FolderSizes Help

Table of Contents

Part VI How To's 79

Index 85

1   Introduction

1.1   Introducing FolderSizes

Welcome, and thank you for using FolderSizes.

FolderSizes is a powerful, network-aware disk space analysis, reporting, and visualization tool designed to help you manage disk space usage. It can quickly isolate a variety of space-wasting files (such as large, temporary, and duplicate files) – plus, it reveals file distribution by type, attributes, size, owner, date, or filename length. All within an intuitive and highly interactive user interface.

The remainder of this help file describes the numerous features provided by FolderSizes in greater detail.

Thanks for using FolderSizes. Please note that your feedback is extremely valuable to our ongoing product development efforts. If you have any comments or suggestions about FolderSizes, please visit the product website at http://www.foldersizes.com/ or contact us via email (support@foldersizes.com).

Success,

Mark Richards
Founder / President
Key Metric Software
http://www.keymetricsoft.com

1.2   Getting Started

> **FolderSizes is designed to be intuitive and easy to use.**

The first time FolderSizes is started, the Welcome Wizard will walk you through the major sections of the user interface. Feel free to cancel this introduction if you wish.

Once the FolderSizes user interface is fully visible, a graphical view of your computer's storage system(s) will appear. By default, this drive listing will include fixed, CD-ROM, remote (network), and RAM drives. You can configure which drives appear here through the Drive Space section of the Options window.

You can return to this graphical storage view at any time by selecting "Computer" (or "My

Computer" on Windows XP / Server 2003) within the Folder Browser panel. This view also exposes several useful features:

- Click a drive to begin analyzing it immediately
- Click the Analyze All Drives link to begin scanning all listed drives
- Click the Configure View link to specify which drives appear in this view
- Click the Export As link to export high-level drive space summary information in a variety of formats
- Other useful functions

If you'd prefer to start analyzing a *specific* local or remote (network) location, you can:

- Select the folder you wish to analyze within the Folder Browser panel, which will trigger an immediate analysis
- Enter the full path of the folder or share within the Location Bar near the top of the main application window
- Click one of the folder browser buttons adjacent the Location Bar box to select one or more target paths

Regardless of how you start a FolderSizes file system analysis, you'll begin seeing useful results almost immediately.

1.3   Licensing FolderSizes

1.3.1   How to Buy

FolderSizes is Commercial Software

If you decide to continue using FolderSizes beyond the initial 15-day evaluation period, you must license it for permanent use.

For more information on how to purchase FolderSizes, please visit http://www.foldersizes.com. A wide variety of purchase methods are available.

What Do I Get?

When you license FolderSizes, you get the following:

- A product license code that allows the product to be "unlocked" for one or more users / computers
- Access to our expert technical support services, often with direct development team interaction
- Free minor version upgrades, and discounted access to major version upgrades
- The knowledge that you are supporting the continuation of our development efforts

Please also feel free to contact us at sales@foldersizes.com if you have any questions or comments.

We appreciate your patronage and support.

1.3.2 About Licensing

Licensing FolderSizes

To continue using FolderSizes beyond the evaluation period, you must purchase a product license.

Once you complete the secure online license purchasing process, you will be sent an email that contains your product license code. To enter your license code into FolderSizes, launch the program and click the **Enter License Code** button that appears in the Product Evaluation Notice window. Alternatively, you can click the Enter License Code button in the Help tab of the ribbon bar.

Troubleshooting Product Licensing

If you are having problems entering the registration information that you received, please check the following:

- Your product license code must be entered into FolderSizes *exactly* as you received it. To minimize the potential for errors, it is recommended that you copy and paste the license code into the field presented in the Product License window.
- **Your product registration email message will always indicate which version of FolderSizes your license code unlocks. Please make sure the version of FolderSizes you are running matches accordingly**. For example, you cannot unlock FolderSizes v5 with a v4 license code (you must either download and install v4 or upgrade your license). You can always download the latest version of the software (as well as previous releases) from http://www.foldersizes.com.
- If you need further assistance, please contact us at support@foldersizes.com.

Upgrade Policy (When are Upgrades Free?)

The FolderSizes product upgrade policy is as follows:

- **Minor** version upgrades are free
- **Major** version upgrades are subject to an upgrade fee

FolderSizes has a three-part version number (for example, "5.0.40"), with **the first of these numbers representing the major version number**. Minor version upgrades are those in which the major product version number remains the same. Major version upgrades are those in which the major version number is higher than that for which you are currently licensed.

The full FolderSizes version number is always displayed in the main window title bar, or within the About dialog window.

Major version upgrade fees are outlined within the ordering section of our FolderSizes product website. If you have any questions regarding this policy, please contact us at sales@keymetricsoft.com.

1.3.3 Personal Edition Licenses

Personal Edition licenses are designed **specifically for home users**, and **may not be used** within any business or organizational unit (including commercial, non-profit, educational, etc.). Personal Edition licenses are available at a discounted price, and may be limited in terms of the quantity that can be ordered. Other purchase restrictions may also apply.

IMPORTANT: When using a FolderSizes Personal Edition license, the following application features **will be unavailable**:

- Access to the built-in scheduler
- Access to command line features
- Access to file system analysis data comparison features
- Ability to execute FolderSizes on a Windows Server operating system
- Access to trend analysis features

Personal Edition license users that require access to the features above may contact our sales department for information on how to upgrade to a **Professional Edition** license.

2   User Interface

2.1   Ribbon Bar

The FolderSizes main window uses a ribbon bar to expose features and functions to users.

The ribbon bar is grouped into several **tabs** - Home, View, Graph and Help.

- The Home tab contains of features relating to file system analysis, results management tools, and more.
- The View tab provides access to groups of functions impacting the main detail view, along with visibility of UI components in the main window.
- The Graph tab exposes features relating to the main window graph views (e.g. bar graph, pie graph, and folder map). See this topic for details.
- The Help tab contains features and functions providing assistance with application features, update checking, and product licensing.

The ribbon bar also contains a **File button** that provides access to file-related functions (such as saving and loaded file system data to / from XML), as well as export (saving file system scan data to other formats) and printing capabilities.

To minimize the ribbon bar, double-click one of its tabs. Once minimized, click a ribbon tab will reveal its contents. Double-click one of the tabs again to maximize the ribbon bar (e.g. make it re-appear from a minimized state).

The ribbon bar provides excellent keyboard accessibility. Press and release the Alt key to

show the "hot keys" for the ribbon bar tabs. Press the key(s) corresponding to a tab to show the hot keys for the individual commands. If more than one "hot key" letter appears, press the corresponding keyboard keys in succession to access that function.

2.2   Location Bar

The FolderSizes Location Bar appears near the top of the main application window.
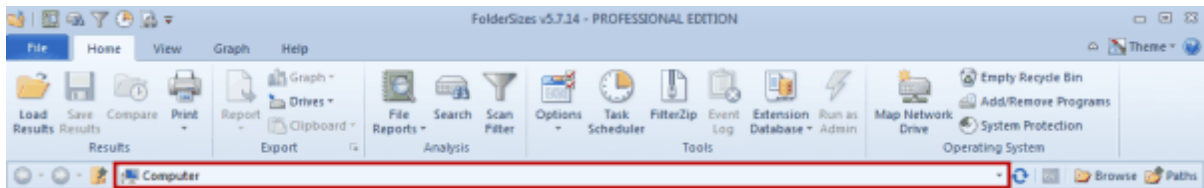
The Location Bar is designed to allow for easy entry of one or more file system analysis paths. It can accept a variety of user inputs, including:

- A fully qualified local file system path (e.g. "c:\temp").
- A UNC path to a remote (network) file system (e.g. "\\server\share").
- A network server name, preceded by two backslashes (e.g. "\\server"). Such entries will trigger the discovery of network shares on the specified server.
- Multiple file system paths (any combination of the above), separating entries with the pipe symbol (e.g. "c:\temp | \\server\share").
- The keyword "computer", triggering navigation to the Computer View.

Use the adjacent Browse button to browse for a file system path, or the Paths button to manage the addition of drives, folders, and network servers.

Click the drop arrow to the right of the Location Bar to access a history of previously selected paths.

Note: A location bar with identical functionality also appears in the File Reporting window.

See also: Analyzing multiple paths, Network share discovery

2.3   Folder Browser Panel

The FolderSizes Folder Browser Panel is a docking window that provides access to local and network folders.

When a drive or folder is selected within the Folder Browser, FolderSizes will immediately begin analyzing that portion of the target file system. If a file system analysis was already in progress, it will be halted and a new analysis will begin. To view file system analysis data while a file system scan is in progress, use the Scan Data Panel.

Right-clicking a file system tree node within the Folder Browser Panel will reveal a Windows shell context menu.

Selecting "Computer" within the folder browser panel will cause the Computer View to appear.

See also: Analyzing multiple paths, Location Bar

2.4   Scan Data Panel

The FolderSizes Scan Data Panel provides visibility and accessibility to the product's in-memory file system database.

The Scan Data Panel is different from the Folder Browser panel in a number of important ways.

1) First, the Scan Data Panel shows only file system nodes that FolderSizes knows about. It is not designed primarily for file system navigation, but rather is a reflection of the in-memory database that FolderSizes constructs and maintains when analyzing file systems. This makes it valuable tool for numerous analysis tasks, including exploration of data loaded from XML (either just for review, or for comparison purposes).

2) Next, the selection of a Scan Data Panel tree node will **not** interrupt a file system analysis currently in progress. This allows for the review of file system analysis data from multiple perspectives during file system analysis.

3) A small icon appearing next to each file system node reveals that node's current scan state:
   a) **Complete** - FolderSizes is finished scanning this file system node
   b) **Working** - FolderSizes is currently scanning this node, or one of its children
   c) **Partial** - FolderSizes has partial knowledge of the file system node
   d) **Import** - The file system node is the product of an XML data load
   e) **Compare** - The file system node is in comparison mode
   f) **Queued** - The file system node is waiting to be scanned

4) The Scan Data Panel has a single "virtual root" node labeled "All scan data" which contains all file system analysis roots. This provides a highly unique and useful perspective across multiple file system points. For example, if you scan local drives "C:\", "D:\", and "E:\" then switch to the Folder Browser Panel, all of these nodes will appear below the virtual root, which in turn shows aggregate information about these paths.

> **Interacting with the Scan Data Panel**

The Scan Data Panel also provides a range of useful functions that can manipulate how file system nodes are presented, and even manipulate them directly. The Scan Data Panel toolbar exposes the following commands:

- **Remove** - Erases the selected file system node from the file system analysis database. FolderSizes will no longer "no about" this node, and it will be re-scanned if encountered again during a file system analysis operation. Importantly, use of this feature **does not affect the file target system itself** - is simply erases information from the FolderSizes in-memory file system database (which, consequently, reduces FolderSizes memory usage in direct correlation to the size of the node).
- **Refresh** - Erases the selected file system node from memory, then immediate re-scans it.
- Tree functions:

- o **Find Deepest Node** - Locates and selects the deepest folder nesting within the file system database, expanding the tree as needed.
- o **Expand Selected** - Allows for expansion of the selected file system tree node by 1, 2, or 3 levels (or fully).
- o **Collapse Selected** - Allows for the complete collapsing of the selected file system tree node (also collapses all children)
- **Size Sort** - Sorts the tree from largest file system node to smallest. When off (the default), the tree will be sorted alphabetically.
- **Toggle Legend** - Toggles on/off visibility of the legend that appears near the bottom of the Scan Data Panel.

2.5   The Detail View

2.5.1   Overview

The FolderSizes Detail View provides powerful insight into disk space usage, providing you with a wealth of information for each folder and file, including:

- **Name** - The name of the file system object (file or folder).
- **Size** - Actual size of the file system object.
- **Allocated** - Size of the file system object on disk (includes cluster size computations). See details here.
- **Files** - Count of files associated with the object. When viewing a folder, this is the number of files it contains.
- **Folders** - Count of all descendant folders (e.g. child folders plus their children, etc.) associated with the object.
- **Folders (Immediate)** - Count of immediate child folders only.
- **Modified** - Date the file system object last changed.
- **Created** - Date the file system object was created.
- **Accessed** - Date the file system object was last accessed.
- **% of Parent** - Percentage of the parent file system path this object constitutes.
- **Attributes** - Summary of file system attributes, using a combination of letters to represent each specific NTFS attribute (**R** = Read only, **H** = Hidden, **S** = System, **D** = Directory, **A** = Archive, **N** = Normal, **T** = Temporary, **C** = Compressed, **E** = Encrypted, **O** = Offline, **I** = Not indexed, **P** = Sparse).
- **Avg. file size** - Average file size.
- **Depth** - Depth of the file system object in relation to the root scan path.
- **Type** - A textual description of the file or folder type.
- **Owner** - Name of the file system object owner.
- **Full Path** - The complete file system path
- **Calculated Modified, Created, and Accessed** - Click here to learn more about calculated date/time values.
- **Relative Age** - Shown in bar graph form, represents age of object relative to last modification date/time of its siblings (objects within the same parent folder).
- **Path Len** - The total length of the file system path in question.
- **Name Len** - The length of the immediate name portion of the file system path.

- **Link Target** - If the path represents a resolvable link (symbolic link or mount point), the link target will be shown here.

> **Note:** Not all columns are displayed by default. You can control which columns are displayed by right-clicking any detail view column header and placing a check mark next to each of the columns you wish to have displayed. Note that the detail view export facilities will output the same columns that are visible in the main interface.

Other Detail View Features

One of the many compelling features of the FolderSizes detail view is that it **updates dynamically**, as a file system scan progresses. Just navigate to a file system folder or drive to begin an analysis.

You can **right-click any folder or file** in the detail view to gain access to a context menu containing many useful functions.

Double-clicking a folder name in the detail view will cause FolderSizes to **drill down** into that folder, allowing you to explore it further (files are opened with their default program handler when double-clicked).

A single click (with the left mouse button) in any of the detail view column headers will cause FolderSizes to **sort** by that column. Click the same column again to reverse the sort order. Note that the graph view display is always sorted in the same order as the detail view.

Folder and file entries in the detail view are **color coded** according to their file properties. For example, by default system folders and files are colored red, and compressed objects are colored blue. The colors can also be customized within the detail view section of the options window.

The detail view also has a wealth of **display modes** from which you may select. Select the View tab within the application ribbon bar to explore some of these options, including subfolder display depth, file size format, and much more.

2.5.2   Calculated Date/Time Values

In addition to the *normal* date/time stamps associated with file system objects, FolderSizes has the ability to show *calculated* date/time values for folders.

Calculated date/time values differ from the normal NTFS date/time stamps in that they represent the **most recent** file system object in the entire folder hierarchy. By default, FolderSizes will consider both files *and subfolders* when computing these values - but you can control this behavior via the Scanning section of the Options window.

There are calculated date/time columns available in the main window detail view for each of the three primary NTFS date/time stamps - modified, calculated, and created.

> **Important**: To view calculated date/time values, you must first *enable them* by right-clicking the main window detail column header and selecting the desired calculated date/time

entries from the listing.

Note: Calculated date/time values are only computed for folders. Calculated date/time values for files are the same their normal NTFS date/time stamps.

2.5.3 Drag and Drop

The FolderSizes main window detail view supports drag and drop operations for files and folders.

File and folders can be dragged from within the detail view, and then dropped onto itself (e.g. into a detail view folder), the folder browser panel, or the scan data panel.

By default, objects that are dragged and dropped will be *moved.* If you're prefer to *copy* the object(s) instead, hold the CTRL key down during the drag and drop operation.

2.5.4 Cut, Copy & Paste

The FolderSizes main window allows file and folder objects to be cut or copied, and then pasted into other locations.

To use these features, select one or more file system objects in the detail view, then right-click and choose Copy or Cut from the resulting pop-up menu.

Next, navigate to the location within the detail view to which you wish to paste the cut or copied files. Right-click again, and choose Paste from the resulting pop-up menu.

You can also use the following keyboard shortcuts to initiate cut, copy, and paste operations:

- **Cut** - Ctrl + X
- **Copy** - Ctrl + C
- **Paste** - Ctrl + V

2.6 Computer View

Selecting the Computer tab in the main FolderSizes window will show a graphical view of your computer's storage system(s). By default, this drive listing will include fixed, CD-ROM, remote (network), and RAM drives.

You can configure which drives appear here through the [Drive Space](#) section of the Options window.

The Computer View exposes several useful features:

- Click any **Drive** to begin analyzing it immediately
- Click the **Analyze All Drives** link to begin scanning all listed drives
- Click the **Configure View** link to specify which drives appear in this view
- Click the **Export As** link to export high-level drive space summary information in a variety of

formats
- Click the **Map Network Drive** link to show the Windows drive mapping window

You an also hover your mouse over a drive to view a range of useful details.

2.7 The Drive Space Panel

The FolderSizes Drive Space Panel is a docking window that shows a listing of local, CD-ROM, network (mapped), and RAM drives available to your computer. It is conceptually similar to the Computer View (in fact, they share the same set of configuration options), but presented in textual form within a docking panel that is (by default) always visible.

