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Computer System Routine Disk Maintenance
Windows® XP SP2 Professional LC-MS MassHunter Workstation

As recommended for GC, LC & etc. ChemStation systems, it is important to perform routine disk maintenance on their MassHunter LC-MS Workstation PCs. In a few cases, communication errors with the MassHunter system have been resolved by performing the steps below.

To help optimize the performance of your MassHunter Workstation, it is important that you schedule routine maintenance (e.g. deleting unnecessary files). The following instructions should be used as a part of your routine maintenance schedule.

You will need administrator capability to perform these tasks.

Run the Disk Cleanup utility
1. Select Start… Programs… Accessories… System tools… Disk Cleanup
2. Select the Drive (C:\, D:\, etc) you want to cleanup
3. Select Temporary files, Temporary Internet files, and Recycle bin.
You may select other type of files to delete, depending on your understanding of those file types, and the way you use this PC. It is possible to delete vital files with the Disk Cleanup utility, so do not delete files types that you do not understand. Do not "Compress old files" on a MassHunter Workstation PC. You may wish to highlight Recycle bin and click View to see the contents of the Recycle bin before you allow Disk Cleanup to delete these files.
4. Once you are satisfied with the selections, click OK.
5. Repeat these steps for other drives on your system.
Be sure you delete the contents of the TEMP folder, but not the folder itself!

Check the disk drive for errors
1. Double-click My Computer on the desktop, and highlight the C: drive.
2. On the File menu, click Properties.
3. Click the Tools tab.
4. Under Error-checking, click Check Now…
5. The Check Disk options windows will appear, select the "Automatically fix file system errors" and the "Scan for and attempt recovery of bad sectors check box". Click on the Start button.

Select Yes to the prompt titled, "Checking Disk System (C:)" – "The disk check could not be performed because the disk check utility needs exclusive access to some Windows files on the disk. These files can be accessed only by restarting Windows. Do you want to schedule this disk check to occur the next time you restart the computer?" This is a normal prompt.

6. Reboot the computer, allow the disk check to finish, then login to XP as usual.

Repeat steps 1-6 for the other drive letters on your local hard drive.

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Analyze and defragment the drives
1. Select Start… Programs… Accessories… System tools… Disk defragmenter
2. Select the Drive (C:\. or D:\ , etc.) you want to analyze.
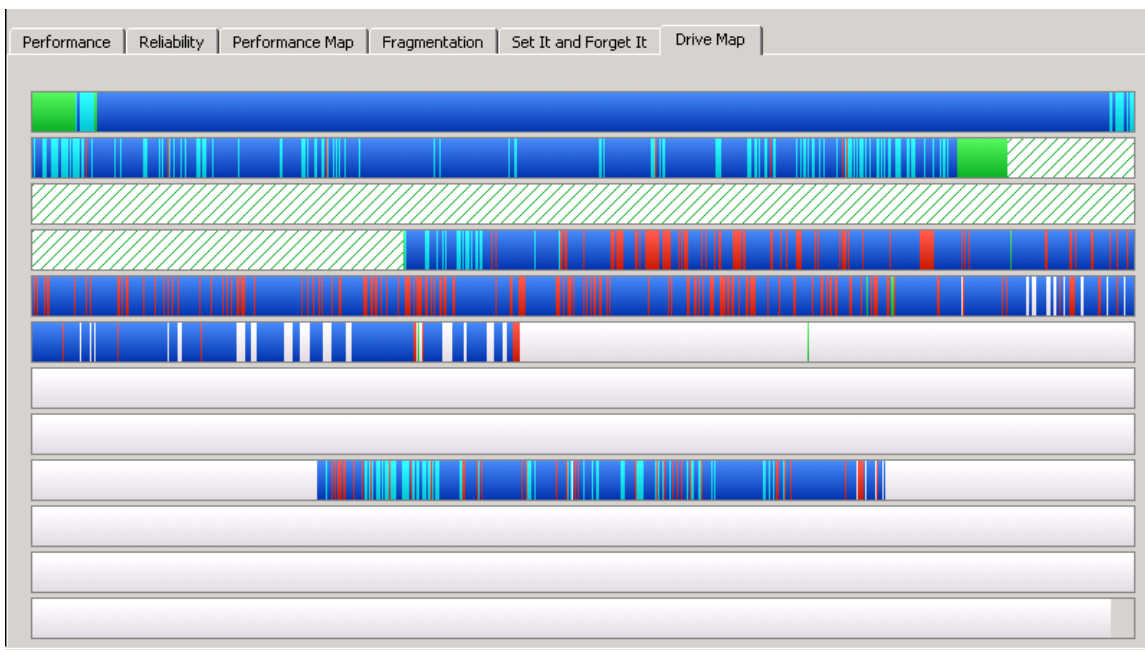3. Click Analyze.

FIGURE 1: Color Legend for Drive Map

FIGURE 2: Typical Drive with Moderate Fragmentation and Message "Diskeeper has completed analysis of this volume and found 121 fragmented files and/or directories and 833 excess fragments.

The average number of fragments per file is 1.02.

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This volume is moderately fragmented, with 52% of the total volume space available for defragmentation. This amount of free space is sufficient for effective defragmentation at this time, but as the volume fills up, lack of free space will cause a performance problem. You might consider which files you could delete or move to another volume to maintain enough free space to keep the fragmentation level low. If you haven't run Diskeeper on this volume yet, it is time to do so. If you have run Diskeeper on this volume, you should schedule Diskeeper to run more often than it has been running to reduce the current fragmentation and maintain a lower level of fragmentation."

4. If the result of the analysis shows that the drive needs defragmenting, click Defragment. Otherwise, defragmentation is not necessary at this time, and you can click Close.

5. Repeat for the other drives on your system.

Please note the following suggestions for the use of these utilities:

•   Choose a time when the system is quiet (not acquiring or processing data, and not printing) to perform disk maintenance. It is possible to do other tasks while Disk Defragmenter is running, but it's not recommended.

•   Defragmentation can require a long time, depending on the size and condition of the drive being processed. Choose a time when you can allow the process to complete before acquiring, printing or processing data. Defragmenting more frequently can reduce the time required to complete the task.

•   Microsoft® recommends that disk drives maintain ~30% free space to insure proper operation of the Disk Defragmenter utility. Most defragmentation utilities will fail on drives that are almost full. This is because the defragmentation process needs a certain amount of free disk space available to move around the fragmented files, prior to compacting them into contiguous blocks of data.

Ask yourself the following question; Does my sample workload allow me the downtime needed to perform "routine" PC disk maintenance? If we don't schedule in the time to perform routine disk maintenance, your PC might choose the time for you (by not working☹), this is almost always going to be at the worst possible time for your workload. All PC systems require routine disk maintenance, as it keeps them running better and typically faster.

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