Introduction

Kernel provides DHCP's computing environment. Users of DHCP software work in a computing environment structured by the Kernel. Managers of DHCP computer systems track the users of their systems and resolve problems by using Kernel options. Developers of DHCP application software rely on tools provided by the Kernel to perform routine programming tasks.

By offering a computing environment that hides the non-standard features of M, the Kernel frees DHCP users, programmers, and system managers from dependence on any one vendor's implementation of M. This allows DHCP to shift easily to new hardware and software platforms as computer science advances into the twenty-first century.

For more information about Kernel, consult these related manuals:

- ***Kernel Installation Guide***
- ***Kernel Release Notes***
- ***Kernel Security Tools Manual***
- ***Kernel Systems Manual***
- ***User's Guide to Computing***
- **DHCP Programming Standards and Conventions (SAC)**

Orientation

This manual is intended for use in conjunction with the Kernel package itself. Items included in the release of the Kernel, such as routines and files, are only briefly described for quick reference. To gain a comprehensive understanding of the internal mechanisms of the Kernel, the reader will need to begin with VA FileMan, MailMan, and other Kernel manuals and follow with a query of the system software itself.

The *Kernel Installation Guide* has detailed information regarding the installation of the Kernel. Installing the Kernel both on a system having a previous version of the Kernel present and on a system without Kernel (a "virgin" install) is explained in the *Kernel Installation Guide*. It also contains many requirements and recommendations regarding how the Kernel should be configured. Be sure to read the it before attempting to install the Kernel.

Other sections in the *Kernel Technical Manual* contain recommendations for global mapping, journaling, translation, and replication. There is also a section containing recommendations for purging in Kernel.

Site Parameters

This section lists the site parameters that can be set to customize the operation of the various components of the Kernel.

File Changes for Site Parameters with Kernel V. 8.0

Kernel V. 8.0 exports three central site parameter files, where before it only exported one. The three files are:

KERNEL SITE PARAMETERS (# 4.3)	**Stored in ^XMB, this file formerly contained Kernel's site parameters along with Mailman's. Due to package separation and namespace considerations, Mailman's site parameters continue to be stored in this file, but Kernel's site parameters have been moved to the KERNEL SYSTEM PARAMETERS file.**
KERNEL SYSTEM PARAMETERS (# 8989.3)	**Kernel's main site parameters that were formerly stored in File #4.3 are now stored in this file.**
KERNEL PARAMETERS (#8989.2)	**This new file holds parameters that Kernel uses which the site is allowed to change. It is not restricted solely to site parameters. It is still in the development stage. The file makes use of a DEFAULT value field and a REPLACEMENT value field for each parameter.**

Kernel System Parameters (Stored in File # 8989.3)

```
Operations Management ...                                [XUSITEMGR]
  Kernel Management Menu...                               [XUKERNEL]
     Enter/Edit Kernel Site Parameters                   [XUSITEPARM]
```

AGENCY CODE — This field defines what agency uses this computer. It sets a flag which may be accessed by applications programs which need to know this information.

ASK DEVICE TYPE AT SIGN-ON — This is the default for whether a user/terminal should be asked for their terminal type at sign-on. This is overridden by a similar field in the DEVICE and NEW PERSON files. If set to YES, then an ANSI DA is sent to the terminal to collect the terminal's DEVICE ATTRIBUTES message. If it is a known one, then the terminal type is set to this. Otherwise the user is prompted. If set to NO, then the one from the Last Sign-on field or device subtype will be used.

AUTO-GENERATE ACCESS CODES — If this field is set to YES, the person assigning access codes must choose one of the automatically generated codes that are presented. Other codes are only accepted if this field is set to NO.

BYPASS DEVICE LOCK-OUT — Setting this field to YES will cause all device lock-out checking to be bypassed. This means that during sign-on the checks against the DEVICE file for OUT OF SERVICE, SECURITY, and PROHIBITED TIMES FOR SIGN-ON will be skipped. Can be overridden by the PERFORM DEVICE CHECKING file in the DEVICE file.

DEFAULT # OF ATTEMPTS — This is the default number of attempts that a user is allowed when trying to sign on before the device is locked. This field is overridden by a similar field in the DEVICE file. ALL checking for device lockout may be bypassed by setting the BYPASS DEVICE LOCK-OUT field.

DEFAULT AUTO-MENU — This is the default for whether auto-menu is turned ON or OFF. It is overridden by similar fields in the DEVICE and USER files.

DEFAULT INSTITUTION	**This field is used to define a default institution that will be assigned to the user's institution (DUZ(2)) for any user that does not have one.**
DEFAULT LANGUAGE	**This is the default language used to set the DUZ("LANG") flag for each user. VA FileMan uses this setting to enable the display of language-specific dates and times, numeric formats, and dialogs.**
DEFAULT LOCK-OUT TIME	**This is the default time in seconds that a locked device must be idle before another sign-on attempt will be allowed. This time is overridden by a similar field in the DEVICE file. ALL checking for device lockout will be ignored if the BYPASS DEVICE LOCK-OUT field is set to YES.**
DEFAULT MULTIPLE SIGN-ON	**This is the default value for whether users may sign-on at more than one terminal at a time. It is overridden by similar fields in the DEVICE and NEW PERSON files.**
DEFAULT TIMED-READ (SECONDS)	**This is the default time-out for all READs and is overridden by similar fields in the DEVICE and USER files.**
DEFAULT TYPE-AHEAD	**This is the default as to whether or not Type-Ahead is allowed. It is overridden by similar fields in the DEVICE and USER files.**
DEVICE TO AUDIT	**See the Audit-Related Site Parameters section later in this chapter for information on this parameter.**
FAILED ACCESS ATTEMPTS	**See the Audit-Related Site Parameters section later in this chapter for information on this parameter.**
INITIATE AUDIT	**See the Audit-Related Site Parameters section later in this chapter for information on this parameter.**
INTERACTIVE USER'S PRIORITY	**This field will change the priority of interactive users on the system at sign-on time. There is a danger that using this field will cause the users to have poor response time from the computer.**

LIFETIME OF VERIFY CODE	**This is the number of days that a VERIFY code remains valid. After this time the user must choose a new VERIFY code.**
LOG RESOURCE USAGE?	**This YES/NO field is used to indicate whether resource usage data such as CPU seconds, DIO, BIO, etc. will be collected in ^XUCP(. See the documentation for the DHCP package Kernel Toolkit for more information on this field.**
LOG SYSTEM RT?	**A subfield in the VOLUME SET multiple. Setting this field to YES enables system response time logging, which will only take place if the necessary code exists in the application software. See the documentation for the DHCP package Kernel Toolkit for more information on this field.**
MAX SIGNON ALLOWED	**A subfield in the VOLUME SET multiple. This field defines the maximum number of jobs that XUS will allow to sign-on to this VOLUME SET or CPU. It is the number of processes (interactive, background, and system) that can be active on the machine at any one time. When reached, Kernel will prohibit logons.**
MAX SPOOL DOCUMENTS PER USER	**See the Spooler Site Parameters section later in this chapter for information on this parameter.**
MAX SPOOL DOCUMENT LIFE-SPAN	**See the Spooler Site Parameters section later in this chapter for information on this parameter.**
MAX SPOOL LINES PER USER	**See the Spooler Site Parameters section later in this chapter for information on this parameter.**
NAMESPACE TO AUDIT	**See the Audit-Related Site Parameters section later in this chapter for information on this parameter.**
NEW PERSON IDENTIFIERS	**Holds M code to Set the variable DR to the string of fields (not a template) to be used as identifiers when adding entries to the NEW PERSON file.**
OPTION AUDIT, OPTION TO AUDIT	**See the Audit-Related Site Parameters section later in this chapter for information on these parameters.**

ROUTINE MONITORING, ROUTINE N-SPACE TO MONITOR	**These fields support routine auditing. See the *Kernel Security Tools Manual* for more information.**
TERMINATE AUDIT	**See the Audit-Related Site Parameters section later in this chapter for information on this parameter.**
USER TO AUDIT	**See the Audit-Related Site Parameters section later in this chapter for information on this parameter.**
VOLUME SET (Multiple)	**This is the name of each CPU or Volume Set in the domain. Within each Volume Set, you can set: MAX SIGN-ON ALLOWED and LOG RT?.**

Kernel Parameters (Stored in File # 8989.2)

Kernel does not export an option to edit these parameters. This new file (#8989.2) holds parameters that Kernel uses which the site is allowed to change. It is not restricted solely to site parameters. It is still in the development stage. The file makes use of a DEFAULT value field and a REPLACEMENT value field for each parameter. Rather than having a specific field for each parameter, one multiple holds all parameters.

Kernel currently stores the following active parameters in this file:

XUEDIT CHARACTERISTICS	**You can enter the name of a replacement for the standard Edit User Characteristics template in the REPLACEMENT field. Kernel will then use the replacement for the Edit User Characteristics option.**
XUNEW USER	**You can enter the name of a template to use in the Add a New User to the System option in the REPLACEMENT field. Kernel will then use the replacement template for the Add a New User to the System option.**
XUREACT USER	**You can enter the name of a template to use in the Reactivate a User option in the REPLACEMENT field. Kernel will then use the replacement template for the Reactivate a User option.**
XUSER COMPUTER ACCOUNT	**You can enter the name of a help frame in the REPLACEMENT field. Kernel will then use the replacement help frame instead of the standard one when printing the computer access letter from the Add a New User to the System option.**

Audit-Related Site Parameters

```
System Security...                                        [XUSPY]
  Audit Features ...                                  [XUAUDIT MENU]
    Maintain System Audit Options...                  [XUAUDIT MAINT]
      Establish System Audit Parameters                     [XUAUDIT]
```

You can edit audit-related site parameters using the Establish System Audit Parameters option (the fields are also reachable from Enter/Edit Kernel Site Parameters). For more information on auditing, please see the *Kernel Security Tools Manual*.

INITIATE AUDIT
This field indicates the date when an audit will begin. The OPTION AUDIT field defines the nature of the audit that will be performed. Auditing will only be done if there is both INITIATE AUDIT and TERMINATE AUDIT data.

TERMINATE AUDIT
This field indicates when audits will end. The start date is set in the INITIATE AUDIT field.

OPTION AUDIT
This field indicates what should be audited between the INITIATE AUDIT date and TERMINATE AUDIT date fields. The OPTION TO AUDIT subfile along with the NAMESPACE TO AUDIT subfile hold the lists of specific options that would be audited (choosing "s"). The USER TO AUDIT subfile holds the list of users that would be audited (choosing "u"). The choices are:

n for NO AUDIT
a for ALL OPTIONS AUDITED
s for SPECIFIC OPTIONS AUDITED
u for USERS AUDITED

DEVICE TO AUDIT (multiple)
This field is referenced when the FAILED ACCESS ATTEMPT AUDIT field is set to D or DR. It is used to specify the logical names of the devices on which to audit failed attempts.

NAMESPACE TO AUDIT (multiple)
This field holds a package namespace. All options within that namespace will be audited if the OPTION AUDIT Field is set to "s" (specific options).

OPTION TO AUDIT (multiple)

This field holds the name of an option that will be audited if the OPTION AUDIT field is set to "s" (specific options).

USER TO AUDIT (multiple)

This field identifies a user whose use of options will be audited if the OPTION AUDIT field is set to "u" (users audited).

FAILED ACCESS ATTEMPT AUDIT

This field indicates whether an audit log is to be generated for failed access attempts. Audits can be done for all devices or specified devices only. Recording of what is entered is optional.

A	**ALL DEVICES/NO TEXT RECORDED**
D	**SPECIFIED DEVICES/NO TEXT RECORDED**
AR	**ALL DEVICES/TEXT RECORDED**
DR	**SPECIFIED DEVICES/TEXT RECORDED**
N	**NO AUDIT**

Spooler Site Parameters

```
Spool Management...                                    [XU-SPL-MGR]
  Spooler Site Parameters Edit                        [XU-SPL-SITE]
```

You can edit spooler-related site parameters with the Spooler Site Parameters Edit option (the fields are also reachable from Enter/Edit Kernel Site Parameters). For more information on the Spooler, please see the Spooling chapter of the *Kernel Systems Manual*.

MAX SPOOL LINES PER USER	**This field holds the MAX number of lines of spooled output a user is allowed. If the user has more than this number then they will not be allowed to spool any more until some of their spool documents are deleted. This only controls the granting of new spool documents and doesn't terminate a job that is running that has gone over the limit. Recommended value 9999.**
MAX SPOOL DOCUMENTS PER USER	**This field limits the number of spool documents that any user may have on the system. Recommended value 10-100.**
MAX SPOOL DOCUMENT LIFE-SPAN	**This field controls the number of days that a spooled document will be allowed to remain in the spooler before deletion by the XU-SPL-PURGE option that needs to be setup to run in the background.**

TaskMan Site Parameters

There are three separate groups of site parameters for TaskMan. They are stored in the following files:

- **TASKMAN SITE PARAMETERS (#14.7)**
- **UCI ASSOCIATION (#14.6)**
- **VOLUME SET (#14.5)**

For information about configuring Task Manager's site parameters, please see the Task Manager System Management: Configuration chapter of the *Kernel Systems Manual*.

Routines

This section lists the routines exported with the Kernel.

Manager's Account Routines

%ZIS	%ZTM	ZIS4MSM	ZOSV1VXD
%ZIS1	%ZTM0	ZIS4MSQ	ZOSV2MSM
%ZIS2	%ZTM1	ZIS4VXD	ZOSV2VXD
%ZIS3	%ZTM2	ZISETDTM	ZOSVDTM
%ZIS5	%ZTM3	ZISETMSM	ZOSVMSM
%ZIS6	%ZTM4	ZISETMSQ	ZOSVMSQ
%ZIS7	%ZTM5	ZISETVXD	ZOSVVXD
%ZISC	%ZTM6	ZISFDTM	ZTBKCDTM
%ZISP	%ZTMOVE	ZISFMSM	ZTBKCMSM
%ZISS	%ZTMS	ZISFMSQ	ZTBKCMSQ
%ZISS1	%ZTMS0	ZISFVXD	ZTBKCVXD
%ZISS2	%ZTMS1	ZISHDTM	ZTMB
%ZISUTL	%ZTMS2	ZISHMSM	ZTMCHK
%ZTER	%ZTMS3	ZISHMSQ	ZTMCHK1
%ZTER1	%ZTMS4	ZISHMSU	ZTMDCL
%ZTLOAD	%ZTMS7	ZISHUNT	ZTMGRSET
%ZTLOAD1	%ZTMSH	ZISHVXD	ZTMKU
%ZTLOAD2	XUCIDTM	ZISX	ZTMON
%ZTLOAD3	XUCIMSM	ZOSFDTM	ZTMON1
%ZTLOAD4	XUCIMSQ	ZOSFMSM	ZUA
%ZTLOAD5	XUCIVXD	ZOSFMSQ	
%ZTLOAD6	ZINTEG	ZOSFVXD	
%ZTLOAD7	ZIS4DTM	ZOSV1DTM	

Production Account Routines

ORBSTAT
ORBUTL
ORF2
XGF
XGFDEMO
XGFDEMO1
XGKB
XGKB1
XGS
XGSA
XGSBOX
XGSETUP
XGSW
XLFDT
XLFDT1
XLFDT2
XLFDT3
XLFDT4
XLFHYPER
XLFLTR
XLFLTR1
XLFMSMT
XLFMSMT2
XLFMTH
XLFMTH1
XLFSTR
XLFUTL
XMGAPI4
XPDCOM
XPDCOMG
XPDCPU
XPDDCS
XPDDI
XPDDP
XPDE
XPDET
XPDGCDEL
XPDH
XPDI
XPDIA
XPDIA1
XPDIA2
XPDID
XPDIGP
XPDIJ
XPDIK
XPDIL
XPDIL1
XPDIN001
XPDIN002
XPDIN003
XPDIN004
XPDIN005
XPDIN006
XPDIN007
XPDIN008
XPDIN009
XPDIN00A
XPDIN00B
XPDIN00C
XPDIN00D
XPDIN00E
XPDIN00F
XPDIN00G
XPDIN00H
XPDIN00I
XPDIN00J
XPDIN00K
XPDIN00L
XPDIN00M
XPDIN00N
XPDIN00O
XPDIN00P
XPDIN00Q
XPDIN00R
XPDIN00S
XPDIN00T
XPDINIT
XPDINIT1
XPDINIT2
XPDINIT3
XPDINIT4
XPDINIT5
XPDIP
XPDIPM
XPDIQ
XPDIR
XPDIST
XPDIU
XPDKEY
XPDKRN
XPDMENU
XPDNTEG
XPDPINIT
XPDR
XPDRSUM
XPDT
XPDTA
XPDTA1
XPDTC
XPDTP
XPDUTL
XPDV
XQ
XQ1
XQ11
XQ12
XQ2
XQ21
XQ3
XQ31
XQ32
XQ33
XQ4
XQ41
XQ5
XQ55
XQ6
XQ61
XQ62
XQ6A
XQ7
XQ71
XQ72
XQ72A
XQ73
XQ74
XQ75
XQ8
XQ81
XQ82
XQ83
XQ83A
XQ83D
XQ83R
XQ8A
XQ9
XQ91
XQ92
XQ93
XQABELOG
XQABERR
XQABLIST
XQABLOAD
XQALBUTL
XQALDATA
XQALDEL
XQALDOIT
XQALERT
XQALERT1
XQALFWD
XQALMAKE
XQALSET
XQCHK
XQDATE
XQH
XQH0
XQH1
XQH2
XQH3
XQH4
XQH5
XQHLP
XQKEY
XQLOCK
XQLOCK1
XQOO
XQOO1
XQOO2
XQOO3
XQOR
XQOR1
XQOR2
XQOR3
XQOR4
XQORD
XQORD1
XQORM
XQORM1
XQORM2
XQORM3
XQORM4
XQORM5
XQORMX
XQORO
XQSET
XQSMD
XQSMD1
XQSMD2
XQSMD21
XQSMD3
XQSMD31
XQSMD4
XQSMD5
XQSMDCPY
XQSMDFM
XQSMDP
XQSRV
XQSRV1
XQSRV2
XQSRV3
XQSRV4
XQSRV5
XQSTCK
XQSUITE
XQSUITE1
XQT
XQT1
XQT2
XQT3
XQT4
XQT5
XQTOC
XQUSR
XTER
XTER1
XTER1A
XTER1A1
XTER1B
XTER2
XTERPUR
XTRMON
XUA4A7
XUA4A71

XUAPURGE
XUCIDTM
XUCIMSM
XUCIMSQ
XUCIVXD
XUFILE
XUFILE1
XUFILE3
XUGET
XUINCON
XUINEACH
XUINEND
XUINOK
XUINPRE
XUINTSK
XUINTSK1
XUINTSK2
XUP
XUPARAM
XUS
XUS1
XUS11
XUS1A
XUS2
XUS3
XUS3A
XUS4
XUS5
XUS6
XUS9
XUS91
XUSCLEAN
XUSER
XUSERBLK
XUSERNEW
XUSESIG
XUSG
XUSG1
XUSHSH
XUSHSHP
XUSMGR
XUSPURGE
XUSRA
XUSTAT
XUSTAT1
XUSTAT2
XUSTERM
XUSTERM1
XUSTERM2
XUSTZ
XUTMD
XUTMD1
XUTMDEVQ
XUTMDQ
XUTMDQ1
XUTMG145
XUTMG146
XUTMG14P
XUTMG19
XUTMG43
XUTMK
XUTMKE
XUTMKE1
XUTMKE2
XUTMONH
XUTMONH1
XUTMONH2
XUTMOPT
XUTMQ
XUTMQ0
XUTMQ1
XUTMQ2
XUTMQ3
XUTMQH
XUTMR
XUTMR1
XUTMRJD
XUTMRJD1
XUTMSYNC
XUTMT
XUTMTA
XUTMTAL
XUTMTD
XUTMTDL
XUTMTED
XUTMTEIO
XUTMTEP
XUTMTES
XUTMTL
XUTMTLD
XUTMTLU
XUTMTP
XUTMTP0
XUTMTP1
XUTMTPD
XUTMTPU
XUTMTR1
XUTMTR2
XUTMTR3
XUTMTR4
XUTMTS
XUTMTU
XUTMTUL
XUTMTZ
XUTMTZ1
XUTMTZ2
XUTMTZ3
XUTMUSE
XUTMUSE1
XUTMUSE2
XUTMUSE3
XUTMUTL
XUVERIFY
XUWORKDY
ZISEDIT
ZISHUNT
ZISPL
ZISPL1
ZISPL2
ZISX
ZTMB
ZTMCHK
ZTMCHK1
ZTMKU
ZTMON
ZTMON1
ZUA
ZUDTM
ZUMSM
ZUMSQ
ZUVXD

Additional Routines Installed by Virgin Install

Additional routines are brought in by the virgin install for the production account. They are:

XVIRENV
XVIRPOST

File List (Including Description and Location)

This section lists all the Kernel files with their file numbers, shows their global location, and gives a description. At the end of this section, an additional listing is made of other files which are brought in during a virgin installation.

3 USER **Global Location: ^DIC(3,**
Data Comes with File: No

In the past, the degree and scope of each user's access was determined by information in this file. That information is now stored in the NEW PERSON file. A set of cross references keeps the data in this file coordinated with the data in the NEW PERSON file. The USER file will become obsolete in the future.

This file is cross-referenced by name, initial, nickname, access and verify codes, primary and secondary menu options and synonyms, accessible files, and HINQ employee number.

3.05 FAILED ACCESS ATTEMPTS LOG **Global Location: ^%ZUA(3.05,**
Data Comes with File: No

Once the maximum sign-on attempts limit has been exceeded, an entry will be made in this file to record all available information about the failed sign-on attempt. Information includes the date/time, CPU, UCI, device, and, if known, user. The text entered for each attempt is recorded when it does not match existing codes. This file is not cross-referenced.

3.07 PROGRAMMER MODE LOG **Global Location: ^%ZUA(3.07,**
Data Comes with File: No

Entrance into programmer mode via the menu system is automatically logged in this file. It points to the NEW PERSON file to identify the user. It is not cross-referenced.

3.075 ERROR LOG **Global Location: ^%ZTER(1,**
Data Comes with File: No

This file is used to maintain a log of the errors occurring during use of the system. Errors are entered into this log by the error trap established for the user by ZU or application programs calling %ZTER when an error occurs.

The entries are all entered by the routine %ZTER. There is no need for a user to make a manual entry into this file.

3.076 ERROR MESSAGES **Global Location: ^%ZTER(2,**
Data Comes with File: Yes **Data Setting: Merge**

This file contains a number of the abbreviations used to indicate the type of error encountered. The most important ones are those which are indicated as fatal errors warranting termination of the job after logging of the error.

3.081 SIGN-ON LOG **Global Location: ^XUSEC(0,**
Data Comes with File: No

This file records sign-on/sign-off times by user, device, job, UCI, and CPU. It is cross-referenced by user, device, and sign-off time.

3.1 TITLE **Global Location: ^DIC(3.1,**
Data Comes with File: No

This file may be used to indicate a user's title. It is pointed to by the NEW PERSON file. It is only cross-referenced by name.

3.2 TERMINAL TYPE **Global Location: ^%ZIS(2,**
Data Comes with File: Yes **Data Setting: Overwrite**

This file is pointed to by the Subtype field of the Device File. This file may hold vendor-specific code to characterize a terminal type. For example, escape sequences may be entered in the Open and Close Execute fields to set pitch or font. This file is also pointed to by the New Person File to record sign-on subtype characteristics by user. Data is distributed with this file to support screen-handling capabilities. This data will overwrite existing data for those terminal types of the same name. However, terminal types for printers will not be affected since the data that is distributed is for a subset of known CRTs. The Kernel Virgin Install distribution will seed a more complete set of terminal types including those for printers as well as CRTs. However, the Kernel Virgin Install should only be performed once and only on a system where there is no pre-existing Kernel. The data in this file is cross-referenced by name and synonym.

3.22 DA RETURN CODES **Global Location: ^%ZIS(22,**
Data Comes with File: Yes **Data Setting: Merge**

This file holds the translation between the ANSI DA return code and the name in the TERMINAL TYPE file that should be associated with the return code.

