UNITED STATES

NotesBench Disclosure Report
for
IBM PC Server 325
with
Lotus Domino 4.6a for Windows NT 4.0

Results Certified February 5, 1998

IBM Corporation

Table of Contents

Executive Summary

Recent measurements were conducted with the IBM PC Server 325 (Model 8639-1RY) running Lotus Domino Server Release 4.6 on Microsoft Windows NT Server Version 4.0 with Service Pack 3. Results for the IBM PC Server 325 are based on the NotesBench Mail-only workload run on a single configuration. The results are summarized in the following table.

Test Script	Maximum Users	NotesMark (tpm)	Ave. Response Time (sec)	$/User	$/NotesMark
Mail-Only	700	889	3.721	$12.13	$9.55

The IBM PC Server 325, configured with one 300MHz[1] Intel** Pentium** II processor, 320MB of memory, and two 4.51GB[2] hard disk drives (non-RAID), supported a Mail-only workload of 700 active mail users (see price/performance results[3] above). Using an entry-level configuration, the IBM PC Server 325 demonstrated that it can support 700 active Mail users and still have ample CPU and memory capacity to support other applications.

In addition to the IBM PC Server 325 system under test (SUT), the benchmarked configuration used three destination servers, six client driver systems, and one controller system. All systems were connected on a single 100Mbps Ethernet LAN segment, using the TCP/IP network protocol. Configuration details are provided in Appendix A: Overall Test Setup and Software Versions.

IBM's Server Performance Laboratory in Research Triangle Park, NC, conducted the benchmark in January, and KMDS Technical Associates, Inc., audited the results in February 1998.

NotesBench provides an objective method for evaluating the performance of different platforms running Lotus Domino Server Release 4.6. NotesBench generates a transactions-per-minute (tpm) throughput metric, called a NotesMark, for each test, along with a value for the maximum capacity (number of users) supported, and the average response time.

Benchmarking Objectives

The benchmark objective was to provide customers with information on the number of Lotus Domino Server Release 4.6 Mail-only users supported on an entry-level configuration of the IBM PC Server 325 Model 8639-1RY, which ships with one 300MHz Pentium II processor. Performance measurements on IBM Netfinity and PC servers using NotesBench for the Domino Server Release 4.6 are ongoing.

---

[1] MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.

[2] When referring to hard disk capacity, GB equals one billion bytes. Total user-accessible capacity depends on operating environment.

[3] The price/performance results are based on pricing provided by an IBM Business Partner. IBM resellers set their own prices, and actual prices may vary.

Test Methodologies

Test Setup and Hardware/Software Configuration

The IBM PC Server 325 system under test used one 300MHz Pentium II processor (512KB of L2 write-back cache); 320MB of memory, and two 4.51GB Wide Ultra SCSI hard disks. The integrated Wide Ultra SCSI PCI controller and the integrated 100/10Mbps Ethernet controller were used for this test.

A single 100Mbps Ethernet LAN segment was used. The system under test, the destination servers, and the driver systems were connected to the LAN by one Asante 100BaseT Hub. A 133MHz Pentium-based system was used as the source driver (parent) system; IBM PC 350 computers were used as the client driver (child) systems. Three IBM PC Server 720 systems were used as destination servers. Destination mail addresses were distributed across these three destination servers.

The IBM PC Server 325 system under test ran Microsoft Windows NT Server Version 4.0 and Domino Server Release 4.6. The Name and Address Book in all the clients contained person documents for 1,020 mail recipients who were randomly selected by each active Mail user. The server under test contains mail files for the 1,020 Mail users. The public Name and Address Book contains 3,000 mail-recipient person documents and each of the three destination servers contains mail files for 1,000 recipients.

The following NOTES.INI parameters were modified as recommended in the NotesBench operator's manual:

Mail-Only Workload
LOG_MAILROUTING=10
MAILLOGTOEVENTSONLY=1
MAILUSEPROCESS=0
MAILUSETHREADS=1
MAILMAXTHREADS=3
SERVER_SHOW_PERFORMANCE=1

The following parameters were added to suppress database activity logging after long runs and to capture server console output:

```
NO_FORCE_ACTIVITY_LOGGING=1
DEBUG_OUTFILE=_\\nbfstb2\lastrun\SUTINFO.log
```

All Notes server tasks were disabled except Replica, Router and Update.

All Notes data files were located on the E - partition. The Notes executables were placed on the C - partition.

Test Procedures

Six child drivers were used. The number of users simulated in child drivers 1, 2, 3, 4, 5 and 6 were, respectively: 150, 140, 130, 120, 110 and 50. Start times for child drivers 2 through 6 were staggered, respectively, by 18, 18, 18 , 20 and 60 minutes. Within each child driver, users' start times were also staggered. The staggered start time for users in child drivers 1 through 6 were, respectively: 3, 3, 3, 4, 5 and 5 seconds.

