

**NotesBench Disclosure Report**  
**for**  
**IBM @server xSeries 200**  
**using**  
**Lotus Domino Server 5.04a**  
**and**  
**Windows 2000 Server**

**Certified March 13, 2001**

**IBM Corporation**



## **Table of Contents**

***Section 1: Executive Summary***

***Section 2: Benchmarking Objectives***

***Section 3: Test Methodologies***

***Section 4: Data***

***Section 5: Analysis***

***Section 6: Conclusions***

***Section 7: Statement by Auditor***

***Appendix A: Overall Test Setup and Software Versions***

***Appendix B: System Configurations***

***Appendix C: Operating System Parameters Values***

***Appendix D: Notes Parameters (NOTES.INI file)***

***Appendix E: Network Configuration File(s)***

***Appendix F: Guidelines for Information Usage***

***Appendix G: Pricing***

***Appendix H: Optional (vendor-defined information)***

***Edition Notice***

## Executive Summary

The IBM @server xSeries 200 server demonstrated leadership performance running Lotus\*\* Domino\*\* Server Release 5.04a on Microsoft\*\* Windows 2000 Server. The results detailed in this report were obtained using the NotesBench R5Mail-Only workload.

Test Script	Maximum Users	NotesMark (tpm)	Ave. Response Time (sec)	\$/User	\$/NotesMark
R5Mail-Only	6,200	8,218	2.44	\$2.76	\$2.09

The xSeries 200 server was configured with a single 1GHz<sup>1</sup> Intel\*\* Pentium\*\* III processor, 1.5GB<sup>2</sup> of memory, and 17 hard disk drives. All configuration details are provided in Appendix A: Overall Test Setup and Software Versions.

The server under test supported an R5Mail-Only workload of 6,200 active mail users (see price/performance results<sup>3</sup> above).

IBM's xSeries Server Performance Laboratory in Research Triangle Park, NC, conducted the benchmark in February and KMDS Technical Associates, Inc., audited the results in March 2001.

NotesBench provides an objective method for evaluating the performance of different platforms running Lotus Domino Server. 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 how to fully utilize the capability of the xSeries 200 system as a Domino Server 5.0 mail server configured with three Netfinity ServeRAID-4L Ultra160 SCSI Adapters for RAID-1 data redundancy.

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<sup>1</sup> MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.

<sup>2</sup> When referring to hard drive capacity, GB stands for one thousand million bytes. Total user-accessible capacity may vary depending on operating environments.

<sup>3</sup> The price/performance results are based on IBM's estimated reseller pricing. IBM resellers set their own prices, and actual prices may vary.

## Test Methodologies

### *Test Setup and Hardware/Software Configuration*

The xSeries 200 system under test (SUT) was configured with a single 1GHz Pentium III processor (256KB of ECC full-speed L2 write-back cache and 133MHz front-side bus), 1.5GB of memory, seventeen 18.2GB 10K rpm hard disk drives. Two RAID-1 arrays, each composed of seven drives, contained the mail files. Each of these two arrays was connected to a Netfinity ServeRAID-4L Ultra160 SCSI Adapter. Three drives, two of which were contained in a RAID-1 array, and one of which was used as the boot disk, were connected to a third ServeRAID-4L Ultra160 SCSI Adapter. A more detailed description of the configuration of the RAID-1 arrays is provided in Appendix A.

The network consisted of an IBM Type 8371-A16 switch. All child drivers, parent and SUT were connected to a port on the switch. The xSeries 200 system under test ran Microsoft Windows 2000 Server and Domino Server 5.04a.

The RAID controller configuration value for Stripe Unit Size was set at 16KB. Write-back cache was enabled for all RAID-1 arrays.

The following Notes.ini parameters were modified as recommended in the NotesBench operator's manual.