3.23 LINE/PORT ADDRESS **Global Location: ^%ZIS(3.23,**
Data Comes with File: No

This file is used to associate device(s)/subtype(s) with line/port addresses. The line/port address should be entered when editing the name field of this file. This address can be obtained by using the OS-specific function $ZIO on VAX DSM or $ZDEV($I) on MSM. To establish an association with a Device and Terminal Type, the DEVICE and SUBTYPE fields of this file must store the appropriate values that correspond to entries in the DEVICE and TERMINAL TYPE files. This file is cross-referenced by name and device.

3.5 DEVICE **Global Location: ^%ZIS(1,**
Data Comes with File: No

This file defines all input/output devices that can be accessed from this CPU (definitions are not account-specific). Each device is identified with a unique name. Each is associated with a $I value which may correspond with a hardware port or, on layered systems, a host file or directory. If there are several devices for the same volume set and $I, one may be given sign-on system status. Devices may also be assigned to hunt groups to share work. This file is cross-referenced by name, $I, volume set (CPU), and sign-on/system device. It is also cross-referenced by hunt group, local synonym, mnemonic, subtype, and form currently mounted.

3.51 SPOOL DOCUMENT **Global Location: ^XMB(3.51,**
Data Comes with File: No

This file holds the name of spool documents created by the Kernel spooler (%ZIS4) for all operating systems. It does not hold the text of the documents themselves. The text is first spooled to spool space, then moved into the ^XMB global as a mail message. This file does, however, provide the mechanism for securing spool space for and during spooling. It is cross-referenced by name, spool number, user, and mail message.

3.519 SPOOL DATA **Global Location: ^XMBS(3.519**
Data Comes with File: No

This is the holding file for spool documents until they are moved into a mail message or deleted.

3.54 RESOURCE **Global Location: ^%ZISL(3.54**
Data Comes with File: No

This file is for internal use by TaskMan and the Device Handler in the sequential processing of tasks. Jobs that have been sent to a resource-type device will be monitored according to fields in this file. To accommodate the Device Handler's need to write to but rarely read from this file, the translated ^%ZISL global is used. This file is cross-referenced by name and job number.

3.6 BULLETIN **Global Location: ^XMB(3.6,**
Data Comes with File: No

Bulletins are 'Super' messages. Each bulletin has a text and a subject just like a normal message. But embedded within either the subject or the text can be variable fields that can be filled in with parameters. A standard set of recipients in the form of a Mail Group is associated with the bulletin.

4 INSTITUTION **Global Location: ^DIC(4,**
Data Comes with File: No

This file contains a listing of VA institutions. It is cross-referenced by name and station number. The Number field is no longer meaningful (it previously referenced the station number).

4.1 FACILITY TYPE **Global Location: ^DIC(4.1,**
Data Comes with File: Yes **Data Setting: Merge**

This file is pointed to by the Institution file. It contains a list of facility codes that were previously stored in the VA Type Code field of the Institution file. This file is distributed with data, and the new data should overwrite the old. It is cross-referenced by name and full name.

4.11 AGENCY **Global Location: ^DIC(4.11,**
Data Comes with File: Yes **Data Setting: Overwrite**

This file replaces the set-of-codes field Agency that had been used in the Institution file.

4.3 KERNEL SITE PARAMETERS **Global Location: ^XMB(1,**
Data Comes with File: No

This file holds the site parameters for MailMan. It will have only one entry, the domain name of the installation site. Some parameters are defined by the systems manager during the installation process. These include time zone, and specification of the account where XMAD, the MailMan background filer, should run. Others may be edited subsequent to installation. The parent domain, set to FORUM during initialization, may be changed.

6 PROVIDER **Global Location: ^DIC(6,**
Data Comes with File: No

The Provider file is used to store a variety of information about the person providing patient care. The Provider file points to the Person file.

9.2 HELP FRAME **Global Location: ^DIC(9.2,**
Data Comes with File: No

This file contains the text of help frames created via the Help Processor (XQH). Help frames may be associated with options or with data dictionary fields to provide on-line instruction. The file is cross-referenced by name, header, date entered, author, and editor.

9.4 PACKAGE **Global Location: ^DIC(9.4,**
Data Comes with File: No

The top level of a PACKAGE file entry for a package now stores static package information. The PACKAGE file stores mainly static package information that is not version-specific, as well as the patch history of the package. KIDS will now update the VERSION multiple. Patch installations will update the PATCH APPLICATION HISTORY multiple, which is within the VERSION multiple. Most other fields have been designated for removal at the top level of the PACKAGE file.

9.6 BUILD **Global Location: ^XPD(9.6,**
Data Comes with File: No

This file identifies the elements of a package that will be transported by the Kernel Installation & Distribution System. All components of the package, i.e. templates, options, Security Keys, etc., must be listed in this file.

9.7 INSTALL **Global Location: ^XPD(9.7,**
Data Comes with File: No

This file contains the installation information for a site from the Kernel Installation & Distribution System. This file should not be edited. All information is updated when a new package is installed at a site.

9.8 ROUTINE **Global Location: ^DIC(9.8,**
Data Comes with File: No

This file is used to document system routines. Parameters and entry points may be described. When running %INDEX, some fields will be given values as the %INDEX verification tool locates variables, globals, and routine references. When using the %Z editor, the Edit History multiple will be filled in with date, device, user, and UCI. The %ZOSF("TEST") node may be executed, checking $T, to determine whether a routine listed in this file exists in the current account. This file is cross-referenced by name.

14.4 TASKS **Global Location: ^%ZTSK(**
Data Comes with File: No

This file describes TaskMan's main file of jobs to start. Because TaskMan works on this file from many UCIs, it doesn't use VA FileMan to manipulate it. There are no cross references on this file and there are no fields that can be edited; use TaskMan options for that. The file can be searched, sorted and printed. The third piece of the zero node is only updated when the XUTM QCLEAN option runs. Some applications still do their own setting into this global and wipe out the zero node. The storage of the symbol table is not in a VA FileMan-compatible format.

14.5 VOLUME SET **Global Location: ^%ZIS(14.5**
Data Comes with File: No

This file describes the volume sets available in the current multiprocessor network. The information pertaining to each volume set is used primarily by the Kernel, especially TaskMan. The UCIs that make up each volume set can be determined by using the cross reference in the UCI Association Table file.

14.6 UCI ASSOCIATION **Global Location: ^%ZIS(14.6,**
Data Comes with File: No

This file contains information that indicates which UCIs on different volume sets are equivalent. This information allows the running of tasks that need a device only available on a different volume set, even if the UCI on the other volume set has another name.

14.7 TASKMAN SITE PARAMETERS **Global Location: ^%ZIS(14.7,**
Data Comes with File: No

This file should be used by the system manager to tune TaskMan to the site's specific needs. Entries are identified by the CPU and volume set, so that parameters can be set differently for different nodes that share a single volume set, etc. Changes to any of the fields will automatically cause all accessible Task Managers on the system to update their local copies of the parameters.

14.8 TASK SYNC FLAG **Global Location: ^%ZISL(14.8,**
Data Comes with File: No

This file holds the task synchronization flags that control if a task can run or must wait.

16 PERSON **Global Location: ^DIC(16,**
Data Comes with File: No

In the past, the scope of each person's access was determined by information in this file. Now, that information is contained in the NEW PERSON file. A set of cross references keeps the data in this file coordinated with the data in the NEW PERSON file. The PERSON file will become obsolete in the future.

The PERSON file is used to store the names of users on the computer system, providers of patient care, and associated information.

19 OPTION **Global Location: ^DIC(19,**
Data Comes with File: No

Information in this file is used to drive the menu system. Options are created, associated with others on menus, locked, set out-of-order, assigned prohibited times or devices, or given entry/exit actions. The Edit Options of Menu Management should be used (instead of VA FileMan) so that the global root (DIC) and other such fields are given the correct values. Options may be tailored by setting FileMan variables via this file. The Order Enter/Results Reporting package is accessed by using the appropriate option type. It is cross-referenced by name, menu text, uppercase menu text, type, item, synonym, help frame, out-of-order message, lock, prohibited times, restricted devices, and priority.

19.081 AUDIT LOG FOR OPTIONS **Global Location: ^XUSEC(19,**
Data Comes with File: No

The KERNEL SYSTEM PARAMETERS file establishes when and how a log of option usage will be recorded in this file. For the indicated time period, all specified options, namespaces, and users will be audited. It is recommended that when audits are run, the number of audited entities be minimized so that disk space is not inadvertently wasted. This file is cross-referenced by option.

19.1 SECURITY KEY **Global Location: ^DIC(19.1,**
Data Comes with File: No

This file holds the names of security keys that are used to lock options. To lock an option, the name of the key is entered in the Lock field of the OPTION file. To permit a user to unlock the option, the user's name is entered in the Holder field of this file. It is cross-referenced by name and holder.

19.2 OPTION SCHEDULING **Global Location: ^DIC(19.2,**
Data Comes with File: No

This file hold records that relate to the scheduling of options to run on a schedule or occasionally on a one-time basis. There is one record for each time that an option is scheduled. This allows one option to be scheduled to run on more that one CPU or at more that one time without having to duplicate the option in the OPTION file.

40.5 HOLIDAY **Global Location: ^HOLIDAY(**
Data Comes with File: No

This file is used to record institutional holidays. It is referenced by the XUWORKDY routine and is not distributed with data. It is cross-referenced by date.

49 SERVICE/SECTION **Global Location: ^DIC(49,**
Data Comes with File: No

This file is a list of the services and sections within the services. Some of the entries may be 'MIS COSTING SECTIONS' for use with the cost accounting part of the Management Information System software. A section is an MIS section if there is a code entered in the field called MIS COSTING CODE. In the cost accounting system all medical center costs are tied to a particular section. When MIS sections change, do not delete the old section. Instead,

change the fields under the multiple field called "DATE CLOSED" to identify which sections are no longer in use.

200 NEW PERSON Global Location: ^VA(200,
Data Comes with File: No

This file contains data on employees, users, practitioners, etc., that was previously stored in the User, Person, Provider, and other files. DHCP package developers must check with the KERNEL developers to see that a given number/namespace is available for use.

8989.2 KERNEL PARAMETERS Global Location: ^XTV(8989.2,
Data Comes with File: No

This file holds parameters that Kernel uses that the site is allowed to change. It is still in the development stage. An example is the computer account letter. Kernel loads its standard name into the file and if the site builds a new letter, then they can enter a replacement name that will be used in place of the standard one.

8989.3 KERNEL SYSTEM PARAMETERS Global Location: ^XTV(8989.3,
Data Comes with File: No

This file holds the site parameters for this installation of the Kernel. It will have only one entry, the domain name of the installation site. Some parameters are defined by the systems manager during the installation process. These include Agency, volume set multiple, Default parameters. Others may be edited subsequent to installation. Spooling, response time, and audit parameters may be established. Priorities may be set for interactive users and for TaskMan. Defaults for fields such as timed read, auto-menu, and ask device are defined for use when not otherwise specified for a user or device.

8991.5 XQAB ERRORS LOGGED Global Location: ^XTV(8991.5,
Data Comes with File: No

This file is used to maintain a log of errors occurring at alpha/beta test sites.

8992 ALERT **Global Location: ^XTV(8992,**
Data Comes with File: No

This file is used to keep track of alerts pending processing for each user. The main entry for each record is a pointer to the NEW PERSON file. A multiple under each user is used to record the date and time an alert was generated, the unique ID associated with the alert, the text for display, an optional routine entry point or option for use in processing the alert, and an optional data string associated with the alert.

8992.1 ALERT TRACKING **Global Location: ^XTV(8992.1,**
Data Comes with File: No

This file is used to track the content and interactions with an alert. Every alert that is generated is initially filed within this file. Each entry has the date and time the alert was generated, which user generated the alert, whether the alert was generated in a background task, what action was to be taken, if any (the entry point or option name to be used), and the data string, if any, for use with the alert. There is a multiple field which also identifies each user that the alert was sent to, when the user initially saw the displayed text, when the alert was selected for processing, when the processing was completed, and when the alert was deleted after processing or associated with another user's processing, or when the alert was deleted by a cleanup operation.

Unless a longer lifetime is specified for the specific alert, it will be deleted from the file after 30 days. If a longer lifetime is specified, it will not be deleted until after that period passes.

Additional Files Installed During Virgin Installation

The Virgin Install brings in the following additional files:

3.8 MAIL GROUP **Global Location: ^XMB(3.8,**
Data Comes with File: No

This file holds the names of all groups and their members known to MailMan.

4.2 DOMAIN **Global Location: ^DIC(4.2,**
Data Comes with File: No

This file is used to name all of the nodes to which MailMan messages may be routed. Each name in this file corresponds to the right side of a MailMan address, the part following the "@".

5 STATE **Global Location: ^DIC(5,**
Data Comes with File: Yes **Data Setting: Overwrite**

The State file contains a list of state names and abbreviations.

7 PROVIDER CLASS **Global Location: ^DIC(7,**
Data Comes with File: No

This file is used to identify various classifications or types of providers.

7.1 SPECIALITY **Global Location: ^DIC(7.1,**
Data Comes with File: No

This file identifies locally added specialties and their associated services.

10 RACE **Global Location: ^DIC(10,**
Data Comes with File: Yes **Data Setting: Overwrite**

The RACE file currently consists of seven entries. The allowable entries are established by VACO MAS. Entries in this file should not be altered or added to. To do so may have a negative impact on the performance of the MAS module as well as other modules.

11 MARITAL STATUS **Global Location: ^DIC(11,**
Data Comes with File: Yes **Data Setting: Overwrite**

The MARTIAL STATUS file currently consists of six entries which are distributed by the MAS development team. Alteration of any of the six entries or addition of entries to this file which are not distributed by the MAS developers may have a negative impact on the performance of the MAS module as well as other modules.

13 RELIGION **Global Location: ^DIC(13,**
Data Comes with File: Yes **Data Setting: Overwrite**

The RELIGION file currently contains 30 entries. These entries are determined by VACO MAS. This file should not be added to nor should entries in it be altered or deleted by the facility. Entry, edit or deletion of these entries could have severe negative affects on the performance of the MAS module.
Installation, virgin

Global Storage

Files are listed in order of the global they are stored in.

GLOBAL NAME	FILE #	FILE NAME
DIC	3	USER
	3.1	TITLE
	4	INSTITUTION
	4.1	FACILITY TYPE
	4.11	AGENCY
	6	PROVIDER
	9.2	HELP FRAME
	9.4	PACKAGE
	9.8	ROUTINE
	16	PERSON
	19	OPTION
	19.1	SECURITY KEY
	19.2	OPTION SCHEDULING
	49	SERVICE/SECTION
HOLIDAY	40.5	HOLIDAY
XMB	3.51	SPOOL DOCUMENT
	3.6	BULLETIN
	4.3	KERNEL SYSTEM PARAMETERS
XMBS	3.519	SPOOL DATA
XPD	9.6	BUILD
	9.7	INSTALL
XTV	8989.2	KERNEL PARAMETERS
	8989.3	KERNEL SYSTEM PARAMETERS
	8991.5	XQAB ERRORS LOGGED
	8992	ALERT
	8992.1	ALERT TRACKING
	8995.9	BINARY OBJECT
XUSEC	3.081	SIGN-ON LOG
	19.081	AUDIT LOG FOR OPTIONS
VA	200	NEW PERSON

GLOBAL NAME	FILE #	FILE NAME *
(continued)		
%ZIS	3.2	TERMINAL TYPE
	3.22	DA RETURN CODES
	3.23	LINE/PORT ADDRESS
	3.5	DEVICE
	14.5	VOLUME SET
	14.6	UCI ASSOCIATION
	14.7	TASKMAN SITE PARAMETERS
%ZISL	3.54	RESOURCE
	14.8	TASK SYNC FLAG
%ZTER	3.075	ERROR LOG
	3.076	ERROR MESSAGES
%ZTSK	14.4	TASKS
%ZUA	3.05	FAILED ACCESS ATTEMPTS LOG
	3.07	PROGRAMMER MODE LOG

Note: there are other files for VA FileMan stored in DI* globals, and many files for MailMan that are stored in the XMB* globals. You should review the VA FileMan and MailMan Technical Manuals for a complete list.

Kernel Globals for Non-VA-FileMan-compatible Storage

There are several additional Kernel globals that are not associated with VA FileMan files. These include the following:

Global	Description
XTMP	Storage location for inter-process temporary data
XUTL	Compiled menu system
%ZOSF	Operating system-specific information
%ZTSCH	Task Manager schedule of tasks

In addition, many Kernel routines make use of the ^TMP global for temporary storage space.

Global Storage Used For Additional Files During Virgin Install

The following additional global storage is used by files brought in by the Kernel V. 8.0 Virgin Install:

GLOBAL NAME	FILE #	FILE NAME *
DIC	4.2	DOMAIN
	5	STATE
	7	PROVIDER CLASS
	7.1	SPECIALTY
	10	RACE
	11	MARITAL STATUS
	13	RELIGION
XMB	3.8	MAIL GROUP

Exported Options (Menu Structure)

This section lists Kernel's exported options.

Kernel Menu Tree Roots

The Kernel exports three separate menu trees. They are:

- **Systems Manager Menu [EVE]. Eve is used by the systems manager to get to other menus. Eve contains the following sub-menus:**
  - **Core Applications [XUCORE]**
  - **Device Management [XUTIO]**
  - **Menu Management [XUMAINT]**
  - **Operations Management [XUSITEMGR]**
  - **Programmer Options [XUPROG]**
  - **Spool Management [XU-SPL-MGR]**
  - **System Security [XUSPY]**
  - **Taskman Management [XUTM MGR]**
  - **User Management [XUSER]**
- **SYSTEM COMMAND OPTIONS [XUCOMMAND]. This holds the common menu options executable from anywhere in the menu processor.**
- **Parent of Queuable Options [ZTMQUEUABLE OPTIONS]. This menu has no parent; it collects together all parentless Kernel options that are intended to be scheduled through the TaskMan option ZTMSCHEDULE.**

The menu trees for these three menus are presented on the following pages. The menu tree for [EVE] is broken into the individual menu trees for each [EVE] option. The menu trees for [ZTMQUEUABLE OPTIONS] and [XUCOMMAND] are presented intact.

Systems Manager Menu [EVE]

EVE contains the following menu trees: XUCORE, XUTIO, XUMAINT, XUSITEMGR, XUPROG, XU-SPL-MGR, XUSPY, XUTM MGR, and XUSER. Each of these menu trees is listed individually below.

XUCORE

```
Core Applications (XUCORE)
|
|
```

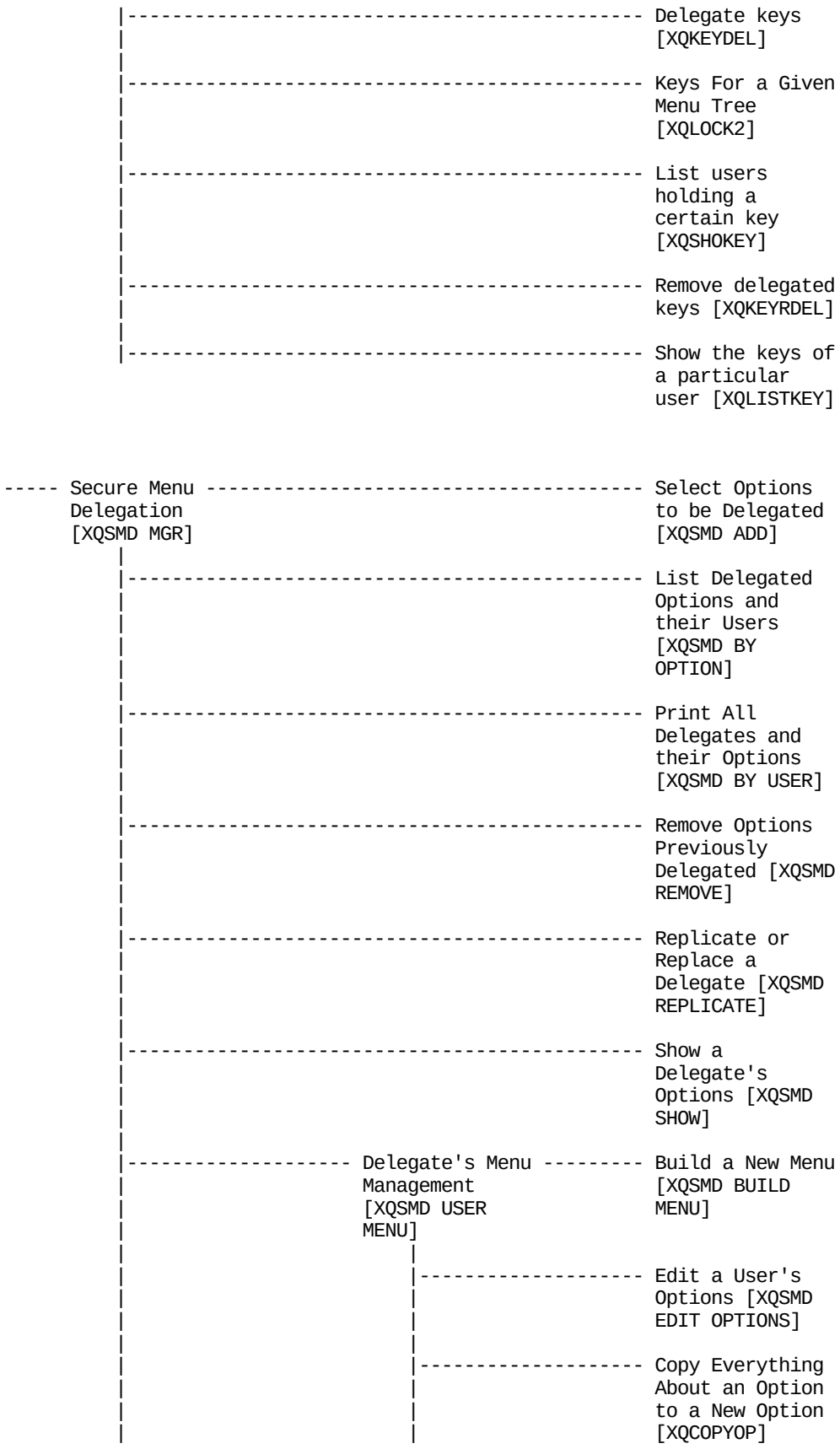
XUTIO

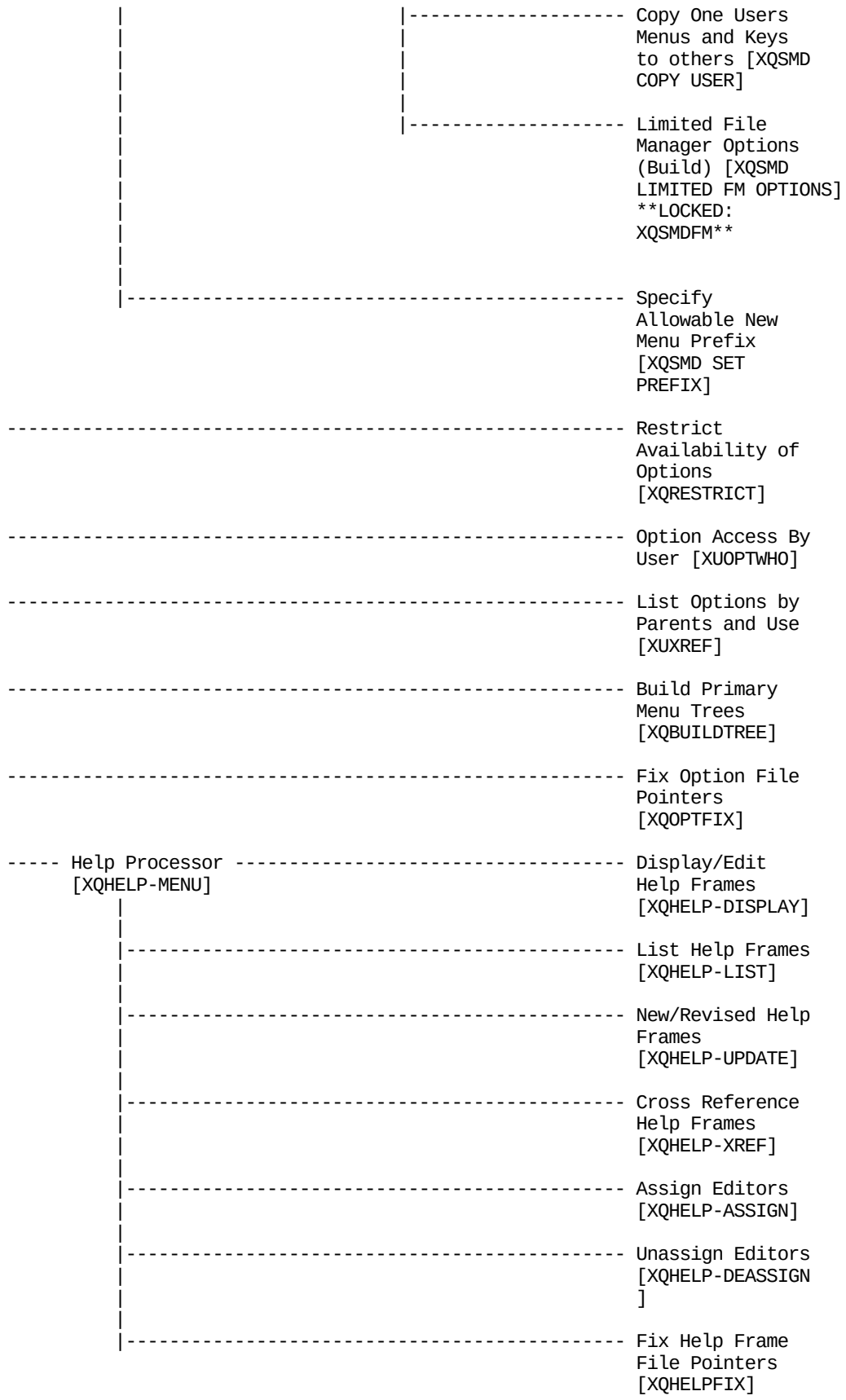
```
Device Management (XUTIO)
|
|
------------------------------------------- Change Device's Terminal Type
                                            [XUCHANGE]

------------------------------------------- Device Edit [XUDEV]

------------------------------------------- Terminal Type Edit [XUTERM]

----- Hunt Group Manager [XUHGMGR] ---------- Edit Hunt Groups [XUHGEDIT]
          |
          |---------------------------------- Delete Hunt Groups [XUHGDEL]
          |
          |---------------------------------- List Hunt Groups [XUHGPRT]
          |
          |---------------------------------- Print Hunt Groups and
                                              Associated Devices
                                              [XUHGDEVPRT]


------------------------------------------- Display Device Data
                                            [XUDISPLAY]

------------------------------------------- List Terminal Types [XULIST]

------------------------------------------- Clear Terminal [XUSERCLR]

------------------------------------------- Loopback Test of Device Port
                                            [XUTLOOPBACK]

------------------------------------------- Send Test Pattern to Terminal
                                            [XUTTEST]

------------------------------------------- Out of Service Set/Clear
                                            [XUOUT]

------------------------------------------- Current Line/Port Address
                                            [XUDEV LINEPORT ADDR CURRENT]

------------------------------------------- DA Return Code Edit [XU DA
                                            EDIT]
```