On ramp-up, all users were connected within 2 hours and 24 minutes. The system under test ran for an extended period of 9 hours. During the test runs, the tools used to determine steady state included Windows NT's PERFMON, the Notes Server SHOW command, and the child driver RES files. To confirm steady state, we monitored the number of users, the number of transactions per minute, and pending mail at the SUT. We confirmed steady state when:

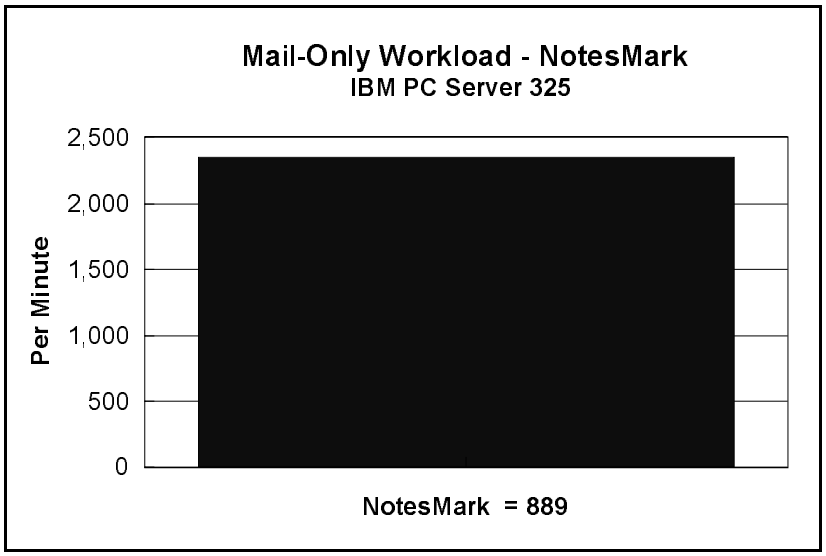
- The SUT Notes Server console sustained the peak user load
- Pending mail did not become backlogged, as verified by:
  - Inspection of mail-routing log at the SUT after the test run ended
  - Pending mail snapshots prior to stopping the test run.

To ensure that the test results were reproducible, the tests were repeated, and the results were compared and found to be consistent.

Data

IBM PC Server 325 NotesMark Value for Mail-Only Test

The Mail workload was run for 9 hours, including ramp-up and steady state. This entry-level configuration of the IBM PC Server 325 system demonstrated that it can support 700 concurrent active users with this workload and still have ample CPU and memory capacity to support other applications. The NotesMark throughput value was 889. Average response time was 3.721 seconds.



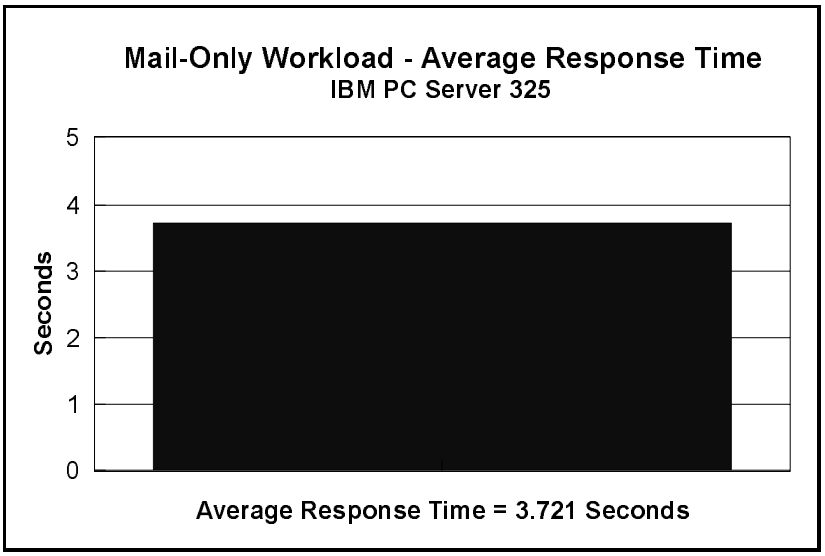
The Mail workload executes Notes transactions that model a server for mail users at sites that rely only on mail for communication. The resulting capacity metric for a mail-only server is the maximum number of users that can be supported before the average user response time becomes unacceptable.

