Kernel 8.0 and Kernel Toolkit 7.3

Technical Manual

July 2019

Department of Veterans Affairs (VA)

Office of Information and Technology (OIT)

Enterprise Program Management Office (EPMO)

Revision History

Date	Revision	Description	Author
07/24/2019	5.5	Tech Edits for Kernel Patch XU*8.0*711: • Added the **XUMVIENU** and **XUMVINPA** routine entries in Table 9. • Added the **XUS MVI ENRICH NEW PERSON** RPC entry in Table 28. Tech Edits for Kernel Patch XU*8.0*693: • Updated the **XUSERDEAC** bulletin entry in Table 34. • Added the **XUSERDIS** bulletin entry in Table 34.	VistA Infrastructure (VI) Development Team
10/11/2018	5.4	Tech Edits for Kernel Patch XU*8.0*690: • Updated the "ALERT CRITICAL TEXT" entry in Table 15. • Updated the "XQAL ALERT LIST FROM DATE," "XQAL CRITICAL ALERT COUNT," and "XQAL USER ALERTS COUNT" entries in Table 23.	VistA Infrastructure (VI) Development Team
10/09/2018	5.3	Tech Edits for Kernel Patch XU*8.0*672: • Added the **XU8P672E** routine to Table 9. • Updated the **XPDMENU** entry in Table 26 for Kernel Patch XU*8.0*672: Added the LOCK and RLOCK tags.	VistA Infrastructure (VI) Development Team
08/22/2018	5.2	Updates for Kernel Patch XU*8.0*679: • Added Section 15.5.1, "Electronic Signature Restrictions." • Added the **XU SIG BLOCK DISABLE** parameter to Table 5. • Added the **XUSESIG2** and **XUSESIG3** routines to Table 9. • Modified the **XUSESIG BLOCK**	Developer: LB Contract Tech Writer: E.W. VA Tech Writer: TB

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		option (Type and Routine columns) and added the **XUSESIG DEG** option in Table 23. • Added the XUSIG security key to Table 35.	
08/15/2018	5.1	Tech Edits: Final merge of all remaining content in the K*ernel Toolkit Technical Manual* into the *Kernel 8.0 & Kernel Toolkit 7.3 Technical Manual* (this manual): • Added the following sections for Kernel Toolkit: ○ Section 1.1, "Kernel." ○ Section 1.2, "Kernel Toolkit." ○ Section 1.2.1, "Multi-Term Look-Up (MTLU)." ○ Section 1.2.2, "Duplicate Resolution Utilities." ○ Section 2.11, "Implementing Multi-Term Look-Up." ○ Section 2.12, "Implementing Duplicate Resolution Utilities." ○ Section 2.13, "Configuring VAX/Alpha Performance Monitor (VPM)." **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	VistA Infrastructure (VI) Tech Writer: TB
01/23/2018	5.0	Tech Edits: • Changed the **XUS SIGNON SETUP** RPC in Table 28 from "RESTRICTED" to "PUBLIC," as per developer, H. W. • Added an ICR column to Table 28 to list any known ICRs associated with RPCs. • Updated the **XUS GET VISITOR** and **XUS SET VISITOR** RPCs in Table 28. • Updated Section 4 and Table 15; and Section 15.7 and Figure 20 for missing Toolkit files: 15.2, 15.3, and 15.4.	VistA Infrastructure (VI) Development Team

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		• Updated many sections with content extracted from the *Assign Person Class to Providers Patch Supplement* document (e.g., routines, files, fields, globals, options, etc.).
		• Modified/Removed VAH and MGR references (H. W.):
		  ○ Retitled and updated Section 14.1 to "Globals in Production Accounts."
		  ○ Removed reference to "VAH and updated Table 33.
		  ○ Merged content from Table 34 into Table 33.
		  ○ Deleted Section 14.2, "Globals in MGR Account."
		• Added Caution note regarding modification of Kernel routines in the "Software Disclaimer" section.
		• Added the "System Management Menus" section and sub-sections form the Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide into this document.
		• Replaced "Integration Agreement (IA)" with "Integration Control Registration (ICR)" throughout the document.
		• Added Table 10 in Section 3.2; added routines exported with the Broker Security Enhancement (BSE) software.
		• Updated the **XUS SET VISITOR** RPC in Table 28.
		• Kernel Patch XU*8.0*605: Added the IPV tool options (XLFIPV*) to Figure 10 and Table 23.
		• Added the following protocols to the KERNEL SYSTEM PARAMETERS (#8989.3) File in Table 3:
		  ○ ORGANIZATION (#200.2)
		  ○ ORGANIZATION ID (#200.3)
		  ○ SECURITY TOKEN SERVICE	

Date	Revision	Description	Author
		(#200.1) • Added the XUEXISTING USER protocol to the KERNEL PARAMETERS (#8989.2) File in Table 4. • Added the following protocols to the PARAMETER DEFINITION (#8989.51) File in Table 5: o XU522 o XU594 o XU645 • Added the following routines to Table 9: o **XLFSHAN** o **XUCERT** o **XUCERT1** o **XUESSO1** o **XUESSO2** o **XUESSO3** o **XUESSO4** o **XUSAML** • Added the REMOTE APPLICATION (#8994.5) file to Table 15. • Added the RPC Broker Management Menu [XWB MENU] to Table 23. • Changed the XUS GET USER INFO RPC in Table 28 from "PUBLIC' to "RESTRICTED." • Reformatted document to follow latest documentation standards and formatting rules. Also, formatted document for online presentation vs. print presentation (i.e., for double-sided printing). These changes include: o Revised section page setup. o Removed section headers. o Revised document footers. o Removed blank pages between sections. o Revised all heading style	

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		formatting. o Updated organizational references (e.g., "Product Development [PD]" to "Enterprise Program Management Office [EPMO]). o Redacted document for the following information: o Names (replaced with role and initials). o Production IP addresses and ports. o VA Intranet websites. o Server geographic locations and node names. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
07/19/2017	4.2	Tech Edits Kernel Patch XU*8.0*671: • Updated Person Class File #8932.1 in Table 15. Added updated description: Per VHA Directive 2005-044, this file has been "locked down" by Data Standardization (DS). The file definition (i.e., data dictionary) *shall not* be modified. All additions, changes and deletions to entries in the file *shall* be done by Enterprise Reference Terminology (ERT) using the Master File Server (MFS), provided by Common Services (CS). • Reviewed the updated section for Section 508 compliance.	Developers: JH, DD (ManTech Mission Solutions & Services Group) Technical Writer: SK ManTech Mission Solutions & Services Group)
05/31/2013	4.1	Updates: • Updates for Patch XU*8.0*614 based on feedback from Herlan Westra: o Added the Single User Menu Tree Rebuild [XQBUILDUSER] option to the "XUMAINT" section and menu tree diagram in Figure 9 and in Table 23. It	Developers: HW Technical Writer: TB

Date	Revision	Description	Author
		was attached to the Menu Rebuild Menu [XQBUILDMAIN] option. o Added the XQBUILDMAIN option to Table 23. o Added the XQ LIST UNREFERENCED OPTIONS option to Table 23. o Added the XQ MENUMANAGER PROMPT parameter to Table 5. • Updated menu diagrams in Section 5.2.2 for: o XUTIO in Figure 8. o XUMAINT in Figure 9. o XUSITEMGR in Figure 10. o XUPROG in Figure 11. o XU-SPL-MGR in Figure 12. o XUSPY in Figure 13. o XUTM MGR in Figure 14. o XUSER in Figure 15. o ZTMQUEUABLE OPTIONS in Figure 16. o XUCOMMAND in Figure 17. • Added the IP SECURITY ON field parameter to Table 3. • Reviewed and updated any missing APIs in the "Callable Entry Points" section. • Added bookmarks (identifiers) to all tables for Section 508 conformance. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
04/30/2013	4.0	Updates: • Updated the following sections and tables for Kernel Patch XU*8.0*580: o Added the new XUEPCS REPORT DEVICE parameter to Table 5. o Added the following new	Developers: GB, JG, JI, AL, JM, RMen, RMet, and MT Technical Writer: TB

Date	Revision	Description	Author
		ePCS routines to "Routines" section in Table 9: – **XUEPCSED** – **XUEPCSRT** o Added the following new ePCS files to the "Files" section in Table 15: – XUEPCS DATA (#8991.6) file – XUEPCS PSDRPH AUDIT (#8991.7) file o Added the new ePCS options to the "Exported Options" section in Table 23. o Added the following new and modified ePCS APIs to the "Callable Entry Points" section in Table 26: – $$DEA^XUSER – $$DETOX^XUSE – $$SDEA^XUSER – $$VDEA^XUSER o Added the following new and modified RPCs to the "Remote Procedure Calls (RPCs)" section in Table 28: – XU EPCS EDIT – XUS PKI SET UPN – XUS PKI GET UPN – XWB GET VARIABLE VALUE o Added the XUSSPKI SAN bulletin to the "Bulletins" section in Table 34. o Added the XUEPCSEDIT security key to the "Security Keys" section in Table 35. • Reformatted document to follow current style guides and standards. • Replaced references from "*VA FileMan Getting Started Manual*" to "*VA FileMan User Manual*,"	

Date	Revision	Description	Author
		since the next VA FileMan 22.*n* software version will be creating a new "*VA FileMan Getting Started Manual*." • Added the "Kernel Parameter Definitions (#8989.51) File" section and Table 5. • Added the "Remote Procedure Calls (RPCs)" section and Table 28. • Added the "Bulletins" section and Table 34. • Patch XU*8.0*546: Support for Device Hunt Groups was removed. This includes removal of the *HUNT GROUP (#29) and HUNT GROUP DEVICE (#30) fields in the DEVICE (#3.5) file. Sites had to remove any HUNT GROUP devices before installing this patch using VA FileMan to find any existing Hunt Groups. Chapter 18, "Hunt Groups" was deleted from this manual. Also, any references to "Hunt Groups" were removed. • Patches XU*8.0*285: Added the ALERT RECIPIENT TYPE (#8992.2) file to Table 12 and Table 15. • Patch XU*8.0*513: Added the ALERT CRITICAL TEXT (#8992.3) file to Table 12 and Table 15. • Merging *Toolkit Technical Manual* content into *Kernel 8.0 & Kernel Toolkit 7.3 Technical Manual*. The Kernel Toolkit documentation set is being combined with the Kernel documentation set. All Kernel Toolkit content will eventually be moved to the appropriate Kernel manual, section, and chapter. In the *Kernel 8.0 & Kernel Toolkit 7.3 Technical Manual*, all of the Kernel Toolkit references for	

