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Performance Brief

New Netfinity 3500 M10 Delivers Solid Performance for e-business

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IBM Netfinity* 3500 M10 servers deliver solid performance and excellent functionality to the entry server marketplace. With the 500MHz[1], 550MHz and 600MHz models of the Netfinity 3500 M10, your small business applications can run even faster and handle more complex networking requirements. These new models, announced worldwide in August 1999, feature the powerful Intel** Pentium** III microprocessor with 512KB ECC L2 cache and 100MHz operations to memory.

The 500MHz system (Model 8655-11Y) was evaluated using Ziff-Davis' benchmarks, WebBench** Version 3.0 and NetBench** Version 6.0. For comparison, the IBM Netfinity server performance laboratory also conducted the benchmarks with the Compaq** ProLiant** 1600 configured with a 500MHz Pentium III processor. (The ProLiant 800, not available at the time of testing, is also very similar in features and functions to the Netfinity 3500 M10 and should provide performance similar to that of the ProLiant 1600).

All results from these benchmarks are presented in this report.

WebBench 3.0

The Netfinity 3500 M10 achieved:

- **29 percent more throughput** than the ProLiant 1600

- **30 percent more requests per second** than the ProLiant 1600

WebBench 3.0 was used to measure the performance of the IBM Netfinity 3500 M10 and the Compaq ProLiant 1600 systems as two-way Web servers running Microsoft Internet Information Server 4.0 on Windows** NT Server 4.0.

NetBench 6.0

Under a high-end workload of 60 NetBench clients, the IBM Netfinity 3500 M10 system provided a level of throughput similar to that of the Compaq system.

NetBench 6.0 was used to measure the performance of the IBM Netfinity 3500 M10 and Compaq ProLiant 1600 systems as two-way file servers running Windows NT Server 4.0.
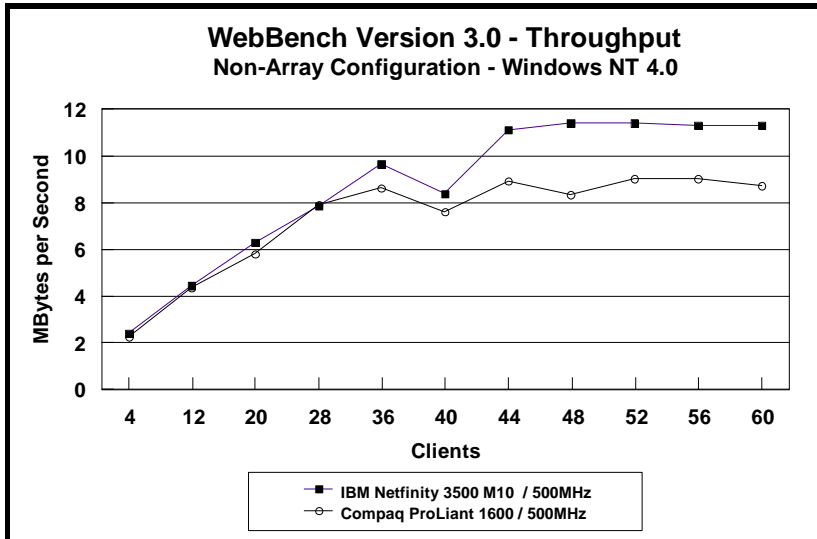
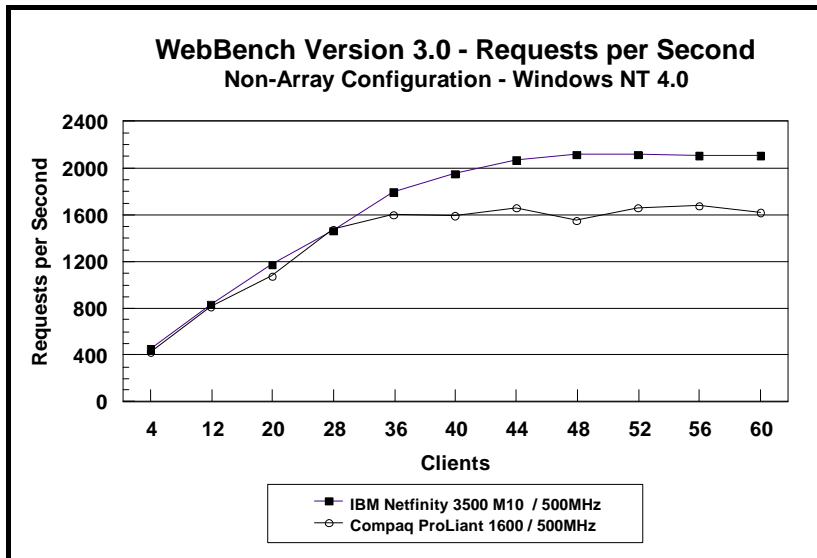# Test Environments and Results

WebBench 3.0

The WebBench 3.0 test suite ZD_NT_SIMPLE_ISAPI_V30.TST was used to measure the performance of the IBM Netfinity 3500 M10 and Compaq ProLiant 1600 systems as two-way Web servers. This test suite performs both static HTML page requests and dynamic Internet Server API (ISAPI) requests, which represent the primary functions of an enterprise Web server.