The following actions are supported:

- Double-click a drive letter to perform a full file system analysis on the corresponding drive.
- Right-click a drive letter to show a Windows shell context menu.
- Right-click outside of the drive letters (e.g. just below them) to refresh, print, save, or copy the results to clipboard.

2.8 The Graph Tabs

The main FolderSizes graph tabs provide valuable visual information about the sizes of the sub-folders contained within the scanned path.

Different Types of Graphs

FolderSizes provides several different types of file system data visualization mechanisms, as follows:

- **Bar Graph** - This presents a series of horizontal bar graphs correlative to the current detail view display. You can view more or less bar graph entries by manipulating the Subfolder Depth setting (via the View menu).
- **Pie Graph** - Similar to the bar graph implementation, but within a fixed space (e.g. no scrolling) for a more compartmentalized view of spatial distribution of sub-folders.
- **Folder Map** - Based upon the TreeMap concept first designed by Ben Shneiderman, the folder map provides a complete view of all subfolders (at all levels of depth) within a single view. Unlike bar or pie graphs, this view allows for deep visualization of the target file system structure without the need for scrolling or drill-downs.

The Graph Ribbon Bar Tab

Click the Graph tab of the main window ribbon bar to access a range of useful features relating specifically to the main window graphs.

General options:

- Save - Save the currently selected graph type to file.
- Copy - Copy the currently selected graph type to the Windows clipboard.

- Display Mode - Toggles graphs between *size*, *file count*, and *folder count* display modes.
- Show allocated - Show allocated (e.g. "size on disk") values in graphs.
- Graph palette - Allows you to choose the color palette to be applied to graphs.

Pie Graph options:

- Item display - Allows to control which data points are shown in the pie graph.
- Show labels - Toggles the display of pie graph labels on/off.

Folder Map options:

- Highlight - Allows you to quickly highlight folder map tiles that meet specific criteria. Click the drop-down arrow to view a range of built-in presets, select the highlight color, etc.
- Scan Fonts - When enabled, folder map tile text will be scaled to fill available space.

Common Features

Hover your mouse cursor over any segment of any graph to view detailed information about the file system node it represents. These tooltips can be disabled.

Clicking sections of a FolderSizes graph will highlight the corresponding folder in the detail list at the top of the screen (where applicable). Double-clicking a bar will "drill into" the associated folder.

The graph panels also have a number of configuration options, outlined here.

3   Analysis

3.1   File Reports

3.1.1   About File Reports

In addition to the interactive drive space analysis and visualization provided through its main window, FolderSizes can produce a range of useful file-based reports. File reports are extremely valuable in identifying drive space usage patterns throughout your system(s).

To generate and view File Reports within FolderSizes, click the File Reports button in the application toolbar (or click the arrow to the right of the button to go directly to a specific report type). The Report Generator window will appear.

When the Report Generator window appears, you must first tell it which folder or drive you wish to report on. If you know the path of the drive or folder you wish to use, you can enter it manually (e.g. type "C:" into the edit box to have your C drive scanned or a UNC path to scan a network share). Or, click the Browse button to browse the folders, drives, and shared available on your system or on the network. You can also click the down arrow to the left of the edit box to view your most recent report path entries.

Note: It is also possible to generate File Reports against multiple file system scan paths.

See Multiple File Report Paths for details.

Use the Options button in the File Report Generator toolbar to customize the file report generation process, including the selection of which specific File Reports will be generated. You should always consider disabling File Reports that do not interest you – doing so increases file system scanning speeds and reduces system resource utilization.

Once you have selected a reporting path, click the Start toolbar button. This will begin the file system scanning process, which will ultimately result in the creation of all file reports you currently have enabled.

The File Reports have a number of common properties and capabilities, available from the toolbar:

- **Print** - Print the currently selected File Report.
- **Export** - Export the currently selected File Report in HTML, CSV, or TXT file format.
- **Options** - Shortcut to the File Reports section of the FolderSizes options window.
- **Scan Filter** - Allows for advanced filtering during File Report generation. Be sure to engage the "Apply scan filtering to File Reports" switch in the Scan Filtering window.
- **Events** - Allows for review of events (e.g. errors, warnings, etc.) that occurred during the last file system analysis.
- **Help** - Shows this help file.

Note: Once a file report scan begins, a small window will appear indicating that the scan is currently in progress. This window also allows you to cancel report generation at any time.

3.1.2   Mutiple File Report Paths

FolderSizes has the ability to generate File Reports against multiple file system scan paths *concurrently* (i.e. at the same time).

You can specify multiple file system paths in a couple of different ways:

- Type paths directly into the path(s) edit box, with each path separated by pipe symbols (the "|" character)
- Use the Path Manager window (click the Paths toolbar button) to enter multiple directories, drives, and servers

Using the Path Manager option is often beneficial because it provides additional validation, and allows you to visualize the order of scan paths. To use this method, click the Paths toolbar button within the File Reports main window. This will cause the Path Manager window to appear, showing a listing of all the paths that will be scanned during File Report generation.

To add to this list, you can browse for (or enter directly) a file system path and click the Add button. To remove a path from this list, select it and click the Delete button. To edit a path, select it and click the Edit button (or double-click the path itself). You can also manage the order of entries in the path list by selecting a path and clicking the Up or Down buttons. When

done, click OK - the Path Manager window will close, and the scan paths will be entered into the File Report window paths edit box in pipe-delimited format.

Note that multiple, pipe-delimited paths can also be passed in through the FolderSizes command line interface.

For more information on analyzing multiple paths within FolderSizes, see this related help topic.

<div style="background-color:yellow">

Performance Implications

</div>

As noted above, the FolderSizes File Report Generator will analyze multiple file system paths at the same time. It achieves this level of analytical concurrency through the construction of a dynamically-sized thread pool.

In order to maximize performance potential, file report analysis work is assigned to thread pool members based upon root path. Each unique root path will be assigned to a different thread, up to the limit of the thread pool size (which is regulated by logical processor availability).

Therefore, you can maximize File Report Generation performance by specifying multiple paths that span unique physical storage devices.

3.1.3　Hide / Show Columns

All column-based detail file report views offer the ability to control which columns are currently visible.

To do so, right-click the header section of any list control. A pop-up menu will appear, allowing you to select which columns are visible.
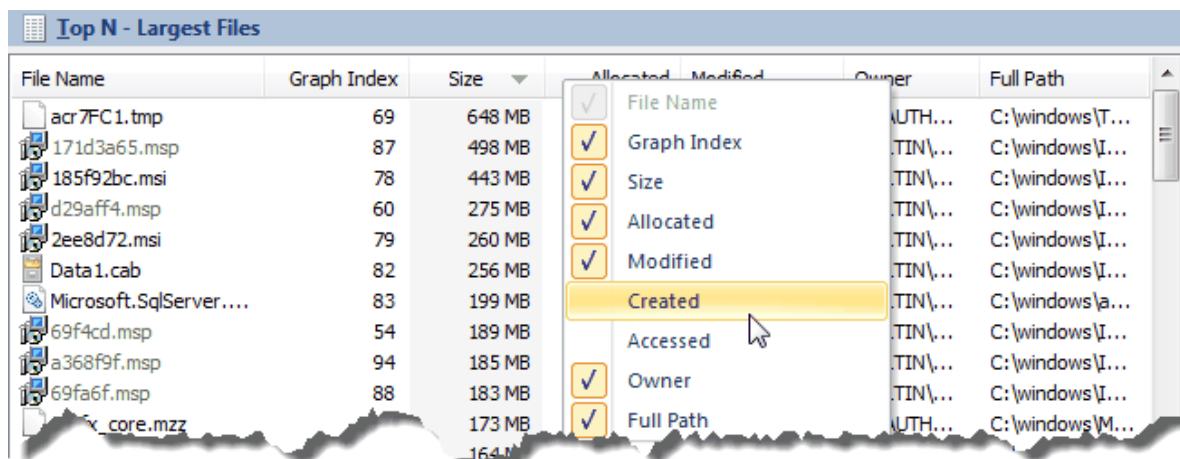
Note: When file report data is exported, the export will include only visible columns.

3.1.4   Exporting File Reports

File Reports offer robust data export features that can be used to save data related to the currently selected report, or to all file reports at once.

Use the following toolbar buttons to export data:

- **Export Report** - Exports the contents of the *currently selected* file report in a variety of formats.
- **Export All** - Exports the contents of *all file reports* in a variety of formats.

Note that when exporting all reports, the MS Excel export file format option will create a single Excel workbook with multiple worksheets (one for each file report, plus a report summary worksheet). The HTML file format will create a single file with embedded images.

3.1.5   Top N

3.1.5.1   Largest Files

The FolderSizes Largest Files report provides a listing of the largest files contained within the scanned folder.

The Largest Files Report also contains a helpful banding graph that provides a visual indicator of the percentage of scanned folder space consumed by each listed file. The graph is always sorted from largest to smallest (from left to right) in order to better convey this information. You can also hover over any particular colored band within the graph to see the file name (and size) associated with that band.

The Largest Files Report can be sorted by any column; simply click the column by which you wish to sort. Click the same column again to reverse the sort order.

By using the Export button, the contents of the Largest Files Report can be exported for external analysis or display.

You can print the Largest Files Report by using the Print button at the bottom of the report generator window. The list will print exactly as it appears in the report (e.g. in the current sorted order, etc.).

3.1.5.2   Oldest Files

The FolderSizes Oldest Files report provides a listing of the oldest files contained within the scanned folder.

Windows files have multiple date/time stamps associated with them; "date modified", "date created", and "date accessed". The Matching Options section of the Oldest Files Report allows you to determine which of these date/time stamps should be used for comparing files. You can also filter the report scan results by minimum file age.

The Oldest Files Report can be sorted by any column; simply click the column by which you wish to sort. Click the same column again to reverse the sort order.

By using the Export button, the contents of the Oldest Files Report can be exported for

external analysis or display.

You can print the Oldest Files Report by using the Print button at the bottom of the report generator window. The list will print exactly as it appears in the report (e.g. in the current sorted order, etc).

3.1.5.3 Newest Files

The FolderSizes Newest Files report provides a listing of the newest files contained within the scanned folder.

Windows files have multiple date/time stamps associated with them; "date modified", "date created", and "date accessed". The Matching Options section of the Newest Files Report allows you to determine which of these date/time stamps should be used for comparing files. You can also filter the report scan results by minimum file age.

The Newest Files Report can be sorted by any column; simply click the column by which you wish to sort. Click the same column again to reverse the sort order.

By using the Export button, the contents of the Newest Files Report can be exported for external analysis or display.

You can print the Newest Files Report by using the Print button at the bottom of the report generator window. The list will print exactly as it appears in the report (e.g. in the current sorted order, etc).

3.1.6 Special

3.1.6.1 Duplicate Files

The Duplicate Files report locates and lists duplicate files throughout the scanned folder (and its sub-folders).

How duplicate files are identified depends upon the Attributes drop-down box setting. You can elect to compare the name and size of files, a combination of the name, size, and date - or simply file names alone.

Once the Duplicate Files report has been generated, the upper half of the report interface will expose the names of the duplicate files discovered during the scan, along with the file count and total aggregate size. Clicking on a duplicate filename will reveal the specific path, size and owner of each duplicate instance in the lower half of the report interface.

As with all File Reports, the Duplicate Files report can be sorted by any column in either ascending or descending order. Simply click a column header to sort by that column – click again to reverse the sort order.

The Duplicate Files report has the ability to ignore files smaller than a specific threshold, which defaults to 100Kb. Setting this threshold to a higher value increases the speed of File Report scans, and reduces system memory utilization. You can also set this option to "all files" to ensure that no file is omitted.

The Duplicate Files report can be exported to HTML format. Although printing is not supported

directly within this particular report, you can easily export the results to HTML format, and then print them from within your web browser of choice.

Note: If you need more advance duplicated file detection and management capabilities, please consider our Duplicate File Detective software product, available on the web at http://www.duplicate-file-detective.com.

3.1.6.2   Temporary Files

The FolderSizes Temporary Files report provides a listing of any temp files contained within the scanned folder (and its subfolders).

Temporary files are identified via the temp file mask, configurable at the bottom of the report window. The mask is a semi-colon delimited list of character patterns – if a filename contains any of these patters, it will be considered a temporary file. Feel free to change the temp file mask if you wish to do so (your changes will be remembered automatically).

The Temporary Files report can be sorted by any column; simply click the column by which you wish to sort. Click the same column again to reverse the sort order.

By using the Export button, the contents of the Temp Files Report can be exported for external analysis or display.

You can print the Temp Files Report by using the Print button at the bottom of the report generator window. The list will print exactly as it appears in the report (e.g. in the current sorted order, etc).

3.1.7   File Types

3.1.7.1   File Types Detail

The FolderSizes File Types Detail report provides you with a listing of which file types are consuming the most space within the scanned folder.

For example, scanning a folder may reveal the presence of a large number of JPEG Image files. The File Type Report will indicate how many of these files exist, and how much space they consume (within the scanned folder and all of its subfolders).

The File Types Detail report can be sorted by any column; simply click the column by which you wish to sort. Click the same column again to reverse the sort order.

By using the Export button, the contents of the File Type Report can be exported for external analysis or display.

The File Types Detail report can also be filtered to show only files larger than a certain number of Kb. To filter the display, simply adjust the minimum file size display value and click the refresh button.

You can print the File Types Detail report by using the Print button at the bottom of the report generator window. The list will print exactly as it appears in the report (e.g. in the current

sorted order and with the current filter settings).

3.1.7.2 File Types by Size

The FolderSizes File Types by Size report provides a graphical representation of the same data displayed within the File Types Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

The File Types Graph also provides a display filter mechanism which allows you to show (in the graph) only the X largest file classes. This configurable constraint provides a means of limiting the number of sections that appear in the File Types Graph, which in turn makes the graph easier to read.

3.1.8 File Type Groups

3.1.8.1 File Type Groups Detail

The File Type Groups report provides a high-level grouping of files by broad category (e.g. graphic files, music, etc.).

The File Types Group Detail report can be sorted by any column; simply click the column by which you wish to sort. Click the same column again to reverse the sort order.

By using the Export button, the contents of the File Type Groups Report can be exported for external analysis or display.

You can print the File Types Group Detail report by using the Print button at the bottom of the report generator window. The list will print exactly as it appears in the report.

Managing File Type Groups

To customize file type groups, select the File Type Groups Detail View within the File Report Generator window. Then click the Manage File Type Groups button.

You will be presented with a listing of current File Type Groups. To add a new File Type Group, click the Add button. To remove the currently selected File Type Group, click the Delete button. To Edit the currently selected File Type Group, click the Edit button.

Changes and additions to File Type Groups are committed when the Save button is clicked.

Editing File Type Groups

Creating a new File Type Group (or editing an existing one) will cause the File Type Group Editor window to appear.

File Type Groups have a name, a description, and one or more associated file extensions. The name and description fields are required, and at least one file extension association must

be added.

To add a new file extension, enter the extension into the edit box near the bottom of the window and click the Add button. Once added, the new extension will appear in the Extensions listing.

To edit an extension, select it in the Extensions list, edit the extension using the edit box near the bottom of the window, and then click the Replace button.

To remove an extension, select it in the Extensions list and click the Delete button.

3.1.8.2   File Type Groups by Size

The File Type Groups by Size report is a graphical representation of the output provided by the File Type Groups Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

3.1.9   File Attributes

3.1.9.1   File Attributes Detail

The FolderSizes File Attributes Detail report indicates the distribution of file attributes throughout the scanned file system. For example, the File Attributes Detail report can show you how much disk space is allocated to system and hidden file objects.

The File Attributes Detail report can be printed or exported via the Print and Export buttons, respectively.

3.1.9.2   File Attributes by Size

The File Attributes by Size report is a graphical representation of the output provided by the File Attributes Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

3.1.10   File Owners

3.1.10.1   File Owners Detail

The FolderSizes File Owners Detail report is designed to show the distribution of files within a given path (e.g. drive, network folder, etc.) by owner. The report shows how much disk space is consumed by each user, including the percentage of the parent path. Note that both the file sizes as well as allocated size (e.g. "size on disk") are displayed. In some cases the allocated size could be smaller than the base size if some (or all) of the scanned files are compressed.

Important note: because the File Owners Detail report is markedly slower than the other File Reports (due to the nature of the Windows OS), it is disabled by default. You must explicitly

enable it by clicking the Options toolbar button within the File Report Generator window.

Like any other FolderSizes File Report, The File Owners Detail report can be printed or exported via the Print and Export buttons, respectively.

3.1.10.2 File Owners by Size

The File Owners by Size report is a graphical representation of the output provided by the File Owners Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

3.1.11 File Sizes

3.1.11.1 File Sizes Detail

The File Sizes Detail report allows for files encountered during file report generation to be classified within a series of user-defined file size ranges.

A default set of file size ranges are defined, but can edited, removed, or added to via the Edit Ranges button.

Like any File Report, the File Sizes Detail report results can be printed or exported in a variety of formats (including HTML, CSV, etc.). Column sorting preferences will be retained between File Reporting sessions, but can be cleared via the Clear Sort Preference button.