Date	Revision	Description	Author
		routines, files, options, APIs, Direct Mode Utilities, etc. have been added to the appropriate chapter/section. • Updated Table 23 option descriptions. • Changed Kernel document title references. • Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide (previously known as the Kernel Programmer Manual). • Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide (previously known as the Kernel Systems Manual). • Updates based on functionality/changes added with Kernel Patch XU*8.0*593: • Added the "XU USER START-UP" entry in Table 19. • Added the "XU USER START-UP" entry in Table 23. • Updated references to the VDL. • Updated all organizational references as needed (e.g., Enterprise Program Management Office [EPMO], removed all HSD&D references) • Removed obsolete references to MSM, PDP, 486, VAX Alpha, etc. and changed/updated references to DSM for OpenVMS to Caché where appropriate. • Updated "Orientation" section. • Updated the overall document for current national documentation standards and style guides. For example: • Changed all Heading *n* styles to use Arial font. • Changed all Heading *n* styles to be left justified. • Added blue font highlighting and underline to signify internal links	

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		to figures, tables, or sections for ease of use, similar to what one sees to hyperlinks on a Web page. • Updated document for Section 508 conformance using word's built-in Accessibility check: o Added table bookmarks. o Added screen tips for all URL links. o Changed all floating callout boxes to in-line, causing reformatting of numerous dialogue screen captures. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
01/24/2006	3.0	Updates: • Reformatted document to follow the latest ISS SOP Guidelines. • Updated files, routines, options, APIs, security keys, etc. **Software Version: 8.0**	OIFO: • Maintenance Project Manager: JSch • Developer: WF • Technical Writer: TB
02/03/2005	2.0	Reformatted document to follow the latest ISS styles and guidelines. No other content updates have been made in regard to released patches at this time. Reviewed document and edited for the "Data Scrubbing" and the "PDF 508 Compliance" projects. **Data Scrubbing—**Changed all patient/user TEST data to conform to OIT standards and conventions as indicated below: • The first three digits (prefix) of any Social Security Numbers (SSN) start with "000" or "666." • Patient or user names are formatted as follows: KRNPATIENT,[N] or KRNUSER,[N] respectively, where the N is a number written out and incremented with each	Technical Writer: TB, OIFO

Date	Revision	Description	Author
		new entry (e.g., KRNPATIENT, ONE, KRNPATIENT, TWO, etc.). • Other personal demographic-related data (e.g., addresses, phones, IP addresses, etc.) were also changed to be generic. **PDF 508 Compliance—**The final PDF document was recreated and now supports the minimum requirements to be 508 compliant (i.e., accessibility tags, language selection, alternate text for all images/icons, fully functional Web links, successfully passed Adobe Acrobat Quick Check). **Software Version: 8.0**	
07/--/1995	1.0	Initial Kernel 8.0 software and documentation release **Software Version: 8.0**	Office of Information Field Office (OIFO): • Project Manager: HVB • Developers: Kernel Development Team • Technical Writer: KC

Patch Revisions

For the current patch history related to this software, see the Patch Module on FORUM.

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Orientation

How to Use this Manual

Throughout this manual, advice and instruction are offered about Kernel 8.0 and Kernel Toolkit 7.3 routines, files, options, application program interfaces (APIs), direct mode utilities, and other system-related information provided for overall Veterans Health Information Systems and Technology Architecture (VistA) system management and application developers.

Intended Audience

The intended audience of this manual is the following stakeholders:

- System Administrators—System administrators at Department of Veterans Affairs (VA) sites who are responsible for computer management and system security on the VistA M Servers.
- Enterprise Program Management Office (EPMO)—VistA legacy development teams.
- Information Security Officers (ISOs)—Personnel at VA sites responsible for system security.
- Product Support (PS).

Disclaimers

Software Disclaimer

This software was developed at the Department of Veterans Affairs (VA) by employees of the Federal Government in the course of their official duties. Pursuant to title 17 Section 105 of the United States Code this software is *not* subject to copyright protection and is in the public domain. VA assumes no responsibility whatsoever for its use by other parties, and makes no guarantees, expressed or implied, about its quality, reliability, or any other characteristic. We would appreciate acknowledgement if the software is used. This software can be redistributed freely provided that any derivative works bear some notice that they are derived from it.

CAUTION: Kernel routines should *never* be modified at the site. If there is an immediate national requirement, the changes should be made by emergency Kernel patch. Kernel software is subject to FDA regulations requiring Blood Bank Review, among other limitations. Line 3 of all Kernel routines states:

Per VHA Directive 2004-038, this routine should not be modified.

CAUTION: To protect the security of VistA systems, distribution of this software for use on any other computer system by VistA sites is prohibited. All requests for copies of Kernel for *non*-VistA use should be referred to the VistA site's local Office of Information Field Office (OIFO).

Documentation Disclaimers

The appearance of external hyperlink references in this manual does *not* constitute endorsement by the Department of Veterans Affairs (VA) of this Web site or the information, products, or services contained therein. The VA does *not* exercise any editorial control over the information you may find at these locations. Such links are provided and are consistent with the stated purpose of the VA.

Documentation Conventions

This manual uses several methods to highlight different aspects of the material:

- Various symbols are used throughout the documentation to alert the reader to special information. The following table gives a description of each of these symbols:

Table 1: Documentation Symbol Descriptions

Symbol	Description
	NOTE/REF: Used to inform the reader of general information including references to additional reading material.
	CAUTION/DISCLAIMER: Used to caution the reader to take special notice of critical information.

- Descriptive text is presented in a proportional font (as represented by this font).
- Conventions for displaying TEST data in this document are as follows:
  - The first three digits (prefix) of any Social Security Numbers (SSN) will begin with either "000" or "666".
  - Patient and user names are formatted as follows:
    - <Application Name/Abbreviation/Namespace>PATIENT,<N>
    - <Application Name/Abbreviation/Namespace>USER,<N>

    Where:
    - *<Application Name/Abbreviation/Namespace>* is defined in the Approved Application Abbreviations document.
    - *<N>* represents the first name as a number spelled out and incremented with each new entry.

    For example, in Kernel (XU or KRN) test patient and user names would be documented as follows:

    KRNPATIENT,ONE; KRNPATIENT,TWO; KRNPATIENT,THREE; … KRNPATIENT,14; etc.

    KRNUSER,ONE; KRNUSER,TWO; KRNUSER,THREE; … KRNUSER,14; etc.

- "Snapshots" of computer commands and online displays (i.e., screen captures/dialogues) and computer source code, if any, are shown in a *non*-proportional font and may be enclosed within a box.
  - User's responses to online prompts will be **bold** typeface and highlighted in yellow (e.g., **<Enter>**).
  - Emphasis within a dialogue box will be **bold** typeface and highlighted in blue (e.g., STANDARD LISTENER: RUNNING).
  - Some software code reserved/key words will be **bold** typeface with alternate color font.
  - References to "**<Enter>**" within these snapshots indicate that the user should press the <**Enter**> key on the keyboard. Other special keys are represented within < > angle brackets. For example, pressing the **PF1** key can be represented as pressing **<PF1>**.
  - Author's comments are displayed in italics or as "callout" boxes.

    NOTE: Callout boxes refer to labels or descriptions usually enclosed within a box, which point to specific areas of a displayed image.
- This manual refers to the M programming language. Under the 1995 American National Standards Institute (ANSI) standard, M is the primary name of the MUMPS programming language, and MUMPS will be considered an alternate name. This manual uses the name M.
- Descriptions of direct mode utilities are prefaced with the standard M ">" prompt to emphasize that the call is to be used *only in direct mode*. They also include the M command used to invoke the utility. The following is an example:

  ```
  >D ^XUP
  ```
- All uppercase is reserved for the representation of M code, variable names, or the formal name of options, field/file names, and security keys (e.g., the XUPROGMODE security key).

  NOTE: Other software code (e.g., Delphi/Pascal and Java) variable names and file/folder names can be written in lower or mixed case.

Documentation Navigation

This document uses Microsoft® Word's built-in navigation for internal hyperlinks. To add **Back** and **Forward** navigation buttons to your toolbar, do the following:

1. Right-click anywhere on the customizable Toolbar in Word (*not* the Ribbon section).
2. Select **Customize Quick Access Toolbar** from the secondary menu.
3. Select the drop-down arrow in the "Choose commands from:" box.
4. Select **All Commands** from the displayed list.

5. Scroll through the command list in the left column until you see the **Back** command (circle with arrow pointing left).
6. Select/Highlight the **Back** command and select **Add** to add it to your customized toolbar.
7. Scroll through the command list in the left column until you see the **Forward** command (circle with arrow pointing right).
8. Select/Highlight the **Forward** command and select **Add** to add it to the customized toolbar.
9. Select **OK**.

You can now use these **Back** and **Forward** command buttons in your Toolbar to navigate back and forth in your Word document when clicking on hyperlinks within the document.

NOTE: This is a one-time setup and is automatically available in any other Word document once you install it on the Toolbar.

How to Obtain Technical Information Online

Exported VistA M Server-based software file, routine, and global documentation can be generated through the use of Kernel, MailMan, and VA FileMan utilities.

NOTE: Methods of obtaining specific technical information online will be indicated where applicable under the appropriate section.

Help at Prompts

VistA M Server-based software provides online help and commonly used system default prompts. Users are encouraged to enter question marks at any response prompt. At the end of the help display, you are immediately returned to the point from which you started. This is an easy way to learn about any aspect of VistA M Server-based software.

