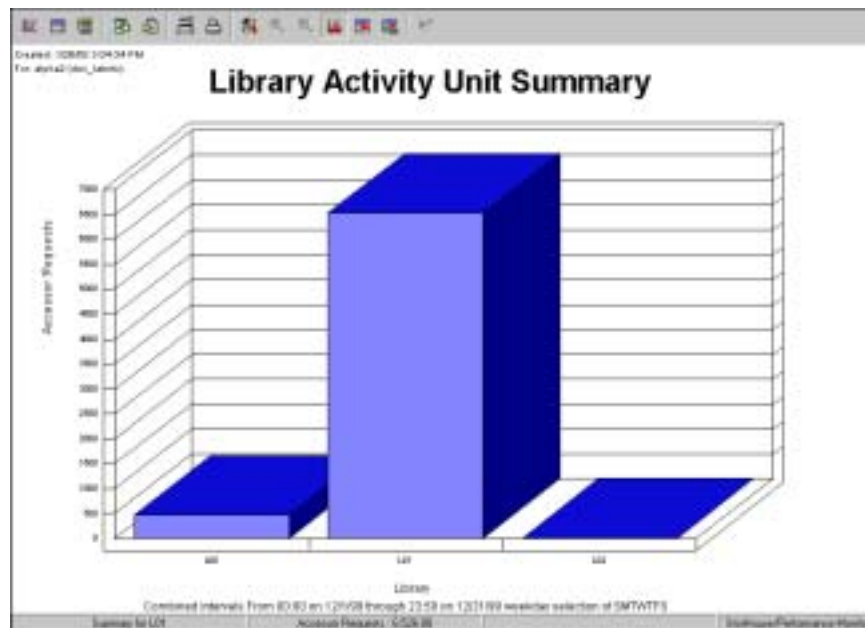


Figure 4-4: Data point on a Library Activity Unit Summary report

In this example, library L01 had exactly 6,526 mounts during December 1999.



Redefining the report

Also for the month of December you'd like to check response time. You don't have to start over. Once you've selected your data (data source and time period), you can create as many different report types, styles, and formats as you like while retaining each report in the working window list. In this case, an SM Response Time report can show you the total average response time in seconds per file open during the time period.

The *total average response time* is the time from the start of a file open request to the time when the data is ready for reading or the device is ready for writing. The SM Response Time report breaks response time into the following categories:

- *Shelf-time per file open* displays the average amount of time to move a volume from shelf storage to a library device.
- *Mount-time per file open* displays the average amount of time to mount a volume for file access.
- *Access-time per file open* displays the average amount of time to access a file once the volume that contains it is mounted.

You need to redefine the report as a Daily profile report style (to see response time for a typical day in December), and an Hourly summary level (to see response time for each hour in that day). Here's what you'll do to redefine the report using the same report data.

▼ To redefine the report

1. Right-click the Library Activity report you just created.
2. Click Change Report Definition.
3. In the Report Setup dialog box, click the SM Response Time type.

- 4. Click the Daily profile report style.
- 5. Click the Hourly summary level.
- 6. Click the Bar report format (if it's not already selected).
- 7. Click Create.

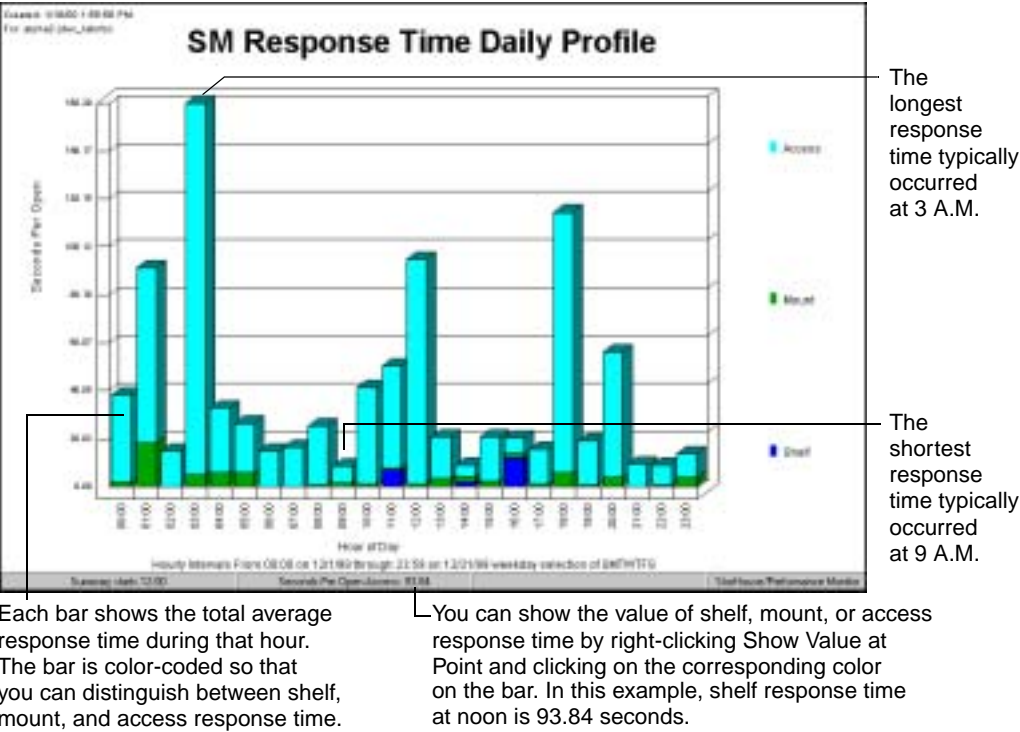


Figure 4-5: SM Response Time Daily Profile



Defining your own report

With StorHouse/Performance Monitor, you can create a custom report by combining your own performance measures. You do this with the report type called User Defined.