3.1.11.2 File Sizes by Size

The File Sizes by Size report is a graphical representation of the output provided by the File Sizes Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

3.1.12 File Names

3.1.12.1 File Names Detail

The File Names Detail report allows for files encountered during file report generation to be classified within a series of user-defined filename length ranges.

A default set of filename length ranges are defined, but can edited, removed, or added to via the Edit Ranges button.

Like any File Report, the File Names Detail report results can be printed or exported in a variety of formats (including HTML, CSV, etc.). Column sorting preferences will be retained between File Reporting sessions, but can be cleared via the Clear Sort Preference button.

3.1.12.2 File Names by Size

The File Names by Size report is a graphical representation of the output provided by the File Names Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

3.1.13   File Dates

3.1.13.1 File Dates Detail

The File Dates Detail report allows for files encountered during file report generation to be classified within a series of user-defined file date ranges.

A default set of file date ranges are defined, but can edited, removed, or added to via the Edit Ranges button. You can also choose which file date/time stamp is used during the classification process (date accessed, created, or modified).

Like any File Report, the File Dates Detail report results can be printed or exported in a variety of formats (including HTML, CSV, etc.). Column sorting preferences will be retained between File Reporting sessions, but can be cleared via the Clear Sort Preference button.

3.1.13.2 File Dates by Size

The File Dates by Size report is a graphical representation of the output provided by the File Dates Detail report.

The report graph can be printed or exported (in image file format) via the Print and Export buttons, respectively.

3.2   Disk Reporter

3.2.1   About the Disk Reporter

The FolderSizes Disk Reporter allows you to create highly customized reports showing space consumption (and much more) for local and/or network drives.

Unlike the drive space panel and computer view, the Disk Reporter allows you to specify precisely which local and/or remote disks are included in the report. This can be very useful when, for example, you need to report on disk space consumption for multiple computers on the network.

For further details, please see the Creating Disk Reports topic.

3.2.2   Creating Disk Reports

The Disk Reporter tool allows you to view disk space consumption across multiple local and remote systems within a single report.

Use the **Add Disks** toolbar button to get started. The following options are available:

• Local Disks - Offers a range of options for adding or selecting local system disks (including

mapped drives) to the current report.
- Discover Network Shares - Allows for discovery of shares on the network, either on specific computers or an entire workgroup/domain. See the Network Share Discovery help topic for more information.
- Enter Path(s) Manually - Use this option if you wish to enter one or more file system paths (a local disk or UNC path, for example) manually.

Important Note on Disk Paths

When adding network shares in UNC (e.g. \\server\share) format, keep in mind that disk space utilization is always reported for the root drive associated with that share. For example, if you add a UNC path of "\\server\share\myfolder", disk space metrics will be provided for that share's root drive (and not for the "myfolder" folder). Therefore, multiple share paths that resolve to the same physical disk drive will all reveal the same information and metrics when added to a disk report.

In other words, the Disk Reporter only reports on disks - not folders.

Loading and Saving

You can use the Load and Save toolbar buttons to load or save a specific disk report layout.

The Disk Reporter will also automatically save the current disk space report to a default file system location, and then restore the contents of that report during subsequent uses.

Customizing the Report Display

By default, the Disk Reporter will group disks by their type (e.g. local disk, remote disk, network share, etc.).

You can, however, customize the grouping (or remove it entirely) by clicking the View toolbar button and selecting Show Group Bar. This will cause the group header area to become visible. You can then drag and drop report columns to and from the group header area as needed.

You can also determine which report columns are visible by right-clicking any report column header and selecting/deselecting columns in the resulting pop-up menu. The same pop-up menu can be used to change column alignment, auto-size columns, etc.

The order of columns can be changed by simply dragging and dropping report column headers into the order of your preference.

Note that any changes made to report formatting (such as grouping, column visibility, etc.) will be applied to all disk reports created in the future.

Other Functions

Other Disk Reporter functions are accessible via the toolbar:

- Remove - Removes the currently selected disk from the report.
- Refresh - Refreshes disk space information for all drives in the current report.
- Export - Allows report data to be exported in a number of file formats.
- Help - Shows help information for the Disk Reporter.

3.3 Search

3.3.1 About Search

FolderSizes includes a search facility with powerful features not found in other file system search tools.

FolderSizes Search allows you to scan multiple file system paths (local and remote) for the purpose of finding files and/or folders that match specific criteria. Those criteria are specified through search rules.

Search Commands

The FolderSizes search window toolbar provides access to a number of functions:

- **Start** - Start the search process with the specified criteria.
- **Stop** - Cancels a search currently in progress.
- **Load** - Loads a previously saved search job definition.
- **Save** - Saves the currently defined search job to file. This file can be loaded again later for re-use.
- **Print** - Prints the current search results listing.
- **Scan Filter** - Provides access to advanced control over file system enumeration. See the Search Scan Filter topic for details.
- **Export** - Allows you to export the search results listing to HTML, CSV, or TXT file formats.
- **Events** - Shows details about any events that occurred during the last search.
- **Samples** - Opens a folder that contains a number of helpful sample search jobs.
- **Help** - Presents this help information.

Search Paths and Rules

The search window is separated into two tabbed areas - one for specifying search paths, and the other for search rules. Search paths tell FolderSizes *where* you want to search, and search rules indicate *what* you want to find.

Loading and Saving Search Job Files

As mentioned briefly above, the search window's "Save" toolbar button allows you to save the currently defined search criteria (including paths, file name masks, etc.) to a file. This file can later be re-loaded using the "Load" toolbar button.

Search job files contain the current search paths, search scan filter configuration, and any search rules. When loading search job files, there is also an option to load *only* the search criteria the file contains (leaving the current search paths and search scan filter settings unchanged). This feature can be useful when you know that a job file contains a set of search criteria of interest, but you wish to maintain the current paths and scan filter settings.

Saved search job files can also be used when executing FolderSizes Search via the command line interface.

3.3.2 Search Paths

FolderSizes Search has the ability to search multiple local, mapped, and UNC file system paths in a single pass.

Use the New Path button to add as many paths you wish into the search paths list box. Select a search path and click the Delete button to remove it. Use the Edit button to modify the currently selected path. Use the Up and Down buttons to re-order entries in the search paths list box. FolderSizes will search them in the order you specify.

Select the Search Subfolders checkbox if you wish to have the search system recurse into subfolders.

There's also a switch that enables the resolution of file/folder ownership data for search results. Disabling this setting may result in a performance improvement when a large number of search results are being returned.

3.3.3 Search Rules

FolderSizes Search Rules control how the system matches file and folders.

There are two types of search rules - **file rules** and **folder rules**. This distinction is important, because it provides users with clear and granular control over precisely what types of file system objects are returned as search results.

Rule Properties

Search rules have a common set of characteristics, including:

- **Type** - Rules have a type of either *file* or *folder*, specifying the type of file system object to match.
- **Action** - Either *include* or *exclude*, allowing the user to control how search responds to matches.
- **Enabled** - Rules can be disabled, allowing them to be ignored without removing them from the rule list.
- **Description** - Allows users to provide their own brief description of what the rule matches.
- **Criteria** - Allows users to match file system objects based upon name, size, attributes, name length, age, or owner.

Rule Processing

There are a few things to keep in mind with regard to how FolderSizes processes search rules.

1. Exclusion rules always take priority
2. Otherwise, rules are processed in order
3. Rule processing stops at the first match

You can create as many rules as you like, and order them however you like, as long as you keep the above in mind.

Rule Criteria

Each search rule can have one or more of the following file / folder match criteria associated with it.

Click any of the following rule criteria types to learn more about how they work:

- Name
- Attributes
- Size
- Name Length
- Age
- Owner
- Depth

The Default Rules

There are two default rules that can be toggled on or off, depending upon your needs.

1. Include all files by default
2. Include all folders by default

These default rules provide a convenient way of listing all the files and / or folders in a given set of search paths (without having to construct any explicit inclusive rules). They also make it easier to establish "find every but" search scenarios.

The default search rules can be enabled or disabled via two checkboxes appearing just below the main search rules listing. Both are turned off by default.

3.3.4   Search Scan Filter

Search scan filtering behaves nearly identically to normal scan filtering. It can be combined with search rules to provide an advanced level of control over the *scope* of file system searches.

To combine search rules and search scan filtering successfully, please keep the following in mind:

- Search rules define *how* file system objects are matched.

- Search scan filtering defines *where* FolderSizes looks for those matches.
- Search scan filtering, when enabled, always takes priority over search rules.

A common use of search scan filtering is to exclude specific folders from the overall search process, although many other uses are possible.

Also keep in mind that search filtering configuration is saved along with search job files. In other words, when saving or loading a search job definition to / from XML file format, the search filtering configuration will be saved / loaded along with it.

> **Note**: Internally, FolderSizes may also use search filtering to ensure search result continuity when drilling into file report details. For example, say you generate a file type report that has scan filtering enabled for the purpose of excluding a specific set of folders. You then then double-click a file type detail report entry, which launches FolderSizes search in order to find the specific file instances associated with the given file type. FolderSizes will automatically duplicate the scan filtering settings from the file report into the target search to improve the quality of those search results.

> **Important**: Making changes to the Search Scan Filter configuration can cause existing search results to become stale / outdated. You will need to re-execute your search process to accurately in such cases.

3.3.5 Search Results List

Each file or folder that matches your specified search rules will be shown in the detail listing located in the bottom part of the search window.

Customizing Columns

To customize the columns displayed within the search results listing, right-click the detail list column header (the portion of the detail list that contains the column names). You will be presented with a pop-up menu that lists all the potential columns that can be shown; select the ones you wish to see and de-select the ones you don't. Your column display preferences will be remembered between searches.

Sorting Search Results

Left-click any search results detail list column header to sort by the corresponding column. Click the same column again to sort it in the opposite direction.

Other Capabilities

You can also right-click any file system object presented within the search results detail listing to show a menu of helpful functions. This menu will allow you to open file system objects, delete them, open a command line prompt directly within the parent folder, and more.

Double-clicking a file system object within the search results listing will cause it to open with the default handler program (as determined by the Windows shell).

Using the search window toolbar, your search results can also be printed, exported, and more.

3.4   Scan Filter

3.4.1   About Scan Filtering

The FolderSizes Scan Filter feature provides powerful scan-time filtering capabilities. With scan filtering, you can precisely control the *scope* of the file system analysis process, determining exactly which files and folders are included.

The Scan Filter window can be segmented into two major areas, as described below.

Filter Rules

Scan filter rules define precisely how files and folders are matched, and whether they are included or excluded from file system analysis results.

Scan filter rules are described in more detail here.

Scan Filter Options

There are two global switches for enabling / disabling scan filtering.

- **Apply scan filter to folder reports** - Used to enable or disable scan filtering for folder reports, generated from the main application window.
- **Apply scan filter to file reports** - Used to enable or disable scan filtering for file reports.

There are also buttons for loading and saving scan filter definitions.

Important: Making changes to the Scan Filter configuration can cause any *existing* file system analysis data to become stale / outdated. You will need to refresh your existing file system reports in such cases.

See also: How To Report On Specific File Types

3.4.2   Scan Filter Rules

FolderSizes Scan Filter Rules control how the system matches file and folders, allowing you to limit file system analysis results in many useful ways (e.g. exclude files or folders from analysis by name, age, owner, etc.).

Scan filter rules can either *include* or *exclude* the file system objects they match (see Rule Properties section below).

See also: A step-by-step example of using a file rule to report on specific file types.

Rule Types

There are two types of search rules - **file rules** and **folder rules**.

This distinction is important, because it provides users with clear and granular control over what types of file system objects are included in file system analysis results.

Add file rules when you want to control precisely which files are evaluated during file system analysis. Add folder rules when you wish to control precisely which folders are traversed during file system analysis.

Adding, Editing, and Removing Rules

The Scan Filter window allows you to create, edit, and delete scan filter rules.

To create a new rule, click the New Rule button, and select either *New File Rule* or *New Folder Rule* from the resulting drop-down menu. You will be presented with a rule editor window that allows you to edit the rule's properties (see Rule Properties section below).

To edit a rule, select it in the rule listing and click the Edit button. Select a rule and click the Delete button to remove it. To change the evaluation order of a rule, select it and use the Up an Down buttons to move it (see Rule Processing section below).

Rule Properties

Scan Filter rules have a common set of characteristics, including:

- **Type** - Rules have a type of either *file* or *folder* (see above), specifying the type of file system object to match.
- **Action** - Either *include* or *exclude*, allowing the user to control how search responds to matches.
- **Enabled** - Rules can be disabled, allowing them to be ignored without removing them from the rule list.
- **Description** - Allows users to provide their own brief description of what the rule matches.
- **Criteria** - Allows users to match file system objects based upon name, size, attributes, name length, age, or owner.

Rule Processing

There are a few things to keep in mind with regard to how FolderSizes processes scan filter rules:

1. Exclusion rules always take priority
2. Otherwise, rules are processed in order
3. Rule processing stops at the first match
4. Folder exclusion rules prevent sub-folder recursion

You can create as many rules as you like, and order them however you like, as long as you keep the above in mind.

Rule Criteria

Each scan filter rule can have one or more of the following file / folder match criteria associated with it.

Click any of the following rule criteria types to learn more about how they work:

- Name
- Attributes
- Size
- Name Length
- Age
- Owner
- Depth

The Default Rules

There are two default rules that can be toggled on or off, depending upon your needs.

1. **Include all files by default** - When enabled, this setting causes the scan filter to **include all files** during file system analysis. When creating one or more inclusive file rules, you would normally *disable* this setting. When creating one or more exclusionary file rules, you would normally *enable* this setting.

2. **Include all folders by default** - When enabled, this setting causes the scan filter to **include all folders** during file system analysis. If your scan filter rules are comprised solely of file rules, you would normally *enable* this setting. When creating one or more inclusive folder rules, you would normally *disable* this setting. When creating one or more exclusionary folder rules, you would normally *enable* this setting.

The default search rules can be enabled or disabled via two checkboxes appearing just below the main scan filter rules listing. Both are turned on by default.

3.5 Rule Criteria

3.5.1 Name

FolderSizes search and scan filter rules can match files or folders by name.

Two primary name matching methods are provided - wildcards and regular expressions. The Use Regular Expressions checkbox controls which of these modes is currently in effect (when unchecked, wildcard matching is used).

Wildcard Matching

Uses wildcard characters (such as *.*) to match file path parts. In this mode of operation, multiple name masks can be used by separating each with a semi-colon. For example:

`*.jpg;*.png;*.gif`

The mask above, when applies to a file search rule, will match any file name that contains ".jpg", ".png", or ".gif".

Wildcard matching can also be be applied to folder search rules. For example, the expression below will match all folders below the Windows system folder:

`c:\windows\*`

Regular Expressions

Provides a more advanced pattern matching capability. See the Regular Expression Support section of this help file for additional information.

Note that when using regular expression mode, you cannot separate multiple masks with semicolons (as you would with wildcard matching, described above). This is not supported because a single regular expression is sufficiently expressive to do this on its own.

Other Options

Additional file name mask switches include:

- **Case sensitive comparisons** - Controls whether wildcard or regular expression match patterns are compared to file and folder names in a case sensitive manner.
- **Compare filename only (not the full path)** - When engaged, this switch indicates that only the relative file or folder name is compared against the name mask. Turn this switch off to match entire file or folder name paths.

File Name Mask Presets

The Presets button appears when editing name masks for file search rules, providing quick access to a number of pre-defined (and user customizable) name masks. Click the Presets button and select the file name of the mask that you wish to use.

To customize the available file name mask presets, click the Preset button and select the Manage Presets option in the resulting menu. The Preset Mask Editor window will appear, allowing you to edit existing masks and define up to two custom file name mask entries.

Note that file name mask presets are comprised of traditional wildcard-based pattern matching expressions, each separated by a semi-colon.

See also: Scan filter rules, Search rules

3.5.2 Attributes

FolderSizes search and scan filter rules can match files or folders with specific attributes.

To use this capability, select the attribute check boxes that you'd like to match during search or scan filtering operations. This facility has two operating modes that determine how file attributes are matched.

Match All

Files or folders will be considered a match if the contain **at least all** of the checked attributes.

Match Only

Any file or folder encountered will be considered a match *only* if it matches **exactly all** of the selected attributes (and no others).

Match Any

In this mode of operation, a file system object encountered during scanning will be considered a match if it utilizes **at least one of** of the selected attributes.

Attribute Definitions

Attribute	Meaning
Archive	The file or directory is an archive file or directory. Applications use this attribute to mark files for backup or removal.
Compressed	The file or directory is compressed. For a file, this means that all of the data in the file is compressed. For a directory, this means that compression is the default for newly created files and subdirectories.
Encrypted	The file or directory is encrypted. For a file, this means that all data in the file is encrypted. For a directory, this means that encryption is the default for newly created files and subdirectories.
Hidden	The file or directory is hidden. It is not included in an ordinary Windows directory listing.
Normal	The file or directory does not have another attributes set. This attribute is valid only if used alone.
Not indexed	The file is not to be indexed by the content indexing service.
Offline	The file data is not immediately available. This attribute indicates that the file data has been physically moved to offline storage. This attribute is used by Remote Storage, the hierarchical storage management software.