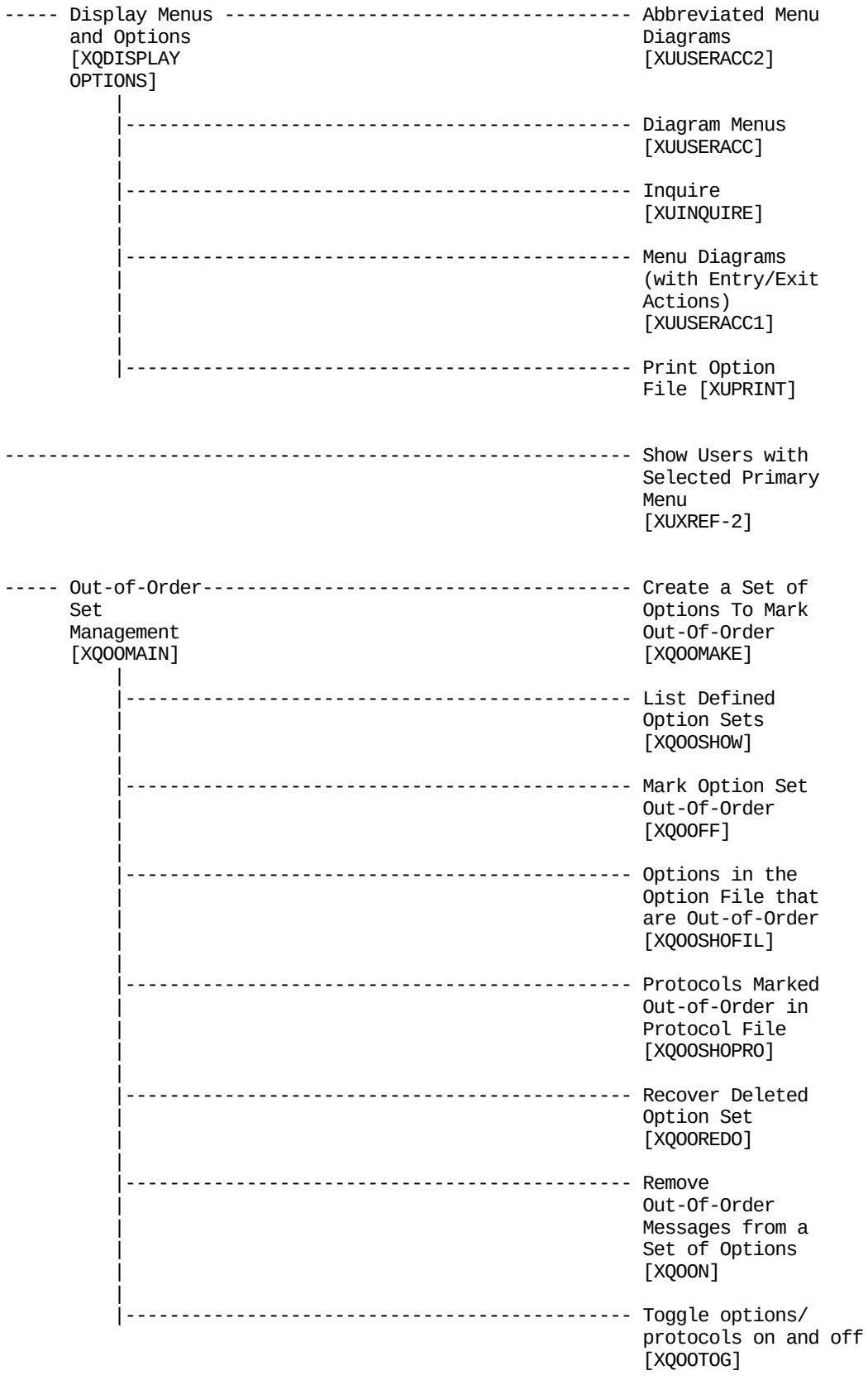
```
----- Edit Devices by Specific Types ----CHAN Network Channel Device Edit
      [XUDEVEDIT]                          [XUDEVEDITCHAN]
          |
          |-------------------------------HFS Host File Server Device Edit
          |                                [XUDEVEDITHFS]
          |
          |-------------------------------MT Magtape Device Edit
          |                                [XUDEVEDITMT]
          |
          |-------------------------------RES Resource Device Edit
          |                                [XUDEVEDITRES]
          |
          |-------------------------------SDP SDP Device Edit [XUDEVEDITSDP]
          |
          |-------------------------------SPL Spool Device Edit
                                           [XUDEVEDITSPL]


------------------------------------------ Edit Line/Port Addresses
                                           [XUDEV LINEPORT ADDR EDIT]

------------------------------------------ Line/Port Address report
                                           [XUDEV LINEPORT ADDR RPT]
```

XUMAINT

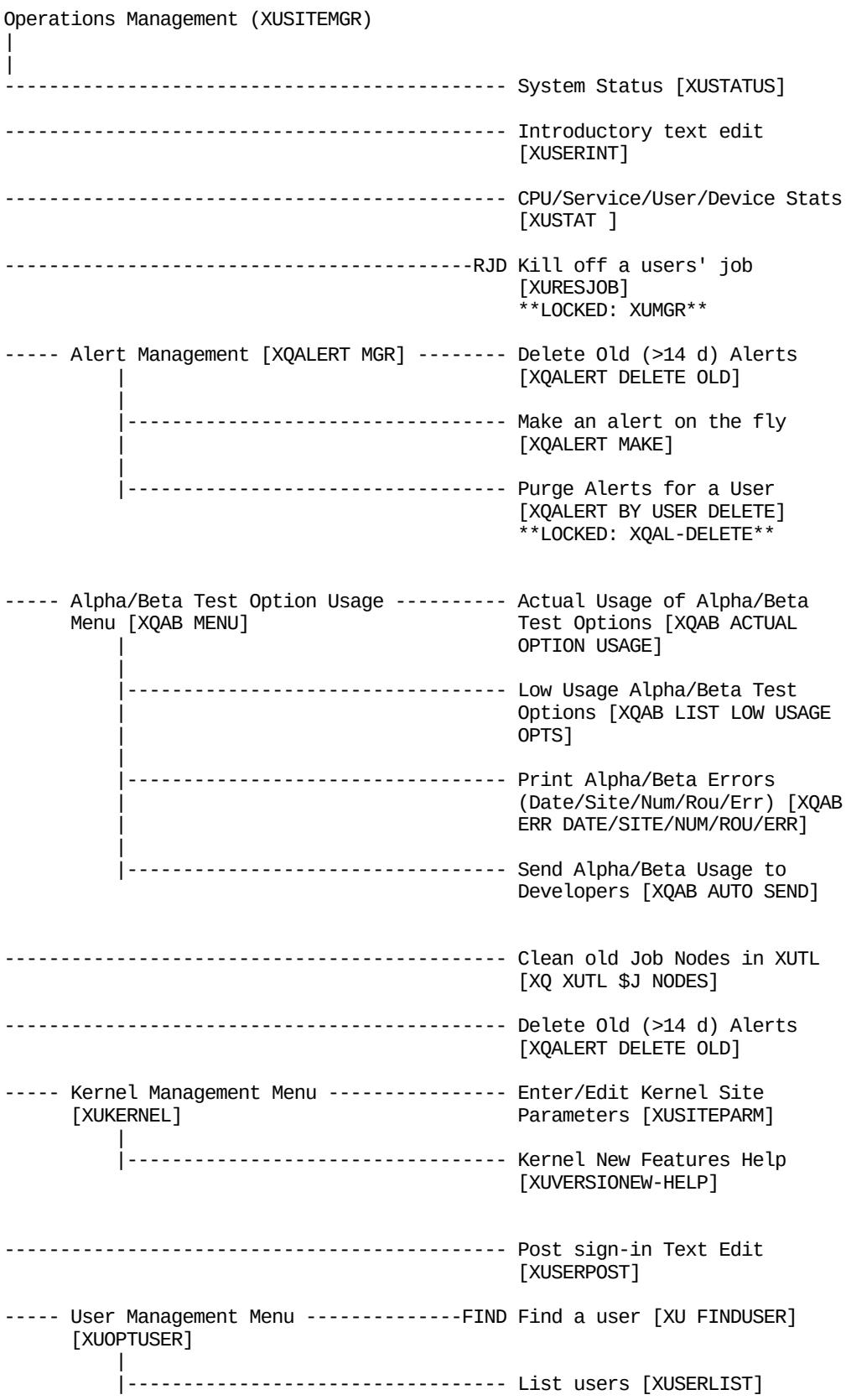
```
Menu Management (XUMAINT)
|
|
------------------------------------------------------------ Edit options
                                                             [XUEDITOPT]

----- Key Management ------------------------------------- Allocation of
      [XUKEYMGMT]                                            Security Keys
          |                                                  [XUKEYALL]
          |
          |--------------------------------------------- De-allocation of
          |                                                Security Keys
          |                                                [XUKEYDEALL]
          |
          |--------------------------------------------- Enter/Edit of
          |                                                Security Keys
          |                                                [XUKEYEDIT]
          |
          |--------------------------------------------- All the Keys a
          |                                                User Needs
          |                                                [XQLOCK1]
          |
          |--------------------------------------------- Change user's
          |                                                allocated keys
          |                                                to delegated
          |                                                keys
          |                                                [XQKEYALTODEL]
          |
```


Delegate keys [XQKEYDEL]
Keys For a Given Menu Tree [XQLOCK2]
List users holding a certain key [XQSHOKEY]
Remove delegated keys [XQKEYRDEL]
Show the keys of a particular user [XQLISTKEY]
----- Secure Menu Delegation [XQSMD MGR] ----- Select Options to be Delegated [XQSMD ADD]
List Delegated Options and their Users [XQSMD BY OPTION]
Print All Delegates and their Options [XQSMD BY USER]
Remove Options Previously Delegated [XQSMD REMOVE]
Replicate or Replace a Delegate [XQSMD REPLICATE]
Show a Delegate's Options [XQSMD SHOW]
Delegate's Menu Management [XQSMD USER MENU]
Build a New Menu [XQSMD BUILD MENU]
Edit a User's Options [XQSMD EDIT OPTIONS]
Copy Everything About an Option to a New Option [XQCOPYOP]


Copy One Users Menus and Keys to others [XQSMD COPY USER]
Limited File Manager Options (Build) [XQSMD LIMITED FM OPTIONS] **LOCKED: XQSMDFM**
Specify Allowable New Menu Prefix [XQSMD SET PREFIX]
Restrict Availability of Options [XQRESTRICT]
Option Access By User [XUOPTWHO]
List Options by Parents and Use [XUXREF]
Build Primary Menu Trees [XQBUILDTREE]
Fix Option File Pointers [XQOPTFIX]
Help Processor [XQHELP-MENU]
Display/Edit Help Frames [XQHELP-DISPLAY]
List Help Frames [XQHELP-LIST]
New/Revised Help Frames [XQHELP-UPDATE]
Cross Reference Help Frames [XQHELP-XREF]
Assign Editors [XQHELP-ASSIGN]
Unassign Editors [XQHELP-DEASSIGN]
Fix Help Frame File Pointers [XQHELPFIX]


Display Menus and Options [XQDISPLAY OPTIONS]
Abbreviated Menu Diagrams [XUUSERACC2]
Diagram Menus [XUUSERACC]
Inquire [XUINQUIRE]
Menu Diagrams (with Entry/Exit Actions) [XUUSERACC1]
Print Option File [XUPRINT]
Show Users with Selected Primary Menu [XUXREF-2]
Out-of-Order Set Management [XQOOMAIN]
Create a Set of Options To Mark Out-Of-Order [XQOOMAKE]
List Defined Option Sets [XQOOSHOW]
Mark Option Set Out-Of-Order [XQOOFF]
Options in the Option File that are Out-of-Order [XQOOSHOFIL]
Protocols Marked Out-of-Order in Protocol File [XQOOSHOPRO]
Recover Deleted Option Set [XQOOREDO]
Remove Out-Of-Order Messages from a Set of Options [XQOON]
Toggle options/ protocols on and off [XQOOTOG]

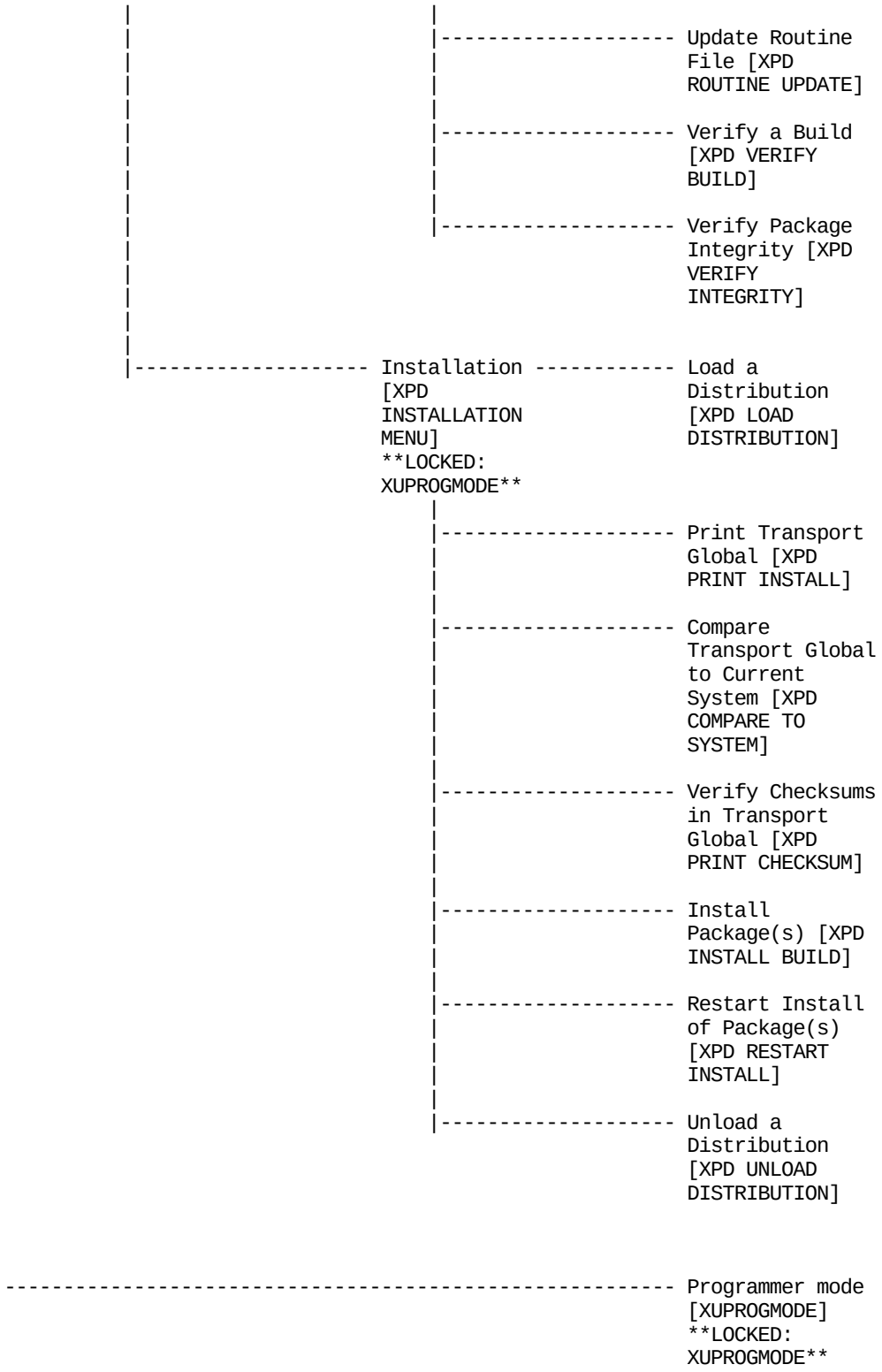
XUSITEMGR


Operations Management (XUSITEMGR)
System Status [XUSTATUS]
Introductory text edit [XUSERINT]
CPU/Service/User/Device Stats [XUSTAT]
RJD Kill off a users' job [XURESJOB]
LOCKED: XUMGR
Alert Management [XQALERT MGR]
Delete Old (>14 d) Alerts [XQALERT DELETE OLD]
Make an alert on the fly [XQALERT MAKE]
Purge Alerts for a User [XQALERT BY USER DELETE]
LOCKED: XQAL-DELETE
Alpha/Beta Test Option Usage Menu [XQAB MENU]
Actual Usage of Alpha/Beta Test Options [XQAB ACTUAL OPTION USAGE]
Low Usage Alpha/Beta Test Options [XQAB LIST LOW USAGE OPTS]
Print Alpha/Beta Errors (Date/Site/Num/Rou/Err) [XQAB ERR DATE/SITE/NUM/ROU/ERR]
Send Alpha/Beta Usage to Developers [XQAB AUTO SEND]
Clean old Job Nodes in XUTL [XQ XUTL $J NODES]
Delete Old (>14 d) Alerts [XQALERT DELETE OLD]
Kernel Management Menu [XUKERNEL]
Enter/Edit Kernel Site Parameters [XUSITEPARM]
Kernel New Features Help [XUVERSIONEW-HELP]
Post sign-in Text Edit [XUSERPOST]
User Management Menu [XUOPTUSER]
FIND Find a user [XU FINDUSER]
List users [XUSERLIST]

```
          |
          |---------------------------------- Print Sign-on Log [XUSC LIST]
          |
          |---------------------------------- Release user [XUSERREL]
          |
          |---------------------------------- User Inquiry [XUSERINQ]
          |
          |---------------------------------- User Status Report
                                               [XUUSERSTATUS]
```

XUPROG

```
Programmer Options (XUPROG)
**LOCKED: XUPROG**
|
|
------------------------------------------------------------ Delete
                                                             Unreferenced
                                                             Options [XQ
                                                             UNREF'D OPTIONS]

------------------------------------------------------------ Global Block
                                                             Count [XU BLOCK
                                                             COUNT]

----- Kernel ------------------ Edits and ---------------- Create a Build
      Installation &            Distribution                Using Namespace
      Distribution              [XPD                        [XPD BUILD
      System [XPD               DISTRIBUTION                NAMESPACE]
      MAIN]                     MENU]
      **LOCKED:                     |
      XUPROG**                      |
           |                        |
           |                        |--------------------- Copy Build to
           |                        |                      Build [XPD COPY
           |                        |                      BUILD]
           |                        |
           |                        |--------------------- Edit a Build
           |                        |                      [XPD EDIT BUILD]
           |                        |
           |                        |--------------------- Transport a
           |                                               Distribution
           |                                               [XPD TRANSPORT
           |                                               PACKAGE]
           |
           |
           |------------------- Utilities [XPD ---------- Build File Print
           |                    UTILITY]                  [XPD PRINT
           |                        |                     BUILD]
           |                        |
           |                        |--------------------- Install File
           |                        |                      Print [XPD PRINT
           |                        |                      INSTALL FILE]
           |                        |
           |                        |--------------------- Convert Loaded
           |                        |                      Package for
           |                        |                      Redistribution
           |                        |                      [XPD CONVERT
           |                        |                      PACKAGE]
           |                        |
           |                        |--------------------- Purge Build or
           |                        |                      Install Files
           |                        |                      [XPD PURGE FILE]
```