The performance measures you can select for a user-defined report are:

- 0-49% drives used
- 50-75% drives used
- 75-99% drives used
- All drives used
- Empty library slots
- Files opened (any)
- Files opened for read
- Files opened for read/write
- MB read
- MB written
- Mounts (any)
- Mounts (first time only)
- Library accessor requests
- Library cleaning volumes
- Library exchange requests
- Library free volumes
- Library hard errors
- Library online volumes
- Library shelf requests
- Library shelf volumes
- Library soft errors
- Library used volumes
- Time executing open command
- Time StorHouse was unavailable
- Time waiting for file open
- Time waiting for mount
- Time waiting for shelf
- Total library slots
- VRAM files opened
- VRAM files open concurrently
- VRAM records read
- VRAM records written

There are two types of user-defined performance measures:

- A *primary measure* is graphed on the left-side y-axis.
- An *overlay measure* is graphed on the right-side y-axis.



You can use as many primary measures as you like. You can use only one overlay measure. Assume you'd like to plot the number of VRAM records read and written during December 1999. Your primary measure will be records read and your overlay measure will be records written. You can use the same report data you selected for your previous two reports. Here's an example of how to create this user-defined report.

Choose the report type

To choose the report type, follow these steps.

- ▼ To choose the report type
 1. Right-click the SM Response Time report you just created.
 2. Click Change Report Definition.
 3. In the Report Setup dialog box, click the User Defined report type in the list.

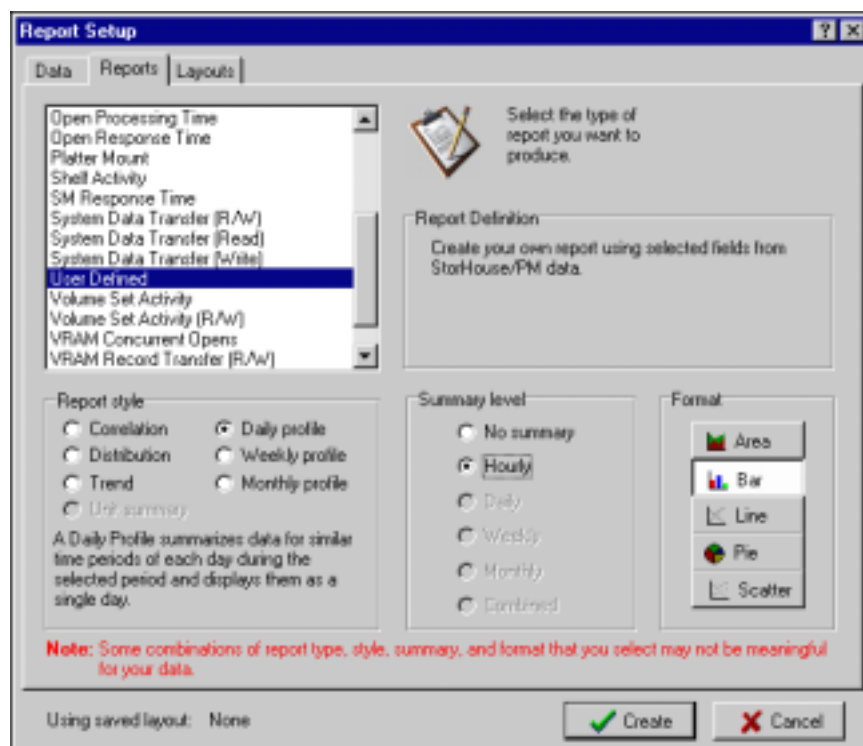


Figure 4-6: User defined report (bar graph)



Select the primary measure

After you click the User Defined report type on the Report Setup dialog box, the User Defined Report Wizard appears. For this example, the primary measure is VRAM Records Read.

▼ To select the primary measure

1. Click the first measure to graph on the left-side y-axis (primary measure) in the **Available measures** list.
2. Drag that measure to the Selected measures area.

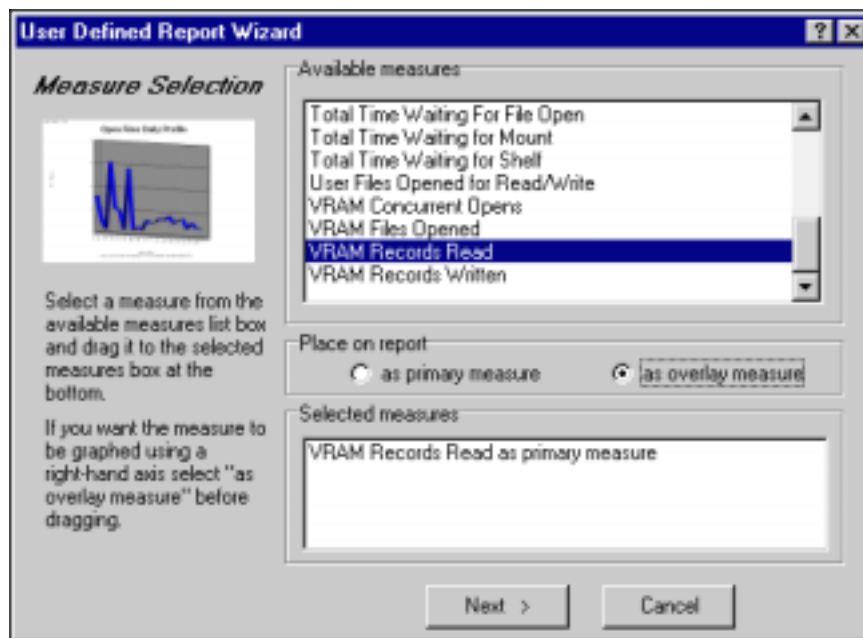


Figure 4-7: Measure Selection page – primary measure



Select the overlay measure

Next, you need to select the overlay measure. For this example, the overlay measure is VRAM Records Written.

