DOS 5

## DOS 5.0 Plan - Additions since 6/90

- UMB's in DOS (including UMB VxD to make it work with Windows 3.0)

- DISPLAY.SYS use of HMA for code page buffers.

- Task swapper in Shell

- Substantial shell cleanup and consistency with Windows 3.0

- Setup changes (from network, Drives other than A, Multiple recovery diskettes, Network upgrading, HD groveling, 3-rd party HD's)

- DOS Changes to support 3-rd party HD's: > 1024 cylinders and/or partitions not supported in ROM BIOS.

- Undelete from CPS: Contract submitted to Central Point Software. Expected signed deal by 8/8/90.[EJS1] Test Plan due 7/26/90[EJS2]

- File Transfer from Traveling Software. Contract submitted to Central Point Software. Expect signed deal by 8/8/90.[EJS3] Traveling has promised that we will receive tested software by 8/10/90.[EJS4] Test Plan[EJS5]

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* Major benefit is more memory for DOS apps:

  - Execute in HMA (DOS and device drivers)

  - Load High Support in all modes of windows 3.0

  - Typical systems should have around 600K free in enhanced mode VM's with network installed.

* Other benefits:

  - New utilities (Undelete, File Transfer, Quick diskette erase, safe format, QBasic)

  - Large Disk Support

  - DOS 5.0 includes Novell Network Upgrade (don't have to download or order)[EJS6]

- DOS 5.0 breaks 3.x networks

- DOS 5.0 works with 4.0 based networks[1]

- Strategy:

  Ship MS, NOVELL, and other necessary redirector .EXE files with DOS 5.0 and utilize these files to automatically update systems using MSNET, PCLP, LANMAN, and Novell systems.[EJS7][2]

- DOSSHELL supports multi-users running single executable from network.[EJS8]

- SETUP supports upgrade from network.

- Test plan[EJS9]

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[1]   Except that we need new redir from Novel for our UMB support to work.

[2]   We don't want to ship NETWKSTA.EXE (LANMAN Enhanced redirectory) because it is 100K. The 4.0 version of this file is needed to run the enhanced redir under DOS 5.0. LANMAN install puts the necessary file on the HD by default. The only situations where we will have problems is when the user has deleted the file from the HD. WHAT SHOULD WE DO when this is the case? I suggest we tell the user to reinstall LanMan. Johnen, can you determine what happens when LANMAN is installed on DOS 5.0?

* DISPLAY.SYS (required for most European installations) modified to utilize HMA for code page buffers. Savings of 20K of low memory with most common installation (2 code pages).

* Brazillian Keyboard added to DOS 5.0

* International plans to release French, German in Dec '90.[EJS10]

- Stragegy:

    * Support internal shell table of bad mouse driver/video mode combinations (only known problem is MS mouse drivers prior 6.26J in MCGA 25-line text mode). Do not offer the video mode if the bad driver is encountered. If problem occurs in ALL modes, disable mouse and offer all modes.{EJS11}

    * Test plan[EJS12]

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* Swapper integrated into DOS Shell.

* Following is a list of known compatibility problems (these are also problems with Windows 3.0):

  - **Sidekick.** Keyboard problems, can't switch away when Sidekick active, and exiting sidekick after starting it directly with File.Run, will hang the system.

  - **Irmalan.** Should not switch away - will cause time-out. Exiting after loading with File.RUN will cause system crash.

  - **Irma+.** Can't switch away from Host mode. Exit after starting with File.Run will crash system.

  - **Extra.** Swapping out of Extra will cause system crash.

  - **ELE.** Changing video modes after starting ELE will confuse it (will have problems updating the display). Cannot switch away from ELE in host mode.

  - **PCS.** Cannot switch out of PCS.

  - **10NET.** Some machines will hang with 10Net and the switcher. A work around is to reconfigure 10Net to not use interupt 6Fh.

The following apps also have problems with DOS 4.0 and DOS 5.0 w/o the swapper:

  - **Lotus Metro.** 101 key keyboard problem.

  - **Lotus Freelance.** 101 key keyboard problemj.