<b>R5Mail-Only Workload</b>
Server_Max_Concurrent_Trans=1000
MailMaxThreads=2
NSF_DBcache_MaxEntries=10000
MailLogToEventsOnly=1
Log_MailRouting=10
Log_Sessions=0
Mail_Number_Of_MailBoxes=2
Server_Pool_Tasks=100
Max_Users=10000
DBMaxEntries=10000

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

```
No_Force_Activity_Logging=1
Server_Show_Performance=1
Debug_Outfile=\\Parent1\Results\SUTINFO.TXT
```

All Notes server tasks were disabled except Router.

All Domino mail files were located on the D: and E: RAID-1 arrays. The Domino executable codes, data directory, and mail link files were located on the J: RAID-1 array.

### ***Test Procedures***

Several trial runs were conducted starting with a single Domino server to attempt to exhaust at least one of the system resources: processor, memory or disk subsystem. When average user response time reached an unacceptable level before any one of these resources had been fully utilized, an additional resource was installed. System resource utilization was monitored using Windows 2000 Performance Monitor (PERFMON), which enabled the system configuration to be optimized while balancing system resources.

The 6,200 users were distributed across seven clients. Each client added 200 to 1,000 users to the system under test. The test ran for 10 hours and 56 minutes, including ramp-up. Child 1 through child 6 simulated 1,000 users each, and child 7 simulated 200 users. The actual ramp-up period from startup of child 1 to the point when all 6,200 users were shown on the server console was approximately 2 hours and 22 minutes. The test ran for more than 6 hours after ramp-up. During the test runs, the tools used to determine steady state included the child driver RES files, Notesizer command outputs, and Domino Server statistics output to the server console on a minute-by-minute basis.

To confirm steady state, we verified the number of users at the server and its logs. We confirmed steady state when the number of users on the SUT Domino Server console reached the intended number of users. We also used the Show Stat Mail command on the server to verify that at least 90 percent of the mail generated during the test period was delivered to the local mail databases during the test period.

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

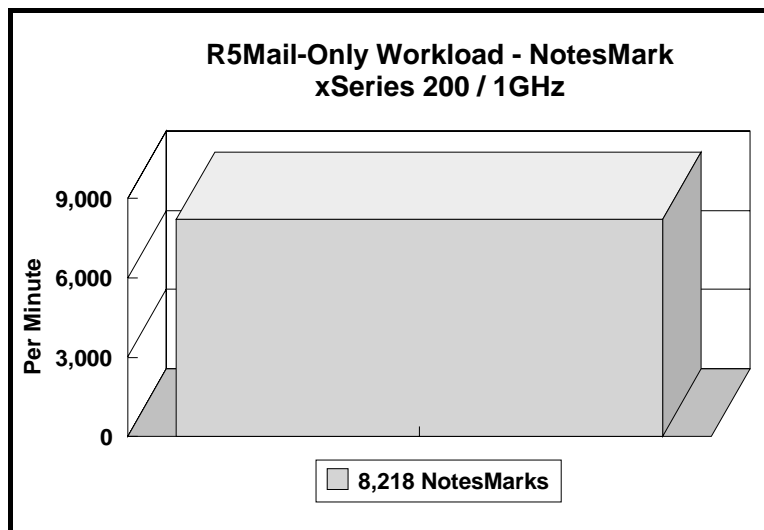
### ***Other NotesBench Tests***

IBM intends to continue conducting NotesBench measurements to further optimize and exploit the performance capability of the xSeries product line running Domino Server 5.0.

## Data

### *xSeries 200 NotesMark Value for R5Mail-Only Test*

The xSeries 200 server demonstrated that it can support 6,200 concurrent active users with this workload. The NotesMark throughput value was 8,218. Average response time was 2.440 seconds. The test ran error-free for a period of 10 hours and 56 minutes.



The R5Mail 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 Domino R5Mail-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, 2 documents added, 1 view scrolling operation, 1 database opened and closed, 1 view opened and closed, looking up of recipients and sending an invitation every 30 minutes, as well as some miscellaneous operations. In sending messages, each user creates and sends a mail message to NumMessageRecipients no more frequently than every 90 minutes. About every 90 minutes, each user creates a meeting invitation and responds to an invitation.

