LSNA QEMM 8.0 Certification Testing

by Chris Musser, DTR

Dates:1/05/96-1/23/96

Purpose: to Certify Quarterdeck Expanded Memory Manager version 8.0 for use in the LSNA DTR, specifically on Laptops and Desktops which are memory-constrained by Card and Socket Service drivers and dual-stacking (installation of network protocol stacks for both Netware and WFW TCP/IP.)

The possibility exists that this product may not be appropriate for use in this environment

Testing Methodology: After refreshing the standard DTR image on appropriate workstations in the POC testing lab, record image version and baseline memory information. Then install dual-stack software and QEMM 8.0. Record new baseline memory information and perform user-based testing of most common LSNA business applications by loading, editing and saving files to local and network drives while multiple applications are running. Report any malfunctions as well as successes.

This process should develop a document to be used for the installation of QEMM in LSNA, taking into account the following issues:

1) A brief explanation of the benefits of QEMM over EMM386.EXE
2) When/how to know that QEMM is needed
3) How to install QEMM/what qualifications are needed for installation personnel
4) User data and system backup procedures, including how to uninstall QEMM
5) Troubleshooting tips
6) Listing of Quarterdeck support options and phone numbers

Additional Issues:
1) Time spent testing and beta testing period

Due to the possible importance to the organization of this product and its low-level insinuation into the operating system, a *minimum* of one week to ten days should be allowed for testing and documentation. Taking into account time already spent, POC Lab testing may be completed by Tuesday, January 23, assuming the lab is available and no significant additional responsibilities are required of tester(s).

Additionally, DTR personnel, specifically integrators who use laptops or need to be dual stacked (or both), should be encouraged to install QEMM and record any successes or failures.

Several LSNA customers running dual stack PCs are also available to be installed as ‘beta testers:’ Mitra Karimi, Katie Cogan, and Joan Rosen. After installation, these users should be asked to *briefly* document any anomalies experienced during their testing phase.

Another possible beta tester, Leticia Marquez, has been found to have an MS Excel problem that may not be related to lack of memory. The QEMM installed on her system reduced her conventional memory from 600 KB to 588 KB and has been removed.

Lab Test Results:

Workstation type--Toshiba T4800CT w/16MB RAM

Image version--c:\custom\flags readme.txt:
(XL & Laptop)Compaq XL Image - ver 200 created 08/18/95 DOS version 6.22

*****NOTE***** This file does NOT reference Toshiba Laptops, however, the refresh diskette that downloads the image points to net use g: \\lsnasfom1\tosh200, and per Steve Saxon, this is the latest image for this machine.

Memory before installation of dualstack or Qemm:

Modules using memory below 1 MB:

Name	Total	= Conventional	+ Upper Memory
MSDOS	20,397 (20K)	20,397 (20K)	0 (0K)
HIMEM	1,168 (1K)	1,168 (1K)	0 (0K)
EMM386	6,064 (6K)	6,064 (6K)	0 (0K)
CNFIGNAM	448 (0K)	448 (0K)	0 (0K)
PCMSS	7,472 (7K)	7,472 (7K)	0 (0K)
PCMSCD	20,304 (20K)	20,304 (20K)	0 (0K)
COMMAND	4,720 (5K)	4,720 (5K)	0 (0K)
SMARTDRV	32,096 (31K)	32,096 (31K)	0 (0K)
PCMCS	37,856 (37K)	0 (0K)	37,856 (37K)
IFSHLP	3,920 (4K)	0 (0K)	3,920 (4K)
MOUSE	17,296 (17K)	0 (0K)	17,296 (17K)
DOSKEY	4,144 (4K)	0 (0K)	4,144 (4K)
VSHIELD	31,216 (30K)	0 (0K)	31,216 (30K)
Free	577,408 (564K)	562,432 (549K)	14,976 (15K)

Memory Summary:

Type of Memory	Total	= Used	+ Free
Conventional	655,360	92,928	562,432
Upper	109,408	94,432	14,976
Reserved	131,072	131,072	0
Extended (XMS)	15,881,376	4,507,808	11,373,568
Total memory	16,777,216	4,826,240	11,950,976
Total under 1 MB	764,768	187,360	577,408

Largest executable program size 562,336 (549K)
Largest free upper memory block 14,656 (14K)
MS-DOS is resident in the high memory area.

Dual Stack Version--from g:(sfooadd1)\lantech\wkstutil\dualstak\toshiba\dualstak.bat
by: Ed Shapiro x7705--date last modified: 7/31/95

Memory after dualstack
(with vlm.exe loaded high in \custom\ws.bat)

Modules using memory below 1 MB:

Name	Total	= Conventional	+ Upper Memory
MSDOS	20,397 (20K)	20,397 (20K)	0 (0K)
HIMEM	1,168 (1K)	1,168 (1K)	0 (0K)
EMM386	6,064 (6K)	6,064 (6K)	0 (0K)
CNFIGNAM	448 (0K)	448 (0K)	0 (0K)
PCMSS	7,472 (7K)	7,472 (7K)	0 (0K)
PCMSCD	20,304 (20K)	20,304 (20K)	0 (0K)
COMMAND	4,720 (5K)	4,720 (5K)	0 (0K)
SMARTDRV	32,096 (31K)	32,096 (31K)	0 (0K)
LSL	5,600 (5K)	5,600 (5K)	0 (0K)
EXP16ODI	9,792 (10K)	9,792 (10K)	0 (0K)
IPXODI	17,424 (17K)	17,424 (17K)	0 (0K)
ODIHLP	1,184 (1K)	1,184 (1K)	0 (0K)
VLM	52,464 (51K)	52,464 (51K)	0 (0K)
PCMCS	37,856 (37K)	0 (0K)	37,856 (37K)
IFSHLP	3,920 (4K)	0 (0K)	3,920 (4K)
MOUSE	17,296 (17K)	0 (0K)	17,296 (17K)
DOSKEY	4,144 (4K)	0 (0K)	4,144 (4K)
VSHIELD	31,648 (31K)	0 (0K)	31,648 (31K)
Free	490,512 (479K)	475,968 (465K)	14,544 (14K)

Memory Summary:

Type of Memory	Total	= Used	+ Free
Conventional	655,360	179,392	475,968
Upper	109,408	94,864	14,544
Reserved	131,072	131,072	0
Extended (XMS)	15,881,376	4,561,056	11,320,320
Total memory	16,777,216	4,966,384	11,810,832
Total under 1 MB	764,768	274,256	490,512

Largest executable program size 475,872 (465K)
Largest free upper memory block 14,224 (14K)
MS-DOS is resident in the high memory area.

QEMM INSTALLATION METHOD USED:
QEMM installed from DOS after remarking Windows automatic startup and anti-virus program.
Memory after installation of QEMM:

Modules using memory below 1 MB:

Name	Total	=	Conventional	+	Upper Memory
MSDOS	20,349	(20K)	20,349	(20K)	0 (0K)
QEMM386	784	(1K)	784	(1K)	0 (0K)
CNFIGNAM	448	(0K)	448	(0K)	0 (0K)
COMMAND	4,720	(5K)	4,720	(5K)	0 (0K)
MOUSE	17,296	(17K)	17,296	(17K)	0 (0K)
EXP16ODI	9,792	(10K)	9,792	(10K)	0 (0K)
IPXODI	17,424	(17K)	17,424	(17K)	0 (0K)
VLM	52,464	(51K)	15,664	(15K)	36,800 (36K)
PCMSS	7,504	(7K)	0	(0K)	7,504 (7K)
QDPMI	2,848	(3K)	0	(0K)	2,848 (3K)
PCMSCD	20,352	(20K)	0	(0K)	20,352 (20K)
ODIHLP	1,184	(1K)	0	(0K)	1,184 (1K)
PCMCS	37,888	(37K)	0	(0K)	37,888 (37K)
VSHIELD	9,456	(9K)	0	(0K)	9,456 (9K)
SMARTDRV	32,096	(31K)	0	(0K)	32,096 (31K)
LSL	5,600	(5K)	0	(0K)	5,600 (5K)
DOSKEY	4,144	(4K)	0	(0K)	4,144 (4K)
IFSHLP	3,904	(4K)	0	(0K)	3,904 (4K)
Free	593,872	(580K)	568,560	(555K)	25,312 (25K)

Memory Summary:

Type of Memory	Total	=	Used	+	Free
Conventional	655,360		86,800		568,560
Upper	187,088		161,776		25,312
Reserved	131,072		131,072		0
Extended (XMS)	15,803,696		4,646,192		11,157,504
Total memory	16,777,216		5,025,840		11,751,376
Total under 1 MB	842,448		248,576		593,872
Total Expanded (EMS)	16,203,776 (15,824K				
Free Expanded (EMS)	11,157,504 (10,896K				
Largest executable program size	**568,128 (555K)**				
Largest free upper memory block	8,816 (9K)				

MS-DOS is resident in the high memory area.

Applications Tested

MS Office 4.2

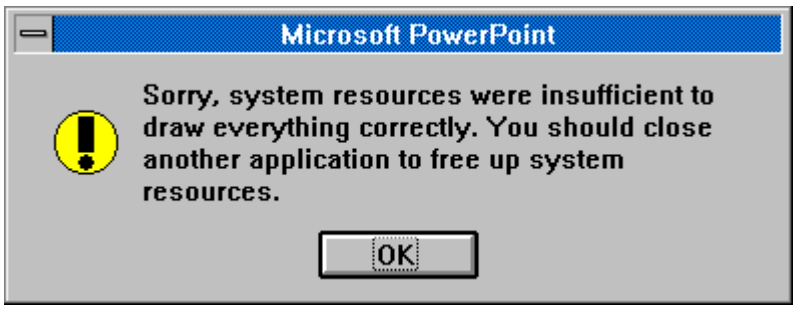
Results

Successes:

Liabilities:

1) Tsetup (the Toshiba 4800CT cmos setup program) on Chris Musser's T4800CT generates a QEMM exception error #6 when it runs in DOS. (However, quite a few configuration parameters on this machine have been changed over the last couple of months.)

2) The following message was received when trying to load PowerPoint after Excel (including having a 1.49MB file loaded), MS Mail, Word, File Manager, Vshield, etc. were running--and system resources were down to 4% free in Help/About Program Manager,. THIS IS TO BE EXPECTED, and the fact that nothing crashed,bodes well for installation of QEMM 8.0 on this platform.



Conclusions/Recommendations:

QEMM 8.0 is recommended for beta testing on memory-constrained T4800CTs**.**

Workstation Type--Compaq Deskpro XL 466 and Deskpro XL 566 w/16 MB RAM

Image version--c:\custom\flags readme.txt:
Revision A Desktop Image Version 2.2.0c,Compaq XL Desktop Workstations
Released 95 11 07

Memory before installation of dualstack or Qemm:

Modules using memory below 1 MB:

Name	Total	=	Conventional	+	Upper Memory
MSDOS	20,237 (20K)		20,237 (20K)		0 (0K)
HIMEM	1,168 (1K)		1,168 (1K)		0 (0K)
EMM386	4,144 (4K)		4,144 (4K)		0 (0K)
SMARTDRV	2,496 (2K)		2,496 (2K)		0 (0K)
SHARE	6,208 (6K)		6,208 (6K)		0 (0K)
COMMAND	4,720 (5K)		4,720 (5K)		0 (0K)
IFSHLP	3,904 (4K)		0 (0K)		3,904 (4K)
DOSKEY	4,144 (4K)		0 (0K)		4,144 (4K)
VSHIELD	31,216 (30K)		0 (0K)		31,216 (30K)
Free	755,808 (738K)		616,064 (602K)		139,744 (136K)

Memory Summary:

Type of Memory	Total	=	Used	+	Free
Conventional	655,360		39,296		616,064

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Upper              179,008       39,264      139,744
Reserved           393,216      393,216            0
Extended (XMS)  15,549,632      311,488   15,238,144
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Total memory    16,777,216      783,264   15,993,952

