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1. Introduction

Some testing has been done under Beta releases of Windows 2000. This version of Iometer ran properly under the most recent release tested, but it may not work with other releases. Please report any problems you may encounter.

1.5 Obtaining Iometer

The latest version of Iometer, including the documentation, can be obtained from the Intel Developers' Web Site at the following URL:

http://developer.intel.com/design/servers/devtools/iometer/

If you have obtained Iometer from any other source, please send us an e-mail at iometer@intel.com with your name, e-mail address, and company and we will let you know when new versions of Iometer are released.

1.6 License rce, please send us an emy06 41.76 Tm0 Tc0 Tw( )Tj

xxxx.xx.xx

date

- On computer B, open an MS-DOS Command Prompt window and execute Dynamo, specifying computer A's name as a command line argument. For example:

```
C:\> dynamo computer_a
```

- On computer A again, note that computer B has appeared as a new manager in the Topology

5.2 Status Bar — Introduction

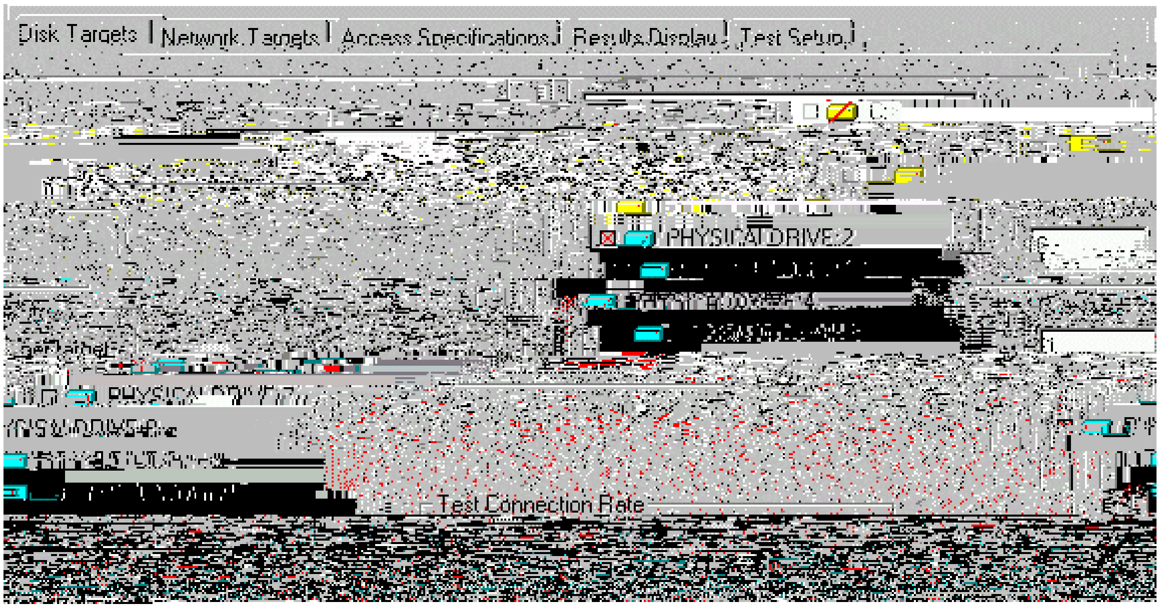
Whenever you press the Start Tests button, Iometer runs a *series* of tests, as specified by the Access Specifications and Test Setup tabs. Each access specification is run once; each test is run once for each access specification. The current test number and the total number of tests to be run are displayed in the status bar at the bottom of the Iometer window.

5.3 Topology Panel — Introduction

The Topology panel displays a hierarchical list of managers (Dynamos) and workDy (threads) currently active.

- ClickDyorkDyanager, or "All Managers" to see and change its settings in the Disk Targets, NetworkDy TargDyets

5.4 Disk Targets Tab — Introduction



The Disk Targets tab lets you see and control the disks used by the disk worker(s) currently selected in the Topology panel.

Click, Shift-click, and Control-click to select any number of drives to be used by the selected worker(s) during the test.

Physical drives are displayed with a blue disk icon and the name “PHYSIC”A13D4RIVd0376n49.14016aospace)e tes

If a network client is selected in the Topology panel, the Network Targets tab displays the client's configuration, but you cannot change it (a client's configuration is always the same as its server). If a manager that has network clients is selected, the clients' configuration is not included in the Network Targets tab, and any changes you make in the Network Targets tab do not affect the clients.

For complete details, see the Network Targets Tab — Reference section later in this document.

5.9 Presentation Meter Dialog — Introduction

The Presentation Meter dialog displays a single statistic from the Results Display tab in a large size. This is useful for presentations to groups of people.

Selects the statistic to display. See Selecting a Statistic for Display in the Results Display Tab — Reference section for more details.

Specifies the upper bound of the meter. The lower bound is always zero.

If checked, a blue arc marks the highest and lowest values displayed during the test.

Press Start to start the test, or Stop to stop a running test. If a series of tests is running, the

5.11 Save Test Configuration File — Introduction

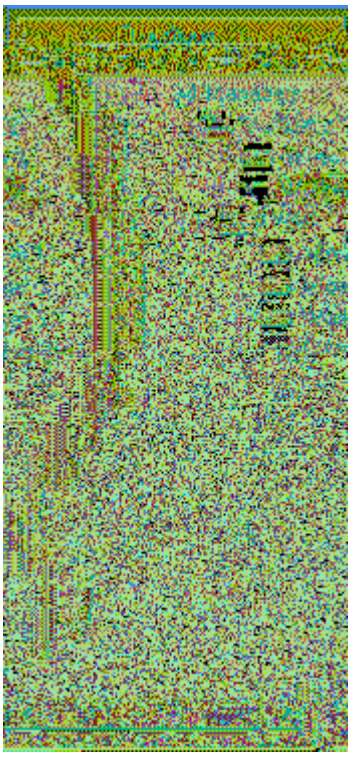
5.12 Open Test Configuration File — Introduction

6. Toolbar — Reference

The Iometer toolbar provides buttons for common commands. To perform any of these commands, click once comthe button. For a brief explanaticom(ToolTip) of each button, let

7. Status Bar — Reference

8. Topology Panel — Reference



The Topology panel displays a hierarchical list of the managers (copies of Dynamo) and workers (threads within each copy of Dynamo) currently active. This panel is a hierarchical list like the one used in Windows Explorer. To display or hide a manager's workers, double-click on the manager's name, or click the plus or minus sign to the left of the manager's name.

The icons that appear in the Topology panel are as follows:

described under Running Iometer above); additional managers can be started before or after Iometer. To remove a manager, click on the manager and press the Disconnect button on the toolbar; this terminates the specified Dynamo process. To remove all managers, click on "All Managers" and press the Disconnect button on the toolbar.

By default, each manager starts off with one disk worker for each processor on the manager's machine. To add a worker to a manager, click on the manager or any of its workers and press the Start Disk Worker or Start Network Worker button on the toolbar. To remove a worker, click on the worker and press the Disconnect button on the toolbar.

By default, each manager has the same name as the machine on which it is running, and each worker has the name "Worker *n*.

9. Disk Targets Tab — Reference

9.2 Maximum Disk Size

The Maximum Disk Size control specifies how many disk sectors are used by the selected worker(s). The default is 0, meaning the entire disk or `\iobw.tst` file (beginning with the Starting Disk Sector). If you specify a value other than zero, Iometer uses the specified

All	Default for workers of all types.
Disk	Default for disk workers.
Net	Default for network workers.
	Not default for any worker.

Multiple access specifications can have a default assignment at the same time. For example:

Given these five access specifications, a new disk worker would be given access specifications Default, Database, and File Copy, while a new network worker would be given access specifications Default, Database, and Web Traffic.

Note that an access specification's default assignment only determines whether or not it is assigned to a worker *when the worker is created*. This occurs when you press the Start New Ma2-5(E1r040/7rs whm-0.00refB2Im-0.0Im- 36 21 -0.48 refBT11.04.0.0.80.04 157.4006 309Cs5 cs 0 .28

Each access specification has a name and an icon. The name is user-defined; you should choose a name that describes what the access specification does (such as "4K sequential reads" or "Web server workload"). You cannot have two access specifications with the same name at the same time. The icon indicates the access specification's *default assignment*, which determines which workers are automatically assigned the access specification when they are created:

If there is more than one access specification in the Assigned Access Specifications list, a *series* of tests will be performed. The access specifications are executed in sequence from top to bottom. During each access specification, ess s6(o)1.8(m)18.8(e)0(ter runs one or m)18.8(o)1.8(re tests)

Note that changing the default assignment does *not* affect the access specifications of any

In this case, each I/O operation has a 30% chance of being a 64-KB read, a 50% chance of being a 512-byte write, and a 20% chance of being a 1-KB read or write (with an equal

13. Results Display Tab — Reference

- **Last Update**: Displays the statistics collected since the previous update. For example, if the Update Frequency is set at 5 seconds, the values displayed will be the average or sum of the data collected during the last 5 seconds.

13.2 Update Frequency

The Update Frequency slider specifies how often, in seconds, the displayed statistics are updated. The default is "oo" (infinity), meaning that the display is updated only at the end of each test.

When the "Results Since" selected is "Start of Test", each time the display is updated, the displayed values show the *average*

- A button to pop up the Presentation Meter dialog with the same statistic as the chart.

See Selecting a Statistic for Display

— **Avg. Transaction Time (ms)**: Average time between initiation of a request and

14. Presentation Meter Dialog — Reference

The Presentation Meter dialog displays a single statistic from the Results Display tab in a large size. This is useful for presentations to groups of people.

Use the Windows controls at the right end of the title bar to mimimize or close the dialog. You can have at most one Presentation Meter dialog on the screen at a time.

The update frequency for the Presentation Meter dialog is determined by the Update Frequency slider in the Results Display tab.

14.1 Meter

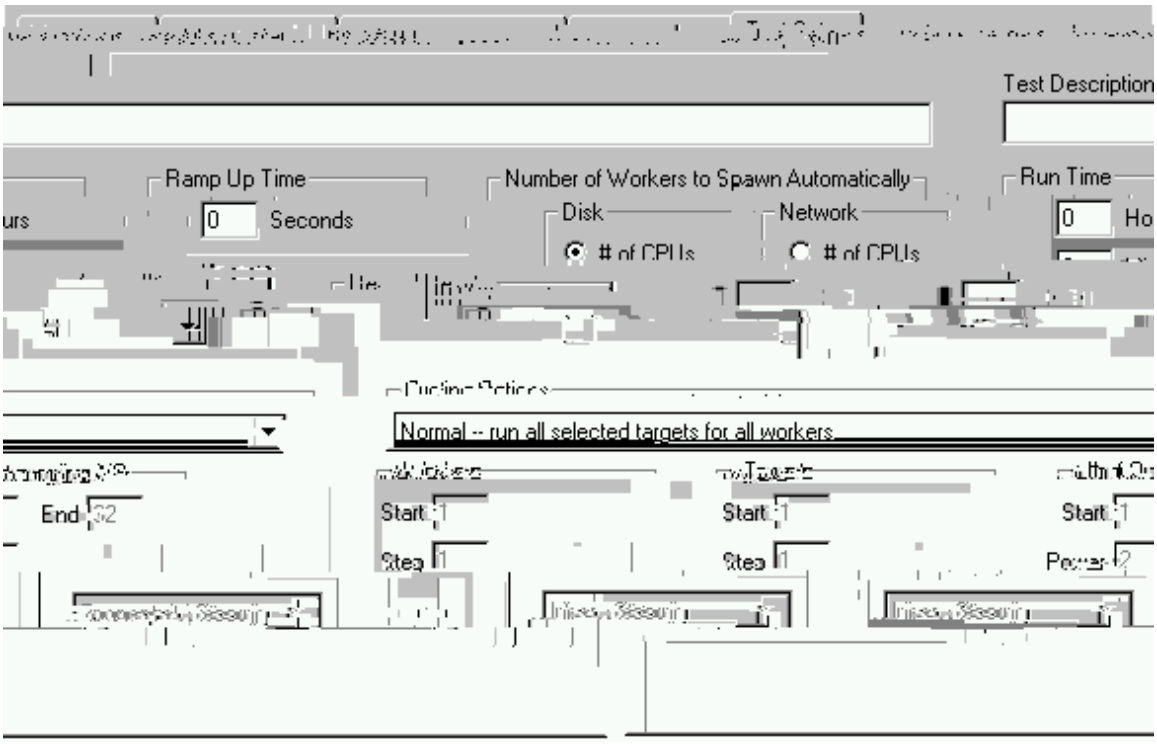
The meter in the center of the dialog displays the current value of the selected statistic graphically.

14.2 Result to Watch

The "result to watch" button in the Settings control group selects the statistic to display, the same as the corresponding buttons in the Results Display tab. See Selecting a Statistic for

Performance Meter dialog displays the same statistic as the bar chart whose button you pressed to pop up the dialog.

15. Test Setup Tab — Reference



The Test Setup tab controls the tests that are run for each access specification in the Access Specifications tab, and a number of other details about how Iometer works.

15.3 Ramp Up Time

The Ramp Up Time field specifies the number of seconds Iometer waits, after all workers report that they have begun working, before beginning to record statistics on each test. You can use this field to avoid recording any statistics during an initial "ramp-up" period (for example, whil bef(lrs tae bfilledw)6.9(hith data))ie defaulta0.63(lue s fz)1.02e63(ro.)]T0 -1204 35TD0.00

This test type can be used to determine the effect of increasing load on the server from all clients at once.

- **Increment Targets Serial -- add step targets at a time.**

  This test type increases the total number of targets for all managers in each test, distributed over each manager's workers. The number of tests is determined by the product of the number of managers, the maximum number of workers per manager, and the maximum number of targets per worker. For example, if each manager has two workers and each worker has two targets, this test type will run eight tests:

Manager 1	Manager 2	Total product 91351.44 ref171.641 597.12t 91351.4

types, above, for more information). It overrides the

16.3 Test Setup Tab Settings

If this option is selected, the current state of the Test Setup tab will be preserved in the file.