Read-only	The file or directory is read-only. Applications can read the file, but cannot write to it or delete it. For a directory, applications cannot delete it.
Reparse point	The file or directory has an associated reparse point.
Sparse	The file is a sparse file.
System	The file or directory is part of the operating system, or is used exclusively by the operating system.
Temporary	The file is being used for temporary storage. File systems attempt to keep all of the data in memory for quick access, rather than flushing it back to mass storage.

See also: Scan filter rules, Search rules

3.5.3 Size

FolderSizes search and scan filter rules can match files and folders with specific sizes.

To use this capability, select the Specify Size radio button and select the type of comparison you'd like to perform from the drop-down box (options include "greater than", "less than", "equal to", and "between"). Finally, enter the minimum and / or maximum file sizes, based upon the type of comparison.

See also: Scan filter rules, Search rules

3.5.4 Name Length

FolderSizes search and scan filter rules can match system objects with names of a specified length.

To use this capability, select the Specify Length radio button and select the type of comparison you'd like to perform from the drop-down list (options include "greater than", "less than", "equal to", and "between"). Enter the minimum / maximum file name lengths based upon the selected comparison type.

You can also use the "Count the full path length" check box to indicate that the entire file system path (not just the file name portion of the path) should be used during the matching process.

See also: Scan filter rules, Search rules

3.5.5 Age

FolderSizes search and scan filter rules can match files and folders by age.

Modes of Operation

- **Any date** - Selecting this option means that file dates will not be considered during searching.
- **Within** - A handy set of built-in "calculated" date range presets (such as "within this week", "within this month", etc.).
- **In the last** - Allows users to find objects modified, created, or accessed in the last N minutes, hours, days, months, or years.
- **Between** - Allows you to enter the exact start and end dates against which file dates are tested.

If anything other than "any date" is selected, the date type and match mode drop-down boxes will become enabled.

- **Date type** - Can be set to "modified", "created" or "accessed". Most (but not all) file system objects carry all three date/time stamps, and this option allows you to specify which should be used during the search process.
- **Match mode** - "Matches" will return any file system objects that match the date/time criteria provided. "Not Matches" mode will return any file system object that does *not* meet these criteria.

See also: Scan filter rules, Search rules

3.5.6   Owner

FolderSizes search and scan filter rules can match files and folders by owner.

Use patterns in the form of domain\username. For example, to find files belonging to the username "administrator" in any domains, use the pattern "*\administrator" (without the quotes). Owner name match patterns are not case sensitive.

> **Tip:** You can use the keyword "Unknown" to find file system objects with indeterminate ownership (e.g. an owner cannot be determined).

> **Note**: Using the file owner matching feature can slow search operations considerably.

See also: Scan filter rules, Search rules

3.5.7   Depth

FolderSizes search and scan filter rules can match file system objects at specific absolute depths.

To use this capability, select the Specify Depth radio button and select the type of comparison you'd like to perform from the drop-down box (options include "greater than", "less than", "equal to", and "between"). Finally, enter the minimum and / or maximum depths.

> **How Depths are Computed**

To use this feature successfully, it's important to understand that the depth of a file system object **is always computed relative to it's path root**, and is therefore an "absolute" depth.

Here's an example of how FolderSizes computes the depth of a local file system path:

`C:\Program Files\Key Metric Software\FolderSizes 7\FolderSizes.exe`

FolderSizes starts by assigning the root path (in this case "c:\") a depth of 1, and then incrementing for each path segment. Therefore, the file "FolderSizes.exe" in the example above has an absolute depth of 5.

Another example for a UNC network path:

`\\server\share\subfolder1\subfolder2`

In the case above, the root path is "\\server\share", and the absolute depth of "subfolder2" is 3.

See also: Scan filter rules, Search rules

4　Tools

4.1　Options

4.1.1　General

General options affect overall application behavior.

Scan Path History

- **Scan path history** - Indicates how many folder scan paths are "remembered" by the Location Bar.

Tooltips

This section controls how pop-up tool tips are displayed in various parts of the application.

By default, FolderSizes is configured to show main window detail view tooltips only once the current analysis has completed.

Other Options

- **Show splash screen on startup** - Toggles the splash screen display upon application start.
- **Show welcome screen on startup** - Enables or disables display of the "welcome" screen that appears when FolderSizes starts.
- **Refresh folder browser when storage devices change** - Rebuilds the folder browser navigation tree when Windows announces a change to attached storage devices.
- **Default cluster size** - This setting is used only when FolderSizes cannot automatically determine the cluster size of a local or remote file system path.

4.1.2   Customize Ribbon

This section of the Options window allows for precise customization of the FolderSizes main window ribbon bar.

Commands are grouped within ribbon bar tabs and groups (the named areas that appear within each tab).

Add a Custom Tab

When you click New Tab, you add a custom tab and custom group. You can commands to both the default groups and to custom groups. In the Customize the Ribbon window under the Customize the Ribbon list, click New Tab.

Rename a Default or Custom Tab

In the Customize the Ribbon window under the Customize the Ribbon list, click the tab that you want to rename. Click Rename, and then type a new name.

Hide a Default or Custom Tab

In the Customize the Ribbon window under the Customize the Ribbon list, clear the check box next to the default tab or custom tab that you want to hide.

Change the Order of Tabs

In the Customize the Ribbon window under the Customize the Ribbon list, click the tab that you want to move. Click the Move Up or Move Down arrow until you have the order you want.

Add Commands to a Group

In the Customize the Ribbon list, the custom tabs and groups have (Custom) after the name, but the word (Custom) does not appear in the ribbon.

1. In the Customize the Ribbon window under the Customize the Ribbon list, click the group that you want to add a command to.
2. In the Choose commands from list, click the list you want to add commands from, for example, Popular Commands or All Commands.
3. Click a command in the list that you choose.
4. Click Add.

Reset Customizations

To reset the ribbon bar to its default configuration, click the Reset button. You will then be asked to confirm this action.

4.1.3 Scanning

Scanning options provide a level of control over file system analysis operations.

Reparse Points

- **Follow reparse points** - Reparse points are available only within certain Windows operating systems, such NT/2k/XP. They allow for specific types of actions (such as redirection) to occur during the parsing of file system paths. Mount points and symbolic links (also known as directory junctions) are forms of reparse points. Generally speaking, you will not want FolderSizes to follow reparse points – doing so can cause the inclusion of duplicate or unintuitive paths.

Hard Links

- **Track hard links** - A hard link is the file system representation of a file by which more than one path references a single file in the same volume. Enabling this feature will cause FolderSizes to adjust allocated size metrics based upon the number of hard links present.

Important: Hard link tracking requires that individual files be opened (albeit very briefly), which has a negative affect on file system scanning performance.

File System Redirection

- **Disable WOW64 file system redirection when running on 64-bit computers** - This option, enabled by default, disables file system redirection on computers running a *32-bit version of FolderSizes on a 64-bit Windows operating system*. Applies to Windows Vista and later only.

Early Data Binding

Normally, FolderSizes will extract file system object ownership data as late as possible (during report display, typically) to improve overall file system analysis performance.

Sometimes, however, it may be preferable to extract file ownership data as early as possible (during file system scanning). For example - in the case where remote file systems are being analyzed over slower network connections, performance of operations such as report display and XML export may be improved with early data binding enabled.

Misc. Options

- **Include folders in calculated date/time computations** - By default, calculated date/time values are computed using both files and subfolders. You can configure them to use *only files* by disabling (un-checking) this option. Please note that some folders with no child files anywhere in their hierarchy will display "Unknown" calculated date/time values when this option is disabled.
- **Assign backup/restore privileges to FolderSizes when possible** - Allows FolderSizes

to run with special privileges, which in turn improves the scope of its file system analysis capabilities.

- **Set the allocated size of offline files equal to** - By default, offline files will be shown as have an allocated size (e.g. "size on disk") equal to a single disk cluster. You can turn this feature off entirely, or configure it to use 4k, 8k, or 16k allocated size values for offline files.

4.1.4 Detail View

Refresh

These refresh options apply specifically to the primary (e.g. main window) detail report view.

- **Automatically refresh right pane while scanning** - This option allows the folder scan results to appear dynamically, as the folder scan progresses. Turning this off will cause the display to be empty until the entire folder scan has completed.
- **Refresh rate slider bar** - Determines how frequently the scan result panes update while a folder scan is in progress.

Detail View Colors

As file system object names appear within various report detail listings (e.g. primary detail view, search results, etc.), they are assigned colors based upon their file attributes. You can use this section of the options dialog to determine which colors are used to represent the various file attributes.

Other Options

- **Bold folders or files larger than percentage of parent** - By default, large folders are defined as those that are larger than 20% of the size of their parent folder (e.g. the scanned folder). This percentile value can be adjusted to suit your needs. Applies only to the primary detail report view.
- **Fast shell icon collection mode** - When enabled, FolderSizes will use a faster mode of extracting file system object icons from the Windows shell for display in various detail views. The (minor) caveat is that some objects with unique icons (such as special system folders, etc.) will be represented in a more generic form. This option impacts presentation of icons only.
- **Show times (along with date) in date-based detail columns** - The main window detail view, as well as file report and search detail views, will honor this setting when displaying date-based columns.
- **Subfolder display depth** - Controls the depth at which the primary report detail view displays subfolders.

4.1.5 Drive Space

These options provide control over what appears within the drive space docking panel, as well as the computer view.

Drive Types

- **Fixed drives** - These include local hard drives. Recommended.
- **Removable drives** - Usually consists of thumb drives, etc.
- **CDROM drives** - CDROM, CDRW, DVD, etc.
- **Remote (network) drives** - Includes any mapped network drives. Note that this can slow application performance slightly on slower networks (and is therefore not recommended for use within a wireless network environment).
- **RAM disk drives** - Any type of memory-based drive.
- **Unknown drive types** - Anything else not otherwise categorized. Not recommended.

Other Options

- **Ignore these drive letters** - Allows for specification of drives that should not be included (floppy drives, for example) in the drive space panel. Separate multiple drive letters with semi-colons.
- **Automatically refresh every X seconds** - Specifies how frequently the drive space panel should automatically refresh itself.
- **Ignore storage devices that are offline** - When this switch is engaged, FolderSizes will ignore any drive that it cannot successfully query for size information.

4.1.6 Update Checker

These options allow for the configuration of the update checking system.

Proxy

- **Use HTTP proxy server** - When engaged, this switch causes the update checker to use an HTTP proxy server.
- **Address** - The host name or IP address of the HTTP proxy server.
- **Login** - If your proxy server requires authentication, enter your login username here (otherwise leave this field blank).
- **Password** - If your proxy server requires authentication, enter your login password here (otherwise leave this field blank).
- **Port** - The port of the HTTP proxy server (common values include 80, 8080, etc.).

Note: When using proxy authentication, FolderSizes will automatically determine the proxy authentication mode. Supported authentication modes are Basic, Digest, and NTLM.

Other Options

- **Automatically check for updates when FolderSizes starts** - When enabled, this option causes FolderSizes to check for newer version availability (in a background thread) when the application starts up. If a newer release is found, a small system tray area window will appear to notify the user.

4.1.7   Report Printing

- **Default to printing reports in landscape orientation** - Most reports generated within FolderSizes benefit from being printed in landscape orientation. As such, this option is turned on by default. Turn this option off if you wish to default to printing in portrait orientation. Changes to this setting will be applied the next time FolderSizes is restarted.

Custom Footers

By default, FolderSizes will create context-aware footers for detail view printouts. However, if you prefer you can supply your own values in the provided fields.

- **Footer (left)** - Appears at the bottom left of the report.
- **Footer (center)** - Appears at the bottom center of the report.
- **Footer (right)** - Appears at the bottom right of the report.

4.1.8   Export

Manages how the application behaves during file system analysis data export operations.

HTML & PDF

- **Include graph image** - Determines whether the lower-right graph image is included in main window exports.
- **Include drive space information** - Includes drive space information within main window exports.
- **Include folder listing table** - Determines whether the main window detail view contents are included in exports.
- **Merge CSS template into HTML export files (HTML only)** - When engaged, this option causes the CSS template found in the "templates" subfolder of the FolderSizes installation root to be merged into HTML export files (as a style block in the HTML header). If this option is turned off, the CSS template file will be copied to the same location as the HTML export file (and linked to from within it).
- **Show graph image above detail listing (rather than below)** - Changes the position of the graph image included within specific HTML and PDF reports.
- **Embed graph images directly into HTML export files (HTML only)** - When enabled, this option will embed graph images directly into exported HTML files. This capability is supported by most modern web browsers. If you're using older browser technology, you may need to disable this option. Also note that graph image files must be less than 5MB in size, otherwise they won't be embedded.

Text

- **Include column headers** – Indicates whether text column headers should be included.
- **Wrap files in quotes** – Enables or disable the wrapping of fields in quotes.

- **Include UTF-8 BOM (byte order marker) in export files** - This option applies only to text file export formats (e.g. ".csv" and ".txt"). Inclusion of a BOM (byte order marker) will allow third-party applications (such as MS Notepad and/or Excel) to unambiguously identify that such files are Unicode with UTF-8 encoding. If you are opening (or otherwise processing) these text files with third-party applications that cannot interpret BOMs, you can disable their inclusion here. Note that BOMs are *never* added to export files of HTML or XML formats, because they contain their own character set declarations.

XML

- **Use FolderSizes XSLT file** - When engaged, this option causes the XSLT file found in the "templates" subfolder of the FolderSizes installation path to be copied to the same location as the XML export file (and linked into it). Disabling this option will prevent the use of XSLT entirely.

Graph Images

- **Limit bar graph exports to this many bars** - Specified the maximum number of graph bars to appear during export operations.
- **Graph image width** - Determines the width of exported graph images.
- **Graph image height** - Determines the height of exported graph images.

Note: When modifying the default graph image export dimensions, it is recommended that you maintain an aspect ratio that is similar to the defaults.

Performance

- **Full owner lookup during export** - Causes FolderSizes to extract file ownership information for all file system objects during export operations. Extraction will occur *only* if the file owner is not already known (also see early data binding in scanning options).

4.1.9 File Reports

Enabled Reports

The remaining check boxes in the File Reports options window enable or disable the generation of specific File Reports. Note that you should always disable the file reports that don't interest you, as doing so will increase File Report generation speeds and reduce memory utilization.

- **Largest Files** - Enables or disables the Largest Files report.
- **Duplicate Files** - Enables or disables the Duplicate Files report.
- **File Dates** - Enables or disables the File Dates report.
- **Oldest Files** - Enables or disables the Oldest Files report.
- **File Attributes** - Enables or disables the File Attributes report.
- **File Names** - Enables or disables the File Names report.
- **File Types** - Enables or disables the File Types report.

- **File Owners** - Enables or disables the File Owners report. Note that enabling this report can slow the overall File Report generation process considerably. It is therefore disabled by default.
- **Temp Files** - Enables or disables the Temp Files report.
- **File Sizes** - Enables or disables the File Sizes report.

Performance Options

The following check boxes allow you to control whether certain file reports will include file ownership information. Note that file owner extraction tends to slow the generation of file reports that utilize it, especially when scanning remote (network) file systems. Note that in such circumstances, use of the file owner data cache is recommended.

If any of the following options are disabled (e.g. unchecked), the owner of the files they contain will appear as "unknown."

- **Enable file owner lookup in Largest Files report**
- **Enable file owner lookup in Oldest Files report**
- **Enable file owner lookup in Duplicate Files report**

Miscellaneous

- **Show the current file report scan path in graph titles** - Causes the current file report analysis path(s) to appear in file report graph titles.

4.1.10 Graphs

The display of graphs within FolderSizes can be customized in a number of useful ways.

Pie Graph

- **Show only slices larger than N percent of root** - Shows only pie slices that are larger than the specified percentage of the parent root. Set this to 0 if you want to see everything.
- **Show only top N largest slices** - Shows the specified number of largest pie slices only.
- **Exclude pie graph labels** - Optionally turns off pie slice labeling.

Folder Map Graph

- **Scale rectangle fonts to fit available space** - Dynamically resizes map graph fonts to consume available item rectangle space.
- **Highlight rectangles as the mouse moves over them** - Changes color of rectangle borders as mouse hovers over them.

All Graphs

- **Show allocated size in graphs** - When enabled, graphs will reflect allocated size (e.g. "size on disk") rather than actual size.

4.1.11 Prompts

These options provide a level of control over when FolderSizes prompts / warns users when specific events occur.

The text associated with each checkbox in this options panel is self-descriptive.

4.1.12 Email

FolderSizes can deliver the reports it generates to users via email. For a topical discussion of this feature, please see the Email Integration topic.

This topic discusses the configuration of FolderSizes to communicate with your mail service provider.

General

All fields in the general configuration area are **required**. If any of these fields are not configured correctly, FolderSizes will not attempt to deliver reports via email.