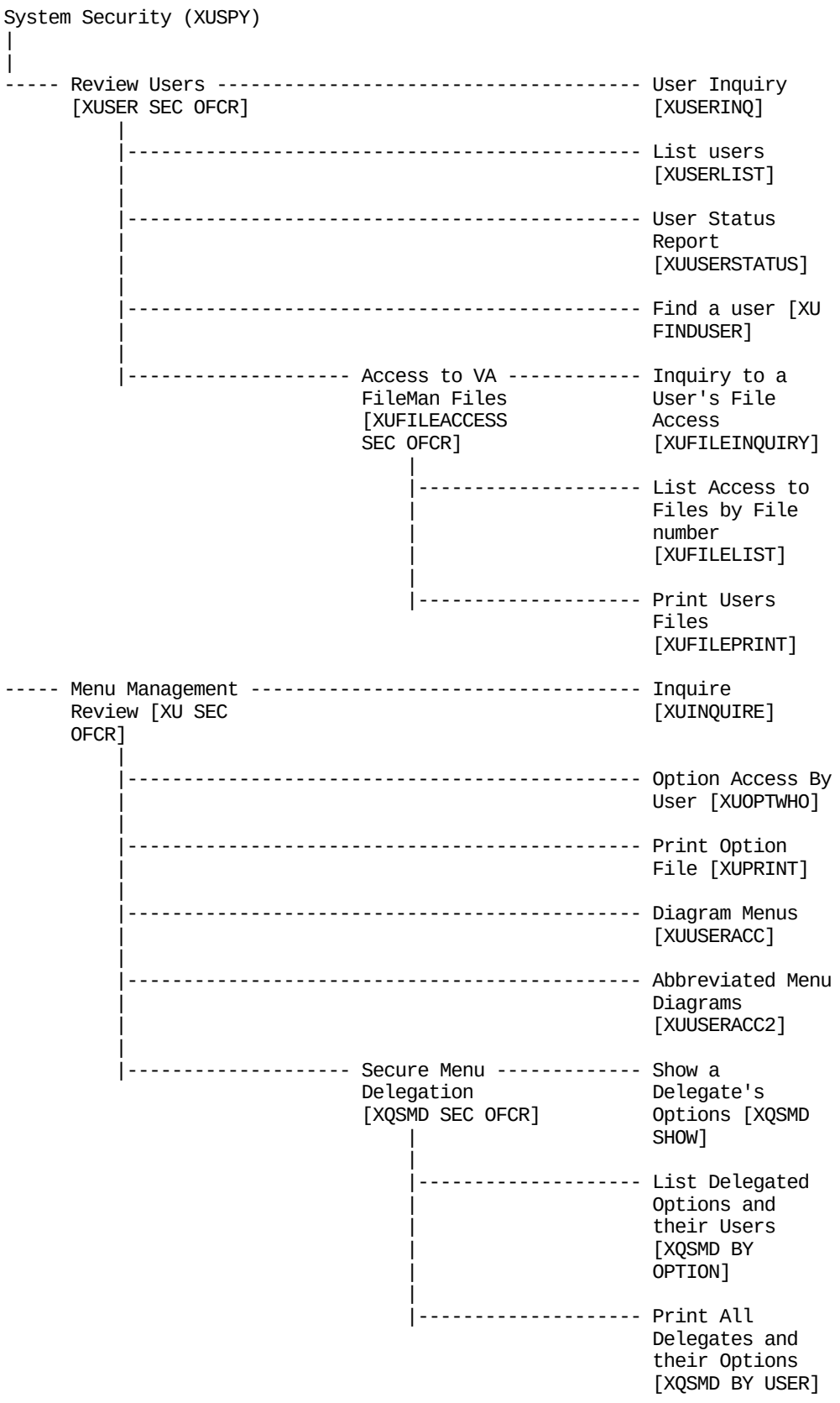

Update Routine File [XPD ROUTINE UPDATE]
Verify a Build [XPD VERIFY BUILD]
Verify Package Integrity [XPD VERIFY INTEGRITY]
Installation [XPD INSTALLATION MENU] **LOCKED: XUPROGMODE**
Load a Distribution [XPD LOAD DISTRIBUTION]
Print Transport Global [XPD PRINT INSTALL]
Compare Transport Global to Current System [XPD COMPARE TO SYSTEM]
Verify Checksums in Transport Global [XPD PRINT CHECKSUM]
Install Package(s) [XPD INSTALL BUILD]
Restart Install of Package(s) [XPD RESTART INSTALL]
Unload a Distribution [XPD UNLOAD DISTRIBUTION]
Programmer mode [XUPROGMODE] **LOCKED: XUPROGMODE**

```
----- Error Processing -----------------------------------P1 Print 1
      [XUERRS]                                               occurence of
          |                                                  each error for
          |                                                  T-1 (QUEUE)
          |                                                  [XUERTRP PRINT
          |                                                  T-1 1 ERR]
          |
          |-------------------------------------------------P2 Print 2
          |                                                  occurences of
          |                                                  errors on
          |                                                  T-1 (QUEUED)
          |                                                  [XUERTRP PRINT
          |                                                  T-1 2 ERR]
          |
          |------------------------------------------------- Clean Error Trap
          |                                                  [XUERTRP CLEAN]
          |                                                  **LOCKED:
          |                                                  XUPROGMODE**
          |
          |------------------------------------------------- Error Trap
          |                                                  Display
          |                                                  [XUERTRAP]
          |
          |------------------------------------------------- Interactive
                                                             Print of Error
                                                             Messages
                                                             [XUERTRP PRINT
                                                             ERRS]
```

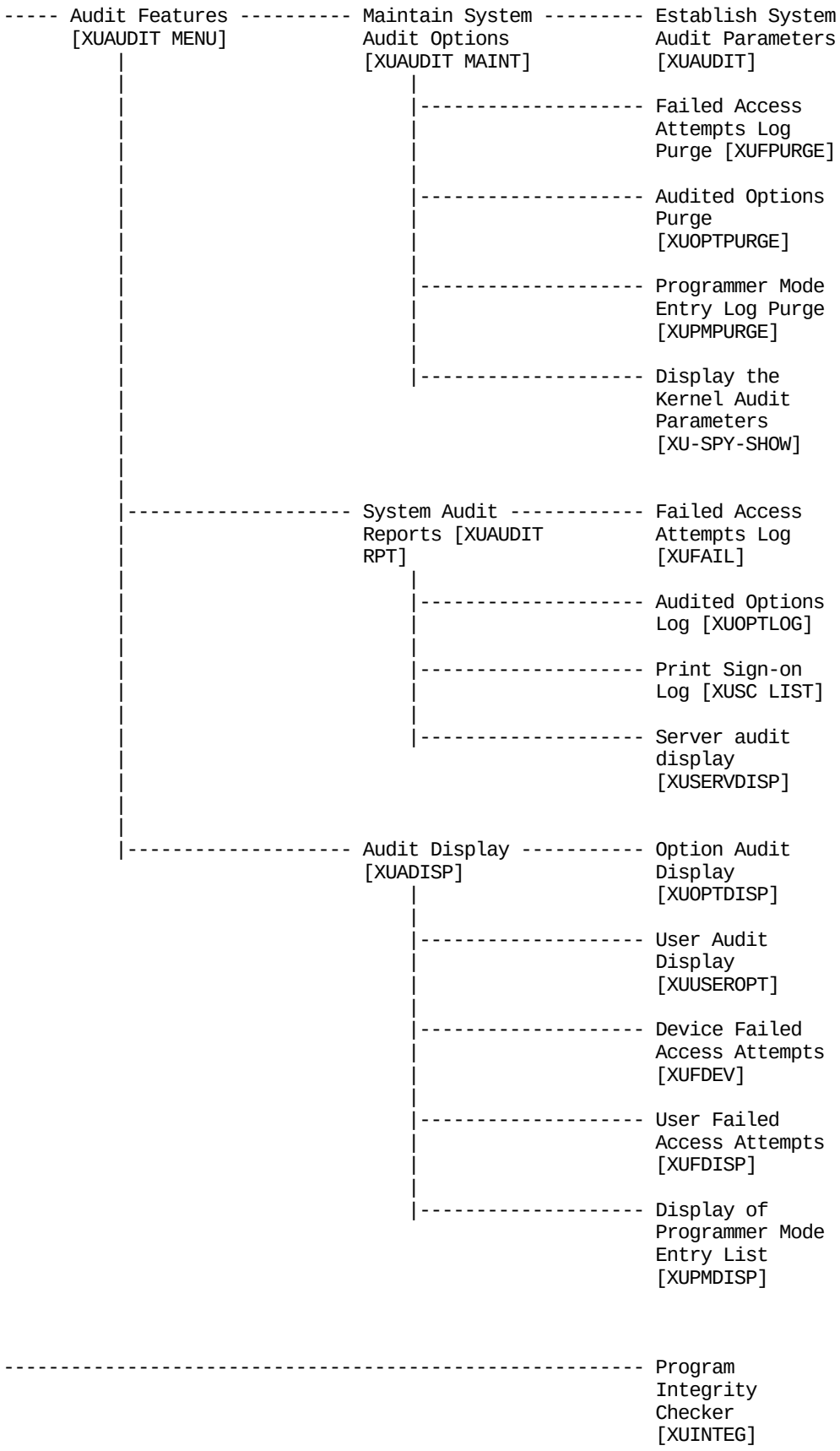
XU-SPL-MGR

```
Spool Management (XU-SPL-MGR)
|
|
----- Delete A Spool Document
      [XU-SPL-DELETE]

----- Edit User's Spooler Access
      [XU-SPL-USER]

----- List Spool Documents
      [XU-SPL-LIST]

----- Print A Spool Document
      [XU-SPL-PRINT]

----- Spooler Site Parameters Edit
      [XU-SPL-SITE]
```

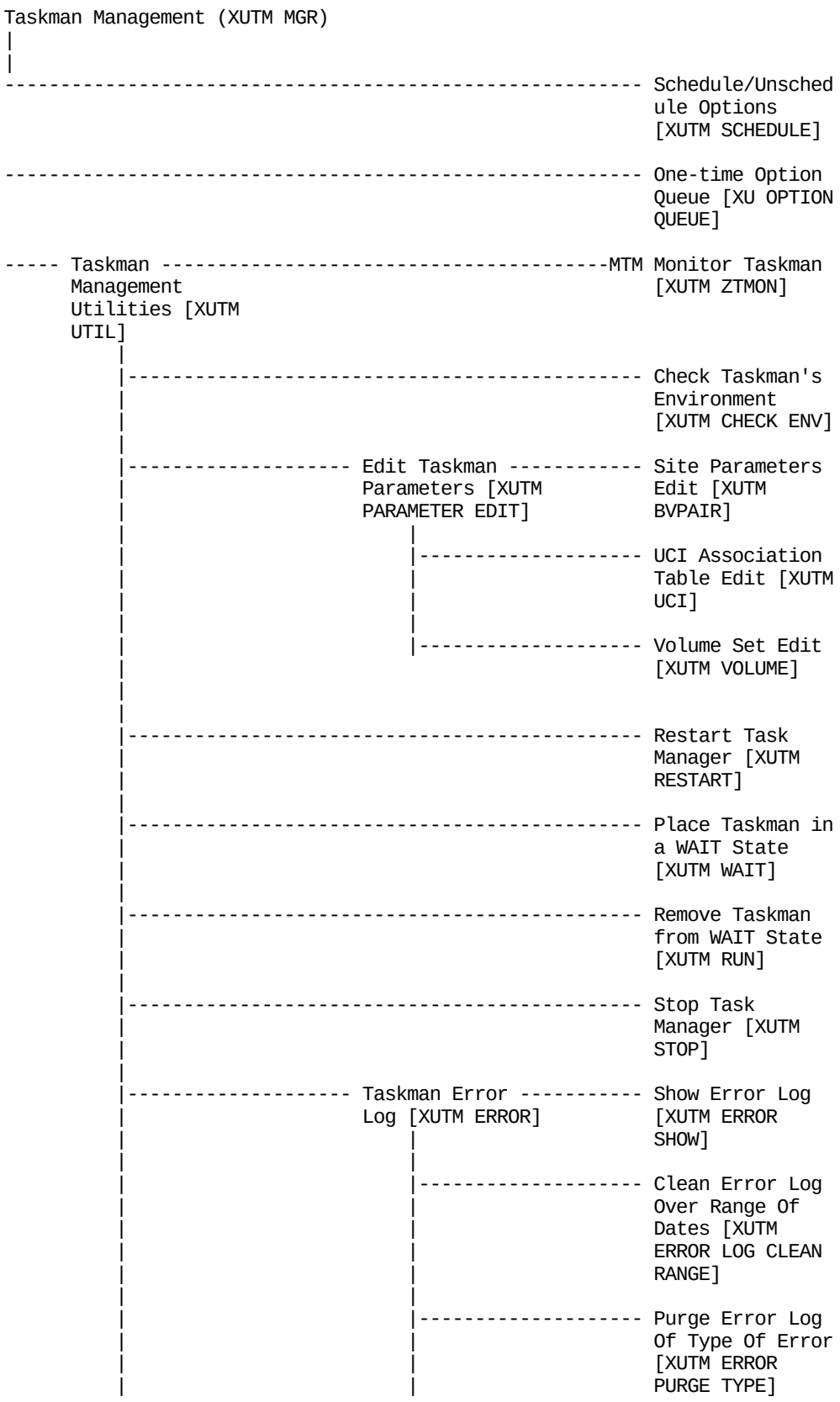
XUSPY

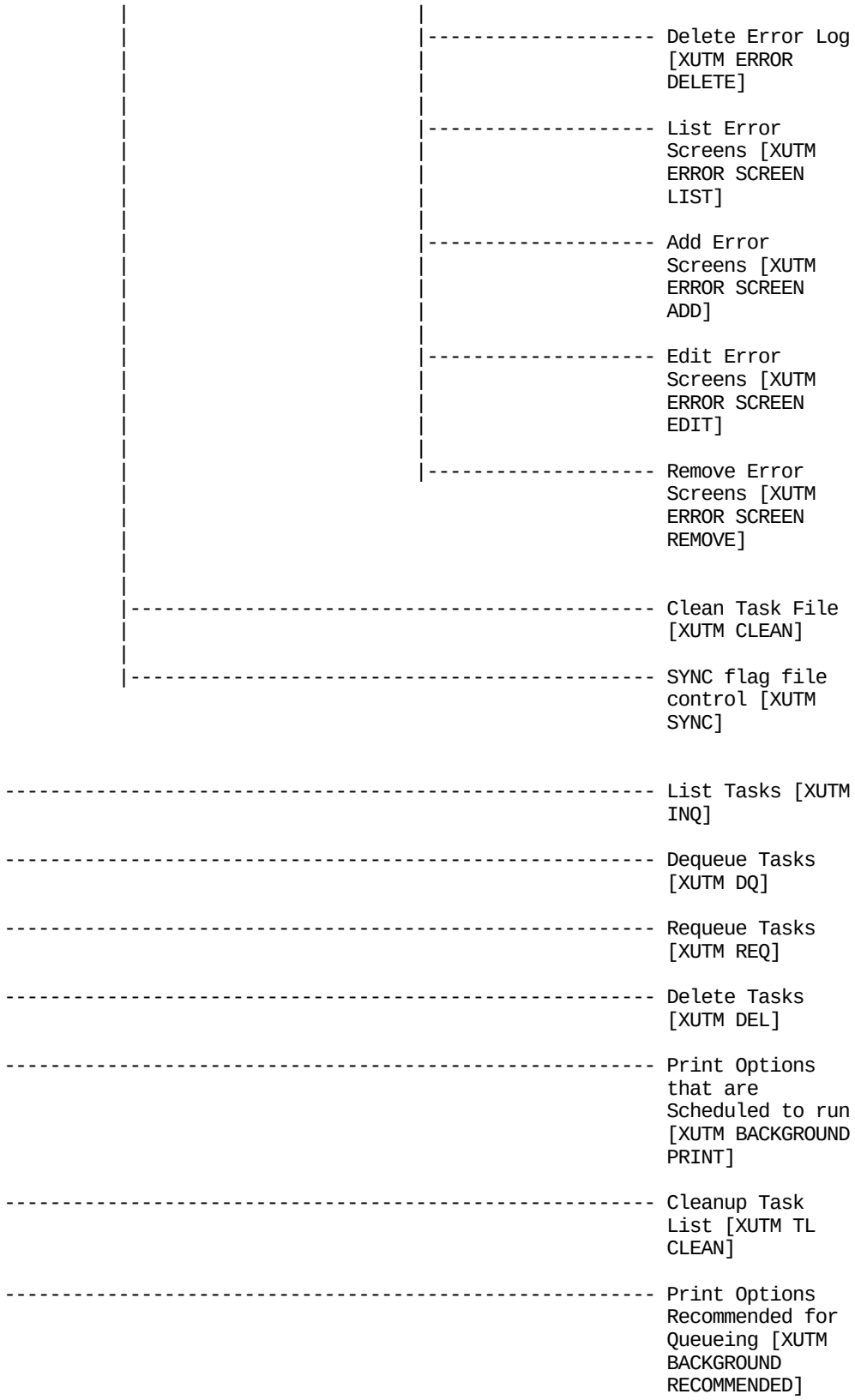

System Security (XUSPY)
Review Users [XUSER SEC OFCR]
User Inquiry [XUSERINQ]
List users [XUSERLIST]
User Status Report [XUUSERSTATUS]
Find a user [XU FINDUSER]
Access to VA FileMan Files [XUFILEACCESS SEC OFCR]
Inquiry to a User's File Access [XUFILEINQUIRY]
List Access to Files by File number [XUFILELIST]
Print Users Files [XUFILEPRINT]
Menu Management Review [XU SEC OFCR]
Inquire [XUINQUIRE]
Option Access By User [XUOPTWHO]
Print Option File [XUPRINT]
Diagram Menus [XUUSERACC]
Abbreviated Menu Diagrams [XUUSERACC2]
Secure Menu Delegation [XQSMD SEC OFCR]
Show a Delegate's Options [XQSMD SHOW]
List Delegated Options and their Users [XQSMD BY OPTION]
Print All Delegates and their Options [XQSMD BY USER]

Exported Options (Menu Structure)

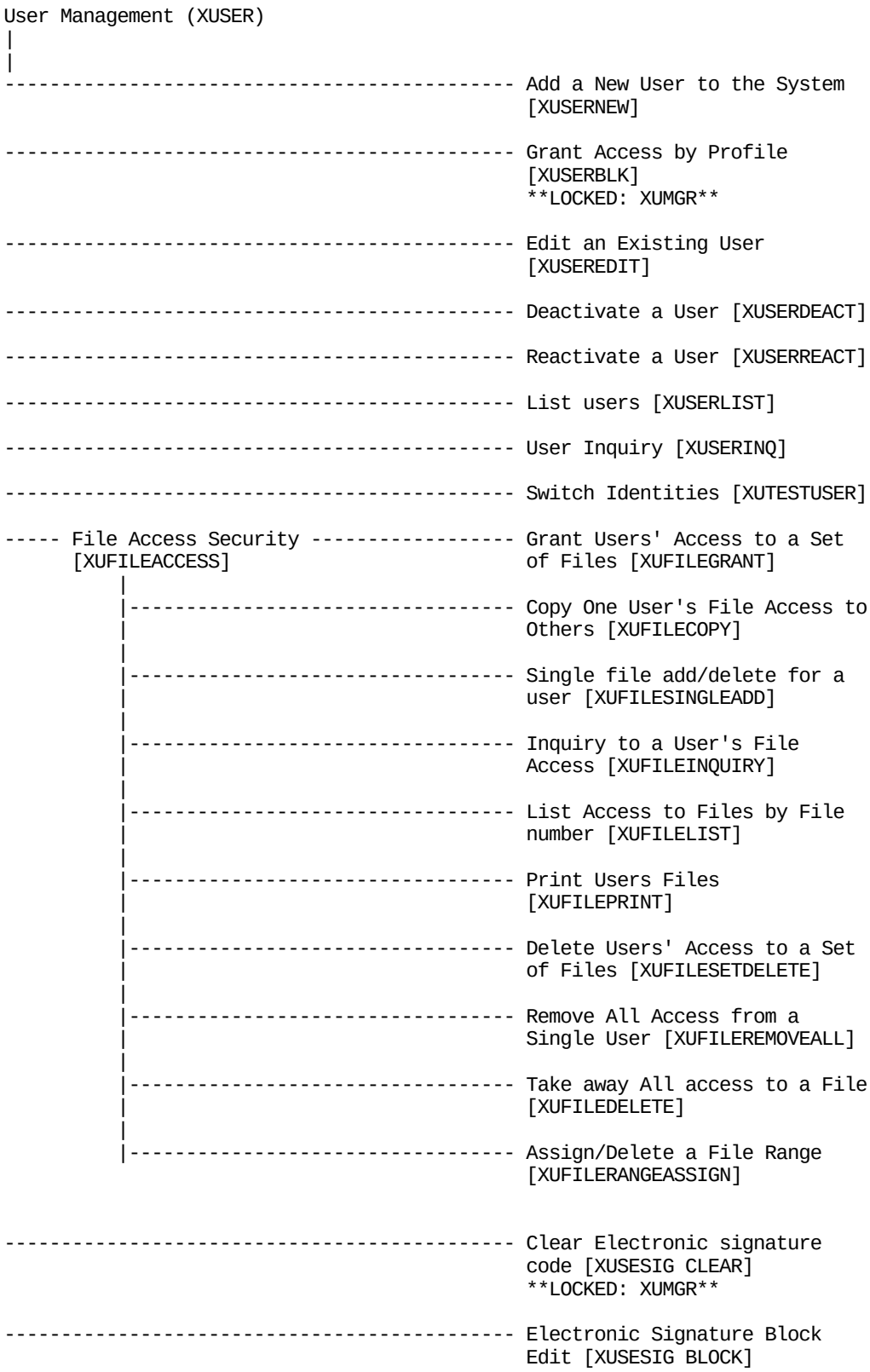


XUTM MGR

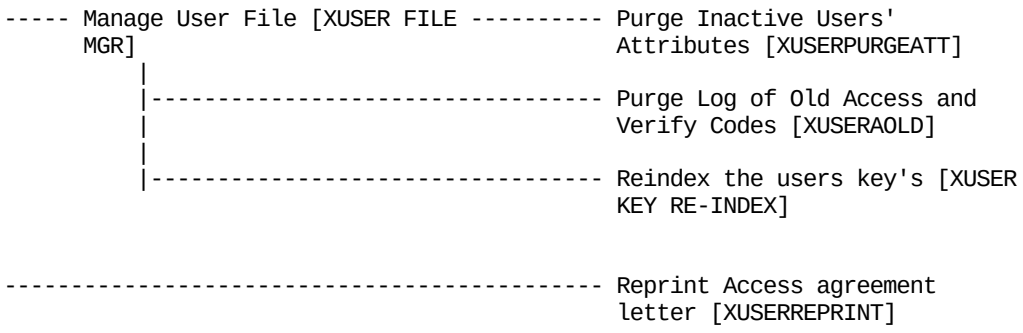

Taskman Management (XUTM MGR)
Schedule/Unschedule Options [XUTM SCHEDULE]
One-time Option Queue [XU OPTION QUEUE]
Taskman Management Utilities [XUTM UTIL]
MTM Monitor Taskman [XUTM ZTMON]
Check Taskman's Environment [XUTM CHECK ENV]
Edit Taskman Parameters [XUTM PARAMETER EDIT]
Site Parameters Edit [XUTM BVPAIR]
UCI Association Table Edit [XUTM UCI]
Volume Set Edit [XUTM VOLUME]
Restart Task Manager [XUTM RESTART]
Place Taskman in a WAIT State [XUTM WAIT]
Remove Taskman from WAIT State [XUTM RUN]
Stop Task Manager [XUTM STOP]
Taskman Error Log [XUTM ERROR]
Show Error Log [XUTM ERROR SHOW]
Clean Error Log Over Range Of Dates [XUTM ERROR LOG CLEAN RANGE]
Purge Error Log Of Type Of Error [XUTM ERROR PURGE TYPE]


Delete Error Log [XUTM ERROR DELETE]
List Error Screens [XUTM ERROR SCREEN LIST]
Add Error Screens [XUTM ERROR SCREEN ADD]
Edit Error Screens [XUTM ERROR SCREEN EDIT]
Remove Error Screens [XUTM ERROR SCREEN REMOVE]
Clean Task File [XUTM CLEAN]
SYNC flag file control [XUTM SYNC]
List Tasks [XUTM INQ]
Dequeue Tasks [XUTM DQ]
Requeue Tasks [XUTM REQ]
Delete Tasks [XUTM DEL]
Print Options that are Scheduled to run [XUTM BACKGROUND PRINT]
Cleanup Task List [XUTM TL CLEAN]
Print Options Recommended for Queueing [XUTM BACKGROUND RECOMMENDED]

XUSER


User Management (XUSER)
Add a New User to the System [XUSERNEW]
Grant Access by Profile [XUSERBLK] **LOCKED: XUMGR**
Edit an Existing User [XUSEREDIT]
Deactivate a User [XUSERDEACT]
Reactivate a User [XUSERREACT]
List users [XUSERLIST]
User Inquiry [XUSERINQ]
Switch Identities [XUTESTUSER]
File Access Security [XUFILEACCESS]
Grant Users' Access to a Set of Files [XUFILEGRANT]
Copy One User's File Access to Others [XUFILECOPY]
Single file add/delete for a user [XUFILESINGLEADD]
Inquiry to a User's File Access [XUFILEINQUIRY]
List Access to Files by File number [XUFILELIST]
Print Users Files [XUFILEPRINT]
Delete Users' Access to a Set of Files [XUFILESETDELETE]
Remove All Access from a Single User [XUFILEREMOVEALL]
Take away All access to a File [XUFILEDELETE]
Assign/Delete a File Range [XUFILERANGEASSIGN]
Clear Electronic signature code [XUSESIG CLEAR] **LOCKED: XUMGR**
Electronic Signature Block Edit [XUSESIG BLOCK]