▼ To select the overlay measure

1. Click **as overlay measure** to change the type of measure to overlay.
2. Click the measure to graph on the right-side y-axis in the **Available measures** list.
3. Drag the measure to the Selected measures area. (The Place on report option defaults back to **as primary measure** automatically.)
4. Click Next.

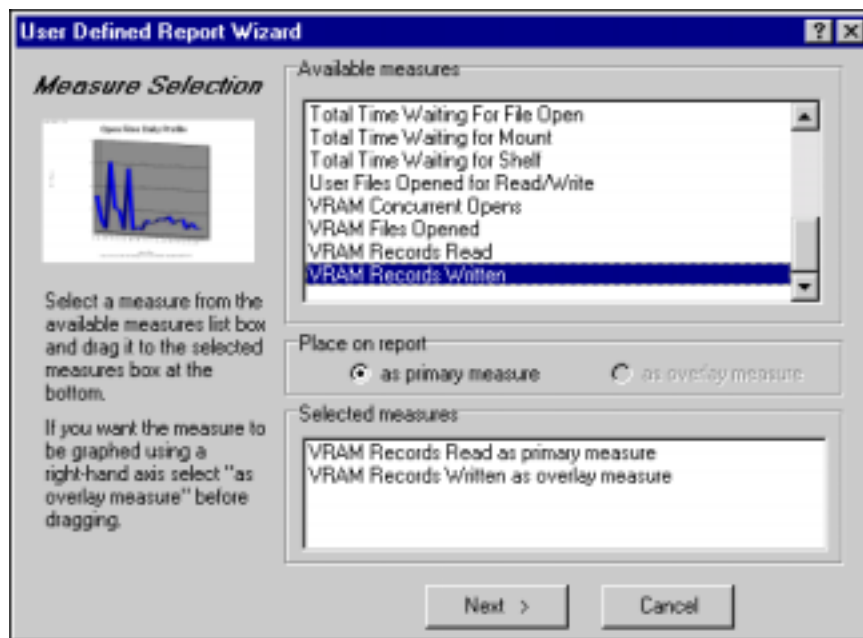


Figure 4-8: Measure Selection page – overlay measure



Label the report

After you click Create, the Report Title and Labels dialog box appears. We'll label this report Records Read and Written: December 1999.

▼ To label the report

1. In the Report title box, type the report title.
2. In the **Left-side y-axis description** box, type the label for your primary measure.
3. In the **Right-side y-axis description** box, type the label for your overlay measure.
4. Click Finish.

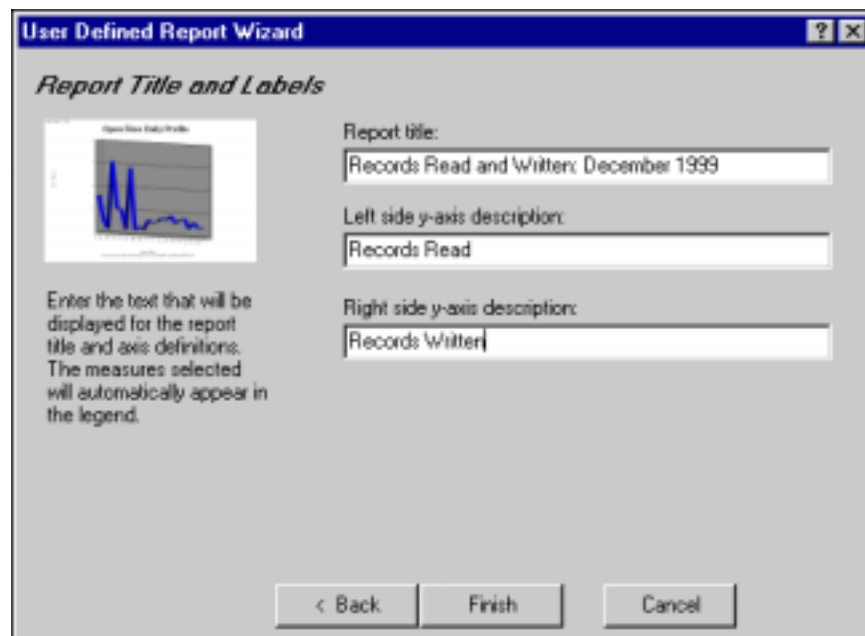


Figure 4-9: Report Title and Labels



Format the report

Once you have labeled the report, you have to format it. For this example, use the Trend style, Daily summary level, and Line format.

- ▼ To format the report
 1. Click the report style in the Report style area.
 2. Click the report summary level in the Summary level area.
 3. Click the report format in the Format area.
 4. Click Create.