Obtaining Data Dictionary Listings

Technical information about VistA M Server-based files and the fields in files is stored in data dictionaries (DD). You can use the **List File Attributes** [DILIST] option on the **Data Dictionary Utilities** [DI DDU] menu in VA FileMan to print formatted data dictionaries.

REF: For details about obtaining data dictionaries and about the formats available, see the "List File Attributes" chapter in the "File Management" section of the *VA FileMan Advanced User Manual*.

Assumptions

This manual is written with the assumption that the reader is familiar with the following:

- VistA computing environment:
  - Kernel—VistA M Server software
  - VA FileMan data structures and terminology—VistA M Server software
- Microsoft® Windows environment
- M programming language

Reference Materials

Readers who wish to learn more about Kernel should consult the following:

- *Kernel Release Notes*
- *Kernel Installation Guide*
- *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
- *Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*
- *Kernel 8.0 & Kernel Toolkit 7.3 Technical Manual* (this manual)
- *Kernel Security Tools Manual*
- Kernel VA Intranet Website.

  This site contains other information and provides links to additional documentation.

VistA documentation is made available online in Microsoft® Word format and in Adobe® Acrobat Portable Document Format (PDF). The PDF documents *must* be read using the Adobe® Acrobat Reader, which is freely distributed by Adobe® Systems Incorporated at the following Website: http://www.adobe.com/

VistA documentation can be downloaded from the VA Software Document Library (VDL) Website: http://www.va.gov/vdl/

VistA documentation and software can also be downloaded from the Product Support (PS) Anonymous Directories.

1 Introduction

1.1 Kernel

Kernel is the intermediary layer between the host operating system and other Veterans Health Information Systems and Technology Architecture (VistA) software applications, so that VistA software can coexist in a standard operating-system-independent computing environment. Kernel provides a standard and consistent user and developer interface between software applications and the underlying M implementation.

It provides the underlying computing environment for all VistA users. VistA system administrators can track users and resolve problems using Kernel options. VistA application developers rely on tools provided by Kernel to perform routine programming tasks.

By offering a computing environment that hides the *non*-standard features of M, Kernel frees VistA users, system administrators, and developers from dependence on any one vendor's M implementation. This allows VistA to shift easily to new hardware and software platforms as information technology (IT) advances.

1.2 Kernel Toolkit

Kernel Toolkit is a robust set of tools developed to aid the VistA development community in analysis, writing, and testing, code. It is a set of generic tools that are used by development teams, software quality assurance (SQA), and system administrators to support distinct tasks.

Kernel Toolkit provides utilities for the management and definition of development projects. Many of these utilities have been used by the San Francisco Information Systems Center (ISC) for internal management and have proven valuable. Kernel Toolkit provides many programming and system management tools and interacts directly with the underlying M (aka MUMPS [Massachusetts General Hospital Utility Multi-Programming System]) environment in many different ways.

It includes the following tools:

- Multi-Term Look-Up (MTLU)
- Duplicate Resolution Utilities

1.2.1 Multi-Term Look-Up (MTLU)

Many medical information systems depend on the standardized encoding of diagnoses and procedures for reports, searches, and statistics. The following files are among some of the more critical files:

- ICD DIAGNOSIS (#80)
- ICD OPERATIONS/PROCEDURE (#80.1)
- CPT (#81)

The Multi-Term Look-Up utility increases the accessibility of the information in these files by associating user-supplied words or phrases with terms found in a more descriptive, FREE TEXT field.

Multi-Term Look-Up enables:

- Local setup of virtually any reference file.
- Developers to modify the behavior of the "special" lookup by defining shortcuts, keywords, or synonyms.

Multi-Term Look-Up integrates with any package that uses a reference file, which has been entered in a site's LOCAL LOOKUP (#8984.4) file.

1.2.2 Duplicate Resolution Utilities

The Duplicate Resolution Utilities give developers a “shell” that allows their users to check their data files for duplicate records and merge the records if any are found. These utilities provide the functionality of combining duplicate records based on conditions established in customized applications. The following two files are used to do this:

- DUPLICATE RECORD (#15)
- DUPLICATE RESOLUTION (#15.1)

The **Merge Shell** was developed by the Indian Health Service (IHS) to support their Multi-Facility Integration project.

1.3 Purpose

The purpose of this manual is to provide information about the structure of the set of software utilities known as Kernel and Kernel Toolkit. Two other major affiliated software applications, VA FileMan and MailMan, are excluded, since they are documented elsewhere. This material is presented for reference by VistA system administrators, application developers, and other Kernel/Kernel Toolkit users.

2 Implementation and Maintenance

Information in this section is meant to help system administrators implement and maintain Kernel and Kernel Toolkit.

REF: For recommendations regarding global mapping, journaling, translation, and replication in Kernel and Kernel Toolkit, see the "Mapping Routines" and "Global Protection, Translation, and Journaling" sections.

For recommendations regarding archiving and purging in Kernel and Kernel Toolkit, see the "Archiving and Purging" section.

2.1 Installation

Follow the appropriate patch installation instructions for Kernel and Kernel Toolkit Patches on FORUM.

Installing Kernel both on a system having a previous version of 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 Kernel should be configured. Be sure to read it before attempting to install Kernel.

REF: For more detailed information on installing Kernel and Kernel Toolkit, see the *Kernel Installation Guide* located on the VA Software document Library (VDL) at: http://www.va.gov/vdl/application.asp?appid=10

2.2 Namespace

The Kernel and Kernel Toolkit routine namespaces include:

- **XDR***
- **XG***
- **XI***
- **XLF***
- **XPAR***
- **XPD***
- **XQ***
- **XT***
- **XU***
- **ZIS***
- **ZOS***
- **ZTM***
- **ZU***

2.3 Kernel Site Parameters

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

2.4 Kernel 8.0 Site Parameters File Changes

Kernel 8.0 exports three central site parameter files:

Table 2: Parameters—Kernel Site Parameter Files

File	Description
KERNEL SYSTEM PARAMETERS (#8989.3)	Kernel's main site parameters. These parameters were formerly stored in the MAILMAN SITE PARAMETERS (#4.3) file but are now stored in this file. **REF:** For information on this parameter file, see the "Kernel System Parameters (#8989.3) File" section.
KERNEL PARAMETERS (#8989.2)	This file holds parameters that Kernel uses, which the site is allowed to change. It is *not* restricted solely to site parameters. The file makes use of a DEFAULT value field and a REPLACEMENT value field for each parameter. **REF:** For information on this parameter file, see the "Kernel Parameters (#8989.2) File" section.
PARAMETER DEFINITION (#8989.51) file	This file holds additional Kernel parameter definitions. **REF:** For information on this parameter file, see the "Kernel Parameter Definitions (#8989.51) File" section.

2.5 Kernel System Parameters (#8989.3) File

The Kernel system parameters are stored in the KERNEL SYSTEM PARAMETERS (#8989.3) file.

Figure 1: Parameters—Enter/Edit Kernel Site Parameters Menu Option

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

Table 3: Parameters—KERNEL SYSTEM PARAMETERS (#8989.3) File (Listed Alphabetically by Field Name)

Field	Description
AGENCY CODE (#9)	This field defines what agency uses this computer. It sets a flag that can be accessed by applications programs that need to know this information.
ASK DEVICE TYPE AT SIGN-ON (#205)	This is the default for whether a user/terminal should be asked for their Terminal Type at signon. This is overridden by a similar field in the DEVICE (#3.5) and NEW PERSON (#200) 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 is used.
AUTO-GENERATE ACCESS CODES (#11)	If this field is set to **YES**, the person assigning access codes *must* choose one of the automatically generated codes that are presented. If this field is set to **NO**, other codes are only accepted.
BYPASS DEVICE LOCK-OUT (#211)	Setting this field to **YES** causes all device lockout checking to be bypassed. This means that during signon the checks against the DEVICE (#3.5) file for the following fields will be skipped: • OUT-OF-SERVICE DATE (#6) • SECURITY (#15) • PROHIBITED TIMES FOR SIGN-ON (#2009). It can be overridden by the PERFORM DEVICE CHECKING (#51.91) field in the DEVICE (#3.5) file.
DEFAULT # OF ATTEMPTS (#202)	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 the # OF ATTEMPTS (#51.2) field in the DEVICE (#3.5) file. ALL checking for device lockout can be bypassed by setting the BYPASS DEVICE LOCK-OUT (#211) field.
DEFAULT AUTO-MENU (#206)	This is the default for whether auto-menu is turned **ON** or **OFF**. It is overridden by the AUTO MENU (#51.6) field in the DEVICE (#3.5) file.
DEFAULT INSTITUTION (#217)	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.

Field	Description
DEFAULT LANGUAGE (#207)	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 dialogues.
DEFAULT LOCK-OUT TIME (#203)	This is the default time in seconds that a locked device *must* be idle before another signon attempt is allowed. This time is overridden by the LOCK-OUT TIME (#51.3) field in the DEVICE (#3.5) file. ALL checking for device lockout is ignored if the BYPASS DEVICE LOCK-OUT (#211) field is set to **YES**.
DEFAULT MULTIPLE SIGN-ON (#204)	This is the default value for whether users may sign on at more than one terminal at a time. It is overridden by the following fields: • DEFAULT MULTIPLE SIGN-ON (#204) field in the DEVICE (#3.5) • MULTIPLE SIGN-ON (#200.04) field in the NEW PERSON (#200) file.
DEFAULT TIMED-READ (SECONDS) (#210)	This is the default time-out for all **READ**s and is overridden by the TIMED READ (# OF SECONDS) (#51.1) field in the DEVICE (#3.5) file.
DEFAULT TYPE-AHEAD (#209)	This is the default as to whether or *not* type-ahead is allowed. It is overridden by the TYPE-AHEAD (#51.9) field in the DEVICE (#3.5) file.
DEVICE TO AUDIT (#212.1) Multiple	This Multiple (subfile) holds a list of devices that are to be audited when device auditing is activated. The **.01** field is referenced when the FAILED ACCESS ATTEMPT AUDIT (#212.5) field is set to **D** or **DR**. It is used to specify the logical names of the devices on which to audit failed attempts.
FAILED ACCESS ATTEMPT AUDIT (#212.5)	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. Entries include: • **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.
INITIATE AUDIT (#19.4)	This field indicates the date when an audit begins. The OPTION AUDIT (#19) field defines the nature of the audit that is performed. Auditing is only done if there is both INITIATE AUDIT (#19.4) and TERMINATE AUDIT (#19.5) field data.