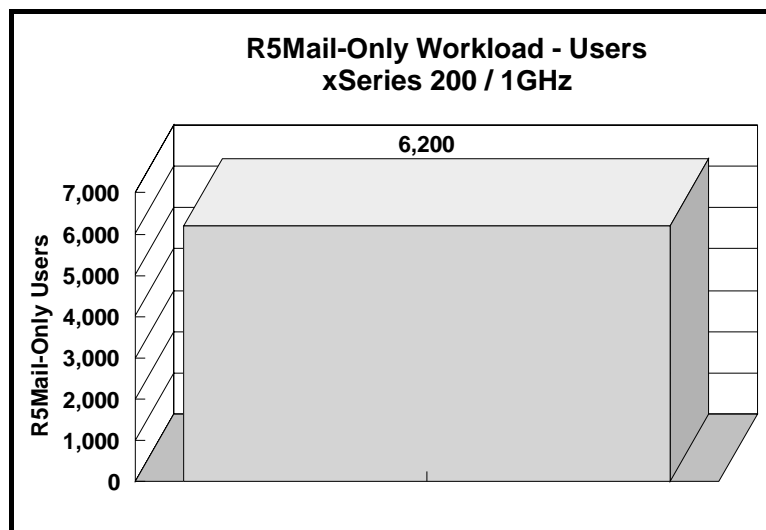
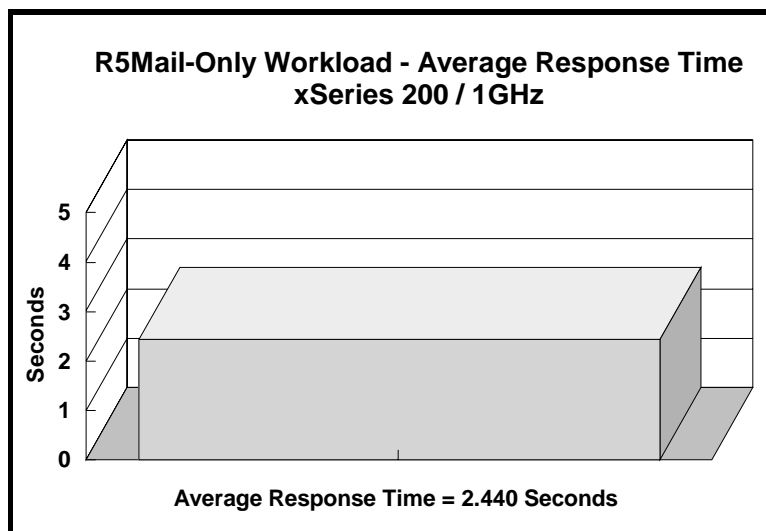
## NotesNum Output for R5Mail-Only Test

Min Start Time = 02/23/2001 01:01:57 PM Max Stop Time = 02/23/2001 11:57:53 PM

Total Test Errors = 0

Total Test Time = 39360 sec

Test Run: Users = 6200 NotesMark = 8218 Response Time = 2440 msec (02/23/2001 03:37:00 PM to 02/23/2001 11:49:00 PM)



## Analysis

When configured optimally as described in this report, the xSeries 200 server demonstrated that it can manage the intense resource usage during ramp-up to 6,200 concurrent R5Mail users with no errors at the clients. During the steady-state period on one of the successful 6,200-user runs, the average processor utilization was 99 percent. The average available memory was 15MB.

The transaction logging option was not enabled for this audit run. When this option is enabled, we recommended placing the transaction logging directory on a dedicated disk that is attached to a less-busy adapter on a less-busy PCI bus to improve response time.



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## Conclusions

The test results demonstrate that the xSeries 200 configured as described in this report can support up to 6,200 concurrent, active R5Mail users with a response time within the range permitted by the test criteria. The server's architecture provides many options that can expand its capability. With upgradable processor and I/O subsystems, the system can be further expanded to accommodate additional Domino server tasks and other applications..

These results are based on running the xSeries 200 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.

These results represent leadership performance in a one-processor hardware platform for the Domino Server 5.0 environment.