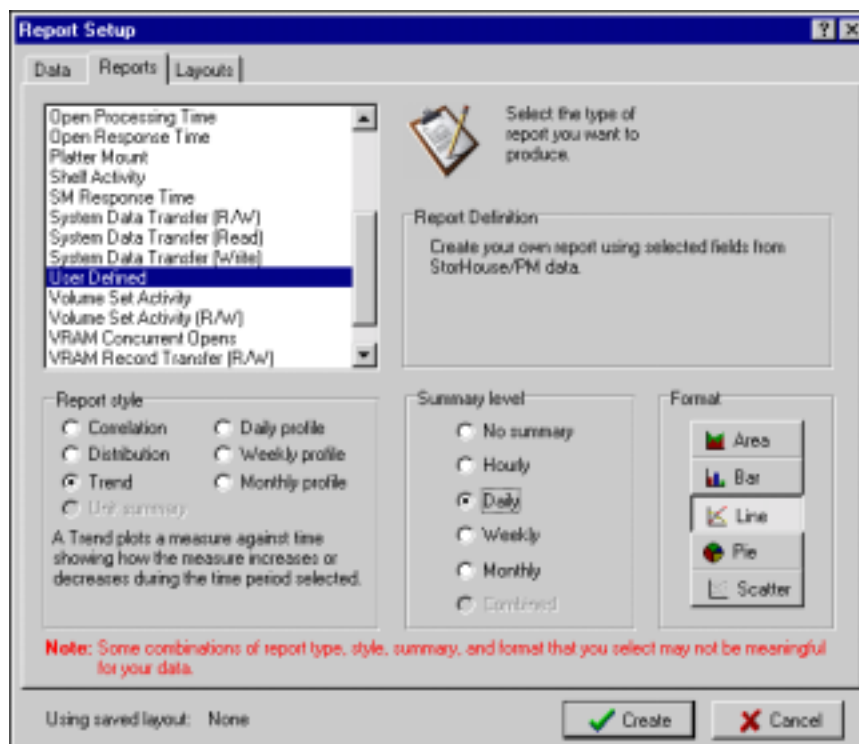
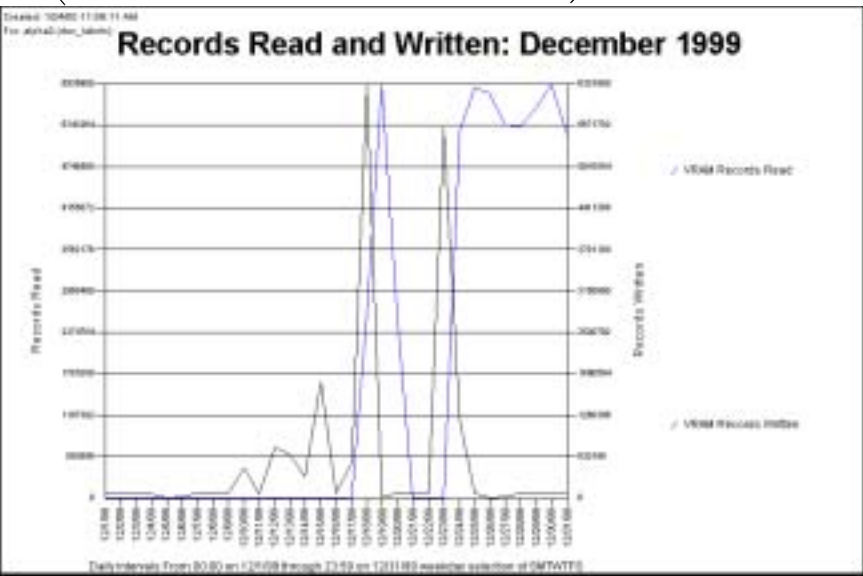


Figure 4-10: User defined report (line graph)

View your user-defined report

Here is what your user-defined report looks like:

Your primary measure (records read) is graphed on the left-side y-axis



Your overlay measure (records written) is graphed on the right-side y-axis

Figure 4-11: Records Read and Written: December 1999



Combining reports

You can combine up to four reports in one window, then print the combination report on one page. The reports you want to combine must appear in the working window list. You can place any report in any quadrant. For this example, we'll place the Library Activity Unit Summary in quadrant 1, the SM Response Time Daily Profile in quadrant 2, and the Records Read and Written report in quadrant 3.



Figure 4-12: Combining a report

▼ To combine reports

1. In the Display menu, click Combine Reports.
2. In the Combine Reports working window, right-click the quadrant where you want to place the first report and click Select Report.
3. In the Combine Graphs dialog box, click the report you want to place in the quadrant, then click OK.



4. Repeat steps 2 and 3 for each report you want to display in the combination.

For this example, you'd see this combination report in the working window:

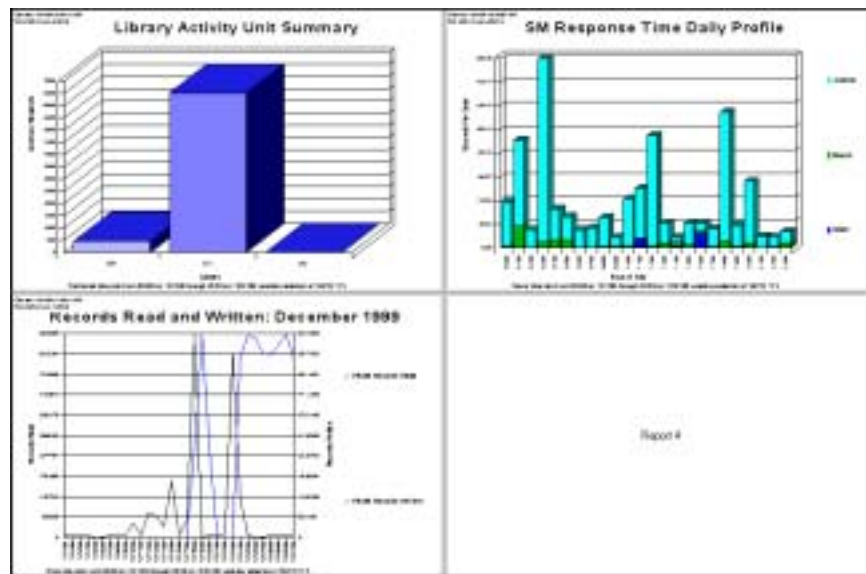


Figure 4-13: Combination report

Note that:

- You can't use report tools with a combination report. This means you can't save or manipulate a combination report, you can only print it. You can, however, save each report separately.
- If you printed this report, StorHouse/Performance Monitor would automatically print in landscape orientation. The empty quadrant would be blank.