- **Mail server** - This is the fully qualified address of your mail server (e.g. "mail.domain.com").
- **Mail from** - FolderSizes will use this email address in the "mail from" field when sending email messages.
- **Port** - The port to use for SMTP communications (usually port 25).
- **Security** - FolderSizes can use (and some email service providers require) protocol-level encryption during SMTP message delivery.
  - **None** - SMTP communications are performed without encryption.
  - **SSL** - Uses secure sockets layer protocol for encryption.
  - **TLS** - Uses transport layer security protocol for encryption.

You can also use the **Send Test Message** button to send a test message through FolderSizes. You will be prompted to provide your email address. Once the test message is sent, check your email to ensure that it arrived as expected.

If you are uncertain about what value to enter into any of these fields, please communicate with your mail service provider.

Authentication

- **Use SMTP Authentication** - Enable this feature if your mail service provider requires it.
- **Username** - Enter your SMTP authentication username.
- **Password** - Enter your SMTP authentication password.

If you are uncertain about what value to enter into any of these fields, please communicate with your mail service provider.

Miscellaneous Options

- **Enable SMTP connection logging** - If you're having problems getting FolderSizes to communicate with your mail server, enable this option and use the Test button (described below) to generate an SMTP log file. Once done, click the "open log file" hyperlink to view this information.
- **Delete report files after they are sent (successfully) via email** - Enable this if you want to delete exported files after they are sent via email (no deletion will occur if email delivery fails). These deletions are not recoverable (e.g. do not use the Windows Recycle Bin).
- **Zip attachment files before sending via email** - When enabled, triggers FolderSizes to compress all attached report files prior to SMTP delivery.

Message Content

Enter a subject and body for outbound email messages.

4.1.13   Advanced

This window exposes options relating to advanced product usage scenarios.

File System Analysis Thread Pool

Specifies the number of threads available for file system analysis work. This option currently applies only to analysis operations performed from the main product window (e.g. does not apply to Search and File Report features).

When multiple root paths are specified, FolderSizes will analyze them using threads from this pool. This value defaults to 5, but can be set to a number between 1 and 99.

Changes to this setting require that FolderSizes be restarted in order to take effect.

Performance Implications

File system analysis using multiple threads is a complex topic, and there are several important considerations.

In scenarios where multiple paths are specified, concurrent analysis will be most beneficial when those paths relate to discrete input/output channels. For example, entering multiple file system analysis paths residing on the same local disk will usually not be significantly beneficial. However, using multiple threads to analyze separate physical disks and/or network connections to separate storage subsystems improve overall performance quite dramatically.

For the reasons described above, FolderSizes will *not* use multiple threads to analyze a single file system path (e.g. drive, folder, or network share). Only multiple-path analysis scenarios are threaded. As suggested above, achieving maximum analysis performance requires how multiple paths are assigned.

Also keep in mind that using additional analysis threads will add to the overall memory usage of FolderSizes. Use of larger thread pools is recommended only for 64-bit host computers with plenty of RAM available (specific memory requirements will depend upon file system analysis targets).

> **Warning**: Improper configuration of this setting can impair overall computing performance and analysis throughput. Use of the default values is strongly recommended unless you understand the implications. Research the impact of modifications to this setting before using in production scenarios.

In-Memory File Tracking

By default, FolderSizes does not track all files in memory when generating folder reports (either via scanning or [Snapshot](#) data import).

Instead, FolderSizes tracks all *folder* objects in memory, and then dynamically retrieves/ tracks *file* information only as needed (e.g. when you drill into a folder, etc).

This design improves resource consumption, performance, and overall product scalability. Since some file systems can easily contain hundreds of thousands (or millions) of files, allocating memory for each of them is very expensive and - in most cases - undesirable and unnecessary.

However, in some cases you may wish to have FolderSizes track all level details in memory. For example, generating a folder report from a Snapshot with this option enabled will allow all file-level information to be available for viewing.

Memory Limitations

Please note that 32-bit processes are limited to around 2GB of maximum address space per process, regardless of how much system memory is actually installed.

For this reason, we recommend that you engage this advanced option only on 64-bit computers with plenty of RAM installed.

4.1.14 Saving & Loading Options

Program options can be saved to file (and later re-loaded) via the Options button in the main window toolbar.

The resulting file contains all the settings accessible through the FolderSizes Program Options window, as well as those available within individual panes of the File Report Generator window.

Please note that transient state information (such as window position, path histories, window layouts, etc.) are *not* saved to (and restored from) program option files, nor are ribbon bar customizations.

Note: Saving and loading of program options can also be triggered via the FolderSizes command line interface or scheduler.

4.2   Snapshots

4.2.1   About Snapshots

FolderSizes Snapshots allow you to capture the full state of one or more file system branches for later reporting purposes.

Snapshot (.fssx) files can then be used directly to create:

• Folder reports (in the main window)
• File reports (via the File Report Generator tool)
• Search reports (via the Search tool)

Snapshots enable a wide range of advanced file system reporting scenarios, including:

• Allowing subsequent reports to be run even when the original file system is offline
• Providing reporting and analysis capabilities to users that lack direct access to the target file system(s)
• Creation of report variations in a fraction of the time required to re-analyze the target file systems(s)
• Many others

For an example of how this capability can be useful, consider the case where a large network file system requires a considerable amount of time to generate a given report (e.g. folder report, file report, or search report). In such cases, you can use the Snapshot feature to capture the state of the original file system **once**, and then allow multiple users to run folder, file, and search reports against that snapshot as often as needed (and in a fraction of the time).

Scan filtering and search rules can also be applied during the Snapshot import process, making the generation of repeated report variations dramatically faster and more resource efficient.

Snapshot files can be created interactively, via the command line, or via the integrated scheduler. They can then be used directly in place of file system paths when creating folder, file, and search reports.

Related help topics: Generating Snapshots, Using Snapshots

4.2.2   Generating Snapshots

To generate a FolderSizes Snapshot (.fssx) file, click the Snapshot button in the main window ribbon bar and choose Create New Snapshot from the resulting pop-up menu. The Snapshot Generator window will appear.

Snapshot Path(s)

Enter one or more file system paths for which you wish to create a Snapshot. Click the adjacent button to browse for a path.

To enter multiple paths, use the Paths button to quickly select local or network disks, or to access network discovery services. If you wish to enter multiple file system paths manually, separate them with a pipe symbol (e.g. "|").

Output Path

Enter a fully qualified snapshot file output path, or use the adjacent button to browse for one.

Options

The following options may be applied during Snapshot file creation:

- **Collect file system object ownership data** - When engaged, this option will trigger the inclusion of file system object owner information in the Snapshot file. This process will generally lengthen Snapshot creation time substantially (especially for network file systems) since the owner of each file system object must be resolved during execution.
- **Follow file system reparse points** - Engage this option if you wish the Snapshot file system analyzer to follow NTFS reparse points such as symbolic links, mount points, etc. For most file systems, this option is not recommended.
- **Apply NTFS compression to snapshot file** - Allows NTFS compression to be applied to the Snapshot file, reducing its size substantially. This feature will only work if the Snapshot file is being created on an NTFS file system (otherwise, it will be ignored).

Create Snapshot

Click the Create Snapshot button when you're ready, at which point a progress indicator will be shown as the Snapshot is created.

When Snapshot creation is complete, you can use the View Events button to review any errors that occurred during the process.

For Snapshots that require a considerable amount of time to create, you may wish to use the FolderSizes Task Scheduler to generate them during off hours.

4.2.3   Using Snapshots

Once you've created one or more file system Snapshots, they can be used to create folder, file, and search reports.

Here are a few examples of how Snapshot files can be be loaded:

- Click the Snapshot button in the main window ribbon bar, then choose one of the following options from the resulting pop-up menu:
  o Folder Report from Snapshot

o File Report from Snapshot
o Search a Snapshot

- In the main window (Folder Report) location bar, you can enter fully qualified Snapshot (.fssx) file paths, or use the Paths button to browse for them.
- In the File Report location bar, you can enter fully qualified Snapshot (.fssx) file paths, or use the Paths button to browse for them.
- The FolderSizes Search tool allows Snapshot files to be used as Search Paths.
- In the command line interface, you can substitute file system paths with fully qualified Snapshot (.fssx) file paths.
- The Path Manager window allows for the selection of one or more Snapshot (.fssx) file paths.
- The Task Scheduler path input box will accept fully qualified Snapshot file paths.

In nearly all of the examples above, you can even specify *multiple* Snapshot (.fssx) file paths to be used as input to the various reporting features and functions.

4.3   Task Scheduler

4.3.1   About the Scheduler

FolderSizes provides an integrated scheduling facility that allows you to schedule the generation of FolderSizes reports. These reports can further be exported to various file formats.

The FolderSizes scheduler integrates with the scheduling subsystem of the host computer's Windows operating system. It generates the command line parameters required to generate given reports, and registers them with the Windows scheduler - all within a clear, easy-to-user visual interface.

A FolderSizes scheduled task can be one of the following types:

1. **Folder Reports** - Produce folder analysis reports.
2. **File Reports** - Produce reports generated via the File Reports tool (e.g. largest files, oldest files, etc.). All file report types, including graph types, are accessible from within the scheduler.
3. **Searches** - Produce search result reports, generated by use of the FolderSizes Search facility.
4. **Snapshots** - Produce file system snapshots that can be used to generate offline reports.

You can have as many different types of FolderSizes reports scheduled for executing whenever you like. Further, their scheduled execution can overlap if needed.

4.3.2   Scheduled Task List

When you click the Scheduler button in the main FolderSizes toolbar (or select Tools | Task Scheduler from the main menu), a listing of scheduled FolderSizes tasks will appear.

From this screen, you'll be able to view, edit, and delete existing scheduled tasks - as well as create new ones.

Creating a New Scheduled Task

To create a new scheduled task, click the New Task button that appears near the bottom of the Scheduled FolderSizes Tasks window. You'll be prompted to choose among the three available task types: folder report, file report, or search. The scheduled task editor window will be launched in the appropriate mode based upon your selection.

Editing or Deleting an Existing Scheduled Task

To edit or delete an existing scheduled task, first select it in the task task list. Next, click the Edit or Delete button to take the desired action. When editing a task, the system will automatically determine the task type (normal, file report, or search) and open the scheduled task editor window in the appropriate mode.

Note that you can also click the Edit (Advanced) button, which will open the scheduled task within the Windows Task Scheduler. The Windows Task Schedule editor provides to various, slightly more advanced / obscure scheduled task settings.

4.3.3 Scheduled Task Editor

The FolderSizes scheduled task editor window has three modes of operation - one each for the different types of supported scheduled tasks (folder scans, file reports, searches, and snapshots). The layout of the task editor will be different for each of these task types.

Begin by entering the scan path(s) into the input near the top of the scheduled task editing window (note that this field isn't present when editing a scheduled search task). This will indicate the starting point within the file system for generation of your report, and contain any local or network path (including UNC paths).

> **Important**: We recommend you avoid using mapped network drive paths when scheduling tasks on Windows Vista and later, which restrict access to mapped drives to the security token of the user that created them. Instead, prefer to use UNC paths (e.g. "\\server\share\folder"), which do not have this limitation.

The Task Properties Tab

Next, configure the properties of your report within the Task Properties tab. As noted above, the contents of the task properties tab will vary depending upon the type of task being editing (e.g. folder report, file report, or search). You'll find that the task properties correlate closely with the parameters available through the FolderSizes command line interface.

Important: Be sure that any export file paths you provide are fully qualified (relative paths should not be used).

The Command Preview Tab

You can switch to the Command Preview tab at any time to view the command line

parameters that will be used to produce your report. This can be helpful for troubleshooting purposes, or just to get a better sense of what's happening behind the scenes.

The command line arguments being generated correlate to those described in the Command Line Support section of this help guide.

The Schedule Tab

Once your task properties have been defined, select the Schedule tab within the task editor window and define your task execution schedule. There are four main types:

1. **One time** - Indicates that a scheduled task should execute only once, at the date/time specified.
2. **Daily** - Allows for recurrence of the scheduled task every N days.
3. **Weekly** - Allows for recurrence of the scheduled task every N weeks, on the weekdays of your choice.
4. **Monthly** - Allows for recurring monthly task execution, either based upon the day of the specified month(s), or a day of week at a specific frequency (e.g. the first Monday of every month, etc.).

Global Options

- **Append date / time to export file name** - When engaged, causes a date/time stamp to be appended all export file names (effectively causing them to be unique).
- **Exit FolderSizes when task completes** - Causes FolderSizes to exit after any scheduled tasks are executed.
- **Save logged events to** - Saves any events occurring during analysis to file for subsequent review.
- **Email report file(s) to** - Sends any export files resulting from the task to one or more users via email (see Email Integration help topic).
- **Load program options** - Allows you to load a set of program options into FolderSizes prior to generating reports. To use this feature, define your desired options within FolderSizes and then save them to file (repeat this process as needed to create various program option scenarios). Then specify the path to the options file when defining your scheduled task.

Saving the Scheduled Task

Once your scheduled FolderSizes task has been defined, click the Save button. You will be prompted to provide authentication credentials for your new task.
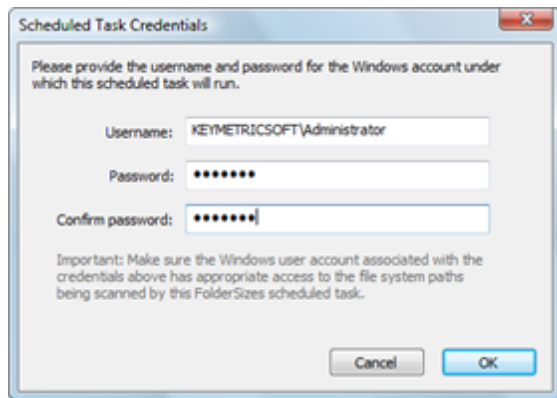
Scheduled Task Auth Credentials

Here, you'll be required to enter the username and password for a Windows user account that will be used to execute FolderSizes based upon the schedule you've defined for your task.

> **Important note:** Make sure you enter the username and password of a Windows account that has appropriate access to the file system path being <u>scanned</u> (e.g. reported against) and <u>written to</u> (e.g. the file export targets) by your FolderSizes scheduled task. Remember, FolderSizes will be launched within the context of this user account - if the account doesn't have necessary access to the appropriate file system path, neither will FolderSizes!

Once valid authentication credentials are provided, the scheduled task editor window will close, and your task will appear within the scheduled task list.

4.4　Analyzing Trends

4.4.1　Overview

FolderSizes provides the ability to analyze trends based upon previous file system analysis data exported in XML format.

Click the Analyze Trends ribbon bar button in the main application window, and the Trend Analyzer window will appear.

Trend Analyzer Toolbar

Toolbar functions include:

- **New Analysis** - Used to start a new trend analysis from one or more folder report data (XML) sources.
- **Export** - Exports trend analysis result data.
- **Start** - Used to alter the start date of the current trend analysis time line (see below).
- **End** - Used to alter the end date of the current trend analysis time line (see below).
- **Time Scale** - Alters the time scale of the trend analysis chart panels (see below).
- **Help** - Accesses this help topic.

Time Line

The current trend analysis time line is formulated by a combination of two factors, the first of which is the snapshot date/time values extracted from the XML scan data files being analyzed (see new trend analysis help topic for details). The second factor is the start and end dates specified within the Trend Analyzer toolbar, which can be used to dynamically adjust the time line and thereby affect the presentation of all data presented within the Trend Analyzer window.

Informational Views

Upon completion of a new trend analysis, the various user interface views contained within the Trend Analyzer window will be populated with data.

Folders Panel
The folders panel presents a hierarchical of file system nodes encountered during the file system data import process. The root Summary node provides a top-down look at summary information extracted from XML data files during import, and is selected by default. Clicking a node in the Folders panel tree will change the data displayed in most other areas of the Trend Analyzer window.

History Detail Report
The Trend Analyzer history report shows a history of data for the node currently selected within the Folders Panel. Each data point within this view represents a point in time when file system analysis data was captured (exported) as XML.

- **Snapshot Date** - The export date/time captured from the source file system XML data file.
- **Size** - Size history for the selected node.
- **Allocated** - Allocated size (e.g. "size on disk") history for the selected node.
- **Files** - File quantity history for the selected node.
- **Folders** - Folder quantity history for the selected node.
- **% Change** - Represents the percentage of change relative to the previous history entry (sorted by snapshot date). Values shown in red signify an increase in size, while green values indicate a decrease (or no change). This field will be shown as "---" when the starting value is zero.
- **Abs. Change** - Absolute change in size relative to the previous history entry (sorted by snapshot date). Values shown in red signify an increase in size, while green values indicate a decrease (or no change).
- **Attribs** - Attributes history for the selected node.
- **Owner** - Ownership history for the selected node.

Folder History by Size
This docking panel view provides a graphical representation of the history detail report. It presents the size of each history entry as a point on a bar graph, using the currently selected Time Scale (see below).

Folder History by File Count

This docking panel view provides a graphical representation of the history detail report. It presents the file count of each history entry as a point on a bar graph, using the currently selected Time Scale (see below).

Subfolder Change
A detail report that presents start/end size and change metrics for subfolders. You can double-click an entry within this report to "drill down" into that node.