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## **Statement by Auditor**

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

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## **Appendix A: Overall Test Setup and Software Versions**

### ***Number of Client Systems***

For the R5Mail-Only test, eight driver systems were used. Seven of those systems were configured as child drivers 1 through 7. A parent system was used to collect debug\_output data and control the run.

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

- Child drivers 1 through 7
  - C: Partition (2GB - NTFS) - Windows 2000
  - D: Partition (6.5GB - NTFS) - Notes 5.04a code and data

### ***Number of Server Platforms***

One server platform, the xSeries 200, configured with a single 1GHz Pentium III processor and 1.5GB of memory, was benchmarked.

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

- C: Single disk drive (18.2GB - NTFS) - Windows 2000 Server (boot partition)
- D: Partition (60GB - NTFS) - Domino mail files
- E: Partition (60GB - NTFS) - Domino mail files
- J: Partition (18.2GB - NTFS) - Domino executables and Domino mail data subdirectory

### ***Network***

The network consisted of a single segment. All child drivers, parent and SUT were connected to one of 16 ports on an IBM Type 8371-A16 switch.

### ***Software Versions***

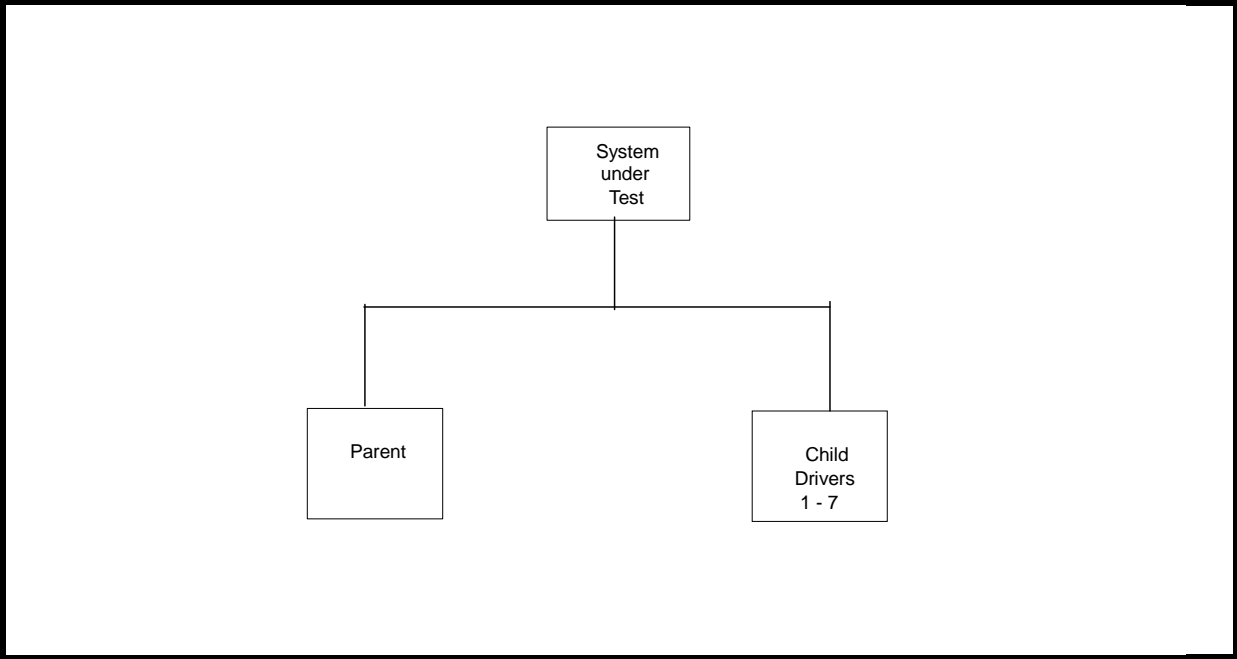
Software versions used on the system under test were as follows:

- Microsoft Windows 2000 Server
- Lotus Domino Server Release 5.04a

Software versions used on the child and parent drivers were as follows:

- Microsoft Windows 2000
- Lotus Domino Client Release 5.04a for Windows 2000
- NotesBench Version 5.04a - Windows/32, released August 10, 2000