- If you had combined two reports in just the left quadrants (or just the right quadrants), StorHouse/Performance Monitor would print in portrait orientation using the full width of the paper.

Creating a layout

Now that you've created a Library Activity report for December 1999, you'd like to create ones for January 2000, February, March, and so on. You can easily do this by creating a layout from your December Library Activity report. This layout will save the report type (Library Activity), report style (Unit summary), summary level (Combined), and graph format (Bar).

Remember that layouts are stored in layout files in the layout directory specified in your preferences. When creating a layout, you need to choose the layout file, then name the layout. If a layout file doesn't exist, you can create one. The following example assumes you are creating a new layout file for the first time.



Choose a layout file

The next step is to choose a layout file.

▼ To choose a layout file

1. Make sure the report is in the working window. If it is not, select it in the working window list.
2. In the Options menu, click Save Report Layout.
3. In the Save Layout dialog box, type the name of the new layout file in the **File name** box. If necessary, you can browse to other files.
4. Click Save.

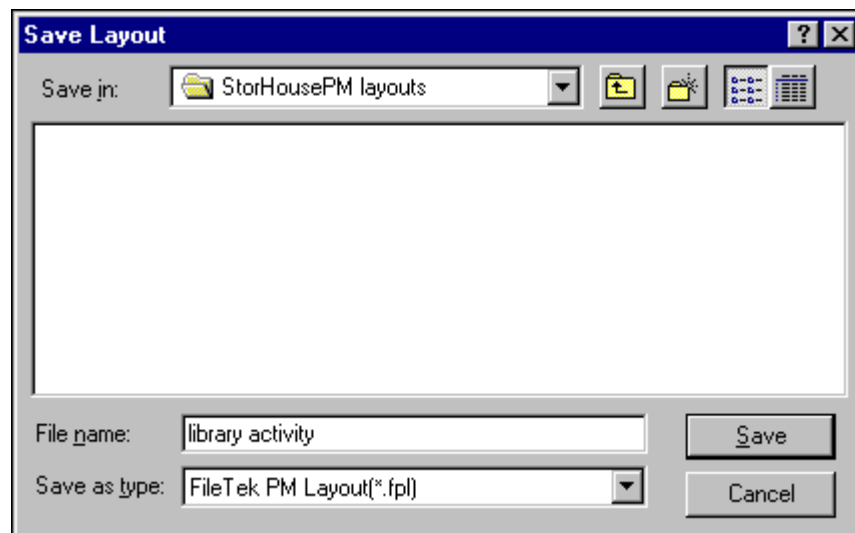


Figure 4-14: Choosing a layout file



Name the layout

The next step is to name the layout.

▼ To name the layout

1. Click New.
2. In the Layout Definition dialog box, select or type the name of the new layout in the **Select layout** list. Names may contain spaces.
3. Describe the layout in the **Layout description** box.
4. Click Save.

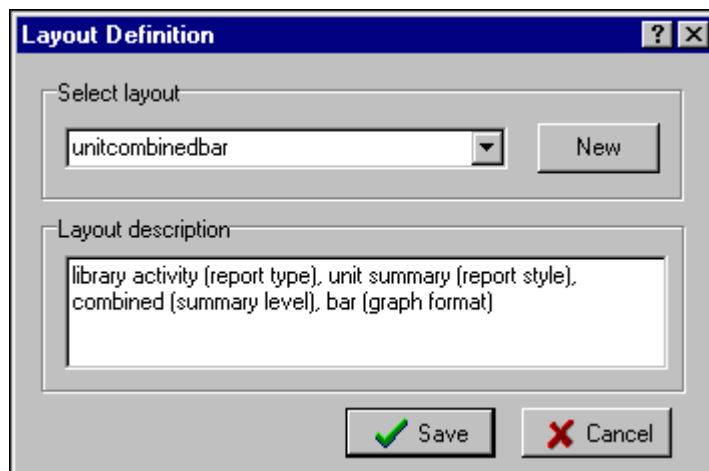


Figure 4-15: Naming the layout



Using the layout

Now it's January and you're ready to create a new Library Activity report with the layout you created from the December report. You just used PM File Copy to obtain the new data files and you're ready to create the new report. To use a layout, first select the report data, then choose and apply the layout.

For this example, choose January 1 as the starting date, January 31 as the ending date, and Full day as the time period.

Select data to use with a layout

First, you want to select the data to use with the layout.

- ▼ To select data to use with a layout
 1. In the Display menu, click New Report. Be sure the Data tab is selected.
 2. In the Report Setup dialog box, select the data source in the **Data source** list.
 3. Set the starting date in the Starting date area.
 4. Set the ending date in the Ending date area.
 5. Click the time period in the Time period area.
 6. Click the Layouts tab at the top of the dialog box.



Figure 4-16: Report Setup dialog box – Data tab (data for layout)



Choose and apply the layout

Now you want to choose and apply the layout.

▼ To choose and apply the layout

1. Click the layout file you want to use in the **Layout files** box.
2. Click the layout you want to use in the **Available layouts** box.
3. Click Apply Selected Layout.
4. Click Create.