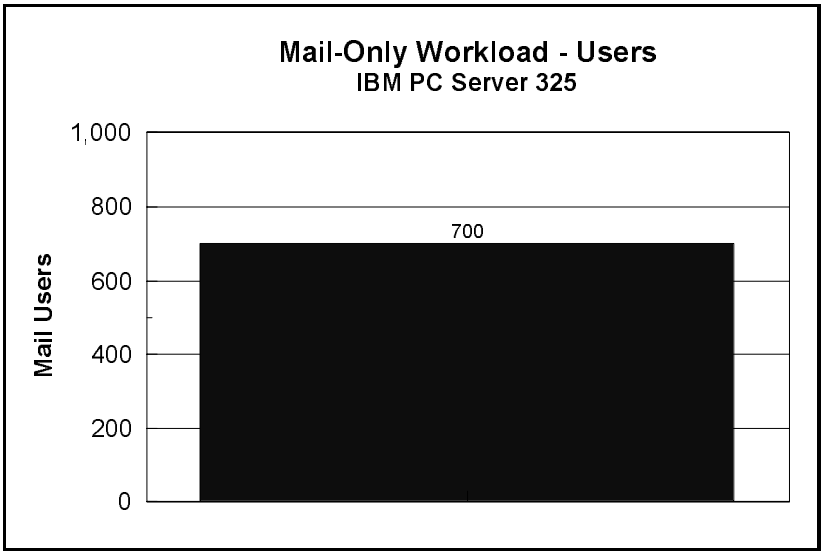
The mail-only test script models an active user who is reading and sending mail. The script contains an average of 15 minutes of waiting; thus, the average user would execute this script a maximum of four times each hour. For each iteration of the test script, there are 5 documents read, 2 documents updated, 2 documents deleted, 1 view scrolling operation, 1 database opened and closed, 1 view opened and closed, and some miscellaneous operations. In sending messages, each user sends a mail message to NumMessageRecipients no more frequently than every 90 minutes.

NotesNum Output for Mail-Only Test

Min Start Time = 01/15/98 07:27:57 AM Max Stop Time = 01/15/98 04:24:48 PM
Total Test Errors = 7
Total Test Time = 32220 sec
Test Run: Users = 700 NotesMark = 889 Response Time = 3721 msec (01/15/98 09:41:00 AM to 01/15/98 04:17:00 PM)

The response time satisfies the 5 seconds (5000 msec) NotesBench response time criteria.