**Test Setup**



## Appendix B: System Configurations

Server under Test	
<b>System</b>	xSeries 200
<b>Processor</b>	1 x 1GHz Pentium III
<b>Memory</b>	1.5GB
<b>Cache</b>	256KB ECC Full-Speed L2 Cache
<b>RAID Controller</b>	3 x Netfinity ServeRAID-4L Ultra160 SCSI Adapters
<b>Disk Drive</b>	17 x 18.2GB 10K Ultra160 SCSI Drives (configured as three RAID-1 arrays)
<b>Network Interface</b>	Integrated 10/100 Ethernet Controller
<b>I/O</b>	PCI Bus
<b>Operating System</b>	Microsoft Windows 2000 Server
	Lotus Domino Server Release 5.04a for Windows NT

Child Drivers 1 - 7	
<b>System</b>	IBM IntelliStation M Pro
<b>Processor</b>	1 x 500MHz Pentium III
<b>Memory</b>	256MB
<b>Disk Drive</b>	1 x 9.1GB
<b>Network Interface</b>	Integrated 10/100 Ethernet Controller
<b>I/O</b>	PCI Bus
<b>Operating System</b>	Microsoft Windows 2000 Professional

Parent	
<b>System</b>	IBM PC Server 325
<b>Processor</b>	1 x 233MHz Pentium II
<b>Memory</b>	128MB
<b>Disk Drive</b>	2 x 4.51GB
<b>Network Interface</b>	Integrated 10/100 Ethernet Controller
<b>I/O</b>	PCI Bus
<b>Operating System</b>	Microsoft Windows 2000 Professional
<b>Notes</b>	Lotus Domino Client Release 5.04 for Windows 2000
<b>NotesBench</b>	NotesBench Version 5.04 - Windows/32, released August 10, 2000

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## Appendix C: Operating System Parameters

In the system under test, the following registry variables were changed from their default values of 2 to 0:

HKEY\_LOCAL\_MACHINE/System/CurrentControlSet/Control/PriorityControl/Win32PrioritySeparation:  
REG\_DWORD:0

HKEY\_LOCAL\_MACHINE/System/CurrentControlSet/Control/SessionManager/MemoryManager/  
LargeSystemCache: REG\_DWORD:0

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# Appendix D: Notes.ini Settings

## Notes.ini for System under Test

```
[Notes]
;           Server Performance
;
DBMaxEntries=10000
MailMaxThreads=2
Mail_Number_Of_MailBoxes=2
Max_Users=10000
NSF_DBCache_Maxentries=10000
;(IRIS recommended 2 params: 100 &1000)
;Server_Pool_Tasks=100
;Server_Max_Concurrent_Trans=1000
Server_Pool_Tasks=100
Server_Max_Concurrent_Trans=1000
;View_Rebuild_dir=m:\view_dir
;
;MailUseThreads=1
LOG_SESSIONS=0
MailLogToEventsOnly=1
LOG_MAILROUTING=10
SERVER_SHOW_PERFORMANCE=1
No_Force_Activity_Logging=1
DEBUG_OUTFILE=\\parent1\c$\results\sutinfo.txt
;Server_MaxSessions=8000
;Server_Session_timeout=15
;           end performance parameters
Directory=j:\notesr5\data
KitType=2
SetupDB=Setup.nsf
UserName=sut
CompanyName=ibm
NotesProgram=j:\notesr5
InstallType=3
CONSOLE_Lotus_Domino_Server=80 25 7 172 251 824 582
WinNTIconPath=j:\notesr5\data\W32
Timezone=5
DST=1
$$HasLANPort=1
WWWDSPP_SYNC_BROWSERCACHE=0
WWWDSPP_PREFETCH_OBJECT=0
EnablePlugins=1
Preferences=2147486833
AltNameLanguage=en
ContentLanguage=en-US
WeekStart=1
ViewWeekStart=2
NavWeekStart=2
XLATE_CSID=52
SPELL_LANG=1033
Region=en-US
Passthru_LogLevel=0
Console_LogLevel=2
VIEWIMP1=Lotus 1-2-3 Worksheet,0_IWKS,.,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,
```





Ports=TCPIP  
DisabledPorts=LAN0ip,VINES,SPX,AppleTalk,LAN1,LAN2,LAN3,LAN4,LAN5,LAN6,LAN7,LAN8,COM1,COM2,COM3,COM4,COM5  
LOG\_REPLICATION=1  
LOG\_SESSIONS=1  
KeyFilename=server.id  
CertificateExpChecked=server.id 02/25/2000  
CertifierIDFile=j:\notesr5\data\cert.id  
MailServer=CN=sut/O=IBM  
ServerKeyFileName=server.id  
Domain=IBM  
Admin=CN=admin/O=IBM  
TemplateSetup=62  
Setup=60  
ServerSetup=50  
DESKWINDOWSIZE=-4 -4 648 460  
MAXIMIZED=1  
ECLSetup=3  
PhoneLog=2  
Log=log.nsf, 1, 0, 7, 40000  
ShowCertifierRecoveryWarning\_j:\notesr5\data\cert.id=1  
SERVERS\_FRAME\_PERCENT=20  
MONITOR\_SCALE=1  
ADMINWINDOWSIZEWIN=0 9 616 447  
ADMINMAXIMIZED=0  
WinNTIconCommonConfig=Universal  
WinNTIconSize=2  
WinNTIconPos=2  
WinNTIconHidden=1  
WinNTIconRect=0 0 0 24  
FileDlgDirectory=J:\notesr5\data  
AdminSetup=502  
CleanSetup=1  
TRANSLOG\_AutoFixup=1  
TRANSLOG\_UseAll=0  
TRANSLOG\_Style=0  
TRANSLOG\_Performance=2  
TRANSLOG\_Status=0  
MTEabled=0  
MAILUSEPROCESSES=0  
MAILUSETHEADS=1

## ***Notes.ini for Child 1***

[Notes]

Directory=d:\notes\data  
KitType=1  
InstallType=6

-----  
NthIteration=6  
Tmp=Notestmp  
MaxSessions=100  
NumAddLocalReplica=1  
NumDeleteLocalReplica=1  
NumStampLocalReplica=1  
NumUpdateLocalReplica=1  
NormalMessageSize=10000  
NumMessageRecipients=3  
NumMailNotesPerUser=100  
AttachmentSize=500000  
LargeMessageSize=32000  
NodeName=nchild1  
MailTemplate=mail50.ntf

```

USESERNAB=1
ResultsDirectory=\\parent1\c$\results
DEBUG_OUTFILE=\\parent1\c$\results\res1
NumNotesLocalReplica=90
NumSharedNotes=900
NormalMessageSize=10000
ThreadStagger=0.6
;=====
;=====
WinNTIconPath=d:\notes\data\W32
Timezone=5
DST=1
$$HasLANPort=1
WWWDSPP_SYNC_BROWSERCACHE=0
WWWDSPP_PREFETCH_OBJECT=0
EnableJavaApplets=1
EnablePlugins=1
Preferences=-2147480463
AltNameLanguage=en
ContentLanguage=en-US
WeekStart=1
ViewWeekStart=2
NavWeekStart=2
XLATE_CSID=52
SPELL_LANG=1033
Region=en-US
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=Microsoft RTF,0,_IW4W,_IRTF.,DOC.,RTF.,2,
EDITIMP3=Lotus 1-2-3,0,_IW4W,_IWKSE.,WKS.,WK1.,WR1.,WRK.,WK3.,WK4.,123.,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=Lotus Ami Pro,0,_IW4W,W4W33F/V0.,SAM.,2,
EDITIMP9=HTML File,0,_IHTML,,HTM.,HTML.,1,
EDITIMP17=WordPerfect 5.x,0,_IW4W,W4W07F/V1.,DOC.,WPD.,2,
EDITIMP21=Lotus Word Pro,0,_IW4W,W4W12F/V0.,LWP.,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=Microsoft Excel,0,_IW4W,W4W21F/V4C.,XLS.,4,
EDITIMP31=Microsoft Word,0,_IW4W,W4W49F/V0.,DOC.,2,
EDITIMP32=GIF Image,0,_IGIF,,GIF.,18,
EDITIMP33=JPEG Image,0,_JPEG,,JPG.,18,
EDITEXP1=ASCII Text,2,_XTXT,,TXT.,PRN.,C.,H.,RIP.,1,
EDITEXP2=Microsoft Word 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