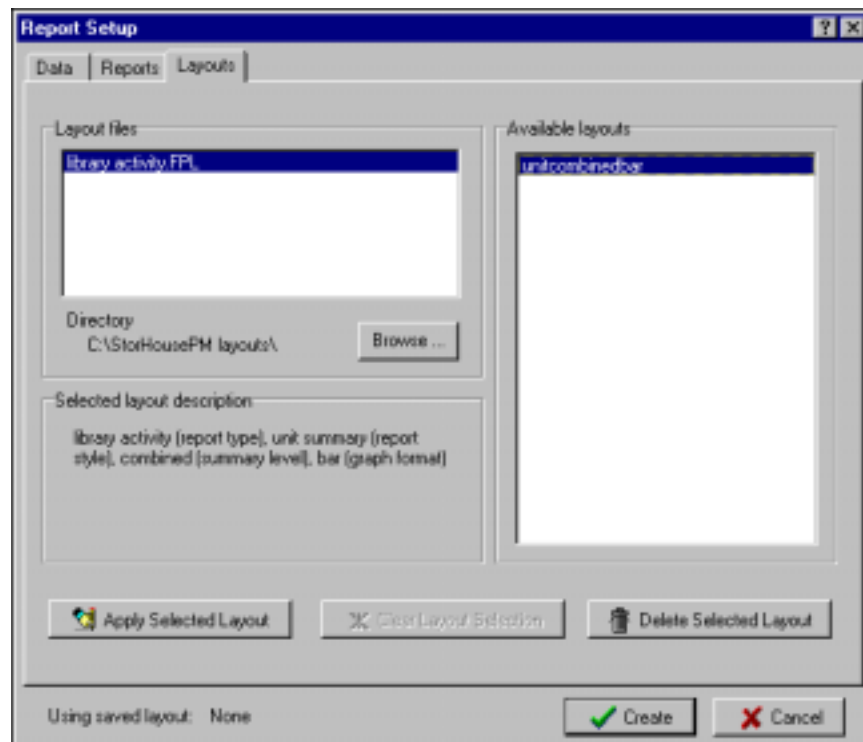


Figure 4-17: Choosing and applying the layout



Saving a report

You can save a report as an image with the report tools, as long as the report's in the working window list. If you close a working window before saving a report, the report's gone. Assume you want to save the December Library Activity report as a BMP image so that you can include it in your next status report.

▼ To save a report

1. Right-click the report, then select Report Tools.
2. In the Report Tools dialog box, click the System tab.
3. Select the image format in the Format area.
4. Type the path and file name in the Target area, or click Browse to select the location.
5. Click Copy.
6. Click OK.

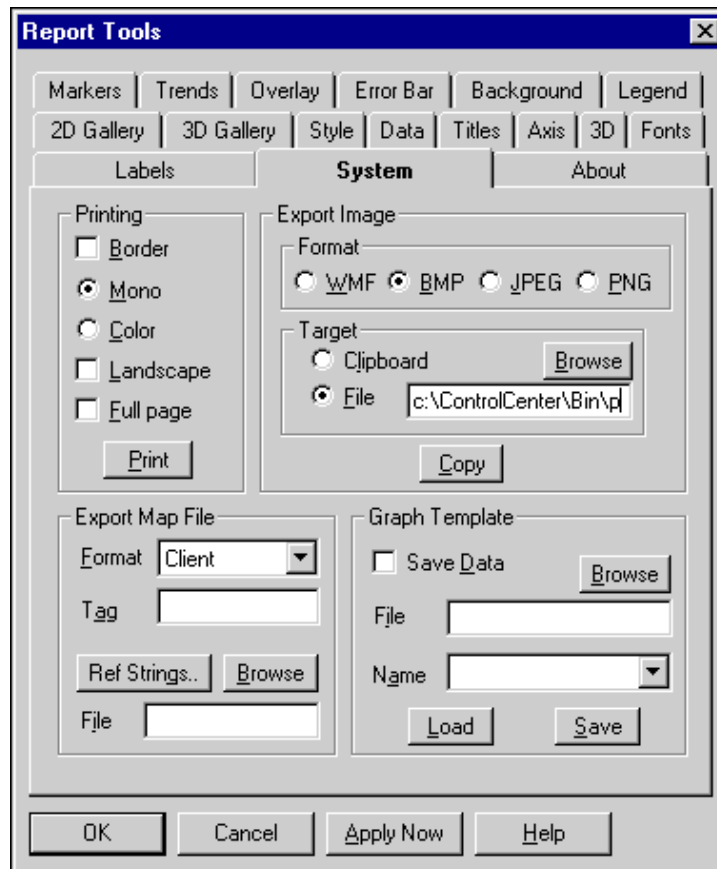


Figure 4-18: Report Tools dialog box



Monitoring near real-time activity

You can monitor any of the activities listed on page 1-14 in near real-time. For this example, we will monitor File Opens and % Volumes Used using a scale of 1 in a trend (line) report. Different activities you select display in different colors on the report.

Note: All percent (%) activities always display up-to-date information. For the most up-to-date information on non-percent activities, wait for the next automatic update (5-minute default).

▼ To monitor near real-time activity

1. In the Display menu, click Activity Monitor.
2. In the Select Data Source dialog box, select the data source in the **Available data sources** list.
3. Click OK.
4. In the **Selected** column at the bottom of the window, click the blank boxes for File Opens and % Volumes Used. The word “Yes” displays in each box.
5. In the **Scale** column for Mounts, click 1. (The **Scale** column lets you select the measurement interval.) The default for % Volumes Used is 1.
6. Click Apply Changes.