INSTALL/SETUP [EJS13] [EJS14] [EJS15]
* Rename OEM extended utilities to be *namevv* where name is the existing name of the utility, such as MODE, and vv is the DOS version before installation, such as 33 for 3.3 or 3.31. Also, change names in AUTOEXEC.BAT to be the new *namevv* name.
* Support installation to drives other than C
* Enhancements to setup to support transparent upgrading of redirs from 3.x to 4.x. [EJS16]
* Replace all occurances of default COMMAND.COM on the PATH with DOS 5.0 command.com.
* Option to grovel HD for old system files.
* 3-rd party HD's: [EJS17]
    - > 1024 Cylinders (We are evaluating integration of a 3-rd party driver into the DOS BIOS).
    - Extended partitions (Mikedr)
    - Zenith BIOS (Mikedr)
* Test Plan [EJS18]

SYSINIT and BIOS
* Any changes for 3-rd party HD's

SHELL

* Should be code complete this week

## DOS 5.0 Plan - Compatibility Problems [EJS19]

- The following programs are broken with DOS 5.0:

  * Win386 2.1 with DOS 5.0 high (also doesn't work with other versions of DOS when HIMEM in use)

  * Software Carousel

  * 3.x Redirectors (MSNET, Novell, Lan Man, Pclp)

  * Pclp 4.0 redirectors

  * WDEB386 (with DOS high)

  * Manifest

  * VM386

- Plan

  * Massive internal Beta Test (work with Greg Post to coordinate internal beta test of DOS 5.0)[3]. Target 8/90

  * Level 1 beta (key corporate sites, ISV/IHV, Press, and User groups) Binary kits sent 6/15/90.

  * Level 2 beta (Expanded corporate, ISV/IHV, Compuserve, and User group).

  * OEM. Binary install and HCT kits sent 6/15/90.

  * Level 1 OEM OAK beta test. To be sent in August to top 11 OEM's.

  * Level 2 OEM OAK beta test. To be sent to other 70 named OEM's in August.

  * Corporate Preview Program (Top 100 accounts) to take place in September.

- Status:

  * Initial Beta 1 shipped 6/15/90 to 170 sites: 30 ISVs, 70 OEMs, 60 Corporate.

  * Currently have shipped to over 350 sites: 100 Corp, 110 ISV's, 10 IHV's, 35 Press/Authors, 10 User Groups, 100 OEMs[EJS20]

  * Internally DOS 5.0 is being tested by all DOS Application testing groups.[EJS21]

  * Issues:
    Don't yet have commitment from PSS to support.

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3    Waiting for feature complete (except for all of install; undel, and file transfer) build which is stable.

## DOS 5.0 Plan - Schedule

| Milestone | Planned | Actual/Projected |
|---|---|---|
| Code Complete | 3/90 | TBD[4] |
| Beta 1 | 5/15/90 | 6/15/90 |
| Beta 2 and Early Ship Program | 6/15/90 | TBD |
| OEM OAK to PRM; RUP to Canyon Park | 8/90 | TBD |
| ROM OEM OAK to PRM | 10/90 | TBD |

* Outstanding development
    - DOS changes for 3-rd party HD's

    - EMM386 changes for UMB's (general and win 3.0 VxD)

    - Install changes

    - Shell changes

    - File Transfer Deal

    - Undelete Deal[EJS22]

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[4]   Coding of original plan work items was completed 4/90. Current code complete date is unknown because of incertainty over install and HD issues.

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## DOS 5.0 Test Status[EJS24]

* Bug breakdown by severity

* Prediction on when bug backlog will go to zero

The following pages provide a Complete Overview of the Features added to DOS in DOS 5.0.

Items marked with "*" are additions to DOS 5.0 plan presented 12/13/89.

Memory Reduction (HMA, UMB's*, Code reduction/Optimization)

New/Improved Utilities (shell, Install, QBI*, /?*, etc.)

New Hardware Support*

Rewritten Documentation*

Fully ROM executable DOS with power management support**

Removal of LINK from DOS*; Removal of EXE2BIN from Upgrade*

File Transfer Utility (external acquisition:Traveling Software)

Undelete (external acquisition:Central Point Software)

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\*    Addition/Modification to original DOS 5.0 plan
\*\*   ROM executable DOS to ship 6-8 weeks after disk based DOS as an update (supplement?) to the DOS BAK.