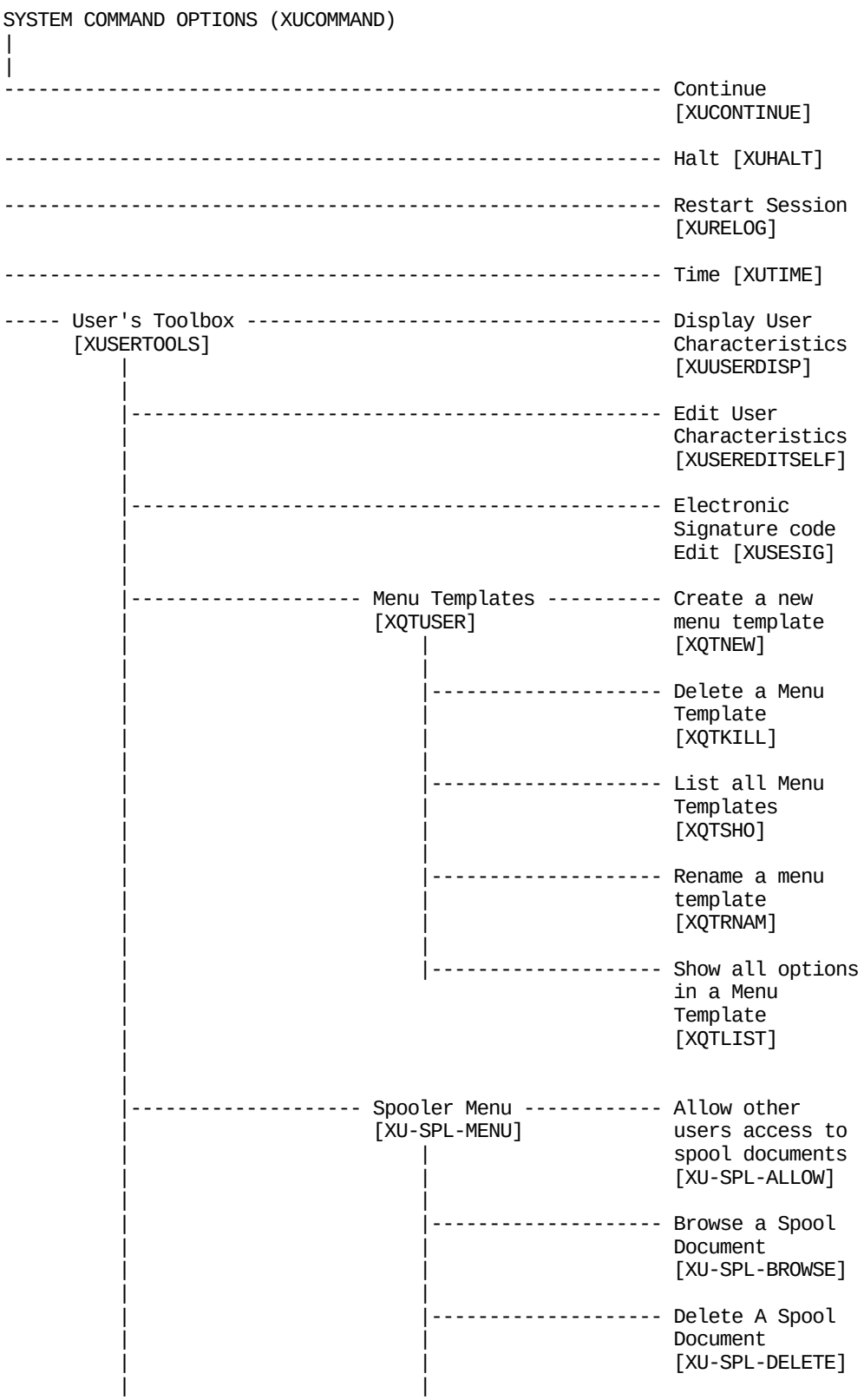
Exported Options (Menu Structure)

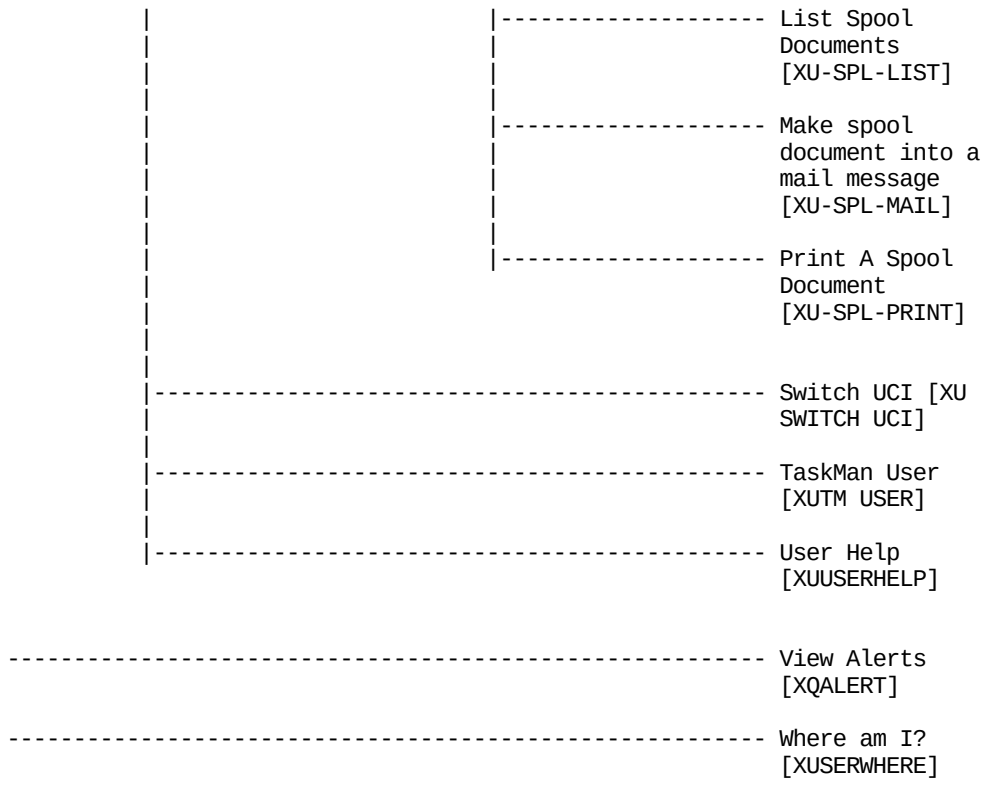


Parent Of Queuable Options [ZTMQUEUABLE OPTIONS]

```
Parent of Queuable Options (ZTMQUEUABLE OPTIONS)
|
|
----- Automatic Deactivation of Users
      [XUAUTODEACTIVATE]

----- Clear all users at startup
      [XUSER-CLEAR-ALL]

----- Copy the compiled menus from the
      print server [XU-486 MENU COPY]

----- Error trap Auto clean [XUERTRP
      AUTO CLEAN]

----- Errors Logged in Alpha/Beta Test
      (QUEUED) [XQAB ERROR LOG XMIT]

----- Monitor Routines for Changes
      [XTRMONITOR]

----- Non-interactive Build Primary
      Menu Trees [XQBUILDTREEQUE]

----- One-time Option Start (Internal
      Use Only) [XU OPTION START]

----- Print 1 occurence of each error
      for T-1 (QUEUE) [XUERTRP PRINT
      T-1 1 ERR]

----- Print 2 occurrences of errors on
      T-1 (QUEUED) [XUERTRP PRINT T-1 2
      ERR]

----- Purge of the %ZUA global.
      [XUSAZONK]

----- Purge old spool documents
      [XU-SPL-PURGE]

----- Purge Sign-On log [XUSCZONK]

----- Queuable Task Log Cleanup [XUTM
      QCLEAN]
```

SYSTEM COMMAND OPTIONS [XUCOMMAND]




List Spool Documents [XU-SPL-LIST]
Make spool document into a mail message [XU-SPL-MAIL]
Print A Spool Document [XU-SPL-PRINT]
Switch UCI [XU SWITCH UCI]
TaskMan User [XUTM USER]
User Help [XUUSERHELP]
View Alerts [XQALERT]
Where am I? [XUSERWHERE]

Extended-Action Options

XU USER SIGN-ON
XU USER TERMINATE

Server Options

XQAB ERROR LOG SERVER
XQSCHK
XQSPING
XU-PING-SERVER

Options Attached to Menus for Other Packages

XT-KERMIT SPOOL DL "Download a Spool file entry"; will be attached to Kernel Toolkit's XT-KERMIT MENU option.

Cross References

This section contains a description of the trigger and M-type cross references that exist on fields in the Kernel's files.

The cross references are grouped by file. Within a file, cross references are listed in cross reference order. The field affected is identified along with the cross reference's name (or number if there is no name) and a brief description.

No detailed description of the cross references in the User and Person files is included because those files are being phased out.

USER File (#3) - Replaced by NEW PERSON File

The USER file is being phased out and replaced by the NEW PERSON file. The USER file contains many M-type cross references, ACX*, that are used to keep its data synchronized with the data in the NEW PERSON file.

SIGN-ON LOG File (#3.081)

Field	X-ref id	Description
SIGNOFF TIME	AC	This X-ref clears ^XUSEC(0,'CUR' that keeps a list of user sign-ons that is used by the FIND USER option.
DEVICE	ALDEV	This M-type cross reference is used to tell which user last signed on to this device. There is no KILL logic. At most there would be one entry for each entry in the DEVICE file.

TERMINAL TYPE File (#3.2)

Field	X-ref id	Description
XY CRT	(trigger)	This is a temporary trigger to phase out the old XY CRT field.

DA RETURN CODES File (#3.22)

Field	X-ref id	Description
DA Return String	B1	This is a workaround for VA FileMan only allowing 30 characters in a normal B cross reference. Makes it look like an old MNEMONIC.

DEVICE File (#3.5)

Field	X-ref id	Description
$I	(trigger)	Whenever the $I is edited, the new value of $I is triggered into the name field of the RESOURCE File(#3.54). This ensures that an entry in the RESOURCE File(#3.54) is established for every device entry of TYPE RESOURCE.
TYPE	(trigger)	Whenever the TYPE field of the DEVICE File(#3.5) is changed to TYPE RESOURCE, the value of $I is triggered into the NAME field of the RESOURCE File(#3.54). This ensures that an entry in the RESOURCE File(#3.54) is established for every device entry of TYPE RESOURCE.
TYPE	(trigger)	Whenever a device entry is created with a TYPE RESOURCE, a default value of '1' is triggered into the AVAILABLE SLOTS field of the RESOURCE File(#3.54).
RESOURCE SLOTS	(trigger)	This cross-reference triggers a value into the AVAILABLE SLOTS field (#1) of the RESOURCE FILE (#3.54). This value is the RESOURCE SLOTS (#35) of the DEVICE file (#3.5) minus the number of SLOTS IN USE (#2) of the RESOURCE file (#3.54).
VOLUME SET(CPU)	AC	This sets up the 'G' cross reference used to identify the primary device. The AC cross reference is needed to support the 'G' cross reference because the 'G' cross reference is multifield indexed.
$I	ACPU	This sets up the 'CPU' cross reference used to find devices that have a particular $I on a specified VOLUME SET(CPU).
$I	AD	This sets up the 'G' cross reference used to identify the primary device.
VOLUME SET(CPU)	CPU	This cross reference is a multifield index. The look-up key is a combination of $I (#1) and VOLUME SET(CPU) (#1.9) fields.

DEVICE File (#3.5) (Continued)

Field	X-ref id	Description
SUBTYPE	D	This cross reference will update the MARGIN WIDTH, FORM FEED, PAGE LENGTH and BACKSPACE fields with values from corresponding fields of the TERMINAL TYPE file. This will occur whenever the subtype field is edited.
SIGN-ON/SYSTEM DEVICE	G	The 'G' cross reference is a multifield index. This index is used to identify the primary device. The fields that affect this cross reference are $I (#1), VOLUME SET(CPU) (#1.9) and SIGN-ON/SYSTEM DEVICE (#1.95).

SPOOL DOCUMENT File (#3.51)

Field	X-ref id	Description
USER	AOK	The 'AOK' cross reference identifies who has access to this document. The creator of the document is automatically assigned access.
OTHER AUTHORIZED USERS subfield (of OTHER AUTHORIZED USERS multiple)	AOK2	The 'AOK2' cross reference sets the 'AOK' cross reference. The 'AOK' cross reference identifies who has authorized access to an individual document.

INSTITUTION File (#4)

Field	X-ref id	Description
AGENCY CODE	(trigger)	Link to keep fields 95 and 97 in sync.
POINTER TO AGENCY	(trigger)	Link to keep fields 95 and 97 in sync.
*PACKAGE X-REF	AP	Special Package X-ref.
NAME	AP1	Special Package X-ref

KERNEL SYSTEM PARAMETERS File (#4.3)

Field	X-ref id	Description
TIME ZONE	AC	This cross reference is used to record the name of the timezone that is the correct time zone for the local site.
DOMAIN NAME	AD	This cross reference is used to record the pointer to the domain that is the name of the local site.
PARENT	AE	This cross reference is used to record the name of the domain that is the Parent of the local site.
DOMAIN NAME	AF	This cross reference is used to record the human readable name of the local site's identity.
*TASKMAN PRIORITY	ATM13	This cross reference is obsolete, like the field it is for.
*TASKMAN PARTITION SIZE	ATM14	This cross reference is obsolete, like the field it is for.
*TASKMAN RETENTION TIME	ATM15	This cross reference is obsolete, like the field it is for.
*TASKMAN HANG BETWEEN JOBS	ATM16	This cross reference is obsolete, like the field it is for.
VOLUME SET subfield (of *VOLUME SET multiple)	AC	This cross reference is obsolete, like the field it is for.
VOLUME SET subfield (of *VOLUME SET multiple)	ATM01	This cross reference is obsolete, like the field it is for.
*INHIBIT LOGON? subfield (of *VOLUME SET multiple)	ATM1	This cross reference is obsolete, like the field it is for.
MAX SIGNON ALLOWED subfield (of *VOLUME SET multiple)	ATM2	This cross reference is obsolete, like the field it is for.

KERNEL SITE PARAMETERS File (#4.3) (Continued)

Field	X-ref id	Description
*UCI subfield (of *UCI multiple (of VOLUME SET multiple))	AC	This cross reference is obsolete, like the field it is for.
*LINKED VOLUME SET subfield (of *LINKED VOLUME SET multiple (of *UCI multiple (of *VOLUME SET multiple)))	AC	This cross reference is obsolete, like the field it is for.
*LINKED UCI subfield (of *LINKED VOLUME SET multiple (of *UCI multiple (of *VOLUME SET multiple)))	AT	This cross reference is obsolete, like the field it is for.
*TASKMAN JOB LIMIT subfield (of *VOLUME SET multiple)	ATM7	This cross reference is obsolete, like the field it is for.
*OUT OF SERVICE subfield (of *VOLUME SET multiple)	ATM8	This cross reference is obsolete, like the field it is for.
*REPLACEMENT VOLUME SET subfield (of *VOLUME SET multiple)	ATM9	This cross reference is obsolete, like the field it is for.
*LOG RESOURCE USAGE?	ATM300	This cross reference is obsolete, like the field it is for.

PROVIDER File (#6)

Field	X-ref id	Description
NAME	AC	This puts the 'A6' pointer into the PERSON file.
NAME	AK	Used to link providers to new person keys. This X-ref will see that the provider also has the 'VA Provider' key in the New Person file.
STREET ADDRESS 1	ACX1	Used to keep 3-16-200 in sync.
STREET ADDRESS 2	ACX2	Used to keep 3-16-200 in sync.
STREET ADDRESS 3	ACX3	Used to keep 3-16-200 in sync.
CITY	ACX4	Used to keep 3-16-200 in sync.
STATE	ACX5	Used to keep 3-16-200 in sync.
ZIPCODE	ACX6	Used to keep 3-16-200 in sync.
INITIALS	ACX7	Used to keep 3-16-200 in sync.
CLASS	ACX36	Used to keep 3-16-200 in sync.
TYPE	ACX37	Used to keep 3-16-200 in sync.
DEA#	ACX38	Used to keep 3-16-200 in sync.
VA#	ACX39	Used to keep 3-16-200 in sync.
INACTIVATION DATE	ACX8	This X-ref keeps the 'Inactivation Date' in sync between files 6 and 200.

HELP FRAME File (#9.2)

Field	X-ref id	Description
NAME	(trigger)	This trigger sets the 'DATE ENTERED' field to the date and time when the help frame is created.
NAME	(trigger)	This cross reference marks Help Frames with the creator in the Author field.

BUILD File (#9.6)

Field	X-ref id	Description
SEND FULL OR PARTIAL DD subfield (of FILE multiple)	(trigger)	This cross reference sets the DATA COMES WITH FILE field to 'NO' if the Data Dictionary is a PARTIAL.
DATA COMES WITH FILE subfield (of FILE multiple)	(trigger)	This cross reference sets the SEND FULL OR PARTIAL DD field to FULL when sending data with a file.
ENTRIES subfield (of ENTRIES multiple (of BUILD COMPONENTS multiple))	(trigger)	This trigger updates the FILE field, #.02, with the appropriate file number for this template. It is only triggered for Fileman template components.
SEND FULL OR PARTIAL DD subfield (of FILE multiple)	AC	This cross reference is to clean up the partial DD information when you send a Full DD.
DD NUMBER subfield (of DD NUMBER multiple (of FILE multiple))	APDD	Used to create an array structure containing Partial DDs. This array is passed to FIA^DIFROMSU as a list of DD numbers and fields to transport.
FIELD NUMBER subfield (of DD NUMBER multiple (of FILE multiple))	APDD	Used to create an array structure containing Partial DDs. This array is passed from FIA^DIFROMSU as a list of DD numbers and fields to transport.

INSTALL File (#9.7)

Field	X-ref id	Description
INSTALL ORDER	AS	This cross reference uses the STARTING PACKAGE field as the 3rd subscript. It is used to find the first package in a linked package and the order to install this package.
STARTING PACKAGE	ASP	This cross reference uses the INSTALL ORDER field as the 4th subscript. It is used to find the first package in a linked package and the order to install this package.

VOLUME SET File (#14.5)

Field	X-ref id	Description
VOLUME SET	AC	This cross reference updates the cross references in the UCI Association file whenever a pointed-to volume set changes.
VOLUME SET	AD	This cross reference notifies TaskMan of changes to the field.
INHIBIT LOGONS?	AE	This cross reference notifies TaskMan of changes to the field.
INHIBIT LOGONS?	AF	Tells MenuMan, Security, and TaskMan when logons are inhibited.
OUT OF SERVICE?	AE2	This cross reference notifies TaskMan of changes to this field.

UCI ASSOCIATION File (#14.6)

Field	X-ref id	Description
FROM VOLUME SET	(trigger)	This cross reference triggers changing the free text value in field 1.5 that corresponds to the pointer value in this field.
TO VOLUME SET	(trigger)	This cross reference triggers changing the free text value in field 2.5 to correspond to the pointer value in this field.
FROM UCI	AC	This cross reference updates the "AT" and "AV" indices.
FROM VOLUME SET (FREE TEXT)	AD	This cross reference updates the "AT" and "AV" indices.
TO VOLUME SET (FREE TEXT)	AE	This cross reference updates the "AT" and "AV" indices.
TO UCI	AF	This cross reference updates the "AT" and "AV" indices.

TASKMAN SITE PARAMETERS File (#14.7)

Field	X-ref id	Description
TASK PARTITION SIZE	AC	This cross reference notifies TaskMan of changes to the field.
TASKMAN JOB LIMIT	AD	This cross reference notifies TaskMan of changes to the field.
TASKMAN HANG BETWEEN NEW JOBS	AE	This cross reference notifies TaskMan of changes to the field.
BOX-VOLUME PAIR	AF	This cross reference notifies TaskMan of changes to the field.

PERSON FILE (#16)

The Person file is being phased out and replaced by the NEW PERSON file. The Person file contains many M-type cross references, ACX*, that are used to keep its data synchronized with the data in the NEW PERSON file.

OPTION File (#19)

Field	X-ref id	Description
NAME	(trigger)	This trigger is used to record the user who created this option at the time that the name was created.
MENU TEXT	(trigger)	This X-ref triggers the UPPERCASE MENU TEXT field that builds the C cross reference. It is also used by the menu system to build the compiled menus.
REVERSE/ NEGATIVE LOCK	(trigger)	Trigger to set a value of 1 into field .16 if a reverse key is present on this option.
QUEUING REQUIRED (TIME PERIOD subfield)	(trigger)	This trigger cross reference sets a flag in the 0th node of the option when output restrictions are in effect. $P(XQY0,U,18) will be 1 if there are restrictions, and null if there are not. This flag is used by TaskMan to see if queueing is required in ^%ZTLOAD.
EXIT ACTION	(trigger)	This trigger sets the value 1 into field .15 when a value is entered on the current field. This permits identification of the presence of an exit action without having to determine whether a node 15 exists or not.
ENTRY ACTION	(trigger)	This trigger sets the value 1 into field 14 when a value is entered on the current field. This permits identification of the presence of an entry action without having to determine whether a node 20 exists or not.
HEADER	(trigger)	This trigger sets the field HEADER PRESENT to '1' when there is M code in the field HEADER. HEADER PRESENT is carried as a flag in the 0th node of each option.
MENU TEXT	AE	This is a null cross reference used to overwrite the previous x-ref which set the uppercase text.
E ACTION PRESENT	AF	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
X ACTION PRESENT	AG	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.

OPTION File (#19) (Continued)

Field	X-ref id	Description
MENU TEXT	AOA	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
OUT OF ORDER MESSAGE	AOB	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
LOCK	AOC	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
PROHIBITED TIMES	AOD	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
TIMES/DAYS PROHIBITED (TIMES PROHIBITED subfield)	AOD1	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
MENU (ITEM subfield)	AOE	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
MENU (SYNONYM subfield)	AOF	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
HELP FRAME	AOG	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
TYPE	AOH	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.

OPTION File (#19) (Continued)

Field	X-ref id	Description
PRIORITY	AOI	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
RESTRICT DEVICES?	AOJ	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
MENU (DISPLAY ORDER subfield)	AOK	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
TYPE	AOR	This sets the AOR cross reference on the file if the option type is either a protocol or a protocol menu.
MENU TEXT	AORK	This sets the "AORK" cross reference on the file if the option type is either a protocol or a protocol menu.
REVERSE/ NEGATIVE LOCK	AREDO	This cross reference causes the option to be flagged for updating in the menu trees so that the changes effecting display and/or access to the option are correctly updated.
*SPECIAL QUEUING	ASTARTUP	This field and X-ref are being replaced by a field in the new OPTION SCHEDULING file.
*QUEUED TO RUN AT WHAT TIME	AZT	This field and X-ref are being replaced by a field in the new OPTION SCHEDULING file.
*DEVICE FOR QUEUED JOB OUTPUT	AZTIO	This field and X-ref are being replaced by a field in the new OPTION SCHEDULING file.
*QUEUED TO RUN ON VOLUME SET	AZTVOL	This field and X-ref are being replaced by a field in the new OPTION SCHEDULING file.

SECURITY KEY File (#19.1)

Field	X-ref id	Description
NAME	AC	This cross reference will clean-up the XUSEC global if a key is removed by an application calling DIK directly. If the UNEDITABLE flag was removed and the KEY name changed it would clean-up the old name from XUSEC BUT would not set in the new name. To do that the M cross reference on the KEY subfile of the NEW PERSON file will need to be reindexed.
DESCRIPTIVE NAME	E	This is a normal cross reference that has the special code to see that the cross reference is in all uppercase for easy look-up.

OPTION SCHEDULING File (#19.2)

Field	X-ref id	Description
QUEUED TO RUN AT WHAT TIME	AZT	This cross reference causes the entry or deletion of a value (if it is not part of a package install) to set or remove the option as a task queued for the specified time.
DEVICE FOR QUEUED JOB OUTPUT	AZTIO	This cross reference causes the update of the task record. To reflect changes to the device.
QUEUED TO RUN ON VOLUME SET	AZTVOL	This cross reference causes the updating of the ZTVOL value (if it is not part of a package install) for the option as a queued task.
SPECIAL QUEUEING	ASTARTUP	This cross reference causes the updating of the option as a startup option to be started when the system is started.