Field	Description
INTERACTIVE USER'S PRIORITY (#216)	This field changes the priority of interactive users on the system at signon time. There is a danger that using this field will cause the users to have poor response time from the computer. Valid values range from **1** to **10**.
IP SECURITY ON (#405.1)	This field turns on or off the IP security "Three strikes and you are out" code. This is used to lock an IP address if there are too many failed/invalid signon attempts. It is similar to the device lockout. • Use the **Release IP lock** [XU IP RELEASE] option to release the lock on an IP address. • Use the **Edit Site IP lockout** [XU SITE LOCKOUT] option to edit the Kernel System Parameters for IP lockout and/or User lockout and Terminal server list entry.
LIFETIME OF VERIFY CODE (#214)	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? (#300)	This **YES/NO** field is used to indicate whether resource usage data, such as CPU seconds, DIO, BIO, etc., is collected in **^XUCP(**. If this field is set to **YES**, every time a user goes in and out of an option each time is recorded.
LOG SYSTEM RT? (#41, 6)	A subfield in the VOLUME SET (#41) Multiple. Setting this subfield to **YES** enables system response time logging, which only takes place if the necessary code exists in the application software.
MAX SIGNON ALLOWED (#41, 2)	A subfield in the VOLUME SET (#41) Multiple. This subfield defines the maximum number of jobs that **XUS** or RPC Broker allows 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 prohibits logons.
MAX SPOOL DOCUMENT LIFE-SPAN (#31.3)	This field controls the number of days that a spooled document is allowed to remain in the spooler before deletion by the **Purge old spool documents** [XU-SPL-PURGE] option, which needs to be set up to run in the background. Valid values range from **1** to **365**; zero decimals. **REF:** For more information on spooler site parameters, see the "Spooler Site Parameters" section.
MAX SPOOL DOCUMENTS PER USER (#31.2)	This field limits the number of spooled documents that any user can have on the system. *Recommended* values from **10** to **100**. **REF:** For more information on spooler site parameters, see the "Spooler Site Parameters" section.

Field	Description
MAX SPOOL LINES PER USER (#31.1)	This field holds the maximum number of lines of spooled output a user is allowed. If the user has more than this number, then they are *not* allowed to spool any more until some of their spooled documents are deleted. This only controls the granting of new spool documents and does *not* terminate the number of lines that are transferred into the spool data file. Valid values range from **1** to **9999999**; *recommended* value **9999**. **REF:** For more information on spooler site parameters, see the "Spooler Site Parameters" section.
NAMESPACE TO AUDIT (#19.2) Multiple	This Multiple (subfile) holds a list of software namespaces to audit. All options within a namespace are audited if the OPTION AUDIT (#19) Field is set to **s** (specific options).
NEW PERSON IDENTIFIERS (#21)	This field holds M code to set the **DR** variable to the string of fields (*not* a template) to be used as identifiers when adding entries to the NEW PERSON (#200) file.
OPTION AUDIT (#19)	This field indicates what should be audited between the INITIATE AUDIT (#19.4) date and TERMINATE AUDIT (#19.5) date fields. Valid values include: • **n—**No audit. • **a—**All options audited. • **s—**Specific options audited. • **u—**Users audited. The OPTION TO AUDIT (#19.1) Multiple along with the NAMESPACE TO AUDIT (#19.2) Multiple hold the lists of specific options that would be audited (choosing **s**). The USER TO AUDIT (#19.3) Multiple holds the list of users that would be audited (choosing **u**).
OPTION TO AUDIT (#19.1) Multiple	This Multiple (subfile) holds a list of options to audit if the OPTION AUDIT (#19) field is set to **s** (specific options).
ORGANIZATION (#200.2)	Use this Identity and Access Management (IAM) field to identify the organization of this VistA instance. For internally authenticated users, this field matches the SUBJECT ORGANIZATION (#205.2) field of the user identified in the NEW PERSON (#200) file. For the VA, this field should always contain the following value: **Department Of Veterans Affairs**

Field	Description
ORGANIZATION ID (#200.3)	Use this Identity and Access Management (IAM) field to uniquely identify the organization of this VistA instance. For internally authenticated users, this field matches the SUBJECT ORGANIZATION ID (#205.3) field of the user identified in the NEW PERSON (#200) file. For the VA, this field should always contain the following value: **urn:oid:2.16.840.1.113883.4.349**
ROUTINE MONITORING (#9.8)	This field supports routine auditing. It controls how the routine monitoring program behaves; whether to look at all routines or just selected name spaces. **REF:** For more information, see the *Kernel Security Tools Manual*.
ROUTINE N-SPACE TO MONITOR (#9.81) Multiple	This Multiple (subfile) supports routine auditing. If the routine monitoring program is to look at namespaces, then this Multiple lists the namespaces that it looks at. For example, an entry of **XU*** causes it to look at all routines that start with **XU**. **REF:** For more information, see the *Kernel Security Tools Manual*.
SECURITY TOKEN SERVICE (#200.1)	When using brokered authentication with a security token issued by a Security Token Service (STS), this field contains the identification of the issuer of the token. The STS is trusted by both the client and the service to provide interoperable security tokens. Security Assertion Markup Language (SAML) tokens are standards-based **XML** tokens that are used to exchange security information, including: • Attribute statements • Authentication decision statements • Authorization decision statements They can be used as part of a Single Sign-On (SSO) solution allowing a client to talk to services running on disparate technologies. For the VA, this field should always contain the following value: **eauth.va.gov**
TERMINATE AUDIT (#19.5)	This field indicates when the audit ends. The start date is set in the INITIATE AUDIT ($19.4) field.
USER TO AUDIT (#19.3) Multiple	This Multiple (subfile) holds a list of users to audit their option use, if the OPTION AUDIT (#19) field is set to **u** (users audited).

Field	Description
VOLUME SET (#41) 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 (#41, 2) • LOG SYSTEM RT? (#41, 6).

2.6 Kernel Parameters (#8989.2) File

Kernel does *not* export an option to edit these parameters. The KERNEL PARAMETERS (#8989.2) file holds parameters that Kernel uses and the site is allowed to change. It is *not* restricted solely to site parameters. The file makes use of a DEFAULT (#3) value field and a REPLACEMENT (#4) 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:

Table 4: Parameters—KERNEL PARAMETERS (#8989.2) File (Listed Alphabetically by Name)

Parameters	Description
XUEDIT CHARACTERISTICS	You can enter the name of a replacement for the standard Edit User Characteristics template in the REPLACEMENT (#4) field. Kernel will then use the replacement for the **Edit User Characteristics** [XUSEREDITSELF] option.
XUEXISTING USER	You can enter the name of a template to use in the **Edit an Existing User** [XUSEREDIT] option in the REPLACEMENT (#4) field. Kernel uses the replacement template for the Edit an Existing User [XUSEREDIT] option.
XUNEW USER	You can enter the name of a template to use in the **Add a New User to the System** [XUSERNEW] option in the REPLACEMENT (#4) field. Kernel will then use the replacement template for the **Add a New User to the System** [XUSERNEW] option.
XUREACT USER	You can enter the name of a template to use in the **Reactivate a User** [XUSERREACT] option in the REPLACEMENT (#4) field. Kernel will then use the replacement template for the **Reactivate a User** [XUSERREACT] option.
XUSER COMPUTER ACCOUNT	You can enter the name of a help frame in the REPLACEMENT (#4) 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** [XUSERNEW] option.

2.7 Kernel Parameter Definitions (#8989.51) File

Additional Kernel parameters are stored in the PARAMETER DEFINITION (#8989.51) file.

Table 5: Parameters—PARAMETER DEFINITION (#8989.51) File (Listed Alphabetically by Name)

Parameters	Description
XPAR ALL ENTITIES	All Entities: This is a "dummy" parameter definition that is used by **XPARLIST** to get a list of all entities. The ALLOWABLE ENTITIES (#51, 30) Multiple field for this parameter should list all entities defined in PARAMETERS.
XPAR MY NEW PARAM	Test MY new parameters.
XPAR TEST DATE/TIME	Test Date/Time: Test parameter entry for a single valued date.
XPAR TEST FREE TEXT	Test Free Text: Test parameter entry for single valued free text.
XPAR TEST M CODE	Test XPAR entry with a value of M code.
XPAR TEST ME	TEST ME.
XPAR TEST MULT FREE TEXT	Test entry for showing how to add to a Free Text with multiple instances. Enter a string of **5-15** characters.
XPAR TEST MULTIPLE	Test Everything: This is a test of a parameter that allows multiple instances and multiple entities. • PRECEDENCE: 1 ENTITY FILE: SYSTEM • PRECEDENCE: 2 ENTITY FILE: DIVISION • PRECEDENCE: 3 ENTITY FILE: SERVICE • PRECEDENCE: 4 ENTITY FILE: LOCATION • PRECEDENCE: 5 ENTITY FILE: PACKAGE • PRECEDENCE: 6 ENTITY FILE: CLASS • PRECEDENCE: 7 ENTITY FILE: TEAM • PRECEDENCE: 8 ENTITY FILE: USER
XPAR TEST MULTIPTR	Test Multiple Pointer.
XPAR TEST NUMERIC	Test Numeric: Test parameter entry for numeric data.
XPAR TEST POINTER	Test Pointer: Test parameter entry for pointer types.
XPAR TEST PWP	Test Multiple WP with Pointer Instance