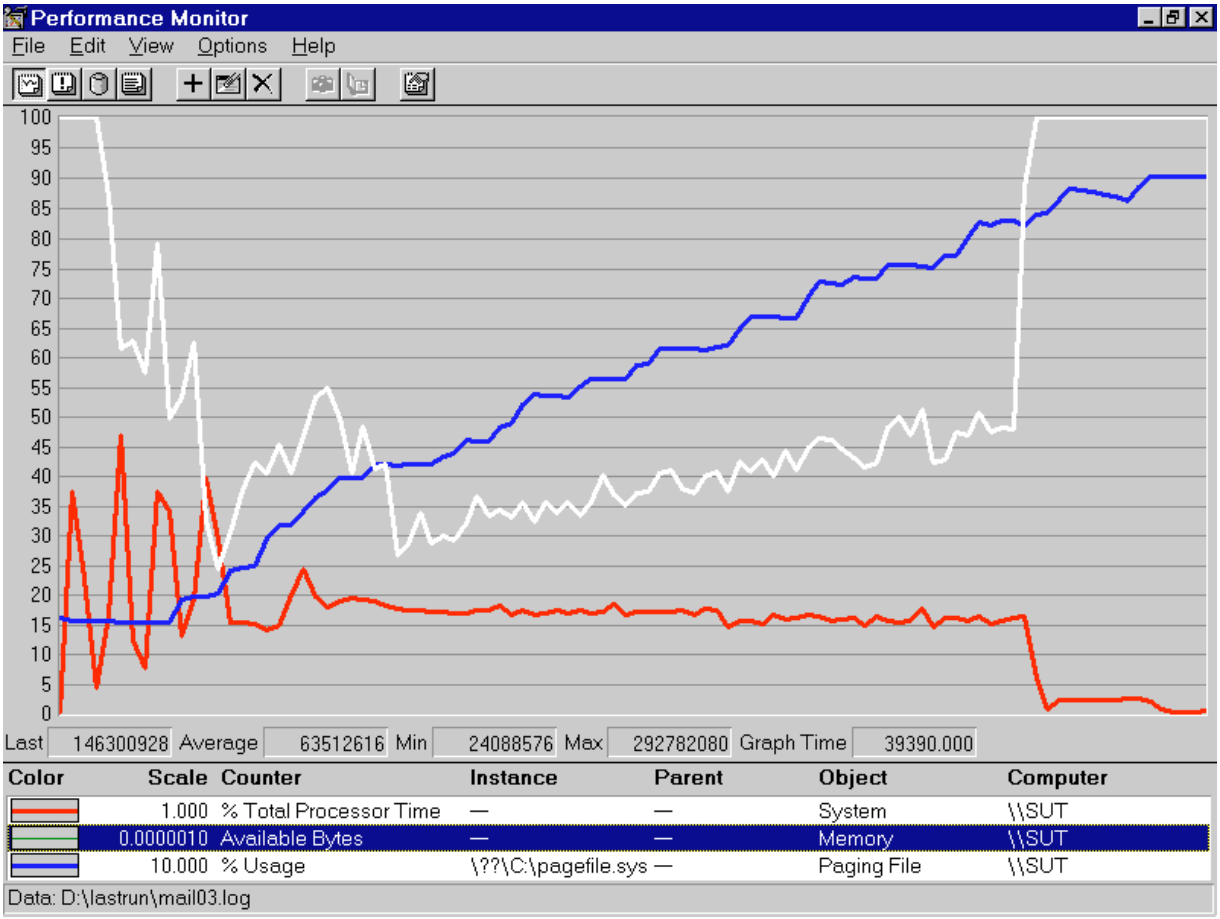


Analysis

Based on PERFMON data measurement from ramp-up through shutdown and shown in the following screen capture, CPU utilization rose as high as 46.5 percent during user sign-on, but averaged only 15.3 percent for the period displayed. With installed memory of 320MB, the Available Bytes of Memory was no lower than 23MB and averaged about 37MB for the period displayed. Page file usage averaged 5.6 percent and climbed steadily during the run, but leveled off at 9 percent at the end.

Adding a hardware RAID controller and an external SCSI expansion enclosure would allow the full utilization of the CPU and the maximum memory capacity of this system. However, a system designed with hot-swap drive bays may be a better choice. Because of the significant system overhead required, PERFMON was not enabled or used for the audit run.

The last 50 users to be connected to the server encountered a total of seven errors and recovered. All users ran error-free for more than 6-1/2 hours before the controller client performed an orderly stop of the run.



Conclusions

The test results demonstrate that the IBM PC Server 325 (Model 8639-1RY), using an entry-level configuration, can support 700 Mail-only users while providing sufficient memory and processor capacity for the addition of other applications. The results obtained are based on running the IBM PC Server 325 as a dedicated Domino server; the addition of other application workloads will affect the number of users supported as well as the response time. Achieving optimum performance in a customer environment is highly dependent upon selecting adequate processor power, memory and disk storage as well as balancing the configuration of that hardware and appropriately tuning the operating system and Domino software.

Statement by Auditor

The original “Lotus NotesBench Test Results Report Certification Letter” was signed by Dana M. Thompson, NotesBench Auditor for KMDS Technical Associates, Inc., and is on file at IBM.

Appendix A: Overall Test Setup and Software Versions

Number of Client Systems

Seven driver systems were used. Six of those systems were configured as child drivers (child 1 through child 6). One system was configured as the parent (source driver).

The child systems were IBM PC 350 computers, each configured with one 133MHz Pentium processor. Each child driver was configured with 80MB of memory, one 1.6GB hard disk, and one IBM 100/10 Ethernet PCI Adapter.

The disk configuration used for the child systems is as follows:

C: Partition (1.5GB - FAT) - Windows NT 4.0 Workstation / Notes Domino 4.6a

Number of Server Platforms

One server platform, the IBM PC Server 325 with one 300MHz Pentium II processor and 320MB of memory, was benchmarked.

The disk configuration used for the system under test is as follows:

C: Partition (4GB - NTFS) - Windows NT Server Version 4.0 (Boot Partition) and Domino 4.6 executables
E: Partition (4GB - NTFS) - Notes data

The disk configuration used for destination servers 1 through 3 is as follows:

C: Partition (2GB - NTFS) - Windows NT Server Version 4.0 and Notes executables
E: Partition (10GB - NTFS) - Notes data

Network

A single 100Mbps Ethernet LAN segment was used. One Asante 100BaseT Hubs was used to connect the servers and clients to the LAN segment.

Software Versions

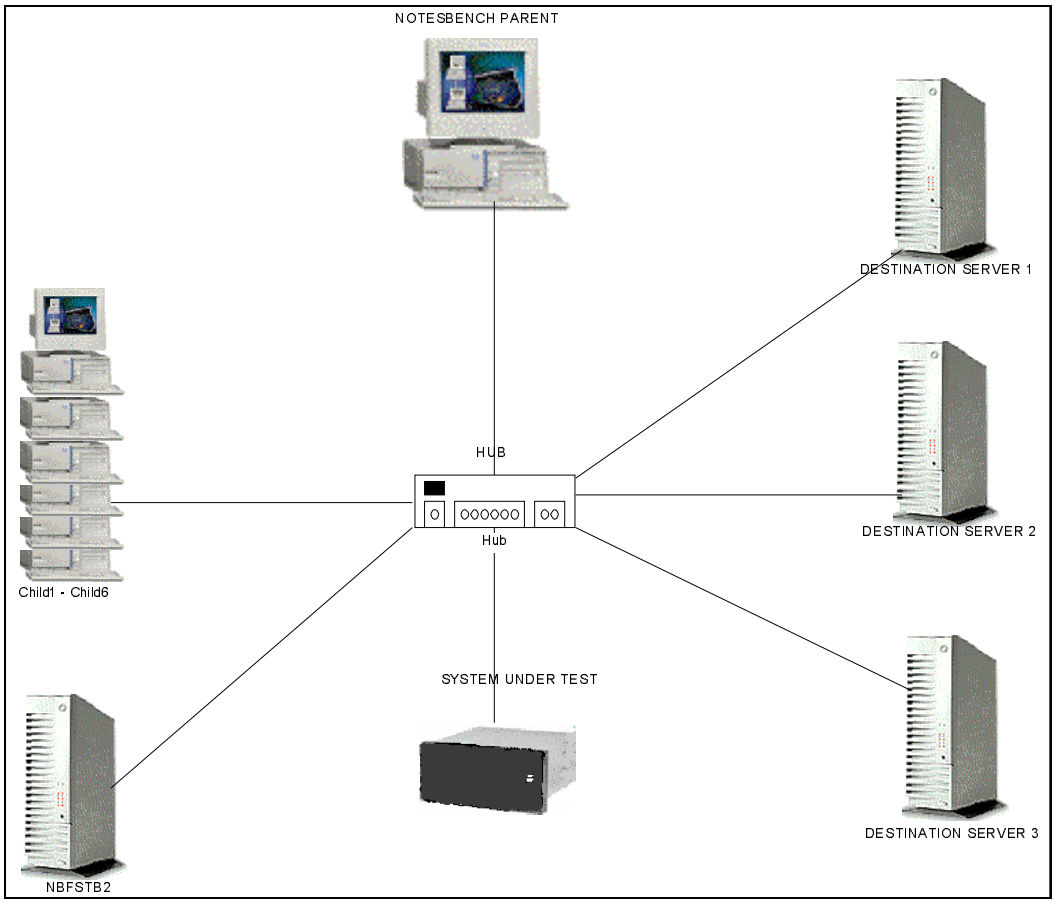
Software versions used on the system under test were as follows:

- Microsoft Windows NT Server Version 4.0 and Service Pack 3
- Lotus Domino Server Release 4.6a
- NotesBench Version 4.6 - Windows/32

Software versions used on the child drivers were as follows:

- Microsoft Windows NT Workstation Version 4.0 and Service Pack 3
- Lotus Notes Client for Windows NT Release 4.6a
- NotesBench Version 4.6 - Windows/32

High-Level Test Setup Diagram



Details of Configuration

System Under Test	Destination Servers 1-3	Child Drivers 1-6	Parent Source Driver
IBM PC Server 325	IBM PC Server 720	IBM PC 350	IBM PC 350
1 x 300MHz Pentium II	2 x 100MHz Pentium	1 x 133MHz Pentium	1 x 133MHz Pentium
320MB Memory	256MB Memory	80MB Memory	64MB Memory
2 x 4.51GB Drives	6 x 2.25GB Drives (RAID-0)	1 x 1.6GB Drive	1 x 1.5GB Drive
IBM Wide Ultra SCSI Adapter Onboard	IBM SCSI-2 Fast/Wide Streaming RAID Adapter		
Integrated 100/10Mbps Ethernet PCI Controller	IBM 100/10 Ethernet PCI Adapter	IBM 100/10 Ethernet PCI Adapter	IBM 100/10 Ethernet PCI Adapter
Windows NT 4.0 and Service Pack 3	Windows NT 4.0 and Service Pack 3	Windows NT 4.0 and Service Pack 3	Windows NT 4.0 and Service Pack 3

A single 100Mbps Ethernet LAN segment was used. One Asante 100BaseT Hub was used to connect the servers and clients to the LAN segment.

Appendix B: System Configurations

Server under Test	
System	IBM PC Server 325
Processor	1 x 300MHz Pentium II Processor
Memory	320MB
Cache	512KB L2 Write-Back Cache
Disk Controller	Integrated Wide Ultra SCSI Controller
Disk Drive	2 x 4.51GB
Network Interface Adapter	Integrated Ethernet 100/10Mbps PCI Controller
I/O	PCI Bus
Operating System	Microsoft Windows NT Server 4.0 with Service Pack 3
Notes	Domino Server for Windows NT Release 4.6

Clients	
System	IBM PC 350
Processor	1 x 133MHz Pentium Processor
Memory	80MB
Disk Drive	1 x 1.6GB
Network Interface Adapter	100/10 Ethernet PCI Adapter
I/O	PCI Bus
Operating System	Microsoft Windows NT Workstation 4.0
Notes	Notes Client for Windows NT Release 4.6

Appendix C: Operating System Parameters

The following registry variables were changed from their default values as shown:

HKEY_LOCAL_MACHINE/System/CurrentControlSet/Control/PriorityControl\Win32PrioritySeparation: REG_DWORD:0

HKEY_LOCAL_MACHINE/System/CurrentControlSet/Control/SessionManager/MemoryManager/LargeSystemCache: REG_DWORD:0

Appendix D: NOTES.INI Settings

NOTES.INI File for the System under Test

[Notes]