NEW PERSON File (#200)

Field	X-ref id	Description
NAME	(trigger)	This is the X-ref that keeps names in 3-16 the same as in 200. It also will LAYGO new entries if they are missing.
VERIFY CODE	(trigger)	Triggers the DATE VERIFY CODE LAST CHANGED field.
DELEGATE OF	(trigger)	Triggers the DELEGATION DATE field.
DELEGATED OPTIONS subfield (of DELEGATED OPTIONS multiple)	(trigger)	This is a trigger cross reference.
DELEGATED OPTIONS subfield (of DELEGATED OPTIONS multiple)	(trigger)	This is a trigger cross reference.
KEY subfield (of KEYS multiple)	(trigger)	Edited trigger cross reference.
KEY subfield (of KEYS multiple)	(trigger)	Edited trigger cross reference.
DELEGATED KEY subfield (of DELEGATED KEYS multiple)	(trigger)	This keeps track of who gave the key for delegation.
DELEGATED KEYS subfield (of DELEGATED KEY multiple)	(trigger)	This sets when a delegated key was given.
ACCESS CODE	A	ACCESS CODE lookup.
TYPE-AHEAD	AB2	If the user changes value, this changes the type-ahead value.
KEYS subfield (of KEYS multiple)	AC	This is the X-ref that keeps the ^XUSEC (key name, DUZ) global in place. This global is used by the menu system and other to check if a new person holds a given key.
STREET ADDRESS 1	ACX1	Used to keep 3-16-200 in sync.

NEW PERSON File (#200) (Continued)

Field	X-ref id	Description
STREET ADDRESS 2	ACX2	Used to keep 3-16-200 in sync.
STREET ADDRESS 3	ACX3	Used to keep 3-16-200 in sync.
CITY	ACX4	Used to keep 3-16-200 in sync.
STATE	ACX5	Used to keep 3-16-200 in sync.
ZIP CODE	ACX6	Used to keep 3-16-200 in sync.
TEMPORARY ADDRESS 1	ACX7	Used to keep 3-16-200 in sync.
TEMPORARY ADDRESS 2	ACX8	Used to keep 3-16-200 in sync.
TEMPORARY ADDRESS 3	ACX9	Used to keep 3-16-200 in sync.
TEMPORARY CITY	ACX10	Used to keep 3-16-200 in sync.
TEMPORARY STATE	ACX11	Used to keep 3-16-200 in sync.
TEMPORARY ZIP CODE	ACX12	Used to keep 3-16-200 in sync.
PHONE	ACX13	Used to keep 3-16-200 in sync.
OFFICE PHONE	ACX14	Used to keep 3-16-200 in sync.
PHONE #3	ACX15	Used to keep 3-16-200 in sync.
PHONE #4	ACX16	Used to keep 3-16-200 in sync.
START DATE OF TEMP ADDRESS	ACX17	Used to keep 3-16-200 in sync.
END DATE OF TEMP ADDRESS	ACX18	Used to keep 3-16-200 in sync.
SIGNATURE BLOCK PRINTED NAME	ACX20	Used to keep 3-16-200 in sync.
SIGNATURE BLOCK TITLE	ACX21	Used to keep 3-16-200 in sync.

NEW PERSON File (#200) (Continued)

Field	X-ref id	Description
DOB	ACX22	Used to keep 3-16-200 in sync.
ELECTRONIC SIGNATURE CODE	ACX23	Used to keep 3-16-200 in sync.
FILE MANAGER ACCESS CODE	ACX25	Used to keep 3-16-200 in sync.
MAIL CODE	ACX26	Used to keep 3-16-200 in sync.
NICK NAME	ACX27	Used to keep 3-16-200 in sync.
SERVICE/ SECTION	ACX28	Used to keep 3-16-200 in sync.
TERMINATION DATE	ACX29	Used to keep 3-16-200 in sync.
TITLE	ACX30	Used to keep 3-16-200 in sync.
INITIAL	ACX31	Used to keep 3-16-200 in sync.
SEX	ACX32	Used to keep 3-16-200 in sync.
SSN	ACX33	Used to keep 3-16-200 in sync.
INACTIVE DATE	ACX35	Used to keep 3-16-200 in sync.
PROVIDER CLASS	ACX36	Used to keep 3-16-200 in sync.
PROVIDER TYPE	ACX37	Used to keep 3-16-200 in sync.
DEA#	ACX38	Used to keep 3-16-200 in sync.
VA#	ACX39	Used to keep 3-16-200 in sync.
NAME	AE	This X-ref stuffs the DATE ENTERED and CREATOR fields on a new entry.
NAME	AF	Stuffs SIGNATURE BLOCK PRINTED NAME.
NAME	AG	Builds the AK. key special look-up X-ref when there is a name change.
NAME	AH	This M cross reference sets the PERSON FILE POINTER in place and sets the 'A16' X-ref of that field. See the field description for more information.

NEW PERSON File (#200) (Continued)

Field	X-ref id	Description
KEYS subfield (of KEYS multiple)	AK	Special X-ref to allow applications to do look-up on just holders of a special key.
SECONDARY MENU OPTIONS subfield (of SECONDARY MENU OPTIONS multiple)	AOA	Stuffs the date and time of change into TIMESTAMP subfield.
SECONDARY MENU OPTIONS subfield (of SECONDARY MENU OPTIONS multiple)	AOB	This cross reference checks for whether this entry creates a new entry in the compiled menu tree in XUTL("XQO", If it is a new entry, then a flag will be set by the code in XQ7 in the "AT" cross reference of the option file (^DIC(19,"AT", to cause the menu tree to be generated.
SYNONYM subfield (of SECONDARY MENU OPTIONS multiple)	AOB	Updates the timestamp field.
ACCESS CODE	AOLD	This is a list of used ACCESS CODES that may not be used again until the OLD ACCESS CODE PURGE option is run.
CLASSIFICATION subfield (of CLASSIFICATION multiple)	ARC	This M cross reference controls the "ARC" index.
SOCIAL WORKER?	ASWB	This M cross reference is used for screening out non-social workers.
POSITION/TITLE	ASWE	This M cross reference is used for chiefs, asst. chiefs, and supervisors only.
NAME	ASX	This builds a soundex X-ref so that a check for similar names can be done at the time of LAYGOing to the file. It calls XUA4A71 to convert X. The LAYGO test calls XUA4A7.
ALERT DATE/TIME multiple (PACKAGE ID subfield)	AXQA	This cross reference is obsolete, like the field it is for.

NEW PERSON File (#200) (Continued)

Field	X-ref id	Description
PACKAGE ID subfield (of ALERT DATE/TIME multiple)	AXQAN	This cross reference is obsolete, like the field it is for.
NAME	BS5	This X-ref builds the 'BS5' X-ref on name changes. The BS5 is the first letter of the last name concatenated with the last four digits of the SSN.
SSN	BS55	This is the 'BS5' X-ref on the SSN field. See the 'BS5' X-ref on the name field.
NICK NAME	D	The X-ref is held in UPPERCASE, it is a regular X-ref otherwise.
VERIFY CODE	VOLD	This builds a list of old VERIFY CODEs that this user has had in the past. It is cleaned out with the same option the purges the old access code X-ref.

KERNEL SYSTEM PARAMETERS File (#8989.3)

Field	X-ref id	Description
DEFAULT INSTITUTION	AC	This will keep the default institution in sync between the old KERNEL SITE PARAMETERS file (#4.3) and the new File # 8989.3.
LOG RESOURCE USAGE?	AZTCP	This cross reference updates TaskMan whenever the field changes. The code that supports this cross reference loops through the Volume Set file. For those with link access that are not out of service, it adjusts the LOGRSRC node to indicate whether or not what has changed.

ALERT File (#8992)

Field	X-ref id	Description
ALERT DATE/TIME subfield (of ALERT DATE/TIME multiple)	B	This cross reference will prevent a 'B' cross reference from being built.
ALERT ID subfield (of ALERT DATE/TIME multiple)	AXQA	This is a cross reference on the complete XQAID value for this alert, which can be used to identify those individuals who received this particular instance of the alert, and could be used to delete other entries which had received the alert.
ALERT ID subfield (of ALERT DATE/TIME multiple)	AXQAN	This cross reference may be used to identify those users who received the alert with the application package specified XQAID (the first ";" -piece of the complete XQAID value) for those cases in which the full XQAID value may not be known, e.g., an application which was selected by the user without selecting the ALERT ACTION option to process the alert.

Cross References Brought in by Virgin Install

The following additional files have M- or trigger-type cross references. These additional files are brought in by the Kernel V. 8.0 Virgin Install:

DOMAIN File (#4.2)

Field	X-ref id	Description
FLAGS	AC	This cross reference keeps track of domains that have the polling flag on.

SERVICE/SECTION File (#49)

Field	X-ref id	Description
NATIONAL SERVICE	A2	This cross reference represents a pointer to the NATIONAL SERVICE file (#730). The reference is ^DIC(49,"A2",DA,NATIONAL SERVICE)="".
COST CENTER	AD	This cross reference represents the numeric value of cost center. Leading zeros will be removed in setting this cross reference. The reference is ^DIC(49,"AD",COST CENTER,DA)="".

Archiving

There are no package-specific archiving procedures or recommendations for the Kernel.

Purging

The Kernel provides a number of options to facilitate the purging of Kernel files and the cleanup of Kernel-produced globals. The chart below contains a list of the purging options. The recommended scheduling frequency is shown for some options; all such options are queue-able. The Clear All Users at Startup option requires special queuing. The location of a detailed discussion of each option is given; unless otherwise noted, the reference given is to a chapter in the *Kernel System Manual*.

Purging Option	Frequency	Reference for Detailed Info
Audited Options Purge		Menu Management: System Management Chapter & Security Tools Manual
Automatic Deactivation of Users	1 day	Sign-on/Security: System Management Chapter
Clean Error Log over Range of Dates		Task Manager System Management: Operation Chapter
Clean Old Job Nodes in ^XUTL	7 days	Menu Management: System Management Chapter
Clean Task File		Task Manager System Management: Operation Chapter
Clear All Users at Startup		Sign-on/Security: System Management Chapter
Clean Error Trap		Error Processing Chapter
Deactivate a User		Sign-on/Security: System Management Chapter
Delete Error Log		Task Manager System Management: Operation Chapter
Delete Old (>14 d) Alerts	1 day	Alerts Chapter
Failed Access Attempts Log Purge		Sign-on/Security: System Management Chapter & Security Tools Manual
Programmer Mode Entry Log Purge		Sign-on/Security: System Management Chapter & Security Tools Manual
Purge Error Log of Type of Error		Task Manager System Management: Operation Chapter

(continued)

Purging Option	Frequency	Reference for Detailed Info
Purge Inactive Users' Attributes		Sign-on/Security: System Management Chapter
Purge Log of Old Access and Verify Codes	(up to site)	Sign-on/Security: System Management Chapter & Security Tools Manual
Purge of ^%ZUA Global	15 days	Sign-on/Security: System Management Chapter
Purge Old Spool Documents	7 days	Spooling Chapter
Purge Sign-on Log	1 day	Sign-on/Security: System Management Chapter & Security Tools Manual
Queuable Task Log Cleanup	1 day	Task Manager System Management: Operation Chapter

The KIDS System Management: Installations chapter contains recommendations for purging the INSTALL and BUILD files.

This section lists all Kernel entry points that are available for general use.

A set of nodes is created during the Kernel's installation that contains operating system-specific code. These nodes are descendent from ^%ZOSF. Most can be executed in application code. Each one is described in the Operating System Interface chapter of the *Kernel Systems Manual*.

Every callable entry point and executable node is described in the *Kernel Systems Manual*. Refer to the indicated chapter in that manual for details, including input and output variables for the calls.

Callable Entry Points

Entry Point	Description	Kernel Systems Manual Chapter
CHGA^XGF	Change individual video attributes	XGF Function Library
CLEAN^XGF	Exit the XGF screen and keyboard environment	XGF Function Library
CLEAR^XGF	Clear a rectangular region of the screen	XGF Function Library
FRAME^XGF	Draw a box frame on the screen	XGF Function Library
INITKB^XGF	Set up the XGF keyboard environment only	XGF Function Library
IOXY^XGF	Position cursor on the screen at a screen coordinate	XGF Function Library
PREP^XGF	Set up the XGF screen and keyboard environments	XGF Function Library
$$READ^XGF	Read user's input from the keyboard using escape processing	XGF Function Library
RESETKB^XGF	Exit the XGF keyboard environment only	XGF Function Library
RESTORE^XGF	Restore a screen region	XGF Function Library
SAVE^XGF	Save a screen region	XGF Function Library
SAY^XGF	Output a string to the screen	XGF Function Library
SAYU^XGF	Output a string with an underlined character	XGF Function Library
SETA^XGF	Set all video attributes for subsequent screen output	XGF Function Library

Entry Point	Description	Kernel Systems Manual Chapter
WIN^XGF	Open a text window on the screen	XGF Function Library
tag^XLFDT	Date Functions (many)	XLF Function Library
tag^XLFHYPER	Hyperbolic Trigonometric Functions (many)	XLF Function Library
tag^XLFMSMT	Measurement Functions (many)	XLF Function Library
tag^XLFMTH	Mathematical Computations (many)	XLF Function Library
tag^XLFSTR	String functions (many)	XLF Function Library
tag^XLFUTL	Utility functions (many)	XLF Function Library
$$RENAME^XPDKEY	Rename Security Key	Security Keys
$$ADD^XPDMENU	Add Option to Menu	Menu Manager: Programmer Tools
OUT^XPDMENU	Edit Out of Order Message for an Option	Menu Manager: Programmer Tools
RENAME^XPDMENU	Rename Option	Menu Manager: Programmer Tools
BMES^XPDUTL	Output String During KIDS Installation	KIDS Programmer Tools: Advanced Build Techniques
$$COMCP^XPDUTL	Complete a Checkpoint	KIDS Programmer Tools: Advanced Build Techniques
$$CURCP^XPDUTL	Get Current Checkpoint Information	KIDS Programmer Tools: Advanced Build Techniques
MES^XPDUTL	Output String During KIDS Installation	KIDS Programmer Tools: Advanced Build Techniques
$$NEWCP^XPDUTL	Create a Checkpoint	KIDS Programmer Tools: Advanced Build Techniques
$$PARCP^XPDUTL	Get Checkpoint Parameter Node	KIDS Programmer Tools: Advanced Build Techniques
$$PKG^XPDUTL	Parse Package Name from Build Name	KIDS Programmer Tools: Advanced Build Techniques
$$RTNUP^XPDUTL	Update KIDS Routine Installation Action	KIDS Programmer Tools: Advanced Build Techniques
$$UPCP^XPDUTL	Update a Checkpoint	KIDS Programmer Tools: Advanced Build Techniques
$$VER^XPDUTL	Parse Package Version from Build Name	KIDS Programmer Tools: Advanced Build Techniques
$$VERCP^XPDUTL	Verify a Checkpoint	KIDS Programmer Tools: Advanced Build Techniques
$$VERSION^XPDUTL	Return Currently Installed Package Version	KIDS Programmer Tools: Advanced Build Techniques
NEXT^XQ92	Restricted Times Check	Menu Manager: Programmer Tools
ACTION^XQALERT	Process an Alert	Alerts
DELETE^XQALERT	Clear Obsolete Alerts	Alerts
DELETEA^XQALERT	Clear Obsolete Alerts	Alerts
NOTIPURG^XQALERT	Purge Alerts By Code	Alerts

Entry Point	Description	Kernel Systems Manual Chapter
PATIENT^XQALERT	Return Alerts for a Patient	Alerts
PTPURG^XQALERT	Purge Alerts By Patient	Alerts
RECIPURG^XQALERT	Purge Alerts Based on User	Alerts
SETUP^XQALERT	Create Alerts	Alerts
FORWARD^XQALFWD	Forward Alerts	Alerts
USER^XQALERT	Return Alerts for a User	Alerts
OP^XQCHK	Current Option Check	Menu Manager: Programmer Tools
^XQDATE	Current Date/Time	Menu Manager: Programmer Tools
EN^XQH	Display Help Frames	Help Processor
EN1^XQH	Display Help Frames	Help Processor
ACTION^XQH4	Print Help Frames	Help Processor
EN^XUA4A71	Convert String to Soundex	XLF Function Library
$$KSP^XUPARAM	Return Kernel Site Parameter	Sign-on/Security: Programmer Tools
SET^XUS1A	Display Information At Sign-On	Sign-on/Security: Programmer Tools
KILL^XUSCLEAN	Kill Non-Kernel Variables	Sign-on/Security: Programmer Tools
$$ADD^XUSERNEW	Add Entry to NEW PERSON File	Sign-on/Security: Programmer Tools
SIG^XUSESIG	Verify Electronic Signature Code	Electronic Signature Codes
DE^XUSHSHP	Decrypt Data String	Electronic Signature Codes
EN^XUSHSHP	Encrypt Data String	Electronic Signature Codes
HASH^XUSHSHP	Hash Electronic Signature Code	Electronic Signature Codes
EN^XUTMDEVQ	Queue or Run an Entry Point	Task Manager: Programmer Tools
^XUVERIFY	Verify Access and Verify Codes	Sign-on/Security: Programmer Tools
^XUWORKDY	Workday Calculation	XLF Function Library
^%ZIS	Standard Device Call	Device Handler: Programmer Tools
HLP1^%ZIS	Display Brief Help	Device Handler: Programmer Tools
HLP2^%ZIS	Display Help Frames	Device Handler: Programmer Tools
HOME^%ZIS	Reset Home Device IO Variables	Device Handler: Programmer Tools
RESETVAR^%ZIS	Reset Home Device IO Variables	Device Handler: Programmer Tools
$$REWIND^%ZIS	Rewind Device	Device Handler: Programmer Tools
^%ZISC	Close the Device	Device Handler: Programmer Tools

Entry Point	Description	Kernel Systems Manual Chapter
CLOSE^%ZISH	Close Host File	Host Files
$$DEL^%ZISH	Delete Host File	Host Files
$$FTG^%ZISH	Copy Host File to Global	Host Files
$$GATF^%ZISH	Append Global to Host File	Host Files
$$GTF^%ZISH	Copy from Global to Host File	Host Files
$$LIST^%ZISH	Retrieve Directory Listing	Host Files
$$MV^%ZISH	Rename Host File	Host Files
OPEN^%ZISH	Open Host File	Host Files
$$PWD^%ZISH	Retrieve Current Directory	Host Files
$$STATUS^%ZISH	Return End-of-File Status	Host Files
PKILL^%ZISP	Kill Special Printer Variables	Device Handler: Programmer Tools
PSET^%ZISP	Set Up Special Printer Variables	Device Handler: Programmer Tools
ENDR^%ZISS	Collect Screen Parameters	Device Handler: Programmer Tools
ENS^%ZISS	Collect Screen Parameters	Device Handler: Programmer Tools
GKILL^%ZISS	Kill Graphic Parameters	Device Handler: Programmer Tools
GSET^%ZISS	Collect Graphic Parameters	Device Handler: Programmer Tools
KILL^%ZISS	Kill Screen Parameters	Device Handler: Programmer Tools
CLOSE^%ZISUTL	Close Device with Handle	Device Handler: Programmer Tools
OPEN^%ZISUTL	Open Device with Handle	Device Handler: Programmer Tools
USE^%ZISUTL	Use Device with Handle	Device Handler: Programmer Tools
$$EC^%ZOSV	Return Error Message	Error Processing
GETENV^%ZOSV	Return Environment Info.	Operating System Interface
$$LGR^%ZOSV	Return Last Global Ref.	Operating System Interface
$$VERSION^%ZOSV	Return OS Version/Name	Operating System Interface
^%ZTER	Record an Error	Error Processing
^%ZTLOAD	Queue a Task	Task Manager: Programmer Tools
DQ^%ZTLOAD	Unschedule a Task	Task Manager: Programmer Tools
ISQED^%ZTLOAD	Task Queue Status	Task Manager: Programmer Tools
KILL^%ZTLOAD	Delete a Task	Task Manager: Programmer Tools
REQ^%ZTLOAD	Requeue a Task	Task Manager: Programmer Tools
$$S^%ZTLOAD	Check for Task Stop Request	Task Manager: Programmer Tools
STAT^%ZTLOAD	Task Status	Task Manager: Programmer Tools
$$TM^%ZTLOAD	Check if TaskMan Running	Task Manager: Programmer Tools

Direct Mode Utilities

This section lists all Kernel direct mode utilities. Direct mode utilities can be used from programmer mode, but developers may not call them from within applications. Every direct mode utility is described in the *Kernel Systems Manual*. Refer to the indicated chapter in that manual for details on the use of the utility.

Direct Mode Utility	Description	Kernel Systems Manual Chapter
D ^XPDCPU	Move Routines to Other CPUs	Installing Packages with KIDS
D INSTALL^XPDCPU	Move Routines to Other CPUs	Installing Packages with KIDS
D MOVE^XPDCPU	Move Routines to Other CPUs	Installing Packages with KIDS
D ^XQ1	Test an Option	Menu Manager: Programmer Tools
D ^XTER	Display Error Trap	Error Processing
D ^XTERPUR	Purge Error Log	Error Processing
D ENABLE^XUFILE3	Enable File Access Security System	File Access Security
D ^XUINCON	Run File Access Security Conversion	File Access Security
D ^XUP	Programmer Sign-On	Sign-On Security: Programmer Tools
D ^XUS	User Sign-On, No Error Trapping	Sign-On Security: Programmer Tools
D H^XUS	Programmer Halt	Sign-On Security: Programmer Tools
D ^XUSCLEAN	Programmer Halt	Sign-On Security: Programmer Tools
D ^%ZTBKC	Global Block Count	Operating System Interface
D ^ZTMB	Start TaskMan	Task Manager System Management: Operation
D RESTART^ZTMB	Restart TaskMan	Task Manager System Management: Operation
D ^ZTMCHK	Check TaskMan's Environment	Task Manager System Management: Operation
D ^ZTMGRSET	Update ^%ZOSF Nodes	Operating System Interface
D RUN^ZTMKU	Remove TaskMan from a WAIT state	Task Manager System Management: Operation
D STOP^ZTMKU	Stop TaskMan	Task Manager System Management: Operation
D WAIT^ZTMKU	Place TaskMan in a WAIT state	Task Manager System Management: Operation
D ^ZTMON	Monitor TaskMan	Task Manager System Management: Operation
D ^ZU	User Sign-On	Sign-On Security: Programmer Tools

External Relations

Kernel's Place in DHCP

The nature of the Kernel package is to establish external relations with all other DHCP packages and with the various implementations of ANSI M. Kernel provides a transparent interface between DHCP and the host operating system.

All other DHCP packages depend upon the presence of the Kernel, for two main reasons:

- **Kernel provides a wealth of application mode entry points that packages use to solve many common programming problems.**

- **Kernel provides other DHCP applications with portability. In order to achieve independence from any particular vendor's implementation of the M standard, DHCP adopted programming standards and conventions that advise packages to avoid the use of the non-portable features of ANSI M. Though all DHCP packages depend upon an ANSI M environment, they also depend upon the Kernel to replace non-portable features with standard Kernel entry points and services.**

External Relations with M Operating Systems

The Kernel itself depends upon the presence of one of the ANSI M environments it supports. Micronetics Standard M (MSM-DOS) and DSM for OpenVMS, as the two centrally procured M operating systems in use at the medical centers, are the primary ANSI M environment supported by the Kernel. As DHCP adjusts its strategies for configuring computer sites, the list of ANSI M environments supported by the Kernel will continue to change.

Operating system interfaces are involved in each aspect of the Kernel. Identifying the M operating system upon Kernel installation starts processes that create the appropriate Kernel environment. To begin, the ^%ZOSF global is built from an operating system-specific routine. By executing nodes of the ^%ZOSF global, implementation-specific functions that are not part of ANSI M are possible. Functions include turning echo on or off, allowing type-ahead, or reporting the current UCI.

Other operating system-specific routines distributed with the Kernel include %ZIS4 for spooling, %ZOSV for system viewing, %XUCI for UCI swapping, and ZU for tied terminals. The %ZOSV routine contains code that enables use of the VIEW command and $VIEW function to get information from the operating system. Another routine, Task Manager's %ZTM, similarly makes

possible the use of a protected M procedure, the JOB command, to spawn jobs on a mounted volume set.