The activities display in the trend format. When StorHouse processes new data, the graph automatically displays the new data. You can switch back and forth between the bar and trend graphs for these activities by clicking the Show Activity Bar Graph and Show Activity



Trend buttons. Also, exact values plotted on the graph display in the Last Value and Current Value columns at the bottom of the window.



Figure 4-19: Activity graph (trend format)

You can change the plotted activities at any time. Simply select the desired activities (you can also deselect activities) and click Apply Changes.

Displaying a user log

You can use the User Log Browser to display specific user logs. Before you can view user logs, you must copy the user log files to your workstation using PM File Copy. In the Login dialog box for PM File Copy, be sure to select the **Include User Log Files** check box. Then, in the File Retrieval dialog box that follows, select the specific user log files you want to copy.



▼ To display a user log

1. In the Display menu, click User Log Browser.
2. In the Windows Open dialog box, select the user log you want to view, and then click Open.

The User Log Browser working window appears.

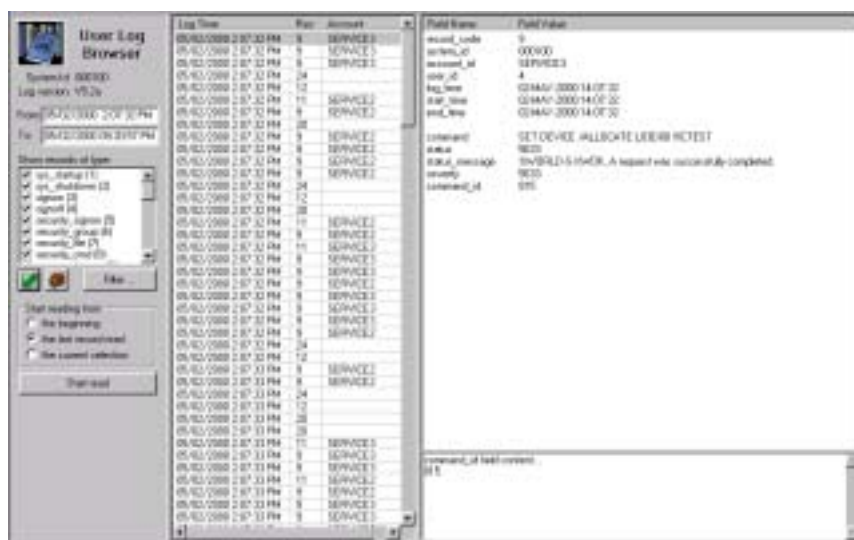


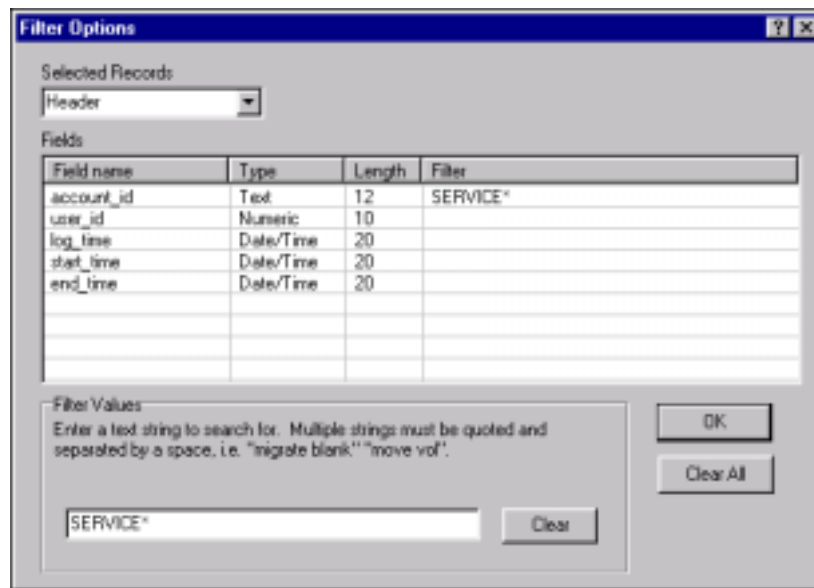


Figure 4-20: Displaying a specific user log record and its fields

3. Accept or edit the **From** and **To** dates. If you edit the dates, the From date you enter must be the same or later than the log's original From date, and the To date you enter must be the same or earlier than the log's original To date.



4. Select specific record types in the Show records of type area.
 - Click  to select all record types
 - Click  to clear all record type selections
5. Click Filter to filter records by field ranges. The Filter Options dialog box displays. If you don't want to filter records by field ranges, skip to step 10.
6. In the **Selected Records** list, select a record type.



Filter Options

Selected Records
Header

Fields

Field name	Type	Length	Filter
account_id	Text	12	SERVICE*
user_id	Numeric	10	
log_time	Date/Time	20	
start_time	Date/Time	20	
end_time	Date/Time	20	

Filter Values
Enter a text string to search for. Multiple strings must be quoted and separated by a space, i.e. "migrate blank" "move vol".

SERVICE* Clear OK Clear All

Figure 4-21: Filtering records by field values

7. In the **Fields** list, select a field.
8. In the **Filter Values** box, type a text string or strings.



9. Click OK.

10. On the User Log Browser dialog box, select the records to read in the Start reading from area.

11. Click Start read.



Figure 4-22: Selecting log records to display

12. Click a specific log record in the **Log Time** column. The records fields display in the upper right-hand window.

13. To display more information on a particular field, click the field name in the upper right-hand window. The content of the field displays in the lower right-hand window.