KitType=2
Directory=e:\notes\data
WinNTIconPath=e:\notes\data\W32
$$HasLANPort=1
EnableJavaApplets=1
EnablePlugins=1
Preferences=-2146956175
Passthru_LogLevel=0
Console_LogLevel=2
VIEWIMP1=Lotus 1-2-3 Worksheet,0,_IWKSV,,.WKS,.WK1,.WR1,.WRK,.WK3,.WK4,,4,
VIEWIMP3=Structured Text,0,_ISTR,,.LTR,.CGN,.STR,,1,
VIEWIMP4=Tabular Text,0,_ITAB,,.PRN,.RPT,.TXT,.TAB,,1,
VIEWEXP1=Lotus 1-2-3 Worksheet,0,_XWKS,,.WKS,.WK1,.WR1,.WRK,,4,
VIEWEXP3=Structured Text,0,_XSTR,,.LTR,.CGN,.STR,,1,
VIEWEXP4=Tabular Text,1,_XTAB,,.LTR,.RPT,.CGN,.TAB,,1,
EDITIMP1=ASCII Text,0,_ITEXT,,.TXT,.PRN,.C,.H,.RIP,,1,
EDITIMP2=MicrosoftWord RTF,0,_IRTF,,.DOC,.RTF,,2,
EDITIMP3=Lotus 1-2-3 Worksheet,0,_IWKSE,,.WKS,.WK1,.WR1,.WRK,.WK3,.WK4,,4,
EDITIMP4=Lotus PIC,0,_IPIC,,.PIC,,8,
EDITIMP5=CGM Image,0,_IFL,,.GMF,.CGM,,8,
EDITIMP6=TIFF 5.0 Image,0,_ITIFF,,.TIF,,18,
EDITIMP7=BMP Image,0,_IBMP,,.BMP,,18,
EDITIMP8=Ami Pro,0,_IW4W,W4W33F/V0,.SAM,,2,
EDITIMP17=WordPerfect 5.x,0,_IW4W,W4W07F/V1,.DOC,,2,
EDITIMP22=PCX Image,0,_IPCX,,.PCX,,18,
EDITIMP28=Binary with Text,0,_ISTRNGS,,.*,,1,
EDITIMP29=WordPerfect 6.0/6.1,0,_IW4W,W4W48F/V0,.WPD,.WPT,.DOC,,2,
EDITIMP30=Excel 4.0/5.0,0,_IW4W,W4W21F/V4C,.XLS,,4,
EDITIMP31=Word for Windows 6.0,0,_IW4W,W4W49F/V0,.DOC,,2,
EDITIMP32=GIF Image,0,_IGIF,,.GIF,,18,
EDITIMP33=JPEG Image,0,_IJPEG,,.JPG,,18,
EDITEXP1=ASCII Text,2,_XTEXT,,.TXT,.PRN,.C,.H,.RIP,,1,
EDITEXP2=MicrosoftWord RTF,2,_XRTF,,.DOC,.RTF,,4,
EDITEXP3=CGM Image,2,_XCGM,,.CGM,.GMF,,8,
EDITEXP4=TIFF 5.0 Image,2,_XTIFF,,.TIF,,18,
EDITEXP5=Ami Pro,2,_XW4W,W4W33T/V0,.SAM,,2,
EDITEXP14=WordPerfect 5.1,2,_XW4W,W4W07T/V1,.DOC,,2,
EDITEXP21=WordPerfect 6.0,2,_XW4W,W4W48T/V0,.DOC,,2,
EDITEXP22=WordPerfect 6.1,2,_XW4W,W4W48T/V1,.WPD,.WPT,.DOC,,2,
EDITEXP23=Word for Windows 6.0,2,_XW4W,W4W49T/V0,.DOC,,2,
DDETimeout=10
NAMEDSTYLE0=0200426173696300000000000000000000000000000000000000000000000000000000000001010100000A0000000000
000100A0050000A005000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000
NAMEDSTYLE1=020042756C6C657400000000000000000000000000000000000000000000000000000000001010100000A0000000000
0000000807000008070000000000000000000000000000000000000000000000000000000000000000000000000000000000400000000
00000000
NAMEDSTYLE2=0200486561646C696E650000000000000000000000000000000000000000000000000000000010101010B0C0000000000
000100A0050000A005000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000
$$$OpenSpecial=NotesNIC
$$$NotesNIC=CN=Home/OU=Notes/O=NET, welcome.nsf, Notes NIC Welcome, Notes Network Information Center on the Internet
ServerTasks=Replica,Router,Update
; ServerTasks=Replica,Router,Update,Stats,AMgr,Adminp,Sched,CalConn
; ServerTasksAt1=Catalog,Design
; ServerTasksAt2=UpdAll,Object Collect mailobj.nsf
; ServerTasksAt5=Statlog

```
Ports=WAN2
LOG_REPLICATION=0
LOG_SESSIONS=0
KeyFilename=S1Server.id
CertificateExpChecked=e:\notes\data\S1Server.id  01/13/98
ZONE_SET=1
Timezone=5
DST=1
CertifierIDFile=e:\notes\data\cert.id
MailServer=CN=S1/O=NotesBench
MailSystem=0
ServerKeyFileName=S1Server.id
Domain=TstBed
Admin=CN=Admin/O=NotesBench
TemplateSetup=15
Setup=51
ServerSetup=8
ECLSetup=3
PhoneLog=2
Log=log.nsf, 1, 0, 7, 40000
ADMINWINDOWSIZE=32 46 326 453
DESKWINDOWSIZE=16 23 420 288
WINDOWSIZEWIN=5 2 574 470
MAXIMIZED=1
WinNTIconCommonConfig=Universal
WinNTIconSize=2
WinNTIconPos=2
WinNTIconHidden=0
WinNTIconRect=-1 -1 641 25
FileDlgDirectory=E:\notes\data
CONSOLE_Lotus_Domino_Server=80  25 7 -18 33 634 364
NewUserServer=CN=S1/O=NotesBench
Win32InfoboxPos=2  110
BCASEWINDOWSIZE=16 23 420 288
SETUPDB=SETUP.NSF
USERNAME=Trung Duong
COMPANYNAME=IBM PC SERVER
MTATEMP=C:\TEMP
NOTESPROGRAM=c:\notes\
OldRegKey_MAILTO=rundll32.exe  url.dll,MailToProtocolHandler %l
WWWDSP_SYNC_BROWSERCACHE=0
WWWDSP_PREFETCH_OBJECT=0
;               ServerTasksAt1=Catalog,Design
;               ServerTasksAt2=UpdAll,Object  Collect mailobj.nsf
;               erverTasksAt5=Statlog
NAMES=names.nsf
EmptyTrash=0
WeekStart=1
WAN2=TCP,0,15,0,,12288,
SDI_WINDOW=0
DisabledPorts=LAN0,VINES,SPX,COM1,COM2,COM3,COM4,COM5
WAN2_TcpConnectTimeout=0,5
WAN2_TcpIpAddress=0,0.0.0.0,0
WAN2_TcpPortMapperOff=0,0
TCP_SERVICE_PORT=0
TCPIP_TcpIpAddress=0,0.0.0.0,0
TCPIP_TcpPortMapperOff=0,0

[Notes]Directory=C:\notes
WinNTIconPath=C:\notes\W32
$$HasLANPort=0
EnableJavaApplets=1
EnablePlugins=1
Preferences=2148011121
Passthru_LogLevel=0
```