Parameters	Description
XPAR TEST SET OF CODES	Test Set of Codes: Test parameter entry of a set of codes.
XPAR TEST WP	Test WP: Test parameter entry for word-processing (WP) values.
XPAR TEST YES/NO	Test Yes/No.
XPD PATCH HFS SERVER	Patch module HFS server: This parameter holds the name of the server to send email to when a KIDS Host File Server (HFS) file is made.
XQ MENUMANAGER PROMPT	This parameter allows sites to change the default **< TEST ACCOUNT>** prompt to another value, such as **<LEGACY SYSTEM>** in menu prompts of non-production VistA systems. The text defined by this parameter is inserted in the MenuMan (Menu Manager) prompts. If no text is defined, the hard-coded default is " **< TEST ACCOUNT>**". Alternatives could be: • " **<LEGACY SYSTEM>**" • " **<CONTINGENCY>**" • " **<READ ONLY>**" • Or, any other value from **3** to **20** characters, depending on the purpose of the non-production VistA system. **NOTE:** This parameter was released with Kernel Patch XU*8.0*614.
XQAL BACKUP REVIEWER	Backup Reviewer for Unprocessed Alerts: This parameter contains information about the Backup Reviewer for unprocessed alerts. This person is sent the alerts for the specified entity that remain unprocessed by the original recipients. • PRECEDENCE: 50 ENTITY FILE: SYSTEM • PRECEDENCE: 40 ENTITY FILE: DIVISION • PRECEDENCE: 35 ENTITY FILE: SERVICE • PRECEDENCE: 1 ENTITY FILE: USER

Parameters	Description
XU SIG BLOCK DISABLE	Determines whether restrictions are active: • If the parameter is set to **ON** (**1**), then restrictions are active and Electronic Signature Block edits are disabled for users without the XUSIG security key. • If the parameter is set to **OFF** (**0**), then restrictions are *not* active and Electronic Signature Block edits are enabled for all users. **NOTE:** This parameter was released with Kernel Patch XU*8.0*679.
XU522	Determines whether old-style (less secure) Compensation and Pension Record Interchange (CAPRI) logins are permitted and logged. Enter any of the following values: • **Y** (**YES**)**—**To disable old-style CAPRI logins (default). • **E** (**ERROR**)**—**To disable old-style CAPRI logins and trap attempts. • **N** (**NO**)**—**To leave old-style CAPRI logins enabled. • **L** (**DEBUG**)**—**To leave old-style CAPRI logins enabled but trap attempts. **NOTE:** This parameter was released with Kernel Patch XU*8.0*522.
XU594	This parameter skips the code that Kernel Patch XU*8.0*543 uses. If XU*8.0*543 broke the iMedConsent application, this parameter should be set to **YES**. The default is **NO**. **NOTE:** This parameter was released with Kernel Patch XU*8.0*594.
XU645	This parameter determines if a terminated user's information should be deleted: • A **NO** value means you do *not* want to purge the terminated user information. This was requested by the Office of Inspector General (OIG) when they want all user information preserved. • A **YES** value means to purge the information, which is normal operating procedure. **NOTE:** This parameter was released with Kernel Patch XU*8.0*645.

Parameters	Description
XUEPCS REPORT DEVICE	ePCS Device Definition for Reports: Enter a device from the DEVICE (#3.5) file for the ePCS report output. **NOTE:** This parameter was released with Kernel Patch XU*8.0*580.
XUS CCOW VAULT PARAM	CCOW Vault Parameter: This parameter holds the application passcode for the CCOW vault.
XUS-XUP SET ERROR TRAP	Set Error Trap in **XUP**: This parameter controls if **XUP** will set up an ERROR trap for the user: • PRECEDENCE: 1 ENTITY FILE: USER • PRECEDENCE: 2 ENTITY FILE: SYSTEM
XUS-XUP VPE	Drop into VPE: This parameter controls if a user when exiting **XUP** is dropped into VPE or right to the "**>**" prompt: • PRECEDENCE: 1 ENTITY FILE: USER • PRECEDENCE: 2 ENTITY FILE: SYSTEM
XUSC1 DEBUG	Set Debug mode for XUSC1: This parameter controls if the **XUSC1** client code records debug information into the **^TMP** global.
XUSNPI QUALIFIED IDENTIFIER	NPI QUALIFIED IDENTIFIER: This is a mapping of **NPI ID** name to the files that hold the data.

2.7.1 XPAREDIT Routine

Use the **XPAREDIT** routine to update the parameters in the PARAMETER DEFINITION (#8989.51) file.

To edit the DEA ePCS Utility parameter, perform the following procedure:

1. From the programmer prompt, enter the following code:

   ```
   D ^XPAREDIT
   ```

2. At the "Select PARAMETER DEFINITION NAME:" prompt, enter the parameter you want to edit.

Figure 2: Parameters—XPAREDIT Routine: Editing Parameters in the PARAMETER DEFINITION (#8989.51) File

```
>D ^XPAREDIT

               --- Edit Parameter Values ---

Select PARAMETER DEFINITION NAME:
```

2.8 Audit-Related Site Parameters

Figure 3: Parameters—Audit-Related Menu Options

```
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 located in the KERNEL SYSTEM PARAMETERS (#8989.3) file using the **Establish System Audit Parameters** [XUAUDIT] option (the fields are also reachable from the **Enter/Edit Kernel Site Parameters** [XUSITEPARM] option).

REF: For more information on auditing, see the *Kernel Security Tools Manual*.

Table 6: Parameters—Audit-Related Parameters from the KERNEL SYSTEM PARAMETERS (#8989.3) File (Listed Alphabetically by Field Name)

Parameters (Fields)	Description
DEVICE TO AUDIT (#212.1) Multiple	This Multiple (subfile) holds a list of devices that are to be audited when device auditing is activated. The **.01** field is referenced when the FAILED ACCESS ATTEMPT AUDIT (#212.5) field is set to **D** or **DR**. It is used to specify the logical names of the devices on which to audit failed attempts.
FAILED ACCESS ATTEMPT AUDIT (#212.5)	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: Entries include: • **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.
INITIATE AUDIT (#19.4)	This field indicates the date when an audit begins. The OPTION AUDIT (#19) field defines the nature of the audit that is performed. Auditing is only done if there is both INITIATE AUDIT (#19.4) and TERMINATE AUDIT (#19.5) field data.
NAMESPACE TO AUDIT (#19.2) Multiple	This Multiple (subfile) holds a list of software namespaces to audit. All options within a namespace are audited if the OPTION AUDIT (#19) Field is set to **s** (specific options).
OPTION AUDIT (#19)	This field indicates what should be audited between the INITIATE AUDIT (#19.4) date and TERMINATE AUDIT (#19.5) date fields. Valid values include: • **n—**No audit. • **a—**All options audited. • **s—**Specific options audited. • **u—**Users audited. The OPTION TO AUDIT (#19.1) Multiple along with the NAMESPACE TO AUDIT (#19.2) Multiple hold the lists of specific options that would be audited (choosing **s**). The USER TO AUDIT (#19.3) Multiple holds the list of users that would be audited (choosing **u**).
OPTION TO AUDIT (#19.1) Multiple))	This Multiple (subfile) holds a list of options to audit if the OPTION AUDIT (#19) field is set to **s** (specific options).

Parameters (Fields)	Description
TERMINATE AUDIT (#19.5)	This field indicates when audit ends. The start date is set in the INITIATE AUDIT (#19.4) field.
USER TO AUDIT (Multiple; #19.3)	This Multiple (subfile) holds a list of users to audit their option use, if the OPTION AUDIT (#19) field is set to **u** (users audited).

2.9 Spooler Site Parameters

Figure 4: Spooler Site Parameters Edit Menu Option

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

You can edit spooler-related site parameters located in the KERNEL SYSTEM PARAMETERS (#8989.3) file with the **Spooler Site Parameters Edit** [XU-SPL-SITE] option (the fields are also reachable from the **Enter/Edit Kernel Site Parameters** [XUSITEPARM] option).

REF: For more information on the Spooler, see the "Spooling" chapter in the *Kernel Security Tools Manual*.

Table 7: Parameters—Spooler-Related Parameters from the KERNEL SYSTEM PARAMETERS (#8989.3) File (Listed Alphabetically by Field Name)

Fields	Description
MAX SPOOL LINES PER USER (#31.1)	This field holds the maximum number of lines of spooled output a user is allowed. If the user has more than this number, then they are *not* allowed to spool any more until some of their spooled documents are deleted. This only controls the granting of new spool documents and does *not* terminate the number of lines that are transferred into the spool data file. Valid values range from **1** to **9999999**; *recommended* value **9999**.
MAX SPOOL DOCUMENT LIFE-SPAN (#31.3)	This field controls the number of days that a spooled document is allowed to remain in the spooler before deletion by the **Purge old spool documents** [XU-SPL-PURGE] option, which needs to be set up to run in the background. Valid values range from **1** to **365**; **zero** decimals.
MAX SPOOL DOCUMENTS PER USER (#31.2)	This field limits the number of spooled documents that any user can have on the system. *Recommended* value from **10** to **100**.

2.10 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)

REF: For information about configuring TaskMan's site parameters, see the "TaskMan System Management: Configuration" section in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*.

2.11 Implementing Multi-Term Look-Up

Implementing Multi-Term Look-Up requires:

- Central Processing Unit (CPU) capacity: **3%**.
- Disk Space: **20,000** bytes. However, this depends on the number of entries in the following files:
  - LOCAL KEYWORD (#8984.1)
  - LOCAL SHORTCUT (#8984.2)
  - LOCAL SYNONYM (#8984.3)

The Multi-Term Look-Up utility has one parameter, which can be adjusted to meet the needs of an individual site. Whenever a new file is entered through the **Add Entries To Look-Up File** [XTLKMODPARS] option, an additional MUMPS cross-reference is necessary on a FREE TEXT field of the new file. This reference converts the FREE TEXT field into keywords to be used in the search. In order to use the full functionality of the package, the cross-reference entry on the FREE TEXT field should match the INDEX (#.03) field in the LOCAL LOOKUP (#8984.4) file. Figure 5 is an example for the ICD DIAGNOSIS (#80) file **AIHS** is entered on the FREE TEXT field as a cross-reference. **AIHS**, therefore, *must* match the entry made at the Local Look-up INDEX prompt in the **Add Entries To Look-Up File** [XTLKMODPARS] option.

Figure 5: Multi-Term Look-Up—Sample System Prompts and User Entries: Entering a Cross-Reference on a Field in a File

