Distribution

Andyhi Brade Chadp Chrisbr Davebe Daveby Davesta Davidcol Jimla Johnen Johnhe Kalak Marcw Mariannj Marionj Mikedr Melissmo Navcenj Paulha Philba Richt Scottme Terrib Tomle

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Slick Spec (Win 3.0 + DOS 5.0)

Document Custodian: Eric StraubRevision:0.5Last Changed Date:5/16/91 by Eric J. StraubLast Printed Date:5/16/91

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Introduction

Our main objective is to get DOS 5.0 and Windows on as many machines as possible. To facilitate this, a product will be developed which installs both DOS 5.0 and Windows 3.0

This specification describes the some alternate implementations approach for Slick. It also discusses options which have been considered and rejected, for a single DOS/WIN product which includes a single setup for both DOS and Windows. The main work in this product will be development of the installation program, and adjusting product documentation to be consistent with the DOS 5/Win 3 environment.

The Specificiation consists of the following sections: approaches are discussed:

Open Issues -	Issues which were still open as of this revision of the specification.
Slick Approach -	Integrate the two installs, merging the setup sereens and making-it appear as one single setup program. Support uninstall of DOS (but not Windows), and support installing either Windows or DOS separately.
Slick Functional	
Overview -	Functional desemption of Slick including a processing narrative, details on changes to the DOS Only Setup, and changes to the command line switches.
Slick Schedule -	Schedule/Resource requirements for Slick project.
Rejected Slick Enhancements -	Several enhancements to the Slick approach were considered, but rejected. These are discussed in this section.
<u>Alternate (</u> Hack <u>)</u> Approach -	Discussion of an alternate approach which was considered and rejected. Run DOS 5.0 setup to completion, then reboot and run Windows Setup to completion.

Each of these is described in more detail below. The Hack approach has been ruled out since it is only slightly better than just sticking the boxes together.

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Open Issues

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This section lists known issues which had not been resolved as of this revision of the Slick specification. Email names in parenthesis are the owners of those issues.

- * What to do about Setup/n and Setup /a (Tomle)
- Are there any license issues with shipping 3-rd party files from the DOS 5.() upgrade in Slick? (Brade)
- What languages will the product be shipped in? (Bradsi)
- Will OEM's be part of the beta test? If so, which OEM's do we tell about it? (Bradsi)
- Will it be a problem for us to ship retail Slick before OEM's have a version ready? (Bradsi)
- What development will need to take place to ensure that we have DOS 5.0+Win
 3.1 at the same time as Win 3.1? (Marcw)
- What documentation issues must be resolved to make Slick for Win 3.1 acceptable? (Chrisbr)
- * What will Slick be called (DOS 5.0/Win 3.0)? (Richt)
- * On the "minimal question" install, should we remove the choices for view readme, setup printers, and setup apps? (tomle)
- * Need to fix Win maintenience mode Setup to not have hard coded disk numbers for certain files (including SDL). (Marcw). This needs to get resolved so we can go forward with defining the diskette labels (we'd like to use Disk 1-n).

Slick Hardware Requirements

Slick will require around 9 megabytes of free disk space to install both DOS and Windows. Windows only install is around 6.5 (varies depending on the system) and DOS is 2.8.

Slick will require a 1.2 or 1.44 Meg diskette drive. Other HW requirements are identical to Windows 3.0.

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Slick Functional Overview

The Slick approach involves merging the DOS Setup functionality into the Windows setup program. Uninstall of DOS is supported, as is install of DOS/Windows separately. In addition, all existing DOS Setup switches are supported when installing only DOS, and the same is true when installing only Windows. The following table summarizes the benefits and shortcommings of this approach:

Processing Narrative for Slick-Approach

The Slick setup proceeds as follows:1

- If DOS 3.1 or later, Setup displays merged DOS/Win welcome screen, with following choices:
 - Install DOS and Windows
 - Install DOS Only
 - . Install Windows Only

If the user chooses Install DOS Only, the existing DOS 5.0 Setup is spawned. If they choose install Windows only, <u>Slick runs, with all DOS</u> <u>specific options removed the existing Windows Setup is completed</u>. The rest of this processing narrative discusses what happens if they choose both.

In addition to choosing what to install, the user has the option to minimizeing setup questions. This option is the default. It is discussed in the following section. If they choose this option, Setup will avoid showing the user the sysinfo senser (it will just take the default).

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User Ed will be involved in design of the Setup screens from the be; CONFIDENTIAL

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If the user's existing DOS is version 2.11-3.0, DOS prints a message informing the user that they must install DOS 5.0 first, then install Windows. The user will have the choice to exit setup or install DOS.

If the user attempts to install Slick on a system with >2 internal floppy drives (this will cause some of the disk drive letters to change since DOS 5.0 forces C; to be a fixed disk). Setup will inform the user that the drive letters will change and offer them the option to install only

If the user attempts to install Windows onto a partition which is not formatted. Setup will

If the user Chooses Install MS-DOS 5.0, the DOS 5.0 Setup program is spawned.

If Setup detects that no local fixed disk is installed, it will default to windows only setup, since DOS 5.0 setup will not be able to proceed.

 Network Choice Screen. This screen has a list of networks, with the detected network as the default. The list will contain all networks which Windows detects, plus "None" and "Other".

If the user takes any choice, except "none", the Network Warning screen will be displayed. This screen will tell the user that they need to see getting started to ensure that their network is updated. The options will be to continue setup or exit. If the user chooses Exit, then Setup will save their network choice (from the previous screen) and exit. When Setup is run again, it will know which network was selected and proceed directly to this screen (eg won't go to the network screen).

Issue: What if the user makes the wrong choice? How will they be able to set the right choice? Delete the file where the date is stored? A setup switcy?

DOS Network warning screen with Windows Network choice integrated. Something like:

"network warning stuff (from DOS 5:0)"

Network: User chooses network - Setup defaults to whatever is detected.

Continue Setup

(After user sets network, they select either Continue or Exit Setup)

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 If no network is detected, the default action is Continue Setup. If ANY network is detected, the default action is to Exit Setup.² 3). Uninstall Screen - explains need for uninstall disk. 43) Offer the user the option of backing up their hard disk. If they choose yes, run HDBACKUP_When HDBACKUP is complete, it will spawn Setup again. 54) The Sysinfo screen.³ This is identica: to the Windows 3.0 System info screen, except for the following changes: Add field for Windows directory Add field for DOS Directory (Setup will not accept any driver other than C: for DOS Setup - It MUST be obvious to the user that they cannot change the C:, as this is a common complaint about DOS 5.0 Setup; Windows can be put anywhere). Remove field for Network choice (it is moved to the network choice screen). Note: When running Win Only setup, a seperate (but similar) screen is used here. It will not have choices for DOS Type or DOS Path. Setup will not let the user install Windows to a partition which is not formatted. If Setup detects such a case, it will offer the user the option to either exit Setup, or choose a different partition. (5) Enough files are copies to HD to start windows 7) If we are running in "ask all questions," mode, then ask the user if they wish to have Windows start automatically when the system starts up (when user choises minimal questions, Win line is always put at end of Autoexec). (6) User gets option dialog with checkboxes for: viewing readme files, setup prilications. (This is identical to Win 3.0). 			The Network the equivalent of the line in the Windows 3.0 Setup System Info screen.
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 <u>7)</u> If we are running in "ask all quesitons" mode, then ask the user if they wish to have Windows start automatically when the system starts up (when user choses minimal questions. Win line is always put at end of Autoexec). <u>86</u>) User gets option dialog with checkboxes for: viewing readme files, setup printers setup applications. 			If Setup detects such a case, it will offer the user the option to either exit Setup.
 <u>have Windows start automatically when the system starts up (when user choses minimal questions. Win line is always put at end of Autoexec).</u> <u>86</u>) User gets option dialog with checkboxes for: viewing readme files, setup printers setup applications. 	ĺ	<u>6</u> 5)	Enough files are copies to HD to start windows
 viewing readme files, setup printers setup applications. 		<u>7)</u>	have Windows start automatically when the system starts up (when user choses
(This is identical to Win 3.0). CONFIDENTIAL		<u>8</u> 6)	 viewing readme files, setup printers
			(This is identical to Win 3.0). CONFIDENTIAL

We will use the Windows network detection code (perhaps with bug fixes). Note that windows 2 detects a lot more networks than are listed. Thus, the default action (exit or continue) will be correct almost all of the time. Windows prompts for language/keyboard layout, but doesn't change the code page to match the

3 language. Should we enhance the setup to adjust the DOS language/keyboard information

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- 27) User gets gas gauge while the files are copied to the HD. Setup proceeds as windows 3.0 does until it gets to the end of windows setup:
 - Gas gauge till all files copied. This will be the same as when installing Win 3.0, except that the user will be prompted for an uninstall disk.

If user interupts (by rebooting, power off, etc.) Setup prior to the start of copying the DOS files, they will have part of Windows on their disk, with their old DOS. If they interupt Setup during DOS files (eg after the master boot record is written), they will get the "DOS installation incomplete - insert the uninstall disk" message. Their only choice at this point will be to uninstall DOS (using the uninstall diskette).⁴

Note: If the user installs Windows to a drive other than C:, they may not be able to run Windows when Setup is complete, since the drive may not be accessible under DOS 5.0.

- Printer Setup
 - Ask user about Config.sys/Autoexce adjustments:5
 - Accept changes to System files?
 - View/Edit changes to System-files?

And a check box at the bottom saying

"Run Windows on System Startup?"6

Note: Since DOS Setup does a lot of moving of lines in the System files, the Old File and New File windows will be unsynched. That is, scrolling one window will not scroll the other.

application setup

108) Setup displays message saying Setup is complete press any key to reboot.⁷

Processing Narrative for Slick when Minimize Setup Ouestions is choosen

This is the default mode of install. When the user chooses this option from the beginning screen. Setup takes the defaults (instead of asking the user), and skips the following screens:

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⁴ This is different from the DOS Only setup. In that case, the user also has the option to continue with Setup. Support for continuation of setup is discussed in the <u>Rejected Slick Enhancements</u> section.

⁵ This is a change from the processing order (f DOS 5.0 upgrade, DOS 5.0 upgrade modifies the system files prior to copying the files to the HD.

⁶ Default will be YES.

⁷ Reboot is required since their HD may have changed. This is different from Win 3.0 in that they also offer options to restart windows and to exit to DOS.

Processing Narrative for Slick when Minimize Setup Questions is choosen

This is the default mode of install. When the user chooses this option from the beginning screen. Setup takes the defaults (instead of asking the user), and skips the following screens:

- Sysinfo screen
- Net choice screen
- Start Windows on System Starup option *

View File Changes

Note: Setup will not save the net choice if the user exits at the net warning in this case (since the user did not specify it).

Windows Specific Changes to Setup

We will fix the following problems in Windows Setup:

- Multiple Cti-Z at end of WIN.INI causes crash $\mathbf{1}$
- 2) Save comport settings during mouse detection
- 3) Olivetti M86 keyboard crash
- 4) PS/1 detected as having a network.

We will modify the Windows file copy code to handle normal or compressed (eg with extensions ending in underscore) file names.

We will modify the Windows Autoexec modification code to put the TEMP environment variable immediately after the first PATH statement in the AUTOEXEC.

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Changes to DOS 5.0 Only Setup

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The following changes to DOS 5.0 Setup will be implemented (these effect DOS 5.0 Setup when user chooses DOS only option)

- DOS 5.0 Setup will be modified to support a new switch, /t, which disables Setup's video detection. This option is intended for systems on which DOS setup doesn't work. It will allow users to complete installation.
- Final message in DOS 5.0 Setup will be modified to inform user how to install Windows. Something like:

"MS-DOS 5.0 Setup is complete. Press any key to reboot your system. To install Windows, run Setup after restarting your system and choose the "Only install Windows" option.

DOS 5.0 Setup text which refers to readme changed to refer to READDOS TXT. and to use section titles instead of Section numbers.

Comparison of Command Line Interface (Win Setup vs DOS Setup)

The following table lists all of the switches for Windows 3.0 Setup and for DOS 5.0 Upgrade and OEM Setups::

Docu-	Switch	Win Setup	DOS Upgrade	DOS OE! Descriptio	-
mented Yes	/B	Description	Setup Description Use B&W instead of color display	Use B&W of color d	V instead
No	ДÌ	N/A	Don't offer welcome or backup screen (used by HDBACKU	N/A	
Yes	/F:file	Specify setup.inf file	/F is install to floppy	/F is insta floppy	ull to
No	/H	N/A	No longer used	No longe	r used
Yes	Л	Disable Detection	N/A	N/A	
Yes	M	N/A	Install a minimum DOS 5.0 System (eg do disk tweaking and put system files on disk).	N/A	
Yes	/N	Network Setup	New System Files (config.sys/Autoexe c cannot be used).	N/A	CONFIDENTIAL
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No	/R	N/A	Root directory check has already been completed (set by HDBACKUP).	N/A
Yes	/S:file	Specify path to setup disks	N/A	N/A
Yes	/U	N/A	Allow install even it incompatible disk partitions are detected.	N/A
Yes	/W:file	Specify path where setup should be installed	N/A	N/A
No	/X	Disable copying of files (debug only)	N/A	N/A
No	/Z	N/A	Don't perform Bernoulli check	N/A

The following switches will be in Windows 3.1:are in the Windows 3.1 spec:

Switch	Win Setup Description	DOS Upgrade / OEM Setup Description	Recommendation
/ <u>B</u> M	Force Setup use of Monochrome display attributes	Force Black and White mode Setup. minimum install.	Change switch to /B for Windows 3.1
/P	Force Seteup in Standard Mode	N/A	N/A
/R	Force setup in real mode	N/A	N/A
/ <u>???</u> ₳	Make setup copy, expand, and set readonly attribute of all files to a given directory (used to prepare for setup over net and for setup with /N switch)	N/A	N/A
/ <u>A</u> B:	Batch type install. "," is actually a bunch of options (or a file name this is an open issue with Win 3.1.	<u>N/A</u> Foree Black and White mode	Change switch name (/H for hands off?)
<u>/Q</u>	(same as /F in 3.0) force first time setup and specify location of .INF file	<u>Eloppy install</u>	

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Pros/Cons of Slick Approach

Pros	Cons
User gets to Win-GUI quickly	Requires Windows GUI developer to implement the Windows portion.
Product appears to be a single integrated	1
product.	Requires DOS 3.1 to run setup for both (since Windows setup needs 3.1 to run).
Some common complaints with DOS 5.0 Setup are addressed: view readme, control of config/autoexec modification.	However, DOS 2.11-3.0 can be updated by running DOS setup, then Windows
-	May be harder to differentiate between
Supports installation over the network without requiring the network to be restarted by the user	DOS/Windows setup problems since both DOS and Windows are put on the system at the same time.
	Uninstall only removes DOS 5 (not Windows) and does not offer Continue option

Documentation changes

The Windows 3.0 Q&A and some of the information from the DOS README.TX f will be moved into printed docs. To reduce the size of the Getting Started guide, there will be two books: Getting Started, and a Tips guide (need a name for this).

In addition, the Windows Users Guide and the DOS User's Guide will be reviewed for consistency and cosmetic issues. One known problem is that Windows ships EMM386.SYS and DOS ships EMM386.EXE.

Schedule Estimate for Slick approach®

DOS Development:

5 weeks9 (plus I day fro /i switch) of Johnhe and, 5 weeks of Davebe full time then 20% for duration of test. 2 days will be needed to fix existing problems in Windows Setup. incorporate the following problem fixes into Setup: \rightarrow

- Multiple Ctl-Z at end of WIN.INI causes crash
- 2Save com port settings during mouse detection
- 3) Ohveth M86 keyboard crash

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Work efforts are developer estimates, assuming 40 hour weeks with a "Leave me alone mandate". That is, they will refuse to do any other work which will impact this deliverable. Longer duration accounts for communication inefficiencies and learning curve of new developer.

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- 1) Setup detects a DM (or Speedstor partition)
- Setup checks Config.sys for the disk device driver. If it sees the appropriate file, it offers the user a dialog something like:

"Setup has detected an older version of Disk Manager disk partitioning software. A newer version of this Disk Manager is required for MS-DOS 5.0. The necessary file is included in MS-DOS 5.0. If you wish, Setup can put these files on your hard disk and modify CONFIG.SYS to use the newer file.

Note: the new Disk Manager file is compatible with versions of DOS 3.??? through 5.0. However, once you use this version of the driver, you must continue to use it, even if you go back to your older version of DOS

<Make Config.sys adjustments and continue setup> <Exit Setup>

The default action will be to make the adjustments.

If Setup doesn't see the disk device driver in CONFIG.SYS, it displays a warning to the user saying that it has detected and incompatible partition and points the user to the readme.

Work Estimates:

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DOS Development:	1 [1.2] week plus whatever problems crop up.
Test:	1 week

Support for Setup Scripts

Support a switch on Setup which specifies a script file for Setup to use. This would allow for hands off installation of DOS/Windows. Since this is a planned feature of Windows 3.1, the estimates to support in Slick vary depending on which version of Windows is used:

DOS Development:	2 [2.5] days
Win Development (assume Win 3.1)	2 [2.5] days
Test:	1 week
Win Development (assume win 3.0)	2 [2.5] weeks
Test:	Feels this is too risky to try.

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Incorporate DOS Error Message Descriptions into DOS User's Guide

The documentation of the DOS error messages is already underway. It should be completed in July. We could add these as appendix to the DOS User's Guide.

Work Estimates:

Editor: 3 days Translation: TBD (This would be new text to localize).

Automatic Update of Network Files

More thought on this is required prior to an estimate. We believe that the amount of development will be on the order of a month, but that there will need to be around a month of research to determine how to detect the different networks before we can produce a reliable estimate for the amount of work here.

Network Specific Text with Option to Print

One suggested enhancement is to prompt the user for a network, with a default and a list to choose from. The list of choices includes all networks which Windows needs to know about, or for which adjustments are necessary to work properly with DOS. In addition, the list includes a "Don't Know". Default in the list is based on which network is running.

If the user picks a network which requires modifications to work with DOS 5, Slick presents the user with the specific description of what they need to do. At this point, they can either print the directions, write them to a file, exit setup, or continue with setup.

This was rejected because there is no reliable way to print from DOS (don't know which port to print to, which printer drivers are needed, etc). Also, it would be a fair amount of work for Setup.

Automatic Configuration to use Upper Memory Blocks

Slick setup could adjust config.sys to utilize upper memory on 386 machines. There are potentially a lot of issues with this one however. It will require further thought before a schedule estimate can be provided.

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Setup /n (install user only stuff to Network dir) Support

There are some issues with this. For example, which files must be put on the hard disk? All files which are used before starting the network must be put on the local drive. We have no way of knowing where the network is started.

One option would be to support a /N:file option where file contains a list of files which need to be installed on the fixed disk.

This one needs to be thought through more carefully prior to estimating, if we wish to pursue it.

Improved Error Messages from DOS Setup

There are several messages in the DOS Setup which could be improved. For example, the message for invalid media doesn't specify which drive has the problem. Although it is non-trivial, it is possible to detect the drive letter of the offending drive.

Error message improvements are an open ended area. Schedule assessment depends on which messages are addressed.

Hack Alternative

The Hack approach is to modify the DOS 5.0 Setup to cause windows setup to be invoked after DOS 5.0 installation has rebooted the system. The biggest issue with this approach is that the network disappears when DOS 5.0 Setup reboots the system. We do not know of any good work around for this, and thus have decided to not investigate this approach any further than what is provided below.

Processing Narrative for Hack Approach

The hack approach works as follows:

- 1) DOS 5.0 setup is run to completion.
- 2) When DOS 5.0 Setup is complete, it makes the following additional adjustments:

Adds line to Autoexec.bat to invoke "How to continue message"

- b) Creates a batch file, C:SETL P2.BAT, to invoke windows setup
- 3) Reboots system
- 4) System boots and first line in Autoexec is the "how to continue message" which works something like this:
 - a) Prints:

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"DOS 5.0 is now installed on your system. To complete the installation of DOS/Windows, do the following:

- 1) Start your network, using the command you
 - normally use to start your network.
- 2) Type c:\SETUP2 and press enter
- b) Returns user to DOS prompt At this point, the user must start their network and run C:NETUP2.
- 5) SETUP2 prompts the user to insert Disk N (which contains windows setup). When the user does this, Setup2.bat invokes the Windows setup program.

Pros/Cons of Hack Approach

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While this approach sounds ugly, it doe have some benefits. The following table shows the pros and cons:

Pros	Cons
Easy to develop/test (requires no changes to Windows setup)	Only slightly better than just sticking the boxes together. User must manually start their network after DOS portion
Easy to support setup of only DOS or only Windows (Win only 1s important for	completes, then restart Setup.
PSS).	Complicates setup over network (requires user to manually start network after DOS
Works with DOS 2.11 or later	5.0 is booted)
Setup/M & Setup/F for DOS	Obviously not a single product.
Easy to allow user to setup DOS w/o setting up Windows and vice versa.	

Detailed Description of DOS Setup Development Effort for Slick Implementation.

The following changes to DOS Setup (from Johnhe) will need to be completed to implement slick:

- I. Joint effort with Windows developer to develop a detailed specification of new combined program code flow and interface points/design
- Convert original setup code to allow it to use small/medium memory model C run-time library calls. Approximately 15 major source file conversions plus 146 smaller library module source files.

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- 3. Create a user interface adaptation layer to replace all of the DOS Setup program's generic user interface functions with similar functions using the Window's Setup character mode interfaces. Isolate all warning and error messages needed by the new character mode portion of the combined Setup.
- 4. Isolate and convert all needed DOS Setup messages into resources which are useable by the Window's GUI Setup.
- Convert DOS Setup initialization code to obtain hardware information along with command line switch information from the Windows Setup detection code via function arguments.
- 6. Port DOS Setup hard disk detection /vulidation and warning code to Windows character mode module.
- Rework all DOS Setup code which deals with copying the DOS files so that it will use the Windows Setup file copy functions. Also need to handle the case where files are renamed as they are copied such as with the DOS Shell configuration dependent files.
- 8. Port code which creates the Uninstal l Disk. Will require lots of work because Window's Setup does not allow drive A: to A: file copying. Also need to deal with file names which need to change as they are copied to the Uninstal disk.
- 9. Port code from DOS Setup for formatting and validating floppy disks (needed for creating the Uninstall disk).
- 10. Port code for creating/updating config.sys and autoexec.bat files. Also some changes to allow accessing the original copies of the files if they existed.
- 11. Port DOS Setup OEM database searching/extraction code to work in both the Window's GUI and character mode Setup programs.
- 12. Port DOS Setup hard disk fix-up code to the Windows GUI Setup.
- New packet passing code to pass information from the character mode Setup to the GUI mode Setup which is required by the DOS upgrade code.
- 14. There may be changes needed in the DOS 5.0 Uninstal program which will not be realized until a finial code design is complete.

Test Plan for Slick

Test plan will be put here.

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Document Revision History

EJSRev 0.4Added comments from initial reviews. Initiated Change control.|EJSRev 0.5Incorporated comments from 4/14-15 project reviews.

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