Total under 1 MB   834,368       78,560      755,808

Largest executable program size       615,840   (601K)
Largest free upper memory block       112,288   (110K)
MS-DOS is resident in the high memory area.
```

Dual Stack Version--from g:(sfooadd1)\lantech\wkstutil\dualstak\compaq\2.20\dual220.bat by Ed Shapiro 8/23/95

Memory after dual stack

Modules using memory below 1 MB:

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Name          Total      =  Conventional  +  Upper Memory
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MSDOS      20,237   (20K)    20,237   (20K)        0    (0K)
HIMEM       1,168    (1K)     1,168    (1K)        0    (0K)
EMM386      4,144    (4K)     4,144    (4K)        0    (0K)
SMARTDRV    2,496    (2K)     2,496    (2K)        0    (0K)
SHARE       6,208    (6K)     6,208    (6K)        0    (0K)
COMMAND     4,720    (5K)     4,720    (5K)        0    (0K)
ODIHLP      1,200    (1K)     1,200    (1K)        0    (0K)
VLM        51,824   (51K)     5,344    (5K)    46,480   (45K)
IFSHLP      3,904    (4K)         0    (0K)     3,904    (4K)
DOSKEY      4,144    (4K)         0    (0K)     4,144    (4K)
VSHIELD    31,648   (31K)         0    (0K)    31,648   (31K)
LSL         5,600    (5K)         0    (0K)     5,600    (5K)
PCNTNW     15,488   (15K)         0    (0K)    15,488   (15K)
IPXODI     17,424   (17K)         0    (0K)    17,424   (17K)
Free      663,840  (648K)   609,520  (595K)    54,320   (53K)
```

Memory Summary:

```
Type of Memory      Total   =    Used    +    Free
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Conventional        655,360       45,840      609,520
Upper               179,008      124,688       54,320
Reserved            393,216      393,216            0
Extended (XMS)   15,549,632      359,616   15,190,016
---------------- ----------  ----------  ----------
Total memory     16,777,216      923,360   15,853,856

Total under 1 MB    834,368      170,528      663,840

Largest executable program size       609,200   (595K)
Largest free upper memory block        37,136    (36K)
```

MS-DOS is resident in the high memory area.

QEMM INSTALLATION METHOD USED:
QEMM installed from DOS after remarking Windows automatic startup and anti-virus program.

Memory after installation of QEMM:

Modules using memory below 1 MB:

Name	Total	= Conventional	+ Upper Memory
MSDOS	20,221 (20K)	20,221 (20K)	0 (0K)
QEMM386	784 (1K)	784 (1K)	0 (0K)
SMARTDRV	2,496 (2K)	2,496 (2K)	0 (0K)
COMMAND	4,720 (5K)	4,720 (5K)	0 (0K)
PCNTNW	15,488 (15K)	15,488 (15K)	0 (0K)
VLM	51,824 (51K)	5,344 (5K)	46,480 (45K)
QDPMI	2,848 (3K)	0 (0K)	2,848 (3K)
IFSHLP	3,920 (4K)	0 (0K)	3,920 (4K)
SHARE	6,208 (6K)	0 (0K)	6,208 (6K)
DOSKEY	4,144 (4K)	0 (0K)	4,144 (4K)
VSHIELD	9,456 (9K)	0 (0K)	9,456 (9K)
ODIHLP	1,216 (1K)	0 (0K)	1,216 (1K)
LSL	5,600 (5K)	0 (0K)	5,600 (5K)
IPXODI	17,424 (17K)	0 (0K)	17,424 (17K)
Free	656,272 (641K)	605,968 (592K)	50,304 (49K)

Memory Summary:

Type of Memory	Total	= Used	+ Free
Conventional	655,360	49,392	605,968
Upper	147,600	97,296	50,304
Reserved	393,216	393,216	0
Extended (XMS)	15,581,040	425,840	15,155,200
Total memory	16,777,216	965,744	15,811,472
Total under 1 MB	802,960	146,688	656,272

Total Expanded (EMS) 15,990,784 (15,616K
Free Expanded (EMS) 15,155,200 (14,800K
Largest executable program size 605,760 (592K)
Largest free upper memory block 48,048 (47K)
MS-DOS is resident in the high memory area.

Applications Tested
MS Office 4.2

Results
Successes:

Everything *appeared* to be fine, just running a few apps, small spreadsheets, etc. However, stress testing, you will notice some liabilities--

Liabilities:
1) Various application failures:
GPF's in vforms.dll from MS Mail, in mailmgr.dll from Schedule Plus, etc.

2) "Out of Memory," and "Not enough system resources to display properly" error messages from Excel v.5 after loading a 1.49 MB spreadsheet (g:\ms_odkit\samples\encore\encorvba.xls) with Word, Power Point, Vshield and FileManager running in the backround . . .

Conclusions/Recommendations:
It is recommended that QEMM 8.0 **NOT** be installed for any users having memory problems with this PC/Image combination.

Workstation Type--Toshiba 400CDT w/16MB RAM

Image version--c:\custom\flags readme.txt file shows:
Version 2.2.0 . . . CDT RELEASE, 19 DEC 95
Image Version 2.2.0 for all DTR workstation platforms,
Compaq XL desktop and LTE Elite laptop, Toshiba 400CDT and 4800CT laptops.

Memory before installation of dualstack or Qemm
(with vlm.exe loaded high in \custom\ws.bat)

Modules using memory below 1 MB:

Name	Total	= Conventional	+ Upper Memory
MSDOS	19,069 (19K)	19,069 (19K)	0 (0K)
HIMEM	1,168 (1K)	1,168 (1K)	0 (0K)
EMM386	4,144 (4K)	4,144 (4K)	0 (0K)
CNFIGNAM	448 (0K)	448 (0K)	0 (0K)
COMMAND	4,784 (5K)	4,784 (5K)	0 (0K)
SMARTDRV	30,384 (30K)	13,984 (14K)	16,400 (16K)
VSHIELD	31,424 (31K)	31,424 (31K)	0 (0K)
MOUSE	16,448 (16K)	16,448 (16K)	0 (0K)
PROTMAN	400 (0K)	400 (0K)	0 (0K)
MHZLAN	22,512 (22K)	22,512 (22K)	0 (0K)
TOSCDROM	5,552 (5K)	0 (0K)	5,552 (5K)
PCMSS	7,872 (8K)	0 (0K)	7,872 (8K)
PCMCS	38,592 (38K)	0 (0K)	38,592 (38K)
PCMSCD	20,704 (20K)	0 (0K)	20,704 (20K)
IFSHLP	3,968 (4K)	0 (0K)	3,968 (4K)
DOSKEY	4,144 (4K)	0 (0K)	4,144 (4K)
NDISHLP	1,440 (1K)	0 (0K)	1,440 (1K)
MSCDEX	27,952 (27K)	0 (0K)	27,952 (27K)
Free	568,464 (555K)	540,640 (528K)	27,824 (27K)

Memory Summary:

Type of Memory	Total	= Used	+ Free

Conventional	655,360	114,720	540,640
Upper	154,448	126,624	27,824
Reserved	196,608	196,608	0
Extended (XMS)	15,770,800	2,412,720	13,358,080
Total memory	16,777,216	2,850,672	13,926,544
Total under 1 MB	809,808	241,344	568,464

Largest executable program size 539,984 (527K)
Largest free upper memory block 16,064 (16K)
MS-DOS is resident in the high memory area.

Dual Stack Version--from g:(sfooadd1)\lantech\wkstutil\dualstak\toshiba\dualstak.bat
by: Ed Shapiro x7705--date last modified: 7/31/95

Also tried: -from g:(sfooadd1)\lantech\wkstutil\dualstak\compaq\2.20\dual220.bat
by Ed Shapiro 8/23/95

These dual stack processes DID NOT WORK (error message on boot from c:\nwclient\lsl.msg file.)
According to Steve Saxon, Ed is still working on creating an acceptable method of dual stacking the T400CDT.

Issues/Recommendations for dual stack installations: (pre-creation of a document to be used for the installation of QEMM in LSNA--refer "Testing Methodology" on first page of this document)

1) Run the dualstac.bat file from a COMMAND SHELL, instead of clicking on the batch file in the file manager.

Issues/Recommendations for QEMM INSTALLATIONS: (pre-creation of a document to be used for the installation of QEMM in LSNA--refer also to "Testing Methodology" on first page)

1) zip (backup) all local drives before attempting installation
2) note available conventional memory before installation
3) Disable automatic MS Windows loading in autoexec.bat
4) Install from DOS
5) REMark any anti-virus program in autoexec.bat before running install
6) Note any memory exclusions/inclusions in config.sys and duplicate for QEMM install
7) After initial installation, restore antivirus programs before running optimize

ALL TESTING FILES (CONFIGURATION FILES) LIVE IN:
G:\\SFOOADD1\LANTECH\APPS-INT\QEMMTST