```
Select OPTION: UTILITY FUNCTIONS
Select UTILITY OPTION: CROSS-REFERENCE A FIELD

MODIFY WHAT FILE: ICD DIAGNOSIS// ICD DIAGNOSIS <Enter> (12535 entries)
Select FIELD: DESCRIPTION

CURRENT CROSS-REFERENCE IS MUMPS 'D' INDEX OF FILE
CHOOSE E (EDIT)/D (DELETE)/C (CREATE): C
WANT TO CREATE A NEW CROSS-REFERENCE FOR THIS FIELD? NO// Y <Enter> (YES)
CROSS-REFERENCE NUMBER: 2// <Enter>
Select TYPE OF INDEXING: REGULAR// MUMPS
WANT CROSS-REFERENCE TO BE USED FOR LOOKUP AS WELL AS FOR SORTING? YES// N <Enter>
(NO)
SET STATEMENT: S %="^ICD9(""AIHS"",I,DA)" D S^XTLKWIC
KILL STATEMENT: S %="^ICD9(""AIHS"",I,DA)" D K^XTLKWIC
INDEX: AC// AIHS
...
DO YOU WANT TO CROSS-REFERENCE EXISTING DATA NOW? YES// Y <Enter> (YES)
...EXCUSE ME, LET ME THINK ABOUT THAT A MOMENT.................
..................................................
>D ^XUP

Setting up programmer environment
Terminal Type set to: C-VT100
Select OPTION NAME: APPLI <Enter> CATION UTILITIES  XTMENU  Application Utilities

          Multi-Term Lookup Main Menu ...

Select Application Utilities Option: MULTI <Enter>-Term Lookup Main Menu

          Multi-Term Lookup (MTLU)
          Print Utility
          Utilities for MTLU ...

Select Multi-Term Lookup Main Menu Option: UTIL <Enter> ities for MTLU

   KL     Delete Entries From Look-up
   ST     Add Entries To Look-Up File
          Add/Modify Utility ...

Select Utilities for MTLU Option: ST <Enter> Add Entries To Look-Up File
Select LOCAL LOOKUP NAME: ICD DIAGNOSIS
  ARE YOU ADDING 'ICD DIAGNOSIS' AS A NEW LOCAL LOOKUP (THE 3RD)? Y <Enter> (YES)
   LOCAL LOOKUP NAME: ICD DIAGNOSIS// <Enter>
   LOCAL LOOKUP DISPLAY PROTOCOL: <Enter>
INDEX: AIHS
...Ok, will now setup KEYWORD and SHORTCUT file DD's
   to allow terms for 'ICD DIAGNOSIS' entries...
PREFIX: M// ?
     Answer must be a unique prefix, 1-10 characters in length
```

Enter the VARIABLE POINTER prefix.