Creating a user log report

You can use the User Log Report Generator to create a user log report. The report displays in columns of text. Once you have generated a report, you can export the data for use in other applications, or print or graph the data. Procedures follow to create a user log report and to graph the results for a selected column.

▼ To create a user log report

1. In the Display menu, click User Log Reports.
2. In the User Log Report Generator Setup dialog box, click one or more user log files in the Log data area and click Next.
3. Click a report type in the **Available reports** list.
4. Click Next.



5. Click Finish.

The screenshot shows the FileTek Control Center interface. The title bar reads 'FileTek Control Center - [StorHouse PM]'. The menu bar includes 'File', 'Display', 'Options', 'Window', and 'Help'. Below the menu bar is a 'Library Activity' dropdown menu. The main area displays a table with the following data:

Library	Mounts	KB Read	KB Written	# Soft Errors	# Hard Errors	# Mount Retries
L00	6	130,062,995	0	3	0	0
L01	7	22,123	12,096	0	0	0
L02	0	0	0	0	0	0

On the left side, there is a 'CC Modules' panel with icons for 'CD-ROM V2', 'StorHouse Admin alpha2 on dev_1abvix', 'StorHouse Admin alpha2 on dev_1abvix', and 'StorHouse PM'. At the bottom left, there are links for 'Online Docs' and 'Applications'. At the bottom right, it says 'StorHouse/Performance Monitor'.

Figure 4-23: Sample Library Activity user log report

- ▼ To graph a report column
 1. To graph all rows, right-click anywhere in the report and click Graph. To graph selected rows, select the row(s) and right-click Graph.
 2. In the User Log Graph Definition dialog box, click the column(s) to graph in the Columns to graph area.
 3. In the Format area, click the report format.
 4. In the Report description area, accept the default report title or type a title of your own.
 5. Type a system name, if desired.

6. Click Create.

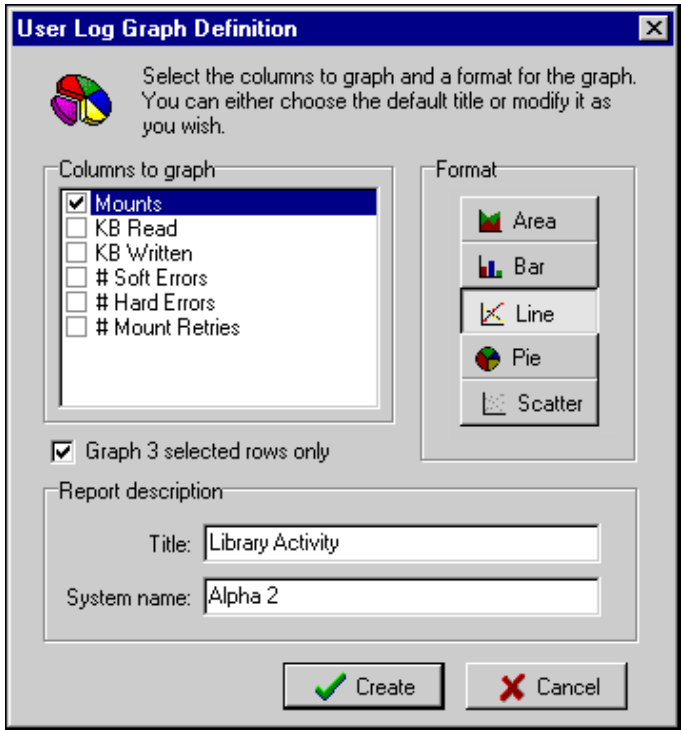


Figure 4-24: User Log Graph Definition dialog box

The report displays. For this example, you will see a line graph plotting the number of mounts for libraries L00, L01, and L02.

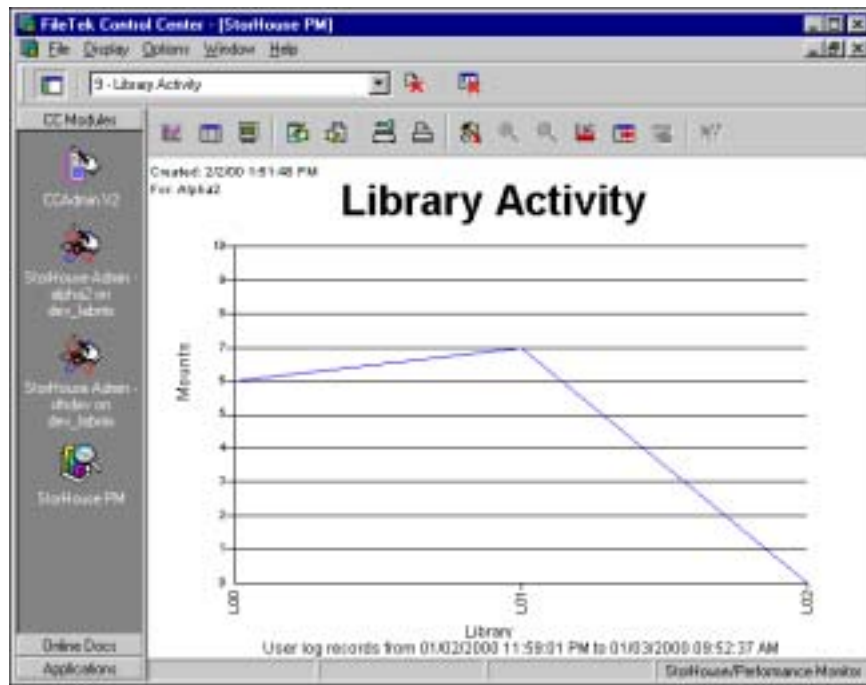


Figure 4-25: Library Activity line graph for number of mounts

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