16.4 Results Display Tab Settings

If this option is selected, the current settings of the Results Display tab will be preserved in the file. A results display performance bar can reflect the performance of specific managers and workers, and it is not possible to restore this information if the specified manager or worker isn't currently logged into Iometer. This is explained in more detail in the Results display tab settings section of Open Test Configuration File – Reference.

16.5 Global Access Specification List

If this option is selected, the Global Access Specifications list from the Access Specifications tab will be preserved in the file. This includes all information needed to restore these access specifications.

To preserve the *assignments* of these access specifications to workers in the Assigned Access Specifications list, the Access specification assignments checkbox must be selected.

16.6 Managers and Workers

If this checkbox is not checked, the two checkboxes below it cannot be checked.

If this checkbox is selected, each manager and worker present in Iometer's Topology wndowhe information recorded about each manager is the
manager's name (which you see in the Topology window) and the computer-l.53.4(ev)12.3(el address)]TJ 0 -1.14

Specifications tab will be preserved in the file. Tis list can be different for each worker,

selection is silently ignored. Except as noted below, if an error occurs during the restore, the remainder of the configuration file will not be processed.

17.3 Test Setup Tab Settings

If this option is selected, the state of the "Test Setup" tab will be restored from the configuration file.

17.3.1 Replace/Merge

The state of the replace/merge radio button has no effect on the Test Setup settings. All previous settings will be lost.

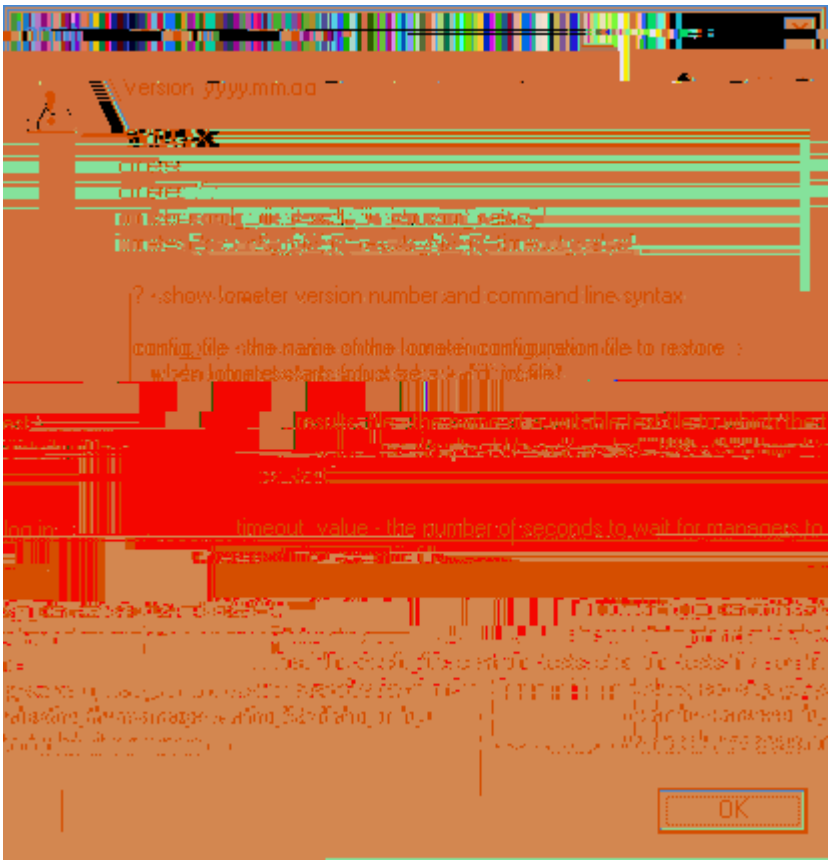
17.4 Results Display Tab Settings

18. Iometer Command Line Options

18.1 Getting Command Line Syntax Information

To get syntax help, specify a question mark on the command line used to start Iometer:

```
Iometer /?
```



18.2 Specifying a Configuration File

To have Iometer automatically open a configuration file at startup, specify the /c switch and provide the name of an Iometer configuration file. For example:

```
iometer /c setup.icf
iometer /c "c:\This filename has spaces.icf"
```

NOTE:

If no configuration file parameter is specified, Iometer looke for an "iometer.icf" file in the current directory. If this file is found, it restores it automatically on

batch file by using a third-party "rsh" service to start the remote Dynamos before

20. The Iometer Configuration File (.icf)

An Iometer Configuration File (.icf) is a standard text file with rigid formatting rules. If you intend to modify an .icf file using a text editor, care should be taken to preserve the formatting conventions of the file.

Some general guidelines follow:

- On any line, leading and trailing whitespace (spaces and tab characters) is ignored.
-

```
'END
```

22. Using Iometer to Simulate a Real