```
PREFIX: M// D
  <REMINDER> Using 'Edit File', set the lookup routine, XTLKDICL, in 'ICD DIAGNOSIS
DD
Select LOCAL LOOKUP NAME: <Enter>
```

NOTE: Using the **VA FileMan Edit File** [DIEDIT] option, enter **XTLKDICL** at the "Look-Up Program" prompt. Data should be cross-referenced when installing the cross-reference. If *not*, data should be re-indexed after hours, since this can be CPU intensive.

2.12 Implementing Duplicate Resolution Utilities

Implementing Duplicate Resolution Utilities requires the following resources and familiarity with the following processes:

- Data Storage
- Retention
- Resource Requirements
- Programmer Notes
- Merge Process

2.12.1 Data Storage

Each entry in the DUPLICATE RECORD (#15) file takes approximately **500** bytes, depending on the number of tests that are used and the number of packages that are affected by the record merge.

Each entry in the DUPLICATE RESOLUTION (#15.1) file takes approximately **28K**, depending on the number of tests that need to be run.

2.12.2 Retention

The data in the duplicate record is *not* meant to be purged or archived. If one chose to they could purge the verified *non*-duplicates but this means that when the duplicate checking utilities are run these entries are put back in the DUPLICATE RECORD (#15) file and requires somebody to verify it again.

2.12.3 Resource Requirements

One terminal and one printer are required. A slave printer to the terminal would be very beneficial.

2.12.4 Programmer Notes

Developers need to determine if the merging of two file entries affects their package in such a way that they need to have their own unique merge that deals with only their package's files.

The following conditions usually mean that a developer has to write their own unique merge:

1. The patient pointer field is defined as a NUMERIC or FREE TEXT field rather than a POINTER.
2. The developer wants their end-users to complete some task prior to the merge occurring.
3. There are compound cross-references that include the patient pointer on another field, but the cross-reference is *not* triggered by the changing of the patient pointer.

4. The Merge (Duplicate Resolution Utilities) does *not* do what the package developer desires.

2.12.5 Merge Process

This section provides a description of what occurs during the merge:

1. Checks the base file (e.g., PATIENT [#2] file) to see if it exists.
2. Check the **PT** nodes [e.g., **^DD(2,0,"PT",**] and any false positives are removed.
3. Creates a list of files and fields within those files that point to the file being merged (e.g., in this example the file being merged is the PATIENT [#2] file).

   If a file is pointing to the file being merged by its **.01** field, and if that **.01** field is **DINUM**, then all files/fields that point to that file are also gathered. The **DINUM** rule also applies to that file and any files pointing to it, to any depth.
4. Checks each file/field and re-points/merges as follows:
   - If the field pointing is *not* a **.01** field, the "from entry" is changed to the "to entry".
   - If the field pointing is the **.01** field but *not* **DINUM**, the "from entry" is changed to the "to entry".
   - Each pointing **.01 DINUM** field is handled as follows:
     - If the **.01 DINUM** field is at the file level, ^DIT0 is called to merge the "from entry" to the "to entry" and then the "from entry" is deleted. ^DIT0 merges field by field but does *not* change any value in the "to entry". That means that **NULL** fields in the "to entry" get the value from the same field in the "from entry" if it is *not* **NULL**, and valued fields in the "to entry" remain the same. ^DIT0 also merges Multiples:
       - If a Multiple entry in the "from entry" *cannot* be found in the "to entry", it is added to the "to entry".
       - If a Multiple entry in the "from entry" can be found in the "to entry", then that Multiple entry is merged field by field.
     - If the **.01 DINUM** field is at the subfile level (in a Multiple), it is handled as follows:
       - If there is a "from entry" but no "to entry", the "from entry" is added to the "to entry", changing the **.01** field value in the process, and the "from entry" is deleted.
       - If there is a "from entry" and also a "to entry", the "from entry" is deleted and the "to entry" remains unchanged.

If it is determined that a developer *must* have their own unique merge that deals with their files, they *must* make the appropriate entries in the PACKAGE (#9.4) file. If they have to have some sort of action taken by end-users prior to the merging of the records, they *must* update the MERGE PACKAGES Multiple in the DUPLICATE RECORD (#15) file for that pair of records.

The following explains the entries that need to be made in the PACKAGE (#9.4) file:

- In your PACKAGE (#9.4) file make an entry in the AFFECTS RECORD MERGE (#20) field.
- In the **.01** field, enter the file affected (e.g., PATIENT [#2] file).
- In the NAME OF MERGE ROUTINE (#9.402,3) field enter the name of your merge routine, which is executed via indirection by Duplicate Resolution Utilities. If you leave this field blank but still place an entry in the PACKAGE (#9.4) file, Duplicate Resolution Utilities assumes that you have some sort of interactive merge process that your end users must complete prior to the main merge occurring. It also assumes that this interactive merge process is on a separate option within the developer's package options. The values of the two records being merged are placed in:

  ^TMP("XDRMRGFR",$J,XDRMRG("FR")

  And

  ^TMP("XDRMRGTO",$J,XDRMRG("TO")

  These should be referenced by the developer if they need any certain field values since the values may have been changed prior to the execution of their merge routine.
- In the RECORD HAS PACKAGE DATA (#9.402,4) field you would enter a string of M executable code that is passed the **XDRMRG("FR")** variable (the "from record" IEN) and set **XDRZ** to **0**. The code should **SET XDRZ=1** if **XDRMRG("FR")** has data within your package files.

Remember to only make these entries in the PACKAGE (#9.4) file if the normal merge does *not* suffice for your package. If you have an entry in the PACKAGE (#9.4) file the repointing and merging as described above does *not* take place for those files within your package entry.

If you leave the NAME OF MERGE ROUTINE (#9.402,3) field blank, it is assumed that you have some sort of interactive merge process that must occur prior to the main merging of the two records. At the completion of your interactive merge process the developer *must* set the STATUS (#15.01101,.02) field of the MERGE PACKAGES (#15,1101) Multiple field for their package in the DUPLICATE RECORD (#15) file entry to **Ready**. This *must* be done using VA FileMan, because of the trigger that is on the STATUS (#15.01101,.02) field. Once all of the MERGE PACKAGE entries have a STATUS of **Ready**, the main merging of the two records can occur.

2.13 Configuring VAX/Alpha Performance Monitor (VPM)

Data from the VAX/Alpha Performance Monitor is stored in the **^XUCM** global. This global grows at a rate of approximately **80k/day/node**. A task can be queued to automatically keep this global purged. Raw data occupies most of this growth rate and can be retained a shorter period (**1-3** months), while the daily averages in the CM DAILY STATISTICS (#8986.6) file should be retained considerably longer. This ensures its usefulness for trend analysis and other computations.

VAX/Alpha Performance Monitor (VPM) requires that TaskMan be set to run with a **DCL** context *prior* to configuring the performance monitor's site files. To configure the CM SITE

PARAMETERS (#8986.095) and CM SITE NODENAMES (#8986.3) files, run the Setup Performance Monitor option.

After editing these files, the host directory and **DCL** command files (**XUCMVPM.COM** and **XUCMMONITOR.COM**) are created by TaskMan. An alert is sent to you once this is complete. Re-run this option whenever CPUs are added/removed from your configuration.

Using the TaskMan **Schedule/Unschedule Options** [XUTM SCHEDULE] option queue XUCM TASK VPM to run *hourly*. This option is the data collection driver for the VMS Monitor and checks for and loads new data into the CM DISK DRIVE RAW DATA (#8986.5) and CM NODENAME RAW DATA (#8986.51) files. Each data collection runs for **15** minutes using **10** second sample intervals (rather than the default **3** second interval). Queue the option XUCM TASK NIT to run in the early a.m., (e.g., **0001** hours). This option compiles workday averages, mails server messages, and collects "static" information (e.g., node and hardware types). Finally, this option files selected **RTHIST** data and restarts **RTHIST** data collections for the next **24** hours.

3 Routines

This chapter provides information related to all executable routines exported with Kernel and Kernel Toolkit. Do *not* delete any routines with the exception of any initialization routines, which *can* be deleted *after* installation.

NOTE: This chapter lists the routines alphabetically and by category. Other routine information, such as the Routine Description, Size Histogram, Routine %Index, etc., can be generated through the use of Kernel Utilities.

3.1 Manager Account Routines

Table 8 lists the Manager Account routines:

Table 8: Routines—Manager Account Routines

Routine	Description
%ZIS	Device Handler.
%ZIS1	Device Handler: Device input.
%ZIS2	Device Handler: Checks.
%ZIS3	Device Handler: Device types and parameters.
%ZIS5	Device lookup.
%ZIS6	Device Handler: Resources.
%ZIS7	Device Handler: Help.
%ZISC	Close logic for devices.
%ZISP	Collect screen parameters: Graphic set.
%ZISS	Collect screen parameters.

Routine	Description
%ZISS1	Collect screen parameters (continued).
%ZISS2	Collect screen parameters: Graphic set.
%ZISUTL	Device Handler: Utility routine.
%ZTER	Kernel Error Trap to log errors.
%ZTER1	Kernel Error Trap to log errors (continued).
%ZTLOAD	TaskMan: Application Program Interface: Entry Points.
%ZTLOAD1	TaskMan: Application Program Interface: Part **1**: Queue.
%ZTLOAD2	TaskMan: Application Program Interface: Part **2**: Queue.
%ZTLOAD3	TaskMan: Task Requeue.
%ZTLOAD4	TaskMan: Application Program Interface: Is Queued?
%ZTLOAD5	TaskMan: Application Program Interface: Task status.
%ZTLOAD6	TaskMan: Application Program Interface: Dequeue.
%ZTLOAD7	TaskMan: Utilities.
%ZTM	TaskMan: Manager: Part **1**: Main Loop.
%ZTM0	TaskMan: Manager: Part **2**: Begin.
%ZTM1	TaskMan: Manager: Part **3**: Validate Task.
%ZTM2	TaskMan: Manager: Part **4**: Link Handling **1**.
%ZTM3	TaskMan: Manager: Part **5**: Link Handling **2**.
%ZTM4	TaskMan: Manager: Part **6**: Waiting List.
%ZTM5	TaskMan: Manager: Part **7**: Short Subroutines.
%ZTM6	TaskMan: Manager: Part **8**: Load Balancing.
%ZTMOVE	Easier multi-CPU routine transfers.
%ZTMS	TaskMan: Submanager: Part **1**: Entry and Trap functions.
%ZTMS0	TaskMan: Submanager: Part **2**: Trap functions.
%ZTMS1	TaskMan: Submanager: Part **3**: Loop and Get Task.
%ZTMS2	TaskMan: Submanager: Part **4**: Unload, Get Device.
%ZTMS3	TaskMan: Submanager: Part **5**: Run Task.
%ZTMS4	TaskMan: Submanager: Part **6**: Setup, Cleanup.
%ZTMS7	TaskMan: Submanager: GetNext.
%ZTMSH	TaskMan: Submanager: Utility: Header Page.
XUCIDTM	Swap UCIs DSM-11.
XUCIMSM	Swap UCIS for MSM-UNIX.

Routine	Description
XUCIMSQ	Swap UCIs M/SQL.
XUCIVXD	Swap UCIs VAX/DSM.
ZIS4VXD	Device Handler: Spool specific code (VAX DSM).
ZISETDTM	Initialize DEVICE (#3.5) file for **D7**. This routine initializes the DEVICE (#3.5) file with the current port number or updates the device file if new hardware has been added.
ZISETMSM	Initialize DEVICE (#3.5) file for MSM-68. This routine initializes the DEVICE (#3.5) file with the current port number.