Features	IBM Netfinity 3500 M10	Compaq ProLiant 1600
Processor / L2 Cache	Two 500MHz / 512KB Pentium III	Two 500MHz / 512KB Pentium III
Memory	256MB ECC SDRAM	256MB ECC SDRAM
RAID Level	Non-Array	Non-Array
Disk Drive	Three 9.1GB 10K Wide Ultra SCSI Drives	Three 9.1GB 10K Wide Ultra SCSI Drives
Disk Drive Adapter	One Wide Ultra SCSI Controller	One Wide Ultra SCSI-3 Controller
Disk Driver	AIC78XX.SYS Version 3.01	CPQ32FS2.SYS SSD Version 2.12C
Network Adapter	Two Netfinity 10/100 Ethernet Adapters	Two Compaq Netelligent 10/100 TX PCI Adapters
Network Driver Version	Netfinity 10/00 Ethernet Version 3.01	Compaq SSD Version 2.12C
NOS	Windows NT Server 4.0 with Service Pack 5	Windows NT Server 4.0 with Service Pack 5
Page File Size	750MB	750MB
File System	NTFS	NTFS
Allocation Unit Size	4KB	4KB
Test Suite	ZD_NT_SIMPLE_ISAPI_V30.TST	ZD_NT_SIMPLE_ISAPI_V30.TST
Web Server	Microsoft Internet Information Server 4.0	Microsoft Internet Information Server 4.0

Under a high-end workload of 60 WebBench clients, the Netfinity 3500 M10 system delivered **29 percent more throughput** than the Compaq ProLiant 1600.

WebBench Version 3.0 - Throughput
Non-Array Configuration - Windows NT 4.0

(Chart: MBytes per Second vs. Clients (4 to 60). Two series: IBM Netfinity 3500 M10 / 500MHz and Compaq ProLiant 1600 / 500MHz.)

Under a high-end workload of 60 WebBench clients, the Netfinity 3500 M10 system serviced **30 percent more requests per second** than the Compaq ProLiant 1600.

WebBench Version 3.0 - Requests per Second
Non-Array Configuration - Windows NT 4.0

(Chart: Requests per Second vs. Clients (4 to 60). Two series: IBM Netfinity 3500 M10 / 500MHz and Compaq ProLiant 1600 / 500MHz.)

NetBench 6.0

The NetBench 6.0 Disk Mix test suite was used to measure the performance of the IBM Netfinity 3500 M10 and Compaq ProLiant 1600 systems as two-way Pentium III-based file servers running Windows NT Server 4.0 and Service Pack 5.

The Disk Mix test results are shown as the number of megabits per second (Mbits) obtained by the server under test.

Features	IBM Netfinity 3500 M10	Compaq ProLiant 1600
Processor / Cache	Two 500MHz / 512KB Pentium III	Two 500MHz / 512KB Pentium III
Memory	256MB ECC SDRAM	256MB ECC SDRAM
Disk Drive	Three 9.1GB 10K Wide Ultra SCSI Drives	Three 9.1GB 10K Wide Ultra SCSI Drives
Disk Drive Adapter	One Wide Ultra SCSI Controller	One Wide Ultra SCSI-3 Controller
Disk Driver	AIC78XX.SYS Version 3.01	CPQ32FS2.SYS SSD Version 2.12C
Network Adapter	Four Netfinity 10/100 Ethernet Adapters	Four Netelligent 10/100 TX PCI Adapters
Network Driver Version	Netfinity 10/100 Ethernet Version 3.01	Compaq SSD Version 2.12C
NOS	Windows NT Server 4.0 with Service Pack 5	Windows NT Server 4.0 with Service Pack 5
Page File Size	750MB	750MB
File System	NTFS	NTFS
Allocation Unit Size	64KB	64KB
Test Suite	NetBench 6.0 Disk Mix	NetBench 6.0 Disk Mix