The Kernel allows processors running different operating systems to be linked. The ^%ZOSF global makes this possible, too. ^%ZOSF is never translated and thus may retain processor-specific information.

The Manager account is generally reserved for operating system-specific routines and globals. Part of the Kernel, however, must also reside in this account to take care of certain input/output procedures. To avoid collision with pre-existing operating system routines and globals, the Kernel uses the local Z namespace. Globals in the Manager account include ^%ZTSK and ^%ZTSCH for TaskMan, ^%ZUA for audit data, and %Z as the routine editor. Routines include the %ZTM* (Task Manager) and %ZIS* (Device Handler).

The Kernel's use of variables illustrates the way it functions as a buffer between the host operating system and DHCP applications. It uses M special variables to create utilities for use by application programmers. $HOROLOG is used by VA FileMan in date/time routines such as %DT and %DTC, $JOB is used by TaskMan, and $IO is used by the Device Handler. In turn, the Kernel has key variables that may be referenced by DHCP application routines. Perhaps not surprisingly, one of these is DT and another is IO. As DHCP system-wide variables, they are documented in the DHCP Standards and Conventions (SAC).

Required Packages

Kernel V. 8.0 requires the following packages:

- VA FileMan V. 21.0.
- MailMan V. 7.0 or 7.1.
- Kernel Toolkit V. 7.2 or V. 7.3.

See the *Kernel Installation Guide* for more details.

DBA Approvals and DBIAs

To communicate with the underlying operating system files, the Kernel has the approval of the Database Administrator (DBA) to reference the following globals: ^%ET, ^%IS, ^%SY, ^CPU, ^RTH, ^SPOOL, and ^SYS.

In addition, Kernel is a party in the Database Integration Agreements (DBIAs) described on the following pages.

Kernel's Supported References

Reference	DBIA #	Type	Name
XPDMENU ADD DELETE	1157	Routine	XPDMENU
HOLIDAY(HOLIDAY(...	10038	File	HOLIDAY FILE
XUS H	10044	Routine	XUS
XUSHSHP DE EN HASH	10045	Routine	XUSHSHP
XUWORKDY XUWORKDY	10046	Routine	XUWORKDY
DIC(3, DIC(3,...	10047	File	USER FILE
DIC(9.4, DIC(9.4,...	10048	File	PACKAGE FILE
DIC(16, DIC(16,...	10049	File	PERSON FILE
XUSESIG SIG	10050	Routine	XUSESIG
XUVERIFY XUVERIFY	10051	Routine	XUVERIFY
XUSCLEAN KILL	10052	Routine	XUSCLEAN
XUSERNEW $$ADD	10053	Routine	XUSERNEW
%ZTLOAD REQ KILL ISQED DQ $$S STAT$$TM	10063	Routine	%ZTLOAD

Reference	DBIA #	Type	Name
XQH EN EN1	10074	Routine	XQH
DIC(19, DIC(19,D0,0)	10075	File	OPTION FILE
XUSEC(XUSEC(KEY,DUZ)	10076	File	XUSEC GLOBAL
XQ92 NEXT	10077	Routine	XQ92
XQCHK OP	10078	Routine	XQCHK
XQDATE XQDATE	10079	Routine	XQDATE
XQH4 ACTION	10080	Routine	XQH4
XQALERT DELETE DELETEA SETUP delete	10081	Routine	XQALERT
%ZIS %ZIS HOME HLP1 HLP2 $$REWIND	10086	Routine	%ZIS
%ZIS9 %ZIS9	10087	Routine	%ZIS9
%ZISS KILL ENS ENDR GKILL GSET	10088	Routine	%ZISS
%ZISC %ZISC	10089	Routine	%ZISC
DIC(4, DIC(4,...	10090	File	INSTITUTION FILE
XMB(1, XMB(1,D0,'XUS')	10091	File	KERNEL SITE PARAMETERS

Reference	DBIA #	Type	Name
%ZOSF(	10096	File	Z OPERATING SYSTEM FILE
%ZOSV GETENV T0 T1 LOGRSRC $$LGR $$EC	10097	Routine	%ZOSV
XLFDT $$HTFM(x,y) $$FMTH(x,y) $$HTE(x,y) $$FMTE(x,y) $$DOW(x,y) $$HDIFF(x1,x2,x3) $$FMDIFF(x1,x2,x3) $$HADD(x,d,h,m,s) $$FMADD(x,d,h,m,s) $$DT $$NOW	10103	Routine	XLFDT
XLFSTR $$UP(x) $$LOW(x) $$STRIP(x,y) $$REPEAT(x,y) $$INVERT(x) $$REPLACE(in,spec) $$LJ(s,i,p) $$RJ(s,i,p) $$CJ(s,i,p)	10104	Routine	XLFSTR

Reference	DBIA #	Type	Name
XLFMTH $$ABS(%X) $$MIN(%1,%2) $$MAX(%1,%2) $$LN(%X) $$EXP(%X) $$PWR(%X,%Y) $$LOG(%X) $$TAN(%X) $$SIN(%X) $$COS(%X) $$DTR(%X) $$RTD(%X) $$PI() $$E() $$SQRT(%X) $$SD(%s1,%s2,%n) $$TANDEG(X,PR) $$SINDEG(X,PR) $$COSDEG(X,PR) $$DMSDEC(X,PR) $$DECDMS(X,PR) $$CSCDEG(X,PR) $$CSC(X,PR) $$SECDEG(X,PR) $$SEC(x,pr) $$COTDEG(X,PR) $$COT(X,PR) $$ASINDEG(X,PR) $$ASIN(X,PR) $$ACOSDEG(X,PR) $$ACOS(X,PR) $$ATANDEG(X,PR) $$ATAN(X,PR) $$ACOTDEG(X,PR) $$ACOT(X,PR) $$ASECDEG(X,PR) $$ASEC(X,PR) $$ACSCDEG(X,PR) $$ACSC(X,PR)	10105	Routine	XLFMTH
%ZIS(1, %ZIS(1,D0,0)	10114	File	DEVICE FILE
XPDUTL $$VERSION(PKG)	10141	Routine	XPDUTL

Reference	DBIA #	Type	Name
DDIOL EN	10142	Routine	DDIOL

Private DBIAs Where Kernel Is Custodian

Alphabetical by Subscribing Package

Number	Name	Subscribing Package
128	DBIA128-A	ACCOUNTS RECEIVABLE
601	DBIA128-B	ACCOUNTS RECEIVABLE
200	DBIA200	ADP PLANNING (PLANMAN)
26	DBIA26	AUTO REPLENISHMENT
170	DBIA170	AUTOMATED MED INFO EXCHANGE
241	DBIA241-A	AUTOMATED MED INFO EXCHANGE
633	DBIA170-B	AUTOMATED MED INFO EXCHANGE
711	DBIA241-B	AUTOMATED MED INFO EXCHANGE
712	DBIA241-C	AUTOMATED MED INFO EXCHANGE
713	DBIA241-D	AUTOMATED MED INFO EXCHANGE
714	DBIA241-E	AUTOMATED MED INFO EXCHANGE
251	DBIA251-A	CLINICAL MONITORING
742	DBIA251-B	CLINICAL MONITORING
167	DBIA167	CONSULT/REQUEST TRACKING
323	DBIA323-A	CONTROLLED SUBSTANCES
835	DBIA323-B	CONTROLLED SUBSTANCES
100	DBIA100	CREDENTIALS TRACKING
289	DBIA289-A	DISCHARGE SUMMARY

Number	Name	Subscribing Package
478	DBIA478	DMMS
491	DBIA491	DMMS
290	DBIA290-A	FEE BASIS
812	DBIA290-B	FEE BASIS
79	DBIA79	HEALTH SUMMARY
294	DBIA294	HOSPITAL BASED HOME CARE
66	DBIA66	IFCAP
119	DBIA119	IFCAP
978	DBIA978	IFCAP
144	DBIA144	INPATIENT MEDICATIONS
232	DBIA232	INPATIENT MEDICATIONS
372	DBIA372	INTEGRATED BILLING
932	DBIA932	INTEGRATED BILLING
933	DBIA933	INTEGRATED BILLING
40	DBIA40	INTEGRATED PATIENT FUNDS
58	DBIA58	INTERIM MANAGEMENT
930	DBIA930	LAB SERVICE
58	DBIA58	INTERIM MANAGEMENT
98	DBIA98-A	LAB SERVICE
561	DBIA98-B	LAB SERVICE
930	DBIA930	LAB SERVICE
976	DBIA976	LETTERMAN
979	DBIA979	LETTERMAN
230	DBIA230	MAILMAN
231	DBIA231	MAILMAN
234	DBIA234	MAILMAN
305	DBIA305	MAILMAN
343	DBIA343	MAILMAN

Number	Name	Subscribing Package
1	DBIA1	ORDER ENTRY/RESULTS
2	DBIA2	ORDER ENTRY/RESULTS
3	DBIA3	ORDER ENTRY/RESULTS
7	DBIA7	ORDER ENTRY/RESULTS
122	DBIA122	ORDER ENTRY/RESULTS
178	DBIA178	ORDER ENTRY/RESULTS
507	DBIA4-B	ORDER ENTRY/RESULTS
224	DBIA224	OUTPATIENT PHARMACY
331	DBIA331	OUTPATIENT PHARMACY
334	DBIA334	OUTPATIENT PHARMACY
1064	DBIA1063-B	OUTPATIENT PHARMACY
1039	DBIA1039	PCE PATIENT/IHS SU
342	DBIA342	PROBLEM LIST
177	DBIA177	PROGRESS NOTES
1049	PNs use of Security Key file (19.1)	PROGRESS NOTES
42	DBIA42	REGISTRATION
248	DBIA248	REMOTE ORDER/ENTRY
1234	DBIA1234	REMOTE ORDER/ENTRY
10	DBIA10	SCHEDULING
295	DBIA295	TOOLKIT
1113	1113	TOOLKIT
1124	References to Package File (9.4)	TOOLKIT
1125	Index and BUILD file	TOOLKIT
1129	DBIA1129-A	TOOLKIT

Number	Name	Subscribing Package
1130	DBIA1129-B	TOOLKIT
351	DBIA351-A	UNWINDER
858	DBIA351-B	UNWINDER
860	DBIA351-D	UNWINDER
264	DBIA264	VA FILEMAN
1013	DOLRO LINE TAG IN ROUTINE %ZOSV	VA FILEMAN
1014	SET PIECE OF %ZOSF GLOBAL	VA FILEMAN

Controlled DBIAs Where Kernel Is Custodian

Number	Name	Subscribing Package
936	XUSESIG	ADP PLANNING; ORDER ENTRY /RESULTS
1153	PACKAGE FILE REFERENCES CLEANUP	DRG GROUPER; REGISTRATION

Private DBIAs Where Kernel Is Subscribing Package

Alphabetical by Custodial Package

Number	Name	Custodial Package
249	DBIA249	DMMS
1019	UPDATE THE BULLETIN FILE	MAILMAN
1201	KERNEL transport MM routine	MAILMAN
1018	UPDATE FILE 101 & 100.99	ORDER ENTRY/ RESULTS REPORTING
1205	KERNEL transport of ORBUTL	ORDER ENTRY/ RESULTS REPORTING
1016	FIELD EDITOR - EN^DIR0()	VA FILEMAN
1017	CALLS TO FILEMAN FOR KIDS	VA FILEMAN
1052	DBIA1052-A	VA FILEMAN
1053	DBIA1052-B	VA FILEMAN
1054	DBIA1052-C	VA FILEMAN
1055	DBIA1052-D	VA FILEMAN
1056	DBIA1052-E	VA FILEMAN
1057	DBIA1052-F	VA FILEMAN
1058	DBIA1052-G	VA FILEMAN
9	DBIA9	VETERANS ADMINISTRATION

Independence of Options

All of the Kernel's options can be invoked independently. None requires any special setup in order to run successfully.

When rearranging options on menus, care should be taken that security is preserved. In several cases, a menu is locked with a key, but all the options on that menu are not locked with the same key. In other cases, items are assumed to be locked because the parent menu is itself locked. So, if an option were placed on another menu, the security on that option could be lost. This situation exists for some options on the following menus:

- **Audit Menu (VA FileMan, locked with XUADITING key)**
- **Filegrams (locked with XUFILEGRAM key)**
- **KIDS Installation Menu (locked with XUPROGMODE key)**
- **KIDS Main Menu (locked with XUPROG key)**
- **Programmer Options (locked with XUPROG key)**
- **ScreenMan (locked with XUSCREENMAN key)**
- **VA FileMan Management (locked with XUMGR key)**

Package-Wide Variables

Kernel does not have any package-wide variables that have received SACC exemptions.

The following Kernel key variables can be assumed to be defined at all times when operating within the menu system, as per Appendix 10-B in of VA's *Veterans Health Administration Manual M-11(Medical Information Resources Management Office:, Operations Document):*

DUZ	**Internal entry number from the NEW PERSON file.**
DUZ(0)	**User's FILE MANAGER ACCESS CODE string.**
DUZ(2)	**User's institutional affiliation. It is the internal entry number from the Institution file.**
DUZ("AG")	**User's agency code.**
DT	**Current date in VA FileMan internal format.**
DTIME	**Integer value of the number of seconds the user has to respond to a timed read.**
IO	**Hardware name ($I) of the last selected input/output device.**
IOF	**Contains the code to issue a form feed for the last selected input/output device.**
IOM	**Column position of the right margin, for the last selected input/output device.**
ION	**Name of the last selected input/output device from the DEVICE file (.01 field value).**
IOSL	**Variable indicating the number of lines on the last selected input/output device (e.g., screen or page length).**
IOST	**The last selected input/output device's subtype from the TERMINAL TYPE file (.01 field value).**
IOT	**Type of the last selected input/output device, such as TRM for terminal.**

In addition to the variables described in Appendix 10-B of the M-11 manual, the following variables are defined by Kernel while a user is in the menu system:

DUZ("AUTO")	**Current auto-menu flag.**
DUZ("LANG")	**Contains a pointer to VA FileMan's LANGUAGE file, which VA FileMan uses for language-specific displays of prompts, dates and times, and dialogs (from the DIALOG file).**
IO(0)	**$I value of the home device at the time of the call to the Device Handler (^%ZIS).**
IOBS	**Contains the code to issue a backspace for last selected input/output device.**
IOS	**Internal entry number of the last selected input/output device from the DEVICE file.**
IOST(0)	**The last selected input/output device's subtype from the TERMINAL TYPE file (internal entry number).**
IOXY	**Value of the XY field from the TERMINAL TYPE file for the last selected input/output device.**

The following package-wide variable is defined within the menu system if alpha-beta tracking is taking place:

XQABTST	**Flag that signals whether alpha-beta testing is in effect.**

SACC Exemptions

The following list describes exemptions from the Programming Standards and Conventions that currently pertain to Kernel. The Standard Section is given first, then the nature of the exemption, the date granted, and the description.

1 STANDARD SECTION: 6D FM compatibility
DATE GRANTED:
The global XUTL is exempted from VA FileMan compatibility. It is a nontranslated, completely recreateable global used in MenuMan.

2 STANDARD SECTION: 2D2 * and # READs
DATE GRANTED: AUG 10, 1989
The ZISL* and ^%Z editor may use * and #-readers.

3 STANDARD SECTION: 6D FM compatibility
DATE GRANTED: AUG 10,1989
The following globals are exempt from VA FileMan compatibility:
^%Z
^%ZTSK
^%ZTSCH
^%ZOSF
^%ZRTL(3,
^%ZIS("C") and ^%ZIS("H")

4 STANDARD SECTION: 1 ANSI
DATE GRANTED: MAY 14,1990
Taskman routines may use extended global references.

5 STANDARD SECTION: 2B Exclusive & Argumentless KILL
DATE GRANTED: MAY 14,1990
The submanager of Taskman may use exclusive KILL commands in the portion of the submanager that is responsible for recycling the partition.

6 STANDARD SECTION: 2A H XUS
DATE GRANTED: MAY 14,1990
The routine %ZTM may use the HALT command.

7 STANDARD SECTION: 2A OPEN, CLOSE device
DATE GRANTED: MAY 14,1990
Taskman routines may use direct Open and Close commands.

8 STANDARD SECTION: 1 ANSI
DATE GRANTED: JUN 18,1990
The KERNEL may use Operating Specific code, which uses many implementation-specific language features.

9 STANDARD SECTION: 3A Namespacing
DATE GRANTED: JUN 18,1990
Kernel may export 'Z' namespaced routines and XUCI*,DIDT*, and DIRCR to be renamed as % routines when installed.

10 STANDARD SECTION: 2B Exclusive & Argumentless KILL
DATE GRANTED: JUN 18,1990
Kernel login (XUS) and the error trap restore variable routines (XTER*) may use exclusive KILL statements.

11 STANDARD SECTION: 4A DUZ-array SET & KILL
DATE GRANTED: JUN 18,1990
The following Kernel routines may SET or KILL the variable DUZ.
ZTM*
ZTEDIT3
XQSMD31
XQSRV
XQ1
XQ12

12 STANDARD SECTION: 2A OPEN, CLOSE device
DATE GRANTED: JUN 18,1990
The device handler and Kernel Operating Specific code may issue direct Open and Close commands.

13 STANDARD SECTION: 2A H XUS
DATE GRANTED: JUN 18,1990
Kernel (Signon/Security) may issue a halt command in the routines ZU* without using the entry point ^XUSCLEAN.

14 STANDARD SECTION: 9B %ZOSF nodes
DATE GRANTED: JUN 18,1990
Kernel Operating Specific code can make direct calls to operating system routines rather than using the %ZOSF global.

15 STANDARD SECTION: 2D2 * & # READs
DATE GRANTED: NOV 29,1990
Kernel may use a #255 READ in the routines ZOSV*.

16 STANDARD SECTION: 2B Exclusive & Argumentless KILL

DATE GRANTED: FEB 7,1991
Kernel may use an exclusive KILL in the Utility to clean up variables when exiting from an option.

19 STANDARD SECTION: 8A Queueing, $I
DATE GRANTED: JUL 12,1993
Kernel is granted an exemption for option [XUPR-RTN-TAPE-CMP] to be non-queueable.

21 STANDARD SECTION: N/A
DATE GRANTED: DEC 7,1994
Permanent exemption for Kernel V. 8.0 to use the following M language Features.

- **Merge Command**
- **$Order with two arguments**
- **$Get with two arguments**
- **$NAme**
- **Set $Extract**
- **Pattern match with alternation**
- **Sorts After operator**
- **Missing parameters in calling list**
- **Set $x and $Y**
- **10k routine size**
- **$Qlength**
- **$Qsubscript**
- **$Principal**
- **All Structured System Variable Names (SSVNs)**
- **M standard Error Processing**
- **Global subscript length not to exceed 240 character (KIDS ONLY) or 200 characters for the remainder of Kernel. Length is determined by algorithm in 1994 draft SAC.**

22 STANDARD SECTION: N/A
DATE GRANTED: DEC 7,1994
Permanent exemption for Kernel Installation and Distribution System (KIDS) to Set DUZ and DUZ(0).

How to Generate Online Documentation

Online documentation about the Kernel may be obtained in a number of ways:

- **The use of question marks within the menu system invokes online help for options and menus. One question mark at the top-level menu prompt will display the items available on the menu. Two question marks will show the Common Menu available to all users as well as any secondary menu options for the current user. Locked options are displayed if the user holds the key. Three question marks displays descriptions of the options from the OPTION file. Four question marks displays a help frame if one has been associated with this option in the OPTION file. A question mark followed by the name of an option on the current menu will display a help frame if one has been named for that option in the OPTION file.**
- **The use of question marks at the file and field level is described in the *VA FileMan Technical Manual*.**
- **Instruction for how to generate data dictionary listings are provided in the *VA FileMan User Manual*.**
- **Instructions for generating menu diagrams are provided in the *Kernel Systems Manual*, in the Menu Manager: System Management chapter.**
- **The User Help option in the User's Toolbox menu provides access to a series of help frames on Kernel.**

Global Protection, Translation, and Journaling

An outline of a possible scheme for the management of Kernel globals is presented on the following pages.

Cookbook recommendations should also be consulted. DSM for OpenVMS sites should refer to the most recent V*AX DSM Systems Guide* (otherwise known as the Cookbook) for recommendations concerning global characteristics. MSM-DOS sites should refer to the most recent *486 Cookbook and MSM System Managers Guide* for recommendations concerning global characteristics.

Kernel's recommendations and the cookbooks' recommendations should serve as examples as you manage your site's global configuration.

Globals in VAH:

Global Name	Protection		Translate?	Journal?
	DSM for OpenVMS	MSM-DOS		
^DIC	System: RWP W/G/U: RW	All: RWD	Yes	See VA FileMan Technical Manual
^HOLIDAY	System: RWP W/G/U: RW	All: RWD	Yes	
^TMP	System: RWP W/G/U: RW	All: RWD	Separate Copy per CPU	
^UTILITY	System: RWP W/G/U: RW	All: RWD	Separate Copy per CPU	
^VA	System: RWP W/G/U: RW	All: RWD	Yes	Yes
^XMB	System: RWP W/G/U: RW	All: RWD	Yes	See MailMan Technical Manual
^XMBS	System: RWP W/G/U: RW	All: RWD	Yes	See MailMan Technical Manual
^XPD	System: RWP W/G/U: RW	All: RWD	Yes	
^XTV	System: RWP W/G/U: RW	All: RWD	Yes	Yes
^XTMP	System: RWP W/G/U: RW	All: RWD	Yes	
^XUSEC	System: RWP W/G/U: RW	All: RWD	Yes	
^XUTL	System: RWP W/G/U: RW	All: RWD	Separate Copy per CPU	

Globals in MGR:

Note for MSM-DOS sites: Kernel now recommends that the manager's account be set up on all servers: file, shadow, compute and print. Previously, the Kernel manager's account setup was only recommended for print and compute servers. Global characteristics for manager's account globals should be reviewed accordingly on all servers.

Global Name	Protection		Translate?	Journal?
	DSM for OpenVMS	MSM-DOS		
^%ZIS	System: RWP World: RW Group: RW UCI: RWP	All: RWD	Yes	
^%ZISL	System: RWP World: RW Group: RW UCI: RWP	All: RWD	Yes	
^%ZOSF	System: RWP World: R Group: R UCI: RWP	System: RWD World: R Group: R User: RWD	Separate Copy per CPU	
^%ZTER	System: RWP World: RW Group: RW UCI: RWP	All: RWD	Yes	
^%ZTSCH	System: RWP World: RW Group: RW UCI: RWP	All: RWD	Yes *	
^%ZTSK	System: RWP World: RW Group: RW UCI: RWP	All: RWD	Yes *	
^%ZUA	System: RWP World: R Group: RW UCI: RW	System: RWD World: RW Group: RW User: RWD	Yes	Yes

*** There should be only one copy of the TaskMan globals (^%ZTSCH and ^%ZTSK) within TaskMan's reach. At VA sites, TaskMan's reach is across all CPUs. Other sites should evaluate TaskMan's reach in their configurations. For more information about TaskMan's reach, see the *Kernel Systems Manual*. Also, at DSM for OpenVMS sites, these globals should not be in a volume set that is cluster-mounted across all systems; instead, master from two nodes and DDP serve to the other nodes.**

Mapping Routines

Routine mapping is at the discretion of the systems manager. The RTHIST routines provide a method for each site to determine the extent to which certain routines are utilized.

For a list of recommended routine mapping, please see the Kernel Installation Guide, in the Installing Kernel V. 8.0 in a V. 7.1 Environment section. Under Main Installation section, there are two steps (Map Manager Account Routines, and Map Production Account Routines). Recommended routines to map are listed there.