ZISETVXD	Initialize DEVICE (#3.5) file. This routine initializes the DEVICE (#3.5) file with the current port number.
ZISFMSM	HOST files: Code for MSM.
ZISFVXD	HOST files: Code for VAX DSM.
ZISHMSM	Host files: Control for MSM.
ZISHVXD	VAX DSM Host file control.
ZISX	Executes nodes in the **^%ZIS** global.
ZOSFMSM	Sets up **^%ZOSF** for MSM-UNIX systems.
ZOSFVXD	**ZOSF** table for VAX DSM 3.3, 4, and 6.
ZOSV2VXD	Capacity Management: Performance Data.
ZOSVMSM	MSM-PC/PLUS: **$View** commands.
ZOSVVXD	**View** commands and special functions.
ZTBKCDTM	DTM: Block count.
ZTBKCMSM	MSM: Block count.
ZTBKCVXD	VAX DSM: Block count.
ZTMB	TaskMan: Manager: Boot/ Option: **ZTMRESTART**.
ZTMCHK	TaskMan: Option: **ZTMCHECK**: Part **1**.
ZTMCHK1	TaskMan: Option: **ZTMCHECK**: Part **2**.
ZTMDCL	TaskMan: Run TaskMan with a DCL context.
ZTMGRSET	Set up the Production account for the system.
ZTMKU	TaskMan: Option: **ZTMWAIT/RUN/STOP**.
ZTMON	TaskMan: Option: **ZTMON**: Part **1**: Main Loop.
ZTMON1	TaskMan: Option: **ZTMON**: Part **2**: Main Loop.
ZUA	Audit access.

3.2 Production Account Routines

Table 9 lists the Production account routines for Kernel and Toolkit:

NOTE: The Kernel and Kernel Toolkit routine namespaces include: "**XDR***," "**XG***," "**XI***," "**XLF***," "**XPAR***," "**XPD***," "**XQ***," "**XT***," "**XU***," "**ZIS***," "**ZOS***," "**ZTM***," and "**ZU***."

Table 9: Routines—Kernel and Toolkit Production Account Routines

Routine	Description
XDR2NULL	TBD
XDRCNT	Tally records by STATUS and MERGE STATUS fields.
XDRDADD	This routine makes the entries in the DUPLICATE RECORD (#15) file. Called by: **XDRDUP** Calls: **FILE^DICN**, **DIE**, **EN^XDRMAIN**
XDRDADDS	TBD
XDRDADJ	This routine is executed by a MUMPS cross-reference on the MERGE STATUS field of the DUPLICATE RECORD (#15) file only when the STATUS is set to **Merged**. This routine checks for entries in the file that are affected by the merging of this entry and adjusts their **.01** and **.02** fields accordingly. The problem being addressed is as follows: • **1** to **5** If **5** to **10** merged first, **1** to **10** • **5** to **10** then other entries would **5** to **10** • **5** to **20** be adjusted as follows: **10** to **20** Or, if both **1** to **5** and **1** to **10** existed at the time of the merge, the **1** to **5** entry would be deleted. The STATUS (#.03) field is re-indexed because it sets cross-references based on the values in the **.01** and **.02** fields. Triggers are *not* fired for the **.01**, **.02**, or **.03** fields. Entries previously resolved are ignored. Called by: Cross-reference on MERGE STATUS field of DUPLICATE RECORD (#15) file entry. Calls: **EN^XDRDUP**, **DIK**
XDRDCOMP	This routine compares **two** file records via the Duplicate Checker algorithm. Calls: **%ZIS**, **%ZISC**, **%ZTLOAD**, **DIC**, **DIR**, **EN^DITC**, **FILE^XDRDQUE**, **XDRDSCOR**, **XDRDUP**
XDRDDATA	TBD
XDRDEDT	TBD
XDRDEFLG	TBD
XDRDFPD	Find all potential duplicates for an entry in a file.

Routine	Description
XDRDLIST	This routine is responsible for the printing of various reports from the DUPLICATE RECORD (#15) file. It prints listings of potential duplicates, ready, and not ready to merge verified duplicates. Calls: **EN1^DIP**, **DIR**, **FILE^XDRDQUE**
XDRDMAIN	This is the main driver for the duplicate checking routines. Calls: **NOW^%DTC**, **DIE**, **DIK**, **XDRDPDTI**, **XDRDUP**, **XDREMSG**, **XDRMAINI**
XDRDOC	Additional routine documentation.
XDRDOC1	**XDRDOC** continued.
XDRDOC2	**XDRDOC** continued.
XDRDPDTI	This routine is called by **XDRDMAIN** when the Potential Duplicate threshold has been raised. This routine **$ORDER**s through the "**APOT**" cross-reference on the DUPLICATE RECORD (#15) file, and deletes all entries that have a DC Dupe Match Score that does *not* meet the Potential Duplicate Threshold value. It also updates the DC POTENTIAL DUPE THRESHOLD%. It should be noted that if a person changes the weights of the Duplicate Tests, they should delete all Potential Duplicates, Unverified and rerun the Duplicate Resolution search. Called by: **XDRDMAIN** Calls: **DIE**, **DIK**, **EN^XDRDUP**
XDRDPICK	TBD
XDRDPRE1	TBD
XDRDPREL	TBD
XDRDPRG2	TBD
XDRDPRGE	This routine enables the Duplicate Resolution Manager to purge the DUPLICATE RECORD (#15) file. They can purge Potential Duplicates, Verified Non-Duplicates, or both. Verified Duplicates *cannot* be purged until FileMan institutes some sort of archival or merged node. Calls: **%ZTLOAD**, **DIC**, **DIR**, **DIK**
XDRDQUE	This routine starts and stops the Duplicate Checking software when it is running in the background. If no search is running, it allows the user to queue a search to start up. If a search has been halted they may continue the search starting at the point they halted. Called by: **XDRDCOMP**, **XDRDLIST**, **XDRDSCOR**, **XDRMADD** (All these calls by above are if **XDRFL** is undefined) Calls: **%ZTLOAD**, **DIC**, **Y^DIQ**, **DIR**, **CHECK^XDRU1**, **XDRCNT**, **XDRDFPD**

Routine	Description
XDRDSCOR	This routine sets the scores for the Duplicate Checking algorithm. Called by: **XDRDCOMP**, **XDRDFPD**, **XDRDUP**, **XDRMADD**, **XDRMAINI** Calls: **FILE^XDRDQUE**, **XDREMSG**
XDRDSHOW	TBD
XDRDSTAT	This routine displays the status of a particular search for duplicates. Calls: **DIC**, **Y^DIQ**
XDRDUP	This routine does the actual checking of two records and makes the determination if they are potential duplicates. Called by: **XDRDADJ**, **XDRDCOMP**, **XDRDMAIN**, **XDRMADD** Calls: **EN^DIQ1**, **XDRDADD**, **XDRDSCOR**, **XDREMSG**
XDRDVAL	TBD
XDRDVAL1	TBD
XDRDVAL2	TBD
XDREMSG	This routine is responsible for either sending error messages to the user, or if the calling routine is running in the background, it sends a bulletin to the people in the duplicate manager mail group if one is defined. The meanings of **XDRERR** are as follows: • **1—**The candidate collection routine is undefined. • **2—**The candidate collection routine is not present. • **3—**The potential duplicate threshold is undefined. • **4—**There are no duplicate tests entered for this duplicate resolution entry. • **5—**The global root node in DIC is undefined. • **6—**No entry in DUPLICATE RESOLUTION (#15.1) file for this file. • **7—**The **From** and **To** records are undefined. • **8—**The test routine is not present. • **9—**The routine defined as the pre-merge routine is not present. • **10—**The routine defined as the post-merge routine is not present. • **11—**The routine defined as the verified msg routine is not present. • **12—**The routine defined as the merged msg routine is not present. • **13—**Non-interactive merge style not allowed with DINUM files for merge entries. Called by: **XDRDMAIN**, **XDRDSCOR**, **XDRDUP**, **XDRMAINI**, **XDRU1** Calls: **XMB**
XDRHLP	Contains code for executable help from the DUPLICATE RECORD (#15) and DUPLICATE RESOLUTION (#15.1) files.

Routine	Description
XDRLRFIX	TBD
XDRMADD	Adds entries to the DUPLICATE RECORD (#15) file with a status of Verified Duplicates. Calls: **DIC**, **FILE^DICN**, **DIE**, **FILE^XDRDQUE**, **XDRDSCOR**, **XDRDUP**, **EN^XDRMAIN**
XDRMAIN	Main Driver for the merge portion of the Duplicate Merge Utilities. Called by: **XDRDADD**, **XDRMADD** Calls: **DIC**, **DIE**, **DIR**, **XDRMAINI**, **XDRMPACK**, **XDRMRG**, **XDRMSG**, **XDRMVFY** • **EN—**Entry point for automatic merge. • **EN1—**Entry point for looping through verified ready to merge duplicates. • **EN2—**Entry point to select verified ready to merge duplicate pair. • **EN3—**Entry point to select unverified potential duplicate pair.
XDRMAINI	Initialization routine for **XDRMAIN** and **XDRDMAIN**. Called by: **XDRDMAIN**, **XDRMAIN** Calls: **DIC**, **XDRDSCOR**, **XDREMSG**
XDRMERG	TBD
XDRMERG0	TBD
XDRMERG1	TBD
XDRMERG2	TBD
XDRMERGA	TBD
XDRMERGB	TBD
XDRMERGC	TBD
XDRMPACK	This routine is responsible for checking PACKAGE (#9.4) file for unique package merges and for checking these package's files to see if they have data for the merged "from" record. Called by: **XDRMAIN** Calls: **DIE**
XDRMRG	This is the routine that does the actual merging of the duplicate records. Called by: **XDRMAIN** Calls: **DIE**, **DIK**, **EN^DIT0**, **DITM2**, **EN^DITMGMRG**, **LOCK^XDRU1**
XDRMRG1	This routine is the error trap for **XDRMRG**. Calls: **%ET**, **DIE**

Routine	Description
XDRMSG	This routine is responsible for the sending of the verified and merged messages. Called by: **XDRMAIN** Calls: **XMB**
XDRMVFY	This routine is responsible for verifying potential duplicates. Called by: **XDRMAIN** Calls: **DIE**, **DIR**, **EN^DITC**
XDRPREL1	TBD
XDRPREI	This is a pre-init routine for the **XDR** package that deletes the DUPLICATE RECORD (#15) and DUPLICATE RESOLUTION (#15.1) files' dictionaries.
XDRPTCAN	TBD
XDRPTCLN	TBD
XDRPTDOB	TBD
XDRPTDOD	TBD
XDRPTLSD	TBD
XDRPTMMN	TBD
XDRPTN	TBD
XDRPTSSN	TBD
XDRPTSX	TBD
XDRRMRG0	TBD
XDRRMRG1	TBD
XDRRMRG2	TBD
XDRU	This routine is a utility routine for the merge software; it does some testing for the merge software and provides the locking subroutines for the merge. Called by: **XDRDQUE**, **XDRMRG** Calls: **XDREMSG**
XDRUTL	TBD
XDRVCHEK	TBD
XGF	Graphics functions.
XGFDEMO	Demonstrate graphics functions.
XGFDEMO1	Demonstrate graphics functions (continued).
XGKB	Read with escape processing.

Routine	Description
XGKB1	Read with escape processing (continued).
XGS	Screen primitives.
XGSA	Screen attribute primitives.
XGSBOX	Screen rectangular region primitives.
XGSETUP	Set up KWAPI environment.
XGSW	Screen window primitives.
XINDEX	The **XIND*** series of routines is the VA Cross-referencer. These routines are saved in the Manager's account as **%IND*** routines.
XINDX1	**%INDEX** continued.
XINDX10	**%INDEX** continued.
XINDX11	**%INDEX** continued.
XINDX2	**%INDEX** continued.
XINDX3	**%INDEX** continued.
XINDX4	**%INDEX** continued.
XINDX5	**%INDEX** continued.
XINDX51	**%INDEX** continued.
XINDX52	**%INDEX** continued.
XINDX53	**%INDEX** continued.
XINDX6	**%INDEX** continued.
XINDX7	**%INDEX** continued.
XINDX8	**%INDEX** continued.
XINDX9	**%INDEX** continued.
XIPENV	TBD
XIPMAIL	TBD
XIPMAILA	TBD
XIPMAILB	TBD
XIPPOST	TBD
XIPSRVR	TBD
XIPSYNC	TBD
XIPUTIL	TBD
XIPUTIL1	TBD
XIPXREF	TBD

Routine	Description
XLFCRC	TBD
XLFDT	Date/Time functions.
XLFDT1	Date/Time functions (continued).
XLFDT2	Date/Time functions: Schedule.
XLFDT3	Date/Time functions: Schedule (continued).
XLFDT4	Date/Time functions: Exclude time.
XLFHYPER	Hyperbolic math functions.
XLFIPV	TBD
XLFLTR	Print big letters.
XLFLTR1	Set up letters.
XLFMSMT	Measurement functions.
XLFMSMT2	Measurement functions (continued).
XLFMTH	Math functions.
XLFMTH1	Math functions (continued).
XLFNAME	TBD
XLFNAME1	TBD
XLFNAME2	TBD
XLFNAME3	TBD
XLFNAME4	TBD
XLFNAME5	TBD
XLFNAME6	TBD
XLFNAME7	TBD
XLFNAME8	TBD
XLFNENV	TBD
XLFNP152	TBD
XLFNP176	TBD
XLFNSLK	TBD
XLFSHAN	Secure Hash Algorithm (SHA) APIs.
XLFSTR	String functions.
XLFUTL	Utility functions: Check digit.
XPAR	TBD

Routine	Description
XPAR1	TBD
XPAR2	TBD
XPAR3	TBD
XPARDD	TBD
XPARDD1	TBD
XPARDD2	TBD
XPARDDAC	TBD
XPAREDIT	TBD
XPAREDT1	TBD
XPAREDT2	TBD
XPAREDT3	TBD
XPARLIST	TBD
XPARTPV	TBD
XPARTPV1	TBD
XPARY26	TBD
XPARZUTL	TBD
XPDB1	TBD
XPDCOM	Compare transport global.
XPDCOMF	TBD
XPDCOMG	Compare globals.
XPDCOML	TBD
XPDCPU	Code that updates each CPU.
XPDDCS	Display checksum for a package.
XPDDI	KIDS: Display an installation.
XPDDP	KIDS: Display a package.
XPDDP1	KIDS: Display a package.
XPDDPCK	TBD
XPDE	KIDS: Package edit.
XPDER	TBD
XPDET	KIDS: Input transforms and help for the BUILD (#9.6) file and INSTALL (#9.7) file.
XPDGCDEL	KIDS: Delete specified objects, if *not* required.

Routine	Description
XPDH	KIDS: Help for answering installation questions.
XPDI	KIDS: Installation process.
XPDI1	KIDS: Installation process (continued).
XