Selecting Data Streaming Test Options

The Data Streaming Test monitors the sustained transfer rate as data is transferred from either hard disk or CD-ROM to your computer's Random Access Memory (RAM). The data streaming test consists of two phases: priming and data gathering.

- The priming phase occurs first and activates the streaming device. In the priming phase, the speed of the streaming device increases to an optimal performance level for transferring data.
- The data-gathering phase of the test collects information while the streaming device operates in the optimal portion of its performance range.

To control the priming and data-gathering phases of the Data Streaming Test, the Data Streaming Performance Test Configuration dialog box includes controls that allow you to specify the file used in the test and several options that can affect the sustained data transfer rate.

To select Data Streaming Test options

1 From the Data Streaming Performance Test Configuration dialog box, select the options you want to use.

   The most important option is the File Name that identifies the device, the path, and the test file to use in the test. Other options are more relevant for video authors and device driver developers.

2 If you chose the Browse button, choose OK from the File Open dialog box to return to the Data Streaming Performance Test Configuration dialog box.

3 Choose OK.

Streaming Test Options

- File Name

   Identifies the device, path, and file to use in the data streaming test. For this test, select any file that is 1.5MB or larger. For example, you could use any of the files in the \VIDTEST directory of the Multimedia Pack CD-ROM.

- Requested Transfer Rate

   Specifies the desired rate at which data is transferred from the hard disk or CD-ROM to RAM. The standard data transfer rate for CD-ROM drives is 150K per second. Data transfer rates for hard disks vary from 100K per second to above 300K per second.

- Read Block Size

   Specifies the number of bytes to read and transfer each time the disk or CD-ROM drive is accessed during the data-gathering phase of the test. The default block size is 10K.

- Allowed Percent Block

   Specifies the maximum percent of time that the CPU should be blocked, waiting for data from the disk or CD-ROM drive. While this option does not affect the performance of the streaming test, it provides a goal for the streaming device to attain and is reported as the first **Reads Exceeding xx MS** field in the Test Results. The default value is 40 percent, which is also the standard for CD-ROM streaming performance for a Multimedia PC.

- Prime Transfer Rate

   Specifies the sustained data read rate for the priming phase of the stream test.

- Prime Read Block Size

   Specifies the number of bytes to read and transfer each time the disk or CD-ROM drive is accessed during the priming phase of the test. The default block size is 4K.

- Total Prime Size

Specifies the length (in bytes) of the priming phase of the test.

- DOS Addressable Buffers

  Specifies that the buffers used throughout the test are located in the MS-DOS address space. Reads and writes to buffers in this section of memory are performed more quickly than buffers located in extended memory. If this option is not selected, buffers for the test are allocated from extended memory.

- Browse

  Invokes the File Open dialog box for locating and selecting a file on a disk or CD-ROM.

See Also
Interpreting Data Streaming Test Raw Data

Interpreting Data Streaming Test Raw Data

Raw data from the Data Streaming test consists of three sections:

Test Results

Test Parameters

Advanced Parameters

The significance of each test statistic is discussed in the following sections:

Test Results

Information presented in the test results are gathered during the test or calculated from data gathered during the test.

- Overall CPU Usage

  Specifies the amount of CPU processing power used in streaming data. The CPU usage is expressed as a percentage of the total processing power of the CPU in your computer. For optimal video playback performance, this value should be less than 30 percent.

- Background CPU Usage

  Reports how the Data Streaming Test loads (affects) other CPU processing that can occur while the CPU waits for data or other resources.

- Overall Transfer Rate

  Reports the transfer rate achieved through the data-gathering phase of the test.

- Total Data Read

  Specifies the number of bytes read in the test.

- Total Time Blocked by Reads

  Specifies the accumulated time that the CPU waited for the next buffers of data.

- Reads Exceeding xx MS

  A count of the reads from the streaming device that exceeded the stated time.

  The stated time of the first entry identifies the amount the CPU waited beyond the value of the **Allowed Percent Block** advanced parameter. The second entry identifies the number of reads of the data streaming device that blocked the CPU to the point of hindering the **Requested Transfer Rate**.

- Longest Time Blocked By Read

  Specifies the longest time interval that the CPU waited for the next buffer of data.

- Shortest Time Blocked By Read

  Specifies the shortest time interval that the CPU waited for the next buffer of data.

Test Parameters

This section and the Advanced Parameters section re-state the test options specified before running the test.

- Requested Transfer Rate

  Identifies the requested data read rate of the streaming device during the data-gathering phase of the test.

- Test File Name

  Identifies the file used in the test: the drive, path, and filename.

Advanced Parameters

This section and the Test Parameters section re-state the test options specified before running the test.

- Read Block Size

  Identifies the number of bytes transferred each time the disk or CD-ROM was accessed.
- Allowed Percent Block

  Specifies the maximum percent of time that the CPU should be blocked, waiting for data from the disk or CD-ROM drive. While this option does not affect the performance of the streaming test, it provides a goal for the streaming device to attain and is reported as the first **Reads Exceeding xx MS** field in the Test Results. The default value is 40 percent, which is also the standard for CD-ROM streaming performance for a Multimedia PC.
- Prime Transfer Rate

  Identifies the sustained data read rate used for the priming phase of the stream test.
- Prime Read Block Size

  Specifies the number of bytes read and transferred each time the disk or CD-ROM drive was accessed during the priming phase of the test.
- Total Prime Size

  Specifies the length (in bytes) of the priming phase used in the test.
- DOS Addressable Buffers

  Specifies whether the buffers used throughout the test were located in the MS-DOS address space. If this option was not selected, buffers for the test were allocated from extended memory.

See Also
Selecting Data Streaming Test Options

Streaming Test Priming Phase

The priming phase, which occurs at the start of the streaming test, activates the streaming device and allows it time to reach its optimal operating speed. The optimal operating speed provides the best performance level for transferring data by minimizing the time required to retrieve data.

Streaming Test Data-Gathering Phase

The data-gathering phase of the test collects information while the streaming device operates in the optimal portion of its performance range.

Buffer

A buffer is a section of random access memory (RAM) that is used to hold data temporarily.

MS-DOS address space

The MS-DOS address space is the first megabyte of random access memory (RAM) of your personal computer. This section of memory is accessible by MS-DOS applications.

Additional RAM in your personal computer is called extended memory and is accessible by Windows-based applications and MS-DOS memory manager applications.

Buffers in the MS-DOS address space transfer data more quickly than buffers in extended memory; however, the amount of MS-DOS memory is limited. If insufficient MS-DOS memory is available for a specific operation, the operation might be performed using extended memory.

Extended Memory

Extended memory is the random access memory (RAM) of your personal computer in excess of one megabyte. Extended memory is accessible by Windows-based applications, but not by MS-DOS.

The first megabyte of random access memory (RAM) of your personal computer is called the MS-DOS address space. This section of memory is accessible by MS-DOS and Windows-based applications.

Typically, extended memory provides a much larger portion of memory than the MS-DOS address space; however, buffers in extended memory operate more slowly than buffers in the MS-DOS address space.