

Kernel Version 8.0

by Ed Hinkle

The Kernel consists of programs that function as a set of standard software tools. These tools provide a uniform interface between the underlying operating system and Decentralized Hospital Computer Program (DHCP) application modules. The Kernel supports DHCP modules through the coordination of database, device, menu management, background job scheduling, security, auditing, and programming functions.

The following is "the short list" of some of the many major enhancements to this new version of Kernel.

Kernel V. 8.0 introduces a new Kernel module.

KIDS

Kernel Installation and Distribution System (KIDS) is a replacement for the previous package installation and distribution system, DIFROM, which was part of VA FileMan. KIDS provides greater flexibility to both programmers and installers in package and database transport. Some of the new features include:

- The ability to export packages in transport globals (not INIT routines). Transport globals can be sent alone or in groups to a site. Transport globals can be sent in either an HFS file (called a distribution) or in a MailMan message.

- KIDS does not load an incoming package's routines when it runs the environment check for the package. KIDS only updates routines and other package components after you commit to run the installation.

- KIDS can be instructed to update routines on multiple CPUs in addition to the one that runs the main installation.

- All installation output is captured in a word processing field in the INSTALL file, as well as sent to the home device of the installation process.

- Installations are divided into phases using checkpoints. If an installation aborts, it can be restarted from the last completed checkpoint, rather than having to start over.

- It is no longer necessary to clean INIT routines off the system, since KIDS no longer uses INIT routines as the export mechanism. KIDS automatically deletes the transport global (the new export mechanism) when an install completes.

- Multiple packages can be sent in one distribution. The environment check routines can determine if any given package in a distribution should be installed or skipped.

Kernel V. 8.0 also introduces many incremental changes in the following areas:

Alerts

- When a group of information only alerts is selected to process, they can be read without being asked what action to take between each one.

- Forwarding is a new alert processing action. Individual alerts or groups of alerts can be forwarded to users and mailgroups or to a printer. They can be forwarded as either alerts or mail messages.

Device Handler

- The Spooler Menu has a new option to view spool documents using VA FileMan's Browser.

- Kernel supports VA FileMan Browser as a device. Any report sent to a device, can now be viewed in VA FileMan's Browser. An improvement over the home device, VA FileMan's Browser allows scrollable, searchable online viewing of any report.

- New fields in the TERMINAL TYPE file support enhanced printer capabilities: COLOR ON, COLOR OFF, SIMPLEX, DUPLEX LONG EDGE BINDING and DUPLEX SHORT EDGE BINDING.

Documentation

- The Kernel Systems Manual is reorganized into shorter, more focused, chapters.

- The Kernel documentation set is updated to reflect new Kernel modules and features.

- The Kernel documentation set is available in electronic form, in Adobe Acrobat's Portable Document Format (PDF).

Function Libraries

- The new Kernel XGF Function Library supports programmers designing textbased applications providing advanced screen handling capabilities. Functions supported include: cursor positioning, overlapping text windows, video attribute control, and keyboard escape processing, all in a textmode environment.

- The new `$$EN^XUA4A71` function returns the soundex representation of a string.

- The following functions provide entry points to convert numbers from one base to another (supports bases two through sixteen):

```
$$BASE^XLFUTL  
$$CNV^XLFUTL  
$$DEC^XLFUTL
```

Menu Manager

- A menu template (named LOGIN) can now be created that executes on your first signon each day.

- Out Of Order Option Sets allow sets of options to be defined and then enabled or disabled.

- Enhanced error processing for DSM for OpenVMS sites is supported. For versions of DSM for OpenVMS that support the proposed '95 M Standard, Kernel's error trap captures variables in their state at the time errors occur, regardless of how variables may have been NEWed beforehand.

Stack levels for the routine call stack are recorded in the error trap in the `$STACK` variable. When MSMDOS supports the enhanced error processing in the proposed '95 M Standard, a Kernel patch will be issued to support the MSMDOS implementation.

- The new `$$ADD^XPDMENU` function allows an option to be added to a menu.

- The new `OUT^XPDMENU` entry point allows an option's OUT OF ORDER MESSAGE field to be edited.

Signon/Security

- Voice Pager and Digital Pager fields can now be edited through the Electronic Signature Code Edit option.

- In the Edit User Characteristics option, the existing verify code must be entered before the verify code can be changed.

A new post-sign-in message, similar to the current introductory text, is displayed by Kernel after the user has signed in.

- The new DISUSER field in NEW PERSON file can be used to prevent a user from signing on, while still leaving their account enabled.

Task Manager

- TaskMan now stores tasks in `^%ZTSCH` subscribed by the total number of seconds in their scheduling time (as contained in `$H`), rather than in direct `$H` format. As a result, tasks now sort in the order scheduled.

- TaskMan user interface routines have been moved out of the ZTM namespace in the manager's

account, and into the XUTM namespace in the production account.

- A new option, SYNC Flag File Control, cleans up after the failure of a job using TaskMan SYNC FLAGS.

Miscellaneous

- Kernel site parameters have been moved out of the KERNEL SITE PARAMETERS file (#4.3), which is stored in `^XMB`, and placed in the KERNEL SYSTEM PARAMETERS file, stored in `^XTV(8989.3,` and the KERNEL PARAMETERS file, stored in `^XTV(8989.2,`. File #4.3 continues to store MailMan-related site parameters.

- Kernel provides limited support for the DataTree and M/SQL M implementations.

- Kernel now uses `^TMP` for temporary storage, rather than `^UTILITY`.

- VA FileMan 21.0, MailMan 7.1 and Kernel Toolkit 7.3 are not part of Kernel 8.0 but are **REQUIRED**. Kernel Version 8.0 with printed manuals, is available to MTA members for \$125.00. Kernel Version 8.0 with documentation in Adobe Acrobat format, is available to MTA members for \$65.00 and comes with Adobe Acrobat reader for Windows. **M**

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