```



```

; Begin Notesbench variables for PARTITION 1
;
; *****
NodeName=parent1
; Runtime in minutes
; for 13 nbs (530)
Runtime=660
; for ?? nbs
;Runtime=400
ChildStagger=1,1;14,2;17,3;20,4;27,5;35,6;45,7;25,8;24,9

NumClients1=1000
NumClients2=1000
NumClients3=1000
NumClients4=1000
NumClients5=1000
NumClients6=1000
NumClients7=200
NumClients8=1000
NumClients9=500
;NumClients10=500
;NumClients11=1000
;NumClients12=1000
;NumClients13=600
;NumClients14=600
;NumClients15=200
;NumClients16=700
;NumClients17=700
;NumClients18=100
; NumClients19=400
; NumClients20=100
ResultsDirectory=c:\results
DEBUG_OUTFILE=c:\results\notesnum.txt
;----End
; *****
;
;      Multirun Variables
; *****
; ProbeIntervalDelay=wait after end of one run before starting next
; ProbeWaitTime=wait to start Probe (default=15mins)
; ProbeRunTime=#minutes probe will collect stats
;;Probe_Interval=2800,2900,3000
;;ProbeIntervalDelay=30
;;ProbeWaitTime=30
;;ProbeRunTime=180
; ProbeRunTime=2 because we want 240 minutes of runtime after ramp-up
; without overhead of PROBE
; Next line cause command 'show stat' to execute on SUT console
; before start of each multi-run and when ramped up for that run
; Mail statistics required for audit at ramp-up and before ramp-down
;;ProbeTestIncrementCMD=show stat mail
;;ProbeTestIncrementCMD=show stat database
;;NBTestReset=1
; *****
;
;      Server.Planner Variables
; *****
;;CPDatabase=c:\notesb3\data\Server.Planner.nsf
;;SUTMachineID=Teton600
;-----End

Directory=c:\notes\data
KitType=1
InstallType=1
;-----

```

WinNTIconPath=c:\notes\data\W32  
Timezone=5  
DST=1  
\$\$HasLANPort=1  
WWWDSync\_SYNC\_BROWSERCACHE=0  
WWWDSync\_PREFETCH\_OBJECT=0  
EnableJavaApplets=1  
EnablePlugins=1  
Preferences=-2147480463  
AltNameLanguage=en  
ContentLanguage=en-US  
WeekStart=1  
ViewWeekStart=2  
NavWeekStart=2  
XLATE\_CSID=52  
SPELL\_LANG=1033  
Region=en-US  
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=Microsoft RTF,0,\_IW4W,\_IRTF,.DOC,.RTF,,2,  
EDITIMP3=Lotus 1-2-3,0,\_IW4W,\_IWKSE,.WKS,.WK1,.WR1,.WRK,.WK3,.WK4,.123,,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=Lotus Ami Pro,0,\_IW4W,W4W33F/V0,.SAM,,2,  
EDITIMP9=HTML File,0,\_IHTML,,.HTM,.HTML,,1,  
EDITIMP17=WordPerfect 5.x,0,\_IW4W,W4W07F/V1,.DOC,.WPD,,2,  
EDITIMP21=Lotus Word Pro,0,\_IW4W,W4W12F/V0,.LWP,,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=Microsoft Excel,0,\_IW4W,W4W21F/V4C,.XLS,,4,  
EDITIMP31=Microsoft Word,0,\_IW4W,W4W49F/V0,.DOC,,2,  
EDITIMP32=GIF Image,0,\_IGIF,,.GIF,,18,  
EDITIMP33=JPEG Image,0,\_JPEG,,.JPG,,18,  
EDITEXP1=ASCII Text,2,\_XTTEXT,,.TXT,.PRN,.C,.H,.RIP,,1,  
EDITEXP2=Microsoft Word 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=0300426173696300101010000A000000000  
000100A0050A000006400A0050A00  
00000940400000000000  
NAMEDSTYLE0\_FACE=Default Sans Serif  
NAMEDSTYLE1=030042756C6C657400101010000A000000000  
0000008070A00000064008070A00  
00004940400000000000  
NAMEDSTYLE1\_FACE=Default Sans Serif  
NAMEDSTYLE2=0300486561646C696E50010101010B0C000000000  
000100A0050A000006400A0050A00  
00000940400000000000