Console_LogLevel=2
VIEWIMP1=Lotus 1-2-3 Worksheet,0,_IWKSV,,.WKS,.WK1,.WR1,.WRK,.WK3,.WK4,
VIEWIMP3=Structured Text,0,_ISTR,,.LTR,.CGN,.STR,
VIEWIMP4=Tabular Text,0,_ITAB,,.PRN,.RPT,.TXT,.TAB,
VIEWEXP1=Lotus 1-2-3 Worksheet,0,_XWKS,,.WKS,.WK1,.WR1,.WRK,
VIEWEXP3=Structured Text,0,_XSTR,,.LTR,.CGN,.STR,
VIEWEXP4=Tabular Text,1,_XTAB,,.LTR,.RPT,.CGN,.TAB,
EDITIMP1=ASCII Text,0,_ITEXT,,.TXT,.PRN,.C,.H,.RIP,
EDITIMP2=MicrosoftWord RTF,0,_IRTF,,.DOC,.RTF,
EDITIMP3=Lotus 1-2-3 Worksheet,0,_IWKSE,,.WKS,.WK1,.WR1,.WRK,.WK3,.WK4,
EDITIMP4=Lotus PIC,0,_IPIC,,.PIC,
EDITIMP5=CGM Image,0,_IFL,,.GMF,.CGM,
EDITIMP6=TIFF 5.0 Image,0,_ITIFF,,.TIF,
EDITIMP7=BMP Image,0,_IBMP,,.BMP,
EDITIMP8=Ami Pro,0,_IW4W,W4W33F/V0,.SAM,
EDITIMP17=WordPerfect 5.x,0,_IW4W,W4W07F/V1,.DOC,
EDITIMP22=PCX Image,0,_IPCX,,.PCX,
EDITIMP28=Binary with Text,0,_ISTRNGS,,.*,
EDITIMP29=WordPerfect 6.0/6.1,0,_IW4W,W4W48F/V0,.WPD,.WPT,.DOC,
EDITIMP30=Excel 4.0/5.0,0,_IW4W,W4W21F/V4C,.XLS,
EDITIMP31=Word for Windows 6.0,0,_IW4W,W4W49F/V0,.DOC,
EDITIMP32=GIF Image,0,_IGIF,,.GIF,
EDITIMP33=JPEG Image,0,_IJPEG,,.JPG,
EDITEXP1=ASCII Text,2,_XTEXT,,.TXT,.PRN,.C,.H,.RIP,
EDITEXP2=MicrosoftWord RTF,2,_XRTF,,.DOC,.RTF,
EDITEXP3=CGM Image,2,_XCGM,,.CGM,.GMF,
EDITEXP4=TIFF 5.0 Image,2,_XTIFF,,.TIF,
EDITEXP5=Ami Pro,2,_XW4W,W4W33T/V0,.SAM,
EDITEXP14=WordPerfect 5.1,2,_XW4W,W4W07T/V1,.DOC,
EDITEXP21=WordPerfect 6.0,2,_XW4W,W4W48T/V0,.DOC,
EDITEXP22=WordPerfect 6.1,2,_XW4W,W4W48T/V1,.WPD,.WPT,.DOC,
EDITEXP23=Word for Windows 6.0,2,_XW4W,W4W49T/V0,.DOC,
DDETimeout=10
NAMEDSTYLE0=020042617369630000000000000000000000000000000000000000000000000000000000001010100000A0000000000
000100A0050000A0050000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000
NAMEDSTYLE1=020042756C6C65740000000000000000000000000000000000000000000000000000000001010100000A0000000000
000000080700000807000000000000000000000000000000000000000000000000000000000000000000000000400000000
00000000
NAMEDSTYLE2=0200486561646C696E6500000000000000000000000000000000000000000000000000010101010B0C0000000000
000100A0050000A0050000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000
$$$OpenSpecial=NotesNIC
$$$NotesNIC=CN=Home/OU=Notes/O=NET, welcome.nsf, Notes NIC Welcome, Notes Network Information Center on the Internet
DESKWINDOWSIZE=16 23 420 288
WINDOWSIZEWIN=33 5 574 470
MAXIMIZED=0
FileDlgDirectory=E:\notes\data
CONSOLE_Lotus_Domino_Server=80 25 7 0 66 652 397
KeyFilename=Admin.id
CertificateExpChecked=C:\notes\Admin.id 09/03/97
TCPIP=TCP, 0, 15, 0
LAN0=NETBIOS, 0, 15, 0
VINES=VINES, 0, 15, 0
SPX=NWSPX, 0, 15, 0
COM1=XPC,1,15,0,
COM2=XPC,2,15,0,
COM3=XPC,3,15,0,
COM4=XPC,4,15,0,
COM5=XPC,5,15,0,
Ports=TCPIP
DisabledPorts=LAN0,VINES,SPX,COM1,COM2,COM3,COM4,COM5
TCPIP_TcpConnectTimeout=0,5
ProgramMode=0
PhoneLog=2

```
Log=log.nsf, 1, 0, 7, 40000
;*******************************************************
;  NotesBench parm for Destination server
;   Not required....DEBUG_OUTFILE=c:\svrdata\svrcon.log
No_Forced_Activity_Logging=1
;
;
BCASEWINDOWSIZE=16 23 420 288
;*******************************************************
```