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Execute in HMA
- Dos Kernel and Bios relocate to the HMA as provided by XMS
- Command.com executing in HMA*
- Support internal DOS interface for sharing HMA with other DOS device Drivers and utilities - Undocumented*
- Put majority of buffers in HMA*
- Relocate part of HIMEM to HMA*
- DISPLAY.SYS utilization of HMA for code-page buffers.*


Reduction of <640K memory footprint
- Replace support for buffers in EMS and Hash org for buffers with 3.3 LRU algorithm.
- Remove Fastopen Extents caching
- Enable access to large partitions without loading share
- Remove IFS
- Optimize Message retriever and other Command.com Code
- Reusable Command.com code (savings of 2K for each invocation after the initial command.com)*
- Upper Memory Block (UMB) Support in DOS and EMM386 (Including support for UMB's with Windows 3.0)*

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*  Addition to original DOS 5.0 plan

## DOS 5.0 Plan Overview - New/Improved Utilities

New MS-DOS Shell
- Task Swapper (enhanced winoldapp)*
- Menu structure more consistent with windows Program/File Manager*
- Direct Manipulation of Files for move/copy*
- Support combined view (program and File manager)*
- Improved online help
- Visual/functional improvements
- Supports renaming of directories

New MS-DOS OEM and Upgrade Installation
- Significant usability improvements
- Automatic config.sys/autoexec setup
- Support for 1.2M, 1.44M, 2.88M*, 360K, 720K diskettes.
- Designed for future integration with Windows
- Complete online help
- Full recovery (Upgrade only)
- Support for install from drives other than A (including Net with appropriate SETUP.INF file)*
- Write-protected installation diskettes*

Replace BASICA/GW-BASIC with Quick Basic Interpretor and Full Screen Editor
(some OEM's will ship both basic's; Full screen editor requires QBASIC.EXE)*

/? on all commands*

DIR Improvements
- Subdirectory search
- Sort by name, extension, date, size, or diskorder
- Control of display by attribute (eg Hidden only, DIR only, etc.)
- List file names only (useful for batch processing)
- Lowercase display*

Format Enhancements:
- Safe format
- unformat
- Quick format (erase a disk/diskette in < 10 Seconds; Required for R/W Optical)*
- Media Sensing (formats diskette to appropriate density)*

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*     Addition to original DOS 5.0 plan

DOS 5.0 Plan   7/24/90
BRAD725.DOC - 16 -

Comand history and Command macros (DOSKEY)

SETVER utility (tells DOS to "lie" about version to an app).*

Improved expanded memory support (emm386) including VCPI, busmaster support, and UMB* support.

Undelete (from CPS)

File Transfer (from Traveling Software)

Other Miscellaneous Enhancements:
- Attrib control of system and hidden attributes
- DISKCOPY /V option (verify copy is correct)*
- Recover prompt/warning*
- Pipes use TEMP environment variable (specifies dir in which the tempoary file is created).*
- Wildcard support in FC (File compare)*
- Support for Exec only attribute on network files[EJS25]*

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\* Addition to original DOS 5.0 plan

## DOS 5.0 Plan Overview - New Hardware Support

2.88 Meg Diskettes*

Format changes for R/W optical*

Media sensing*

Graphic printer support for HP B&W PCL*

>2 Fixed disks

>2 diskettes (3-rd and later begin after last fixed disk)

New keyboard support: brasilian, (and for IBM: Turkish, Latin II, Icelandic, Russian in OAK only)*

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\* Addition to original DOS 5.0 plan

## DOS 5.0 Plan Overview - New Documentation

Completely rewritten documentation (task oriented with more examples/scenarios)*

Combined User's Guide and Command Reference with single index

Several Beta site's have stated that the new docs are a great improvement.

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* Addition to original DOS 5.0 plan

## DOS 5.0 Plan Overview - ROM Release

Fully ROM executable DOS*
- Requires 64K ROM (excluding externals and init code); 70K is required for executable DOS and the init code.
- 15K Low memory footprint
- Init code will copy from ROM to RAM and execute in RAM. Not an issue since it is discarded after system initialization.


Power Management*:
- suspend/resume
- multiple level power management


Standard ROM disk emulator support.*


Multiboot Option*
- User may bypass ROM
- Allows boot from any disk
- Allows configuration from any drive

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\*     Addition to original DOS 5.0 plan.