Glossary

Access Code	**A password used along with the verify code to provide secure user access. It is used by the Kernel's Sign-on/Security system to identify the user.**
ADPAC	**Automated Data Processing (ADP) Application Coordinator (see Application Coordinator, below).**
Alerts	**Brief on-line notices that are issued to users as they complete a cycle through the menu system. Alerts are designed to provide interactive notification of pending computing activities, such as the need to reorder supplies or review a patient's clinical test results. Along with the alert message is an indication that the View Alerts common option should be chosen to take further action.**
ANSI	**American National Standards Institute.**
ANSI M	**An implementation of the M computer language that conforms to ANSI standards.**
Application Coordinator	**Designated individuals responsible for user-level management and maintenance of an application package such as IFCAP or Lab. Also abbreviated as ADPAC (ADP Application Coordinator).**
Application Package	**In DHCP, software and documentation that support the automation of a service, such as Laboratory or Pharmacy within VA medical centers (see Package).**
Application Programmer	**The person who writes code for application packages. The Kernel provides tools to facilitate package development.**
Application Programming Interface (API)	**Programmer calls provided by the Kernel for use by application programmers. APIs allow programmers to carry out standard computing activities without needing to duplicate Kernel utilities in their own packages. APIs also further DBA goals of system integration by channeling activities, such as adding new users, through a limited number of callable entry points.**
Array	**An arrangement of elements in one or more dimensions. A MUMPS array is a set of nodes referenced by subscripts that share the same variable name.**

ASCII	**American Standard Code for Information Interchange. A series of 128 characters, including upper and lower case alpha characters, numbers, punctuation, special symbols, and control characters.**
Audit Access	**A user's authorization to mark the information stored in a computer file to be audited.**
Auditing	**Monitoring computer usage such as changes to the database and other user activity. Audit data can be logged in a number of VA FileMan and Kernel files.**
Auto-menu	**An indication to Menu Manager that the current user's menu items should be displayed automatically. When auto-menu is not in effect, the user must enter a question mark at the menu's select prompt to see the list of menu items.**
Backup	**The process of creating duplicate data files and program copies or both as a reserve in case the original is lost or damaged.**
Bug	**An error in a program. Bugs may be caused by syntax errors, logic errors, or a combination of both.**
Bulletins	**Electronic mail messages that are automatically delivered by MailMan under certain conditions. For example, a bulletin can be set up to fire when database changes occur, such as adding a record to the file of users. Bulletins are fired by bulletin-type cross references.**
Callable Entry Point	**An authorized programmer call that may be used in any DHCP application package. The DBA maintains the list of DBIC-approved entry points.**
Capacity Management	**The process of assessing a system's capacity and evaluating its efficiency relative to workload in an attempt to optimize system performance. The Kernel provides several utilities.**
Caret	**A symbol expressed as ^ (caret). In many M systems, a caret is used as an exiting tool from an option. Also known as the up-arrow symbol.**
Checksum	**A numeric value that is the result of a mathematical computation involving the characters of a routine or file.**

Cipher	**A system that arbitrarily represents each character as one or more other characters. See also encryption.**
Command	**A combination of characters that instruct the computer to perform a specific operation.**
Common Menu	**Options that are available to all users. Entering two question marks at the menu's select prompt will display any secondary menu options available to the signed-on user along with the common options available to all users.**
Compiled Menu System (^XUTL global)	**Job-specific information that is kept on each CPU so that it is readily available during the user's session. It is stored in the ^XUTL global, which is maintained by the menu system to hold commonly referenced information. The user's place within the menu trees is stored, for example, to enable navigation via menu jumping.**
Computed Field	**This field takes data from other fields and performs a predetermined mathematical function (e.g., adding two columns together). You will not, however, see the results of the mathematical function on the screen. Only when you are printing or displaying information on the screen will you see the results for this type of field.**
Control Key	**The Control Key (Ctrl on the keyboard) performs a specific function in conjunction with another key. On some systems, for example, Ctrl-S causes printing on the terminal screen to stop, while Ctrl-Q restarts printing on the terminal screen.**
CORE	**The fundamental clinical application packages of the DHCP.**
CPU	**Central Processing Unit. Those parts of computer hardware that carry out arithmetic and logic operations, control the sequence of operations performed, and contain the stored program of instructions.**
Cross Reference	**An indexing method whereby files can include pre-sorted lists of entries as part of the stored database. Cross references (x-refs) facilitate look-up and reporting.**
CRT	**An acronym for cathode ray tube, the basis of the television screen and the standard microcomputer display screen. See also Terminal, Monitor, VDT.**

Data Attribute	**A characteristic of a unit of data such as length, value, or method of representation. VA FileMan field definitions specify data attributes.**
Data Dictionary	**Definition of the structure of a VA FileMan file, its attribute fields, and its relationships with other files.**
Data Dictionary Access	**A DHCP user's authorization to write/update/edit the data format for a computer file. Also known as DD Access.**
Database	**A set of data, consisting of at least one file, that is sufficient for a given purpose. The DHCP database is composed of a number of VA FileMan files.**
DBA	**Database Administrator. In DHCP, the person who monitors namespacing conventions and other procedures that enable various DHCP packages to coexist within an integrated database system.**
DBIA	**Database Integration Agreement. The DBA maintains a list of DBIAs or mutual agreements between package developers allowing the use of internal entry points or other package-specific features that are not available to the general programming public.**
DBIC	**Database Integration Committee. Within the purview of the DBA, the committee maintains a list of DBIC-approved callable entry points and publishes the list on FORUM for reference by application programmers and verifiers.**
Debug	**To correct logic errors or syntax errors or both in a computer program. To remove errors from a program.**
Default Response	**A response considered the most probable answer to the prompt. In DHCP, a default response is identified by double slash marks (//) immediately following it. This allows you the option of accepting the default answer or entering your own answer. To accept the default you simply press the enter (or return) key. To change the default answer, type in your response.**

Delete	**A key on your keyboard that allows you to delete characters. In DHCP, the @ sign (uppercase of the 2 key) may also be used to delete an entire response in a field. The computer will ask "Are you sure you want to delete this entry?" to insure you do not delete an entry by mistake.**
Delete Access	**A user's authorization to remove information stored in a computer file.**
Device	**Terminals, printers, modems and other types of peripheral equipment associated with a computer. An operating system file like the ones found in the VAX computer system may also be considered a device for input/output.**
Device Handler	**The Kernel module that provides a mechanism for accessing peripherals and using them in controlled ways (e.g., user access to printers or other output devices).**
DHCP	**The Decentralized Hospital Computer Program of the Veterans Health Administration (VHA), Department of Veterans Affairs (VA). DHCP application packages, developed within VA, are used to support clinical and administrative functions at VA medical centers nationwide.**
DIFROM	**VA FileMan utility that gathers all package components and changes them into routines (namespaceI* routines) so that they can be exported and installed in another VA FileMan environment.**
Direct Mode Utility	**A programmer call that is made when working in direct programmer mode. A direct mode utility is entered at the MUMPS prompt (e.g., >D ^XUP). Calls that are documented as direct mode utilities *cannot* be used in application package code.**
Double Quote (")	**A symbol used in front of a Common option's menu text or synonym to select it from the Common menu. For example, the five character string "TBOX selects the User's Toolbox Common option.**

DR String	**The set of characters used to define the variable DR when calling VA FileMan. Since a series of parameters may be included within quotes as a literal string, the variable's definition is often called the DR string. To define the fields within an edit sequence, for example, the programmer may specify the fields using a DR string rather than an input template.**
DUZ	**A local variable holding the user number that identifies the signed-on user.**
DUZ(0)	**A local variable that holds the File Manager Access Code of the signed-on user.**
Electronic Signature Code	**A secret password that some users may need in order to sign documents via the computer.**
Encryption	**Scrambling data or messages with a cipher or code so that they are unreadable without a secret key. In some cases encryption algorithms are one directional, that is, they only encode and the resulting data cannot be unscrambled (e.g., access/verify codes).**
Entry	**A VA FileMan record. It is uniquely identified by an internal entry number (the .001 field) in a file.**
Error Trap	**A mechanism to capture system errors and record facts about the computing context such as the local symbol table, last global reference, and routine in use. Operating systems provide tools such as the %ER utility. The Kernel provides a generic error trapping mechanism with use of the ^%ZTER global and ^XTER* routines. Errors can be trapped and, when possible, the user is returned to the menu system.**
Field	**A field is similar to blanks on forms. It is preceded by words that tell you what information goes in that particular field. The blank, marked by the cursor on your terminal screen, is where you enter the information. A reserved area in a record used for storage of specific information.**
File	**A set of related records treated as a unit. VA FileMan files maintain a count of the number of entries or records.**

File Access Security system — Formerly known as Part 3 of the Kernel Inits. If the File Access Security conversion has been run, file-level security for VA FileMan files is controlled by Kernel's File Access Security system, not by VA FileMan access codes.

File Manager — See VA FileMan.

Forced Queuing — A device attribute indicating that the device can only accept queued tasks. If a job is sent for foreground processing, the device will reject it and prompt the user to queue the task instead.

Form — See ScreenMan Forms.

FORUM — The central E-mail system within DHCP. It is used by developers to communicate at a national level about programming and other issues. FORUM is located at the Washington, DC ISC (162-2).

Free Text — A type of data field whose permissible values are any combination of numbers, letters, and symbols.

Go-home Jump — A menu jump that returns the user to the Primary menu presented at sign-on. It is specified by entering two up-arrows (^^) at the menu's select prompt. It resembles the rubber band jump but without an option specification after the up-arrows.

Help Frames — Entries in the HELP FRAME file that may be distributed with application packages to provide on-line documentation. Frames may be linked with other related frames to form a nested structure.

Help Processor — A Kernel module that provides a system for creating and displaying on-line documentation. It is integrated within the menu system so that help frames associated with options can be displayed with a standard query at the menu's select prompt.

Help Prompt — Computer assistance available to you at your terminal screen. The Help function assists you with menus and describes options so you can make the proper choice. To get "help" in DHCP, enter 1 to 4 question marks in response to a prompt. The level of help you get increases with the number of question marks you enter.

Hook or Link — Non-specific terms referring to ways in which files may be related (via pointer links) or can be accessed (via hooks).

Host File Server (HFS)	**A procedure available on layered systems whereby a file on the host system can be identified to receive output. It is implemented by the Device Handler's HFS device type.**
Hunt Group	**An attribute of an entry in the DEVICE file that allows several devices to be used interchangeably; useful for sending network mail or printing reports. If the first hunt group member is busy, another member may stand in as a substitute.**
IDCU	**Integrated Data Communications Utility; the telecommunications network used to interconnect computers among VA facilities.**
Index (%INDEX)	**A Kernel utility used to verify routines and other MUMPS code associated with a package. Checking is done according to current ANSI MUMPS standards and DHCP programming standards (see SAC). This tool can be invoked through an option or from direct mode (>D ^%INDEX).**
Init	**Initialization of an application package. INIT* routines are built by VA FileMan's DIFROM and, when run, recreate a set of files and other package components.**
Internal Entry Number (IEN)	**The number used to identify an entry within a file. Every record has a unique internal entry number.**
IRM	**Information Resource Management. A service at VA medical centers responsible for computer management and system security.**
ISC	**Information Systems Center.**
ISO	**Information Security Officer. Person responsible for information security at each VA Medical Center. Works in conjunction with Regional Security Officers (RISOs).**
Jump	**In DHCP applications, the Jump command allows you to go from a particular field within an option to another field within that same option. You may also Jump from one menu option to another menu option without having to respond to all the prompts in between. To jump, type an up-arrow (^) -- which is your shift key plus the 6 key -- and then type the name of the field or option you wish to jump to. See also Go-home, Phantom, Rubber Band, or Up-arrow jump.**

Jump Start	**A logon procedure whereby the user enters the "access code;verify code;option" to go immediately to the target option, indicated by its menu text or synonym. The jump syntax can be used to reach an option within the menu trees by entering "access;verify;^option".**
Kermit	**A standard file transfer protocol. It is supported by the Kernel and can be set up as an alternate editor.**
Kernel	**The DHCP package that enables DHCP application packages to coexist in a standard operating-system-independent computing environment.**
Laygo Access	**A DHCP user's authorization to create a new entry when editing a computer file. (Learn As You GO, the ability to create new entries).**
Link or Hook	**Non-specific terms referring to ways in which files may be related (via pointer links) or can be accessed (via hooks).**
Logon	**The process of gaining access to a computer system.**
Logoff	**The process of exiting from a computer system.**
M	**A programming language recognized by the American National Standards Institute. Alternately know as MUMPS; the acronym MUMPS stands for Massachusetts General Hospital Utility Multiprogramming System.**
Mail Message	**An entry in the MESSAGE file. The DHCP electronic mail system (MailMan) supports local and remote networking of messages.**
MailMan	**The Kernel module that provides a mechanism for handling electronic communication, whether it's user-oriented mail messages, automatic firing of bulletins, or initiation of server-handled data transmissions.**
Manager Account	**A UCI that can be referenced by non-manager accounts such as production accounts. Like a library, the MGR UCI holds percent routines and globals (e.g., ^%ZOSF) for shared use by other UCIs.**
MAS	**Medical Administration Service.**
Menu	**A list of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection.**

Menu Cycle — The process of first visiting a menu option by picking it from a menu's list of choices and then returning to the menu's select prompt. Menu Manager keeps track of information, such as the user's place in the menu trees, according to the completion of a cycle through the menu system.

Menu Manager — The Kernel module that controls the presentation of user activities such as menu choices or options. Information about each user's menu choices is stored in the Compiled Menu System, the ^XUTL global, for easy and efficient access.

Menu System — The overall Menu Manager logic as it functions within the Kernel framework.

Menu Template — An association of options as pathway specifications to reach one or more final destination options. The final options must be executable activities and not merely menus for the template to function. Any user may define user-specific menu templates via the corresponding Common option.

Menu Text — The descriptive words that appear when a list of option choices is displayed. Specifically, the Menu Text field of the OPTION file. For example, User's Toolbox is the menu text of the XUSERTOOLS option. The option's synonym is TBOX.

Menu Trees — The menu system's hierarchical tree-like structures that can be traversed or navigated, like pathways, to give users easy access to various options.

MIRMO — Medical Information Resources Management Office.

MIS — Management Information System.

Modem — A device for connecting a terminal to a telephone line, allowing it to communicate with another modem.

Monitor — The device on which images generated by the computer are displayed. The term usually refers to a video display and its housing. See also CRT, VDT, Terminal.

Multiple — A multiple-valued field; a subfile. In many respects, a multiple is structured like a file.

MUMPS — See M.

Namespacing	**The convention of using a unique 2-4 character prefix for package components like options and routines. The DBA assigns unique character strings for package developers to use in naming routines, options, and other package elements so that packages may coexist. Namespacing includes "number spacing" whereby the files of a package stay within a pre-defined range of numbers.**
Node	**In a tree structure, a point at which subordinate items of data originate. A MUMPS array element is characterized by a name and a unique subscript. Thus, the terms node, array element, and subscripted variable are synonymous. In a global array, each node might have specific fields or "pieces" reserved for data attributes.**
Numeric Field	**A data field whose permissible values are limited to numeric characters of a restricted number of digits.**
Online	**A device is online when it is connected and capable of responding to the computer.**
Operating System	**A basic program that runs on the computer, controls the peripherals, allocates computing time to each user, and communicates with terminals.**
Option	**An entry in the OPTION file. As an item on a menu, an option provides an opportunity for users to select it thereby invoking the associated computing activity. Options may also be scheduled to run in the background, non-interactively, by TaskMan.**
Option Name	**The NAME field in the OPTION file. For example, XUMAINT for the option that has the menu text "Menu Management". Options are namespaced according to DHCP conventions monitored by the DBA.**
PAC	**Programmer Access Code. An optional user attribute that may function as a second level password into programmer mode.**
Package	**The set of programs, files, documentation, help prompts, and installation procedures required for a given software application. For example, Laboratory, Pharmacy, and MAS are packages.**
Part 3 of the Kernel Init	**See File Access Security system.**

Password	**A user's confidential sequence of keyboard characters, which must be entered at the beginning of each computer session to provide the user's identity.**
Patch	**An update to a package. Patches can include code updates, documentation updates, and information updates. Patches are applied to the programs on your DHCP system by IRM Service.**
Pattern Match	**A preset formula used to test strings of data. Refer to your system's M Language Manuals for information on Pattern Match operations.**
Peripheral Device	**Any hardware device other than the computer itself (central processing unit plus internal memory). Typical examples include card readers, printers, CRT units, and disk drives.**
Phantom Jump	**Menu jumping in the background. Used by the menu system to check menu pathway restrictions.**
Pointer	**Allows entries in one VA FileMan file to be the field values of another file; this is accomplished by use of a pointer field.**
Primary Menus	**The list of options presented at sign-on. Each user must have a primary menu in order to sign-on and reach Menu Manager. Users are given primary menus by IRM. This menu should include most of the computing activities the user will need.**
Production Account	**The UCI where users log on and carry out their work, as opposed to the manager, or library, account.**
Programmer Access	**Privilege to become a programmer on the system and work outside many of the security controls of Kernel. Accessing programmer mode from Kernel's menus requires having the programmer's at-sign security code, which sets the variable DUZ(0)=@.**
Prompt	**A question or message issued interactively and requiring a response.**
Protocol	**An entry in the PROTOCOL file. Used by the Order Entry/Results Reporting (OE/RR) package to support the ordering of medical tests and other activities. The Kernel includes several protocol-type options for enhanced menu displays within the OE/RR package.**

Queuing	**Requesting that a job be processed in the background rather than in the foreground within the current session. The Kernel's Task Manager handles the queuing of tasks.**
Queuing Required	**An option attribute that specifies that the option must be processed by TaskMan (the option can only be queued). The option may be invoked and the job prepared for processing, but the output can only be generated during the specified time periods.**
Read Access	**A user's authorization to read information stored in a computer file.**
Record	**A set of related data treated as a unit. An entry in a VA FileMan file constitutes a record.**
Required Field	**A mandatory field, one that must not be left blank. The prompt for such a field will be repeated until the user enters a valid response.**
Resource	**A method that enables sequential processing of tasks. The processing is accomplished with a RES device type designed by the application programmer and implemented by IRM. The process is controlled via the RESOURCE file.**
Return	**On the computer keyboard, the key located where the carriage return is on an electric typewriter. It is used in DHCP to terminate "reads". Symbolized by <RET>.**
RISO	**Regional Information Security Officer. Regional representative of VA Medical Center Information Security Officers (ISOs).**
Routine	**A program or sequence of computer instructions that may have some general or frequent use. M routines are groups of program lines that are saved, loaded, and called as a single unit via a specific name.**
Rubber Band Jump	**A menu jump used to go out to an option and then return, in a bouncing motion. The syntax of the jump is two up-arrows followed by an option's menu text or synonym (e.g., ^^Print Option File). If the two up-arrows are not followed by an option specification, the user is returned to the primary menu (see Go-home Jump).**

SAC	**Standards and Conventions (maintained by the SACC, setting guidelines to be followed by DHCP application programmers).**
SACC	**Standards and Conventions Committee of DHCP. This committee is responsible for maintaining the SAC.**
Scheduling Options	**A way of ordering TaskMan to run an option at a designated time with a specified rescheduling frequency, such as once per week.**
ScreenMan Forms	**A screen-oriented display of fields, for editing or simply for reading. VA FileMan's Screen Manager is used to create forms that are stored in the FORM file and exported with a package. Forms are composed of blocks (stored in the BLOCK file) and can be regular, full screen pages or smaller, pop-up pages for multiples.**
Scroll/No Scroll	**The Scroll/No Scroll button (also called Hold Screen) allows the user to "stop" (No Scroll) the terminal screen when large amounts of data are displayed too fast to read and "restart" (Scroll) when the user wishes to continue.**
Secondary Menus	**Options assigned to individual users to tailor their menu choices. If a user needs a few options in addition to those available on the Primary menu, the options can be assigned as secondary options. To facilitate menu jumping, secondary menus should be specific activities, not elaborate and deep menu trees.**
Secure Menu Delegation (SMD)	**A controlled system whereby menus and keys can be allocated by people other than IRM staff, such as application coordinators, who have been so authorized. SMD is a part of Menu Manager.**
Server	**An entry in the OPTION file. An automated mail protocol that is activated by sending a message to the server with the "S.server" syntax. A server's activity is specified in the OPTION file and can be the running of a routine or the placement of data into a file.**
Set of Codes	**Usually a one- or two-character preset code that is a permissible value for a data field. Almost always, the set of codes data fields require capital letters as a response (e.g., M for male and F for female). If anything other than the acceptable code is entered, the computer will reject the response.**

Sign-on/Security — The Kernel module that regulates access to the menu system. It performs a number of checks to determine whether access can be permitted at a particular time. A log of sign-ons is maintained.

Site Manager/IRM Chief — At each DHCP site, the individual who is responsible for managing computer systems, installing and maintaining new modules, and serving as liaison to the ISCs.

Software — The set of instructions and data required to operate the computer. One type is called operating system software -- that is, fundamental computer software that supports other software. The second type is called applications software -- in other words, customized programs that tell the computer how to run applications (e.g., Pharmacy, Laboratory).

Special Queuing — An option attribute indicating that TaskMan should automatically run the option whenever the system reboots.

Spooler — An entry in the DEVICE file. It uses the associated operating system's spool facility, whether it's a global, device, or host file. The Kernel manages spooling so that the underlying OS mechanism is transparent. In any environment, the same method can be used to send output to the spooler. The Kernel will subsequently transfer the text to a global for subsequent despooling (printing).

Subscript — In MUMPS, a numeric or string value that is enclosed in parentheses, appended to the name of a local or global variable, and used to identify a specific node within an array.

Synonym — A field in the OPTION file. Options may be selected by their menu text or synonym (see Menu Text).

TaskMan — The Kernel module that schedules and processes background tasks (also called Task Manager).

Templates — In VA FileMan, a way of associating fields in a file or in related files for later reference. Edit sequences are stored in the INPUT TEMPLATE file, print specifications are stored in the PRINT TEMPLATE file, and search or sort specifications are stored in the SORT TEMPLATE file.

Terminal — A device consisting of a video adapter, a monitor, and a keyboard. A terminal does little or no computer processing on its own; instead, it is connected to a computer by a communications link. See also Monitor and CRT.

Timed-read — The amount of time the Kernel will wait for a user response to an interactive read command before starting to halt the process.

Trigger — A type of VA FileMan cross reference. Often used to update values in the database given certain conditions (as specified in the trigger logic). For example, whenever an entry is made in a file, a trigger could automatically enter the current date into another field holding the creation date.

Type-ahead — A buffer used to store characters that are entered before the corresponding prompt appears. Type-ahead is a shortcut for experienced users who can anticipate an expected sequence of prompts.

UCI — User Class Identification, a computing area. The MGR UCI is typically the manager's account, while VAH or ROU may be production accounts.

Up-arrow Jump — In the menu system, entering an up-arrow (^) followed by an option name accomplishes a jump to the target option without needing to take the usual steps through the menu pathway.

User Interface — The way the package is presented to the user -- issuing of prompts, help messages, menu choices, etc. A standard user interface can be achieved by using VA FileMan for data manipulation, the menu system to provide option choices, and VA FileMan's Reader, the ^DIR utility, to present interactive dialogue.

VA FileMan — DHCP's Database Management System (DBMS). The central component of the Kernel that defines the way standard DHCP files are structured and manipulated.

VAX — Virtual Address Extension; a computer series manufactured by Digital Equipment Corporation. One of the types of computers used by DHCP.

VDT — Video Display Terminal. (See CRT, Terminal, Monitor.)

Verification — **A process of DHCP package review carried out by technical staff not directly involved in the development of the package. Any violations of SAC policy should be identified and corrected.**

Verify Code — **A secret password used along with the access code to provide secure user access. The Kernel's Sign-on/Security system uses the verify code to validate the user's identity.**

Write Access — **A user's authorization to write/update/edit information stored in a computer file.**

Z Editor (^%Z) — **A Kernel tool used to edit routines or globals. It can be invoked with an option, or from direct mode after loading a routine with >X ^%Z.**

ZOSF Global (^%ZOSF) — **The Operating System File -- a manager account global distributed with the Kernel to provide an interface between DHCP application packages and the underlying operating system. This global is built during Kernel installation when running the manager setup routine (ZTMGRSET). The nodes of the global are filled-in with operating system-specific code to enable interaction with the operating system. Nodes in the ^%ZOSF global may be referenced by application programmers so that separate versions of the package need not be written for each operating system.**

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Department of Veterans Affairs
Decentralized Hospital Computer Program

KERNEL
TECHNICAL MANUAL

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Preface

The purpose of this manual is to provide information about the structure of the set of software utilities known as the Kernel. Two major affiliated packages, VA FileMan and MailMan, are excluded since they are documented elsewhere. This material is presented for reference by DHCP system managers and application programmers and by others who are using the Kernel.

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