Kodak

Netperf x86

Using the Netperf Utility

Document Number
72-3661A-EN Rev C

31 Oct 2007

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Revision History

Revision	Date	Author	Comments
1.0	03 Jan 2002	Robyn L.	Initial release (Rework of XX0179AA)
1.1	27 Sep 2002	Robyn L.	Adjusted performance tables due to new driver revisions and new Netperf packet size settings (64KB vs. 8KB)
1.2	31 Oct 2007	Philip S	Applied latest Kodak template. Added info to Section 4 re: Dell 2900.

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1. INTRODUCTION

Netperf is a free software package used for measuring point-to-point network performance between two Microsoft® Windows® operating systems (x86). Because it uses a memory-to-memory data transfer, it is unaffected by disk performance. Netperf is available for AIX® and most other UNIX® operating systems, and is fully useable with the Windows version. However, this document covers only the Windows releases for x86 platforms.

2. WHEN TO RUN NETPERF

Use the Netperf utility if network performance is poor. Netperf analyzes the network connection between two computers and indicates whether or not it is a cause of the poor performance.

3. HOW TO RUN NETPERF

1. Uncompress **Netperf.zip** to a temporary folder on a local drive of each of the two computers (for example, System A and System B) between which you want to test network performance.

2. To test the connection speed between System A and System B, open a command prompt on System A, change to the folder containing the Netperf batch files, and type `server` to start the Netperf Server.

3. Open a command prompt on System B, change to the folder containing the Netperf batch files, and type `Client <IP address of System A>`.

4. The Netperf utility is very dependent on network conditions at the time it is run, and can produce slightly different results on each consecutive run. To ensure accurate results, calculate the average of the results of five runs.

5. Perform this procedure both ways (run the Server on System A and the Client on System B, and then run the Server on System B and the Client on System A). The results will vary if the two systems have different hardware specifications (for example, different manufacturers or models of computer), but should be in the normal range.

4. EXAMPLE TEST RESULTS

The following data was obtained by running the Netperf utility on two x86 platforms. Both systems were connected to the same switch, so the number of hops was always one. Each test result table indicates exactly which Ethernet card was used.

Hardware specifications of the test computers

- DG AV3700 - CPU: 4 x 500Mhz Pentium® III Xeon
- DG AV2200 - CPU: 2 x 400Mhz Pentium II
- Dell® PE6400 - CPU: 4 x 500Mhz Pentium III Xeon
- Dell PE4400 - CPU: 2 x 700Mhz Pentium III
- Dell PE2400H - CPU: 2 x 700Mhz Pentium III
- Dell PE2900 - CPU: 2 x 2.33GHz Pentium Xeon Dual Core

Server: DG AV3700, Client: DG AV2200

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
DE500	8.9	68	86	
PE GNIC-II				205

Server: DG AV2200, Client: DG AV3700

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
DE500	8.9	75	79	
PE GNIC-II				155

Server: DG AV3700, Client: DG AV3700

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
DE500	8.9	67	70	
PE GNIC-II				215

Server: DG AV2200, Client: DG AV2200

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
DE500	8.9	81	84	
PE GNIC-II				144

Server: Dell PE2400H, Client: Dell PE2400H

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
Intel® Pro 100+	8.9	88	92	
Intel Pro 1000				708

Server: Dell PE4400, Client: Dell PE4400

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
Intel Pro 100+	8.9	88	94	
Intel Pro 1000				720

Server: Dell PE6400, Client: Dell PE6400

NIC Used	10 BT	100BT HD	100 BT FD	Gigabit
Intel Pro 100+	8.9	88	94	
Intel Pro 1000				762

Server: Dell PE2900, Client: Dell PE2900

NIC Used	Gigabit
Broadcom GigE	935

5. INTERPRETING TEST RESULTS

The results in Section 4 were measured in a lab with one switch. Expect your results to vary by as much as ±20%, or possibly more depending on network traffic conditions at the time of testing.

Gigabit Ethernet is very dependant on CPU clock speed. When you are interpreting Gigabit results, always consider the CPU clock and hardware architecture of both test computers.

Always take into consideration the number of switches and/or hubs between the two test points. Each switch can reduce throughput by 5-10% and each hub on a high-traffic LAN can degrade performance by 15% or more.

Ensure that the computers are using the latest qualified Ethernet driver revisions. Later driver revisions have made substantial improvements to the throughout that Intel Gigabit Ethernet cards can achieve.