## DOS 5.0 Plan Overview - Hardware Requirements and COGS

Hardware Requirements
- Intel 8088/86 or better based computer
- 512k System memory[5]
- 1 Floppy disk drive

COGS
- Current diskette projections:
  + Three 720K[6]
  + five 360K
  + 2 1.2M
  + 1 2.8M

- Documentation
  + $3.50 per manual (assuming 50K print volumes)

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[5]   384K is required to run QBASIC or EDIT. 512 K is required to run setup (because setup spawns FDISK and FORMAT). Rest of DOS requires only 256K.

[6]   Three 720's represents an increment of one in diskettes for DOS 5.0.

Page: 1

[EJS1]    Markche said this would be to them by Wednesday. Did you make it? What is our contigency plan if we have no deal by 8/8/90?

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[EJS2]    John said "mid-week". Is 7/26 correct?

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[EJS3]    Markche said this would be to them by Wednesday. Did you make it? What is our contigency plan if we have no deal by 8/8/90?

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[EJS4]    Tomle, Is this true?

Page: 1

[EJS5] Johnen said he will do plan as soon as we know which one. Which one are we using (I assumed Traveling here).
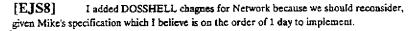
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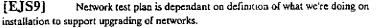[EJS6]    Greglo - our update will work great with windows, Right?

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[EJS7]    Greglo owes me details on other network issues. IBM owes me position on our Pclp strategy

Page: 3

[EJS8]    I added DOSSHELL chagnes for Network because we should reconsider, given Mike's specification which I believe is on the order of 1 day to implement.

Page: 3

[EJS9]    Network test plan is dependant on definition of what we're doing on installation to support upgrading of networks.

Page: 4

[EJS10]    Need report from Davidsta on Itialian version (built in Ireland).

Page: 5

[EJS11]    Development needs test to tell them which mouse drivers are incompatible with which modes.

Page: 5

[EJS12]    Need mouse test plan from Johnen. It must address which other mouses we're testing (should include Logitech).

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[EJS13]    Need input on which of these install changes we're doing and how much work it is to do.

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[EJS14] Also, should install support creation of:

        360 from 360s*    360 from 720s
        720 from 360s    720 from 720s*
        1.2 from 360s*    1.2 from 720s
        1.44 from 360s    1.44 from 720s*
        2.88 from 360s    2.88 from 720s

Seems like all of these (except perhaps 360 from 720) are interesting. This could be done by adding SETUP.INF files to the diskettes. I propose we support the *'d ones immediately and add the others near Final Test.

Also, will our upgrade, straight from the box, support installation from network?

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[EJS15]      Need work estimates for each of these SETUP work items.

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[EJS16]      Dependant on definition of what we're doing on installation to support upgrading of networks.

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[EJS17]      Need Plan for >1024 Cylinders, for Partitions not recognized in ROM BIOS, and for Zenith machines. Current thinking (pending response from Tomle/Mikedr to my email):

>1024 Cylinders
          - We will look into incorporating a 3-rd party device driver into the BIOS
Partitions not supported in Rom BIOS:
               - Store correct parameters on disk in master boot record.
               - On bootable disks, create disk parameter table in RAM at boot time before DOS is loaded.
               - On non-bootable disks, DOS 5.0 will pick up parameters at BIOS init time.
               ISSUE: Earlier versions of DOS will not recognize the partition. We could create a device driver to allow earlier versions of DOS to recognize the disk. Also, This may be problems with OS/2 dual-boot.
We are setting up machines/sw to analyze 3-rd party disk partitions
     -      Determine which we can/can't upgrade today
     -      For ones we can't we'll have to repartition the disk.
     -      Determine our story on how to can handle each of the problem cases


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[EJS18]      Need test analysis of existing 3-rd party HD schemes to determine which ones we do and don't have problems with. As we do this, we will determine our story on how to handle each of the problem cases.


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[EJS19]      Mikedr: I know some of these are fixed? Are there any other compatibility problems?

[EJS20]Page: 9

[EJS20]      Need to confirm OEM number with Kala.

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[EJS21]      Johnen please confirm.

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[EJS22]      There is also a bit of controversy about whether we should modify the shell to include Undelete. This issue needs to be resolved.

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[EJS23]      Mikedr/Johnen - Need to agree on performance statement and present status to war team.

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**[EJS24]**     Johnen, please provide bug breakdown; Mikedr/Johnen please provide prediction on when bug backlog will go to zero.

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[EJS25]   Davidols says we have cancelled this. I need to understand rationale.