- **Name** - Name of the subfolder.
- **Starting size** - Represents size of the object at the snapshot start date.
- **Ending size** - Represents the size of the node at the snapshot end date.
- **% Growth** - The percentage of growth having occurred across the current snapshot date range (e.g. from the start date to the end date).
- **Abs. Change** - Absolute change in size across the current snapshot date range.

Disk History by Used Space
Presents a static (fixed) view of used disk space by drive letter. A history of each drive is shown along a trend-line chart for the current snapshot time line.

This information is extracted from the "DiskSpaceInfo" element of imported XML files, and correlates to the data shown within the [FolderSizes Drive Space docking panel](#).

Time Scale

All charts shown within the Trend Analyzer window will show data plotted across the current trend analysis time line. By default, those data points will be broken down into a *daily time scale*.

You can use the Time Scale toolbar button to change the current time scale to provide an hourly, daily, monthly, or yearly view.

4.4.2   Starting an Analysis

Click the Start toolbar button within the Trend Analyzer window to begin a new trend analysis. The New Trend Analysis window will appear.

Specifying XML File Locations

In order to construct a trend analysis time line, the data from multiple folder report XML files must be parsed and imported.

Use the Path tab within the New Trend Analysis window to specify the location of your folder report data XML files. You can use wildcards in the name portion of the paths you specify, and separate multiple file locations with pipe symbols. If your XML files are all contained within a single folder, you can click the Browse button to quickly identify their location.

Here's an example of a single path containing multiple scan data XML files:

```
c:\foldersizes data\*.xml
```

Or you might specify multiple paths, each separated by a pipe symbol:

`c:\location1\*.xml | c:\location2\*.xml`

Creating Folder Report XML Files

If you don't already have a history of folder report XML files available, you can create them from within FolderSizes.

This can be done manually via the File | Save Folder Report Data (XML) function within the main window. Or you might consider using the Task Scheduler to export folder report data to XML at regular intervals (e.g. daily, weekly, etc.).

Regardless of how they're generated, it's usually best to organize folder report XML files into discrete folders - thus making it easier to specify XML file locations when creating new analyses.

Data Import

Once the XML folder report file locations have been specified, the data import process will begin.

During this process, each XML data file found within the specified locations will be opened, parsed, and imported. This import process may take some time, particularly if you have very large XML scan data files, if there are a large number of them, or if you're attempting to import them from a network file system.

4.4.3 Exporting Results

You can use the Export toolbar button within the Trend Analyzer window to save trend analysis data to file.

Two different type of data export options are available:

- **Detail data** - Allows the contents of a detail (column based) report view to be exported in HTML, CSV (comma separated) or TXT (tab separated) file formats.
- **Graph image** - Exports the contents of a chart (graph) as an image file in PNG, JPG, GIF or BMP file format.

4.5 FilterZip

4.5.1 About FilterZip

FolderSizes FilterZip is a powerful tool that allows you to recursively scan folders and hard drives for files that match specific criteria and compress them (into a zip file) in a single pass.

Zip files produced by the FilterZip system are compatible with popular third-party compression programs such as WinZip and PKZip.

To use FilterZip, you create FilterZip Jobs which have three main components:

- The folder or drive contents to include.
- The criteria (or filter properties) that each file within the above folder must match.
- The destination zip file location.

The folder contents to include specifies which folder acts as the "root" of the FilterZip job. The folder you select can reside anywhere on your system, or on a network path (specify the path in UNC format). You can also elect to have FilterZip act recursively – which is to say that it will scan every subfolder contained within the specified root folder.

The filter properties use a combination of traditional file search criteria combined with regular expression filename matching. Filter properties are further described in a separate section of this help file.

Finally, the zip file location specifies where the resulting compressed file will reside. For maximum performance, locate the zip file somewhere within your local file system (network paths are also supported, but will slow compression operations considerably).

4.5.2 Saving / Loading Jobs

All of the various fields and switches within the FilterZip window comprise (in combination) a FilterZip Job. FilterZip Jobs can be saved to the file system, which provides a number of advantages:

- Saved FilterZip Job files can be re-used simply by loading them at a later date.
- FilterZip Job files can be shared among multiple FolderSizes installations, either by saving them to a network drive or via some other means (e.g. emailing them to a remote office).
- FilterZip Job files can be easily backed up.

FilterZip Job files are stored in XML format and consume a relatively small amount of drive space.

4.5.3 Filter Properties

The FilterZip user interface allows for the specification of Filter properties, which are simply a set of criteria that each encountered file must meet in order to be included in the resulting zip file. The following criteria may be used:

- **Filename regular expression** - This first field specifies the regular expression that filenames must match in order to be included in the resulting zip file. More information about the use of regular expressions (including how to use the built-in presets) is provided in a separate section of this help file.
- **Include files with attributes** - Some files contain special file system attributes such as "read-only" or "system" which differentiate them from "normal" files. Use this set of checkboxes to include files that contain the corresponding attributes. By default, "temporary" and "archive" files are included.

- **Only include file sizes** - Set the drop-down box to "no filter" to include files of all sizes. Otherwise, use the drop-down box to specify whether the file size must be "greater than" or "less than" the specified size. The file size itself is expressed in kilobytes.
- **Only within date range** - Set the drop-down box to "no filter" to include all files regardless of their date stamp. Otherwise, select "last accessed", "created", or "modified" to specify which file date stamp is used for comparisons. Finally, specify the start and end dates.

Please note that several preset regular expression filters have been provided for your convenience, and are accessible via the Reference button on the FilterZip window. Presets include regular expressions that match images, music, movies, documents, and other common file type sets, and can easily be tweaked according to your needs.

More information can be found in the section titled Using Regular Expressions.

4.5.4   Test Run vs. Execute

One of the most convenient aspects of the FilterZip system is the Test Run facility. Once you've defined a FilterZip Job within the user interface, you can click the Test toolbar button in order to review exactly which files will be matched by the job.

Test runs perform a search for the files that match the criteria specified by the FilterZip Job, but do not engage the compression (zipping) step of the process. Therefore, no files are zipped, copied, or moved. This allows you to safely test FilterZip Job criteria (e.g. filter properties) prior to executing.

4.6   OS Tools

4.6.1   Command Prompt Here

After performing a successful file system analysis, FolderSizes enables the Command Prompt feature (accessed by clicking the OS Tools button in the application ribbon bar).

Selecting this tool causes FolderSizes to launch a command prompt window (e.g. a "DOS window") within the active folder path.

This feature is also exposed through numerous right-click (e.g. context) menus throughout the FolderSizes user interface. You can even right-click a *file* and select this option, in which case the command prompt window is launched within the file's *parent* folder path.

4.6.2   Empty Recycle Bin

This menu option provides a shortcut to the standard Windows Empty Recycle Bin function. We recommend that you empty your Windows Recycle Bin on a regular basis to minimize impact to available drive space.

4.6.3 Map Network Drive

This is a shortcut to the standard Windows Map Network Drive facility, which allows you to map a network drive so that it appears as a local drive. Such drives can be accessed directly by FolderSizes via the Folder Browser pane.

> **Important**: In Windows Vista and later, the operating system associates mapped network drives with the security token of the user that creates them (and then limits access accordingly). In such cases, network drives mapped by one user may not be visible to other user accounts. Please keep this in mind when running FolderSizes as an administrator, as user account elevation (through Windows User Account Control) can create this scenario. If mapped network drives are not visible as you expect, simply re-map them from within FolderSizes to ensure their visibility in future sessions.

4.6.4 Configure Windows System Restore

This tool provides access to your operating system's built-in System Restore configuration. Windows System Restore often has a considerable impact on available local disk space, and it's often worth reviewing its configuration to ensure they are consistent with how you use your computer.

> **Important:** Making changes to Windows Restore settings can impact your operating system's ability to help you recover from certain types of problems. Be sure to review your operating system's Windows Restore feature documentation carefully before altering making any changes to this facility.

4.6.5 Add / Remove Programs

This is a shortcut to your operating system's Add / Remove Programs applet, and is provided as a matter of convenience. The Add / Remove Programs facility allows you to install and uninstall programs in an orderly fashion.

> **Note:** More modern versions of Windows (such as Windows XP, Vista, etc.) provide valuable information about the disk space consumption of each installed program.

4.7 Event Log

During file system analysis processes, FolderSizes records the occurrence of interesting events. Such events may include:

- **Errors** - Events that may potentially halt file system analysis, or otherwise interfere with it.
- **Warnings** - Events that may cause problems, but do not halt file system analysis.
- **Information** - Events of general interest.

Each of the primary FolderSizes analysis tools - the primary, search, and file report windows - will maintain their own file system analysis event log, which you may review (through the corresponding ribbon bar or toolbar button) when data is available. Events may also be saved to file for further analysis by yourself or members of our technical support team.

If the event log contains errors, the user will be prompted to review its contents upon file system analysis completion. This prompting can be disabled via the Prompts section of the Options window.

The event log for a given file system analysis process is always cleared between executions.

See also: How to Interpret Analysis Events

4.8   File Extensions

The FolderSizes File Extension Researcher tool helps you to determine the potential function (or application association) of a given file extension (such as ".PDF" or ".DOC").

It's important to understand that there is no central authority governing the use of file extensions by software applications. So even though many file extensions are predominantly associated with a single application (e.g. ".doc" = Microsoft Word Document), such direct associations are absolutely not guaranteed. Further, you will often encounter file extensions for which the operating system has no known software association. The File Extension Researcher helps you to determine the potential origin of such files.

To use the File Extension Researcher, enter a file extension (such as ".pdf" or ".doc") and click the Go button. You will be presented with two distinct pieces of information:

- **Shell Association** - The operating system shell has special, intrinsic knowledge of *some* file types and their application associations. The shell uses this knowledge to (among other things) open files with specific extensions with a default application.
- **All Potential Associations** - This is a more complete listing of functional / application associations. This list will often yield results even when the Windows shell has no knowledge of a particular file extension.

The "All Potential Associations" listing shown within the File Extension Researcher pulls information from a file extension database contained within FolderSizes. This database contains thousands of mappings between file extensions and application / functional associations, but it can never be entirely complete (because there's no central registry for file extensions from which to cull such data).

You can also click the Research Online button, which will launch your web browser and search for details (and other potential associations) on the file extension you entered. Note that the source for such information will generally be a third-party website that specializes in it (and has no association with FolderSizes or its parent company, Key Metric Software).

Finally, you can browse the entire file extension database contained within FolderSizes by clicking the "View All Extensions" button. The resulting window will allow you to browse known file extensions by their first letter, or by numeric / symbolic grouping.

4.9 Run As Admin

Users running FolderSizes on **Windows Vista or later** have access to a Run As Admin button within the main window ribbon bar. If this button is disabled, this is an indication that the application is *already* running under an elevated administrative user account.

You can also run FolderSizes as an administrator by using the "FolderSizes 5 (Administrator)" shortcut within with FolderSizes start menu group, or by right-clicking the normal shortcut and choosing "Run as administrator" from the resulting pop-up menu. Again, these options will be available **only** on Windows Vista or later.

Depending upon your operating system configuration, any of these actions may (or may not) result in a Windows UAC (User Account Control) dialog window. This consent dialog is a normal part of Windows Vista or later security model, and may require authentication with administrative user account security credentials before proceeding.

Impact on Mapped Drives

On Windows Vista or later, one or more mapped drives may no longer be accessible when running FolderSizes as admin. This is a normal result of the security model enforced by Windows Vista and later, occurring because the operating system associates mapped drives with the security token of the user that creates them (and then limits access accordingly).

There are several straight-forward workarounds for this situation, including:

- Re-map the drives from within FolderSizes
- Access the network locations directly using UNC path notation (e.g. "\\server\share")
- Enable linked connections, as described in Microsoft Knowledge Base article 937624

5   Using FolderSizes

5.1 Printing

All main window report views offer printing (and print previewing) capabilities. These features are accessible through the Print button of the application ribbon bar.

Most other detail reports within FolderSizes (e.g. search, file reports, etc.) also support printing.

It is also possible to Export the contents of any report (in HTML format, for example) and print them from an external application.

5.2 Context Menus

Most folder and drive listings within the FolderSizes interface can be right-clicked to display context menu containing various features.

Places where you can right-click folder / file / drive names include:

- Folder Browser Panel
- Primary Report Detail View
- Drive Space View
- Graph Views
- File Reports (most)
- Search Results

The FolderSizes context menu has a wide range of functionality, including unique "Cmd Prompt From Folder" and "Explore From Folder" capabilities that work even when right-clicking on a *file* (the action then references the containing folder).

5.3   Save, load, export & compare

5.3.1   Saving Scan Data as XML

Primary report analysis data (generated from the main application window) can be saved in XML format for analysis by third-party applications.

When saving scan data in XML format, all available folder and drive level file system object information will be saved. Data specific to *files* will not be exported.

XML data exports can also be re-loaded by FolderSizes at a later time, or compared with analysis data currently in memory.

To review program options relating to XML data exports, please click here.

> **Note**: FolderSizes ships with an XSLT file that transforms XML export files into HTML and renders them in compatible browsers (e.g. IE 5.5 or greater, Firefox, etc). You can modify the XSLT script yourself if you like - it's located in a directory named "templates" beneath your FolderSizes installation root.

5.3.2   Loading Scan Data from XML

File system analysis data that has previously been saved as XML can be re-loaded for further review.

When a data load from XML completes, the Scan Data Panel will automatically become visible (if it isn't already). This allows for a direct review of the file system analysis results in memory without unintentionally triggering additional analysis processes (as might occur when navigating from the Folder Browser window). File system nodes loaded from XML will be designated as "imported" within the Scan Data Panel.

5.3.3   Exporting to Other Formats

FolderSizes has powerful report exporting capabilities built into it. Exported report contents can often be imported or otherwise consumed by third-party applications for additional processing.

A wide range of export formats are available, including:

- **HTML** - The files produced by the HTML report will depend upon the report context. For example, if you are exporting the main application window's contents (e.g. the detail view and the graph) to HTML, both a web page and image file will be produced. A CSS (cascading style sheet) file will also be copied to the export destination folder – this file is used to format the HTML page's appearance.
- **CSV / TSV** - Comma and tab separated value export formats, respectively, allow you to produce simple delimited, text-based exports that be consumed by applications such as Microsoft Excel.
- **PDF** - A stand-alone (portable) document format, with pagination.
- **Clipboard** - The main application detail view contents can be exported directly to the Windows clipboard.
- **Image** - The main application graph can be exported directly as an image file in a range of formats (including JPEG, PNG, Bitmap, and Tiff). The graph image can also be exported to the Windows clipboard.

> **Important**: To export file system analysis data in XML file format, use the Save as XML feature.

To export data from the main application window, use the Export button of the application ribbon bar.

To export data from the search or file reports window, use the corresponding Export toolbar button.

5.3.4   Comparing Scan Data

FolderSizes is capable of comparing file system data currently in memory (which can be visualized through the Scan Data Panel) with scan data loaded from XML.

Comparing current file system analysis data with previous data effectively "subtracts" loaded data from the existing file system nodes in memory (more on how this is shown in a second).

To compare file system analysis results, follow these steps:

1. Perform an initial file system analysis and save the resulting scan data as XML.
2. At some point in the future, perform a file system analysis of the same root path(s) as step 1.
3. Now use the Compare button in the application ribbon bar to open the XML data file saved in step 1.

Once this process is completed, the user interface will automatically reveal the Scan Data Panel (if it's not already visible). The Scan Data Panel provides a hierarchical, **differential** view of each file system node in memory compared against that loaded from XML. It will also provide simple color coding to designate folders that have grown in size (shown in red) vs those for which the size has been reduced (shown in green).

When viewing file system nodes that in comparison mode, the primary detail view will also reveal differential file system object metrics.

To take the Scan Data Panel out of "comparison mode", you can remove the file system nodes currently being compared (through the Scan Data Panel toolbar) or refresh any of the nodes within the comparative hierarchy.

5.4 Command Line Support

5.4.1 Overview

FolderSizes supports command-line execution (e.g. from a command prompt) with parameters. Parameters are not case sensitive. These can be used to schedule specific operations, or to call certain functions from a batch file, for example. Note that passing command line parameters into FolderSizes will automatically suppress the display of the splash screen and the welcome wizard (if they are configured to display normally).

Note: FolderSizes provides a fully integrated task scheduler that can be used to formulate command line arguments and schedule execution of various reports.