NAMEDSTYLE2\_FACE=Default Sans Serif  
DefaultMailTemplate=mail50.ntf  
TCPIP=TCP, 0, 15, 0  
LAN0=NETBIOS,0,15,0,,12288,  
VINES=VINES, 0, 15, 0  
SPX=NWSPX, 0, 15, 0  
COM1=XPC,1,15,0,,12288,  
COM2=XPC,2,15,0,,12288,  
COM3=XPC,3,15,0,  
COM4=XPC,4,15,0,  
COM5=XPC,5,15,0,  
Ports=TCPIP  
DisabledPorts=LAN0,COM1,COM2,VINES,SPX,COM3,COM4,COM5  
KeyFilename=user.id  
CertificateExpChecked=user.id 02/20/2001  
\$headlineClientId=917538A4:D0F4F477-852569F9:00578730  
MailServer=CN=sut/O=ibm  
MailFile=mail\admin.nsf  
TemplateSetup=61  
Setup=60  
Location=Office (Network),9A2,CN=admin/O=ibm  
\$IEVersionMajor=5  
ECLSetup=3  
DESKWINDOWSIZE=20 15 984 715  
WINDOWSIZEWIN=20 15 984 715  
MAXIMIZED=0  
WinNTIconCommonConfig=Universal  
WinNTIconSize=2  
WinNTIconPos=2  
WinNTIconHidden=1  
WinNTIconRect=0 0 0 24  
FileDlgDirectory=Y:\Exterm  
NAMES=names.nsf  
\$headlineDisableHeadlines=0  
EmptyTrash=0  
MIMEPromptMultilingual=1  
MIMEMultilingualMode=1  
EnableActiveXInBrowser=1  
EnableJavaScript=1  
EnableJavaScriptErrorDialogs=1  
EnableLiveConnect=1  
ShowAccelerators=1

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## Appendix E: Network Configuration

The standard TCP/IP stack provided by Microsoft Windows 2000 Server was used.

In the system under test, the network adapter speed for the integrated 10/100 Ethernet controller was changed from the default 'Auto' to 100Mbps. This forced the Duplex Mode to 'full'.

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## **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.

**Note:** Lotus Domino Server ships with the xSeries 200 server at no charge.

Item Description	Order Number	Qty	IBM Estimated Reseller Unit Price	IBM Estimated Reseller Extended Price
<b>IBM @server xSeries 200</b> 1 x 1GHz Pentium III Processor with 256KB L2 Cache (one 128MB RDIMM included); integrated 10/100 Ethernet controller	8478-70X	1	\$1,389	\$1,389
512MB 133MHz ECC SDRAM RDIMM Memory	33L3085	3	799	2,397
Netfinity ServeRAID-4L Ultra 160 SCSI Adapter	37L6091	3	745	2,235
18.2GB 10K-4 Ultra160 SCSI Hard Disk Drives	37L7205	17	399	7,939
Netfinity EXP300 Rack Storage Expansion Enclosure	35311RU	1	3,179	3,179
IBM E54 15" (13.8" Viewable) Color Monitor	6331N2N	1	168	168
<b>Software</b>				
Windows 2000 Server		1		999
Lotus Domino Server Release 5.04a		1	NC	
<b>Total System Price</b>				<b>\$17,150</b>

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## Appendix H: Vendor-Defined Information

None.

## **First Edition - March 2001**

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