Appendix E: Network Configuration

The standard TCP/IP stack provided by Microsoft Windows NT Server 4.0 was used.

In the system under test, the network adapter speed was changed from the default ‘Auto’ to 100Mbps. This forced the Duplex Mode to ‘Half’.

Under the ‘Advanced’ configuration option, the following three parameters were changed from their default values to double the default value:

- Coalesce Buffers
- Receive Buffers
- Transmit Control Block

At the destination servers, under ‘Advanced’ configuration options for the Ethernet adapter, the following three parameters were changed from their default values to double their default values:

- Coalesce Buffers
- Receive Buffers
- Transmit Control Block

Appendix F: Guidelines for Information Usage

This report is intended for IBM Business Partners, customers, and IBM marketing and technical support personnel. The report may be distributed in accordance with the requirements stated in the Edition notice.

Appendix G: Pricing

The table provides the IBM Estimated Reseller Price to end users for the U.S. only. Actual Reseller prices may vary, and prices may also vary by country. Prices are subject to change without notice. For additional information and current prices, contact your local IBM representative.

Item Description	Order Number	Qty	IBM Estimated Reseller Unit Price	IBM Business Partner Quote
IBM PC Server 325	8639-1RY	1	$3,535	$3,541
1 x 300MHz / 512KB Pentium II Processor				
1 x 64MB ECC DIMM				
Integrated Wide Ultra SCSI Controller				
Integrated 100/10Mbps Ethernet PCI Controller				
128MB DIMM	94G6475	2	1,400	1,289
4.51GB Wide Ultra SCSI Hard Disk	76H2687	2	799	734
IBM G42 14" (13.2" Viewable) Color Monitor	654000N	1	299	225
Software				
Windows NT Server 4.0	227-01025	1	676	676
Lotus Domino Server Release 4.6 (single-processor edition included on ServerGuide* with IBM PC Server 325)		1	0	0
Total System Price			$8,908	$8,488

Note: Price/performance results presented in this document are based on pricing provided by an IBM Business Partner.

Appendix H: Optional (Vendor-Defined Information)

None.

First Edition - February 1998

Trademarks

*IBM is a registered trademark and ServerGuide are trademarks of International Business Machines Corporation.

**Lotus and Domino are trademarks or registered trademarks of Lotus Development Corporation. Intel and Pentium are registered trademarks of Intel Corporation. Microsoft and Windows NT are trademarks or registered trademarks of Microsoft Corporation.

Other company, product, or service names, which may be denoted by two asterisks (**), may be trademarks or service marks of others.