Supported Command Line Parameters

Path (required)

The "path" parameter is **required** in order for any other command-line parameters are to be evaluated (except for the "drivespace" parameter, described below). An example which would allow you to scan the temp folder on your D drive would look like:

```
Example: foldersizes.exe /path:"d:\temp"
```

Multiple paths can be scanned by separating them with with pipe symbols. Note the use of pipes in the example below:

```
Example: foldersizes.exe /path:"d:\temp|c:\windows|\\server
\share"
```

You can also use one or more fully qualified Snapshot file (.fssx) file paths in place of normal file system paths, in which case the Snapshot file itself becomes the data source for the file system analysis. This feature works for folder, file, and search reports.

```
Example: foldersizes.exe /path:"d:temp\snapshot.fssx"
```

Export

Exports the generated report(s) to disk once the file system analysis has completed. *The export file format will be deduced by the file extension passed in*. You must provide a fully qualified path for export files:

```
HTML example: foldersizes.exe /path:"d:\temp" /export:"d:\tmp
\myreport.html"
CSV example: foldersizes.exe /path:"c:\windows" /export:"d:\tmp
\myreport.csv"
```

```
XML example: foldersizes.exe /path:"c:\program files" /
export:"d:\tmp\myreport.xml"
```

To export a generated report in multiple formats at once, separate the export paths with a pipe ("|") symbol, like this:

```
HTML & CSV example: foldersizes.exe /path:"d:\" /export:"d:\tmp
\myreport.html|d:\tmp\myreport.csv"
```

Snapshot

Allows for the creation of file system Snapshots via the command line. When this command line parameter is used, the "path" parameter (described above) represents the source (scan path) and the "export" parameter represents the output path.

```
Example: foldersizes.exe /snapshot /path:"d:\temp" /
export:"d:\temp\snapshot.fssx"
```

The above command will create a snapshot of the "d:\temp" folder and store the resulting snapshot file ("snapshot.fssx") in the same folder.

DriveSpace

This parameter can be used to export the contents of the FolderSizes drive space docking panel, which contains a configurable (see program options) list of system drives (fixed, remote, removable, etc.) along with space metrics and other information.

```
Example: foldersizes.exe /drivespace:"d:\drivespace.pdf" /exit
```

The export file format will be deduced by the file extension passed in. In the example above, we pass in a ".pdf" file extension, which results in a PDF file format export.

This is the only command line parameter that can be used without also specifying a "path" (see above). It can, however, be used in combination with other parameters.

LoadOptions

Used to load program options prior to executing any remaining command line instructions. You must specify the full path to a program options data file previously saved with FolderSizes.

```
Example: foldersizes.exe /path:"d:\" /export:"d:\report.html" /
loadoptions:"c:\temp\myoptions.dat"
```

Graphtype

Used for switching between the "bar", "pie", and "map" graph types available for inclusion within reports exported in HTML format (does not apply to other export file formats such as CSV, TXT, or XML). For example, if you wanted to export an HTML report via the command line, but prefer to have a pie graph (versus the default bar graph), you can do

something like the following:

```
  Example: foldersizes.exe /path:"d:\" /export:"d:\report.html" /
graphtype:"pie"
```

Date

Causes any output path names (specified by the "/export" command line parameter) to include the current date and time in **mm-dd-yy_HHMMSS** format. For example, if you pass in an "/export" path of "d:\temp\test.html" and include the "/date" parameter, the output path will be transformed into "d:\temp\test_01-03-04_092322.html" (except the current date and time will be used). Useful when exporting file analysis results to a common folder and wish to keep the file names unique (e.g. so previous files are not overwritten).

```
Example: foldersizes.exe /path:"d:\" /export:"d:\myreport.xml" /
date
```

FileReport

Triggers generation of one or more of the following types of File Reports. Pass one of the the following keywords to the "filereport" parameter to product the desired report.

Use this keyword	To produce this file report
[all]	All file reports (supported formats only*)
largest	Largest files
oldest	Oldest files
newest	Newest files
temporary	Temp files
duplicate	Duplicate files
types	File types
typesgraph	File types graph
typegroups	File type groups
typegroupsgraph	File type groups graph
attribs	File attributes
attribsgraph	File attributes graph
owners	File owners
ownersgraph	File owners graph
sizes	File sizes
sizesgraph	File sizes graph
names	File names
namesgraph	File names graph
dates	File dates
datesgraph	File dates graph

```
Example: foldersizes.exe /path:"d:\temp" /filereport:"largest" /
export:"d:\largest_files.html"
```

Note: It is possible to generate and export multiple File Reports at once from the command line. See the Advanced Uses topic of this help chapter for additional details.

* When using the "[all]" keyword to export all enabled file reports to a single file, you must specify either an HTML (.html) or MS Excel (.xls) file extension in the "export" command line parameter.

Search

Causes FolderSizes to initiate a search from an existing search job definition file. **Important**: when using the "search" command line argument, the purpose of "path" argument (which is always required; see above) changes. For searches, the "path" argument must reference a fully qualified search job file path. You must also include the "search" command line argument, like this:

```
Example: foldersizes.exe /path:"d:\search_job.xml" /search /
export:"d:\search_out.html" /exit
```

The example above loads a search job file that **already exists** in the "d:\search_job.xml" path. You must create the search job file in advance (please see this topic for additional information) in order to execute a search from the command line.

It is possible to execute a search and then export the results in multiple formats at once. See the Advanced Uses topic of this help chapter for additional details. Note that search results can be exported in one of three formats: HTML (.html), comma separated values (.csv), and tab delimited text (.txt).

Email

Sends all command line (or scheduler) file outputs to one or more email addresses (separated by commas). Requires use of the "export" command line option (see above). For details, see the email integration topic.

```
Example: foldersizes.exe /path:"d:\temp" /
export:"d:\myreport.html" /email:"user@domain.com" /exit
```

Sort

Specified how a detail view report is to be sorted. The **sort phrase** is a combination of the column header to be sorted, followed by "ASC" (for ascending sort) or "DESC" (for descending sort).

```
Example: foldersizes.exe /path:"d:\temp" /sort:"size DESC" /
export:"d:\tmp\myreport.html" /email:"user@domain.com" /exit
```

Important: Sorting is supported in any FolderSizes detail view report (e.g. main window reports, search results, file report list views, etc.). When specifying the sort column, refer to the column header itself and use the full text associated with that column header (including any spaces). For information on sorting multiple file report outputs separately,

see the Advanced Uses topic.

SubDisplayDepth

Sets the subfolder display depth prior to the command line job being executed. Does not apply to File Reports (applies only to normal explorations that appear in the main application window).

```
Example: foldersizes.exe /path:"d:" /subdisplaydepth:"3" /exit
```

ScanFilter

Specifies the *full path* of a scan filter to apply to the current session. Note that passing this command line parameter in enables scan filtering for both normal scans (which are viewed in the main window) and file reports. The scan filter will be applied for the duration of the FolderSizes process lifecycle (e.g. until the window is closed, either via /exit or some other means).

```
Example: foldersizes.exe /path:"d:" /filereport:"largest" /
scanfilter:"d:\scan-filter.xml" /exit
```

Note: You need to **already have a scan filter defined and saved** to a file before you can use the "/scanfilter" command line parameter. To learn more about managing scan filters, see this topic.

SaveEventLog

Dumps the contents of the active event log to file. Note that if this parameter is combined with the **/date** switch, the resulting event log will be appended with a date/time stamp as well.

```
Example: foldersizes.exe /path:"d:" /saveeventlog:"d:\temp
\eventlog.txt"
```

NoXSLT

This option applies to XML exports *only*, and suppresses the linkage of the FolderSizes XSLT file regardless of whatever export program option is currently specified. This command line parameter takes no arguments.

```
Example: foldersizes.exe /path:"d:\temp" /
export:"d:\myreport.xml" /noxslt
```

Exit

Causes FolderSizes to exit once all the command line scanning options are completed. This allows for the generation of an HTML report (for example) on a scheduled basis, with FolderSizes automatically terminating in between executions. This command line parameter takes no arguments.

```
Example: foldersizes.exe /path:"d:" /
export:"d:\largest_files.html" /exit
```

5.4.2   Advanced Uses

There are several advanced uses of FolderSizes command line support that we will outline here.

File Report Export Combinations

To execute a File Report from the FolderSizes command line, the **/filereport** parameter is used to specify the *type* of File Report (e.g. "largest files", "oldest files", etc.) that is desired.

However, what if you wanted to generate more than one type of File Report at the same time, and then export each of them... all with a single command? This is indeed possible if the command line syntax is followed carefully. The solution is to use a pipe symbol (e.g. "|") to delimit the arguments associated with the **/filereport** and (optionally) the **/export** command line parameters.

This concept is easier to grasp once you see it in action. Here's an example that uses the FolderSizes command line to generate both "largest files" and "oldest files" reports, which are both then exported to different file locations (in different file formats) within the c:\temp\ folder on the local hard drive. Note how the arguments passed to **/filereport** and **/export** are delimited by pipe symbols.

```
foldersizes.exe /path:"c:\windows" /filereport:"largest|oldest" /
export:"c:\temp\largest.html|c:\temp\oldest.csv" /exit
```

As demonstrated in the example above, the order of arguments passed into **/filereport** must correlate to those passed into **/export**. The result of the execution of the command above is that the "largest files" report is created and exported to c:\temp\largest.html (in HTML format), and the "oldest files" report is created and exported to c:\temp\oldest.csv (in CSV format). In both of these cases, FolderSizes *automatically deduces* the export file type based upon the export path file extension you provide.

Important: File exports will NOT be generated if there are no results. For example, if you the command line to generate a "temporary files" report against a folder that contains no temporary files, the export file will not be generated.

See also: Multiple File Report Paths and Email Integration.

Ancillary Parameters

The sample above uses the **/exit** command line parameter to close FolderSizes once the report generation and export processes are complete. Note that if the execution of the command line job results in an on-screen error within FolderSizes, the **/exit** parameter will not be properly honored. For this reason, we recommend always testing your use of command line parameters carefully before using them for production purposes.

Important: Before attempting to export any File Report to disk, make sure you know which

export file formats are supported by that specific report. For example, the hierarchical nature of the Duplicate Files report limits it's supported export file format to HTML (and not CSV or TXT). If you attempt to generate and export any File Report to an unsupported file format, an on-screen error will be displayed.

Sorting Multiple File Report Outputs

It is possible to output multiple file report types while sorting them individually. Similar to the examples shown above, this is done by passing in multiple **sort phrases**, each separated by a pipe symbol.

```
foldersizes.exe /path:"c:\windows" /filereport:"largest|oldest" /
export:"c:\temp\largest.html|c:\temp\oldest.csv" /sort:"size DESC|
date DESC" /exit
```

The example above will generate two results:

1. A largest files report, sorted by size in descending order and exported to "c:\temp\largest.html"
2. An oldest files report, sorted by date in descending order and exported to "c:\temp\oldest.csv"

You can also combine sorted results with unsorted results. When no sorting argument is provided for a report (e.g. the sort phrase is left blank), default sorting behavior will be used. In such cases, FolderSizes will either apply the last used sorting (in the case of file report or main window reports) or none at all (in the case of search results).

```
foldersizes.exe /path:"c:\windows" /filereport:"largest|oldest" /
export:"c:\temp\largest.html|c:\temp\oldest.csv" /sort:"|date DESC"
/exit
```

In the example command line statement above, the largest files report will **not** be sorted explicitly and the oldest files report will be sorted by size in descending order.

Two More Examples

Here's an example of a fairly complex command line process that generates four different File Reports (including a graph report) directly to disk in a single pass.

```
foldersizes.exe /path:"d:\" /filereport:"largest|oldest|temporary|
datesgraph" /export:"c:\temp\largest.html|c:\temp\oldest.csv|
c:\temp\tempfiles.html|c:\temp\datesgraph.jpg" /exit
```

And one more that demonstrates the execution of a single FolderSizes search job, which is then exported in multiple formats:

```
foldersizes.exe /path:"d:\search_job.xml" /search /
export:"d:\search_out.html|d:\search_out.csv|d:\search_out.txt" /
exit
```

As you can see in both of the examples above, the "export" command line argument is capable of accepting multiple paths, delimited by a pipe ("|") symbol. The output format of the export file is deduced from the file extension you provide.

5.4.3 Scheduling Execution

You can use the Windows Scheduled Tasks facility to execute FolderSizes on a scheduled basis.

Important Note: As of FolderSizes v4.6, a fully integrated task scheduler is available and can be used to formulate command line arguments as well as schedule execution of various FolderSizes reports. The integrated task scheduler can be used in place of interacting with the Windows Task Scheduler.

As an example of how this powerful capability might be used, you could create a scheduled task that uses FolderSizes to scan a remote (network) file system and then export the results as HTML directly into a sub-folder on your web server. The core command might look something like this:

```
foldersizes.exe /path:"\\computer\share" /export:"\\webserver\share
\folder" /exit
```

Now that we've defined an example, setting it up within Scheduled Tasks is straight-forward. Navigate to the Scheduled Tasks folder (found within Start | Accessories | System Tools on Windows XP) and select File | New | Scheduled Task. You'll be presented with a window that allows you to fully define the scheduled task.

Most of the settings within a Scheduled Task are fairly self-explanatory and are well covered by existing Windows documentation (you can also press F1 on a specific field if you need help). Perhaps the most important thing to keep in mind is that you must enter a *fully qualified*, quoted path to your FolderSizes executable into the Run field. Here's an example entry:

```
"C:\Program Files\FolderSizes\FolderSizes.exe" /path:"\\computer
\share" /export:"\\webserver\share\folder" /exit
```

Use the remaining tabs within the Scheduled Task window to configure the tasks's schedule, along with any other settings you require. Once complete, click OK and you'll be prompted for a the username and password of an executing user (see Tip 2 below). Assuming you enter valid user credentials, the task will now be scheduled.

Helpful Tips

Important: It is highly recommended that you use the */exit* command line parameter with scheduled jobs like this one, to ensure that the FolderSizes.exe process terminates once the job is complete.

Tip 1: Always test your command line job thoroughly *before* scheduling it to ensure that no error messages appear on-screen. If such errors occur during Scheduled Task execution, they could cause the task to (effectively) hang.

Tip 2: When creating a Windows Scheduled Task, you must enter the name and password of the executing user. Be sure to enter the credentials of a user that has permission to access the file system path(s) being scanned.

Tip 3: When publishing exports to a shared folder on a scheduled basis, you may want to use the **/date** command line parameter to append the current date to exported filenames. This will help to ensure that export files aren't over-written each time the job executes.

Tip 4: Within the Windows Scheduled Tasks listing window, you can right-click on a task and select "Run" to execute it immediately. Doing so can be a handy way to ensure that a task operates as expected prior to relying on it for production use.

5.5   Email Integration

FolderSizes has integrated support for sending the result of report export operations to users via email.

Email Configuration

In order to use its email integration features, you must first tell FolderSizes how to communicate with your email service provider. This is done through the Email section of the Options window (please see that topic for details).

How It Works

You can use the command line or task scheduler interfaces to deliver one or more FolderSizes disk space analysis reports to users via email. In both cases, FolderSizes will transmit the results of **any report export operations** via SMTP.

Let's take the following command-line invocation of FolderSizes as an example:

```
foldersizes.exe /path:"c:\temp|c:\windows" /export:"c:\temp
\report.html|c:\temp\report.csv" /email:"user@domain.com" /exit
```

The command line above instructs FolderSizes to analyze two paths ("c:\temp" and "c:\windows"), then generate two report export files ("report.html" and "report.csv") from that analysis. After both export files are created, FolderSizes will send them to "user@domain.com" via email.

By default, FolderSizes will apply zip compression to all exported files before sending them via email, resulting in a single zip file that is attached to the email message sent to the user (see email config topic).

If FolderSizes cannot successfully communicate with your email service provider, no email

message will be sent.

5.6 Shell Context Menu Integration

FolderSizes installs a powerful extension to the Windows shell context menu. This extension allows you to right-click any normal folder within Windows and run key FolderSizes reporting functions against it.

If FolderSizes is already running when one of its shell context menu extension items is selected, it will perform the associated task immediately. If FolderSizes is not already running, it will be launched automatically, and will proceed to scan the specified path.

The context menu extension provides access to all FolderSizes File Reports, as well as the normal scans (the results for which are shown in the main user interface).

> **Note**: The shell context menu extension folder can even be accessed from within FolderSizes itself. Simply right-click a folder within the Folder Browser pane, and you'll see that the shell context menu is still available (and works as expected).

5.7 Regular Expression Support

Regular expressions are formulas that can be used to match strings of text that follow some pattern. They allow their users to succinctly express a set of character matching rules that would otherwise require a large number of switches and logical operations.

When you first see a regular expression, it may appear somewhat intimidating and complex. But, in reality, regular expressions can be as simple or involved as you wish and still be effective. Once you understand the meaning of a handful of special regular expression characters (called metacharacters), you'll be able to match filename patterns with ease.

This help file will not provide an in-depth tutorial on the formation of regular expressions, simply because a large number of these exist on the Internet today for free. Simply visit your favorite search engine and enter "regular expressions" into the search box. You'll find a variety of guides and other useful materials to help you along.

There are, however, subtle differences between the regular expression syntax engines that various applications employ. The charts below provide an overview of the regular expression metacharacters and abbreviations supported by FolderSizes.

Metacharact er	Meaning
.	Matches any single character.
[ ]	Indicates a character class. Matches any character inside the brackets (for example, [abc] matches "a", "b", and "c").
^	If this metacharacter occurs at the start of a character class, it negates the character class. A negated character class matches any character except those inside the brackets (for example, [^abc] matches all characters except "a", "b", and "c"). If ^ is at the beginning of the regular expression, it matches the beginning of the input (for example, ^[abc] will only match input that begins

with "a", "b", or "c").

-	In a character class, indicates a range of characters (for example, [0-9] matches any of the digits "0" through "9").
?	Indicates that the preceding expression is optional: it matches once or not at all (for example, [0-9][0-9]? matches "2" and "12").
+	Indicates that the preceding expression matches one or more times (for example, [0-9]+ matches "1", "13", "666", and so on).
*	Indicates that the preceding expression matches zero or more times.
??, +?, *?	Non-greedy versions of ?, +, and *. These match as little as possible, unlike the greedy versions which match as much as possible. Example: given the input "\<abc>\<def>", <.*?> matches "\<abc>" while <.*> matches "\<abc>\<def>".
( )	Grouping operator. Example: (\d+,)*\d+ matches a list of numbers separated by commas (such as "1" or "1,23,456").
\	Escape character: interpret the next character literally (for example, [0-9]+ matches one or more digits, but [0-9]\+ matches a digit followed by a plus character). Also used for abbreviations (such as \a for any alphanumeric character; see table below). If \ is followed by a number n, it matches the nth match group (starting from 0). Example: <{.*?}>.*?</\0> matches "\<head>Contents</head>".
$	At the end of a regular expression, this character matches the end of the input. Example: [0-9]$ matches a digit at the end of the input.
|	Alternation operator: separates two expressions, exactly one of which matches (for example, T|the matches "The" or "the").
!	Negation operator: the expression following ! does not match the input. Example: a!b matches "a" not followed by "b".

Abbreviations

\a	Any alphanumeric character: ([a-zA-Z0-9])
\b	White space (blank): ([\\t])
\c	Any alphabetic character: ([a-zA-Z])
\d	Any decimal digit: ([0-9])
\h	Any hexadecimal digit: ([0-9a-fA-F])
\n	Newline: (\r|(\r?\n))
\q	A quoted string: (\"[^\"]*\")|(\'[^\']*\')
\w	A simple word: ([a-zA-Z]+)
\z	An integer: ([0-9]+)

5.8   Analyzing Multiple Paths

The Location Bars available within the main application window and File Report dialog support the entry of multiple paths.

In the case of reports generated from the main window, FolderSizes has the ability to scan multiple root paths concurrently, using multiple file system analysis threads. This can be extremely useful, particularly when analyzing multiple file system roots that have discrete I/O channels.

For example, say that you have a set of three file system locations that you wish to analyze -

one is a local drive, and the other two are network shares. Entering all three of these paths into the FolderSizes Location Bar will cause the file system analysis engine to scan them on different threads, improving overall analysis time.

To enter multiple paths into a Location Bar, separate them with pipe symbols (e.g. "|"). Here's an example:

```
"c:\" | "\\server-one\share-one" | "\\server-two\share-two"
```

> Note: The use of spaces and quotes above is entirely optional - use them only if you find that doing so increases readability while typing. FolderSizes will remove them when analysis begins.

This feature can also work in combination with Network Share Discovery.

Path Manager

Another means of entering multiple file system paths is through the Path Manager window.

To reveal the Path Manager, click the small folder icon with a plus symbol to the right of the Location Bar. This feature is available from a number of areas within FolderSizes, including:

- The main application window
- The File Report Generator window
- In the Scheduled Task Editor window (for "folder report" and "file report" task types)

The Multiple Path Manager window provides a means of adding, editing, deleting, or re-ordering multiple file system paths. You can also save path sets for loading and re-use at a later date.

Multiple paths will be analyzed according to the order in which they're entered using threads from the file system analysis thread pool.

5.9 Network Share Discovery

FolderSizes can resolve network shares on remote servers or within domains/workgroups.

There are a number of ways to access share discovery features, each described further below.

Path Management Features

Whenever you see a Paths button adjacent to a location bar, you can click its drop down arrow and select the Discover Network Shares option from the resulting pop-up menu. Other tools may also expose share discovery features (for example, the Disk Reporter has a discovery option in its Add Disks toolbar pop-up menu).

Initiating network share discovery will cause the the Discover Shares dialog to appear.

Interactive share discovery has two operational modes.

1. Discover shares on one or more computers
2. Discover shares on one or more domains (or workgroups)

When discovering shares on one or more computers, enter their host names or IP addresses, separated by commas.

When discovering shares on one or more domains or workgroups, enter NETBIOS domain/ workgroup names, separated by commas.

Once share enumeration is complete, you'll be presented with a list of discovered shares from which to choose.

Location Bar Syntax

Entering a UNC path into the Location Bar with only a server name (prefixed by two backslashes) will trigger the network share resolution function. For example, entering a path of:

`\\myserver`

Will cause FolderSizes to attempt enumeration of shares on the hostname "myserver". When running in interactive mode (e.g. no command line mode), FolderSizes will then prompt the user to select which network shares on "myserver" should be analyzed. When running in command line mode, FolderSizes will analyze all discovered shares.

This behavior also works with multiple servers, or a mix of local and network server paths. A more complex example:

`c:\temp | \\myserver | \\myserver2`

Given the above paths, FolderSizes will attempt to resolve network shares on "myserver" and "myserver2" (again, prompting the user for share selection if running in interactive mode) and leave the "c:\temp" alone. FolderSizes will then begin analysis of all selected (and resolved) paths.

5.10 Checking for Updates

FolderSizes has a built-in update checking feature, accessible from the Help section of the application ribbon bar.

Behavior of update checking can be configured through the options window.

The update checker window indicates the current installed version of FolderSizes, as well as the version of the latest publicly available product build. If the latest public version is newer than the installed version, you may elect to upgrade. Clicking the Download button will take you to the download section of the FolderSizes product website. Click the Info button to learn more about what's new in the latest release.

> **Important**: Before downloading and installing a major version update, please review the FolderSizes upgrade policy.

5.11   Allocated Size (Size on Disk)

FolderSizes contains broad support for computing and displaying both *actual* and *allocated* file sizes. Allocated sizes are also sometimes referred to as "size on disk".

Allocated size columns are displayed by default within the main window detail view, file report detail views, and search result detail views. They can also be shown within graphs (see related graph option).

> **What Exactly is Allocated Size?**

In FolderSizes, allocated file system object sizes are influenced by a number of factors.

1. Cluster overhang - Windows allocates space to files in units called **clusters**. Any file with a size which is not an exact multiple of the file system's cluster size will consume more space on disk than it's actual size.
2. NTFS compression - NTFS supports a built-in compression mechanism that can reduce file sizes significantly.
3. Sparse files - Sparse files allow the Windows operating system to use file system space more efficiently when blocks allocated to the file are mostly empty.
4. Hard links - NTFS hard links allow multiple file allocation table entries to resolve to the same file. When hard link tracking is turned on, files with multiple hard links will affect allocated file size (allocated size is divided by the number of links).

Each of these factors (in combination) is evaluated during the computation of allocated space within FolderSizes.

5.12   Shell Drag and Drop

FolderSizes allows users to drag and drop file system paths onto various areas of the product user interface.

This feature provides a convenient means of working with the Windows shell. For example, you can drag one or more folders from a Windows Explorer window into the main window frame to initiate an immediate analysis.

The following drop target areas have been defined:

- **Main window** - Dragging and dropping one or more paths onto any part of the main application window will initiate an immediate analysis of those paths.
- **Search window** - Dragging and dropping paths into the "search paths" portion of the search window will add them to the path list.
- **File Reports window** - Dragging and dropping paths onto any part of the File Reports window will trigger their immediate analysis.
- **Multiple Path window** - Dragging and dropping paths onto any part of the Multiple Path

window will add them to the path list.

You can drag and drop **folder, drive, and network paths** into FolderSizes. Please note that file paths are not a valid drop source, and will be ignored if attempted.

If you drag and drop a shell shortcut into FolderSizes, the target of the shell link will be resolved and, if valid, processed as through it were a normal file system path.

6 How To's

6.1 How To Find & Remove Empty Folders

FolderSizes provides an extremely powerful built-in search facility that can isolate specific file and folder instances based upon a broad range of criteria. FolderSizes search can easily be used to find and remove empty folders.

Steps to accomplish:

1. Click the Search button in the application ribbon bar. The FolderSizes Search window will appear.
2. Add one or more paths to the Search Paths tab by using the New Path button.
3. Click the Search Rules tab, and click the New Rule Button. Select New Folder Rule from the pop-up menu. The Rule Editor window will appear.
4. Click the Size tab in the Rule Editor window, and select the Specify Size radio button [screen].
5. Specify a folder size "Equal to" 0 KB.
6. Click OK to save the rule and click the Start toolbar button to begin the empty directory search.

Once you've got a listing of the zero-length file system objects, you can select the ones you don't need, right click, and choose Delete Selected Item(s).

Important: Never assume that a directory is safe to delete simply because it is empty. Make sure you understand the potential impact before modifying any part of your computer or network file system(s).

6.2 How To Interpret Analysis Events

During any given file system analysis process, FolderSizes logs information about any interesting events it encounters.

File system analysis events have three distinct severity levels:

- **Error** - Events that may potentially halt file system analysis, or otherwise interfere with it.
- **Warning** - Events that may cause problems or alter analysis results, but do not halt the file system analysis process.
- **Informational** - Events of general interest, usually not requiring any user intervention. May potentially impact analysis results.

When the file system analysis process completes, FolderSizes will prompt the user to review the event log if any errors were encountered. This prompting behavior can be disabled via Options | Prompts. The event log can also be accessed at any time by clicking on the associated status bar panel.

When interpreting entries in the file system analysis event log, it is important to first consider event severity. Informational events are generally not a cause for concern, but can potentially affect the way file system analysis is performed. Warning events generally indicate a problem that is not severe enough to halt a file system analysis, but is very likely to affect its results. Error events are reserved for exceptional conditions that will usually halt (or severely affect / limit) a file system analysis.

Access Denied Errors

Of all the potential errors that FolderSizes may log during a given file system analysis process, access denied is perhaps the most commonly encountered. It means that the underlying Windows operating system denied FolderSizes access to the specified file system path.

When this error is encountered, it is important to **first consider the Windows user account under which FolderSizes is running**. If you started FolderSizes via a normal desktop or start menu shortcut, the application will inherit the permissions associated with your current Windows user account. If your Windows user account is prohibited from accessing a given file system branch, then so will be FolderSizes. In such cases, someone (perhaps you or your company's system administrator) will need to alter the security settings of the file system object(s) in question in order to grant your Windows user account access to them.

On **Windows Vista or later**, there is an additional consideration - User Account Control (UAC). When enabled, UAC attempts to mitigate various security risks by limiting Windows user account permissions during program execution. This behavior can be at odds with FolderSizes, the goal of which is to scan as much of the target file system(s) as possible in order to present the user with accurate analysis results. In such cases, users may need to explicitly run FolderSizes as an administrative user.

Importantly, the inheritance of Windows user account permissions by FolderSizes also extends to use of the Task Scheduler tool. When scheduling file system analysis events, be sure to use the appropriate Windows user account credentials (e.g. those having permissions sufficient to access target file systems) during saving of the scheduled task.

Common Informational Events

Depending up your Windows operating system, there are a number of informational events you may encounter more frequently than others.

1. Informational: Folder path skipped (folder is a reparse point)
2. Informational: Folder path skipped (folder is a symbolic link, junction or mount point that resolves to the same location as its parent)

These events are especially common on Windows Vista or later, where the operating system

uses various types of reparse points to redirect portions of the file system elsewhere. One example of this is that "C:\ProgramData\Application Data" is actually a folder junction on Windows Vista or later, which in turn resolves to its parent folder "C:\ProgramData". These default reparse points are generally present in order to improve third-party application compatibility.

By default, FolderSizes will ignore (or skip) such reparse points - resulting in the logging of the first information message noted above. Since most default reparse points on Windows Vista or later simply resolve to other areas of the file system, traversing them with FolderSizes is generally not necessary (or desirable).

If you do have FolderSizes configured to follow reparse points, you may encounter the second informational error noted above. In such cases, FolderSizes has identified the potential for infinite recursion and intelligently avoids it (logging this informational message in the process).

6.3   How To Report On Specific File Types

There may be instances where you need to analyze disk space usage by one or more specific file type(s).

FolderSizes provides a few different means of accomplishing this goal, each producing slightly different results.

Constraining Folder Reports by File Type

The first option we'll discuss allows you to constrain the main window "folder report" view by one or more specific file types. This approach has the benefit of retaining the hierarchical output of the main window, as well as the associated graph panes, etc.

Steps to accomplish (using image file types as an example):

1. Click the Scan Filter button in the main window ribbon bar. The Scan Filter window will appear.
2. Un-check the "Include all files by default" checkbox. Leave the "Include all folders by default" button checked.
3. Check the "Apply scan filter to folder reports" checkbox.
4. Click the New Rule button and select New File Rule from the resulting pop-up menu. The File Rule Editor window will appear.
5. Optionally give the new file rule a descriptive name (e.g. "Include image files").
6. Within the Name tab of the Match Criteria area, enter one or more file name type masks (e.g. "*.gif;*.jpg"). Use the Presets drop-down button to access a common set of presets, if you wish.
7. Click the OK button twice to dismiss the File Rule Editor and Scan Filter windows.

Now that a Scan Filter has been defined and is in effect, navigate (using the Folder Browser panel or the Location Bar near the top of the screen) to file system path you wish to analyze. If this path has already been analyzed by FolderSizes, you may need to click the Refresh button in the ribbon bar to initiate a re-scan (so that scan filtering is properly applied).

Result: You will now have a hierarchical reporting of folders, just as you normally would, but metrics of those folders (e.g. size, file count, etc.) will only reflect the file types you specified in step #6 above.

Using FolderSizes Search

The FolderSizes Search tool finds specific file instances within one or more paths that match specific criteria.

The main benefit of using the FolderSizes Search to report upon one or more specific file types(s) is that it produces a "flat" (i.e. non-hierarchical) result set that still includes critical metrics such as file size, [allocated](#) size, etc.

Steps to accomplish (using image file types as an example):

1. Click the Search button in the main window ribbon bar. The FolderSizes Search window will appear.
2. Use the New Path button to specify one or more paths that you'd like to search for the given file type(s).
3. Click the Search Rules tab.
4. Un-check both the "Include all files by default" and "Include all folders by default" checkboxes.
5. Click the New Rule button and select New File Rule from the resulting drop-down menu.
6. Optionally give the new file rule a descriptive name (e.g. "Include image files").
7. Within the Name tab of the Match Criteria area, enter one or more file name type masks (e.g. "*.gif;*.jpg"). Use the Presets drop-down button to access a common set of presets, if you wish.
8. Click the OK button.
9. Click the Start button in the FolderSizes Search window toolbar.

Result: With these steps accomplished, FolderSizes Search will begin enumerate the specified file system path(s) and report upon any file instances it finds that match the file types specified in step #7 above.

Using the File Report Generator

The FolderSizes File Report tool is capable of generating a File Types Detail report.

The main benefit of creating a File Type report in this manner is that it summarizes a broad range of file types by file extension, without the need for the user to specify any search or filter rules.

Steps to accomplish:

1. Click the File Reports button in the main window ribbon bar. The File Report Generator window will appear.
2. Select the "File Types | Detail" node within the navigation tree on the left hand side of the window.
3. Specify one or more paths to analyze for file type information, either by entering the path

directly into the Location Bar near the top of the screen or using the folder browse toolbar button.
4. Click the Start button in the File Report Generator window toolbar.

Result: Once the file system analysis is complete, you will be presented with a summary of file types by extension. The file types presented here are based upon Windows file type associations. To find specific file instances, you may double-click a given file type (doing so will launch FolderSizes search).

6.4   How To Find a Path's Deepest Folder

The FolderSizes Scan Data Panel provides a host of useful features, including the ability to find the deepest folder within a given file system node.

To use this feature, first initiate a file system analysis (e.g. by selecting a path in the Folder Browser Panel, entering a path into the Location Bar, etc.). Once the analysis is complete, switch to the Scan Data Panel.

Now right-click a tree node and select the **Find Deepest Folder** option from the resulting pop-up menu. FolderSizes will find the deepest subfolder of the selected node, and scroll it into view.

6.5   To To Exclude Files and Folders

You can exclude files and / or folders from the FolderSizes analysis process by establishing Scan Filter rules.

Manual Rule Definition

To exclude a specific folder path from a file system analysis:

1. Click the Scan Filter button in the main window ribbon bar (or the File Report / Search window toolbar)
2. Check the "Apply scan filter to folder reports" and / or "Apply scan filter to file reports", according to your needs
3. Click the New Rule button and select New Folder Rule from the resulting pop-up menu
4. Select the Exclude Matches radio button near the top of the Rule Editor window
5. Within the Name match criteria tab, click the Browse button and select the folder you wish to exclude
6. Click OK to exit the Rule Editor window
7. Click OK to exit the Scan Filter window

To exclude a subset of file types from a file system analysis, follow the steps provided above but add a File Rule and configure name matching accordingly.

Scan Filtering capability is available for analysis processes available for main window analyses, File Reports, and Searches.

Right-Clicking to Exclude Folders

You can also exclude one or more folders from a file system analysis process by right-clicking them within a detail view and selecting "Exclude folder(s) with Scan Filter Rule".

Doing so will automatically generate an exclusionary scan filter folder rule for you.

Index