Under a high-end workload of 60 NetBench clients, the IBM Netfinity 3500 M10 500MHz system provided a level of throughput similar to that of the Compaq ProLiant 1600 system. An ideal server for the very small business environment, the Netfinity 3500 M10 provides leadership performance for supporting 20 to 50 NetBench clients.
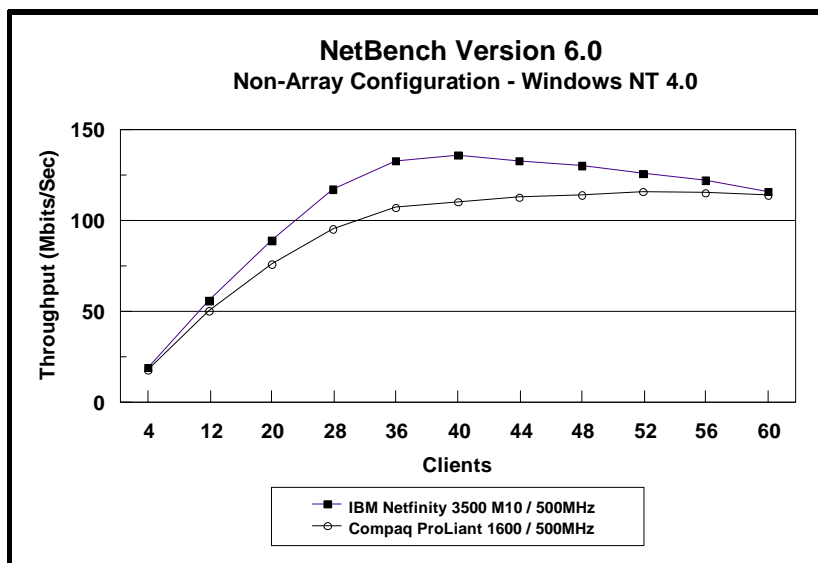
Test Disclosure Information

WebBench 3.0

Version: WebBench 3.0

Mixes:

- ZD_NT_SIMPLE_ISAPI_V30.TST
- Clients: 4, 12, 20, 28, 36, 40, 44, 48, 52, 56, 60
- Ramp up: 30 seconds
- Ramp down: 30 seconds
- Length: 300 seconds
- Delay: 0
- Think: 0
- Threads per client: 1
- Receive buffer size: 4KB

Network Operating System: Microsoft Windows NT Server 4.0 with Service Pack 5

- Network speed: 100Mbps
- Duplex mode: Full

Web Server: Microsoft Internet Information Server 4.0

- Web server logging: Disabled
- Web server tuning: >100,000 hits/day

Testbed Disclosure

The Netfinity 3500 M10 500MHz model is planned to be available August 17, 1999, in the USA. All other products used for these measurements are shipping versions available to the general public. All measurements were performed without independent verification by Ziff-Davis.

Network	100Mbps Ethernet
Clients	60
Switches	IBM 8275 100Mbps Ethernet
Clients per Segment	30
CPU / Memory	133MHz Pentium / 32MB
Network Adapter	IBM 100/10 PCI Ethernet Adapter (Bus 0)
Software	Windows NT Workstation 4.0
Cache	L2 = 256KB
Controller Software	Windows NT Workstation 4.0 with SP5

NetBench Version 6.0

Version: NetBench 6.0

Mixes:

- Disk Mix

- Clients: 4, 12, 20, 28, 36, 40, 44, 48, 52, 56, 60

- Client workspace: 20MB

- Total runtime: 6 minutes

- Ramp up and down: 30 seconds

Network Operating System: Microsoft Windows NT Server 4.0 with Service Pack 5

- Network speed: 100Mbps

- Duplex mode: Full

Testbed Disclosure

The Netfinity 3500 M10 500MHz model is planned to be available August 17, 1999, in the USA. All other products used for these measurements are shipping versions available to the general public. All measurements were performed without independent verification by Ziff-Davis.

Network	100Mbps Ethernet
Clients	60
Switches	IBM 8275 100Mbps Ethernet
Clients per Segment	15
CPU / Memory	133MHz Pentium / 32MB
Network Adapter	IBM 100/10 PCI Ethernet Adapter (Bus 0)
Software	Windows NT Workstation 4.0
Cache	L2 = 256KB
Controller Software	Windows NT Workstation 4.0 with SP5

Notes

[1] MHz denotes the internal/external clock speed of the microprocessor only, not application performance. Many factors affect application performance.

[2] When referring to hard disk capacity, GB, or gigabyte, means one thousand million bytes. Total user-accessible capacity may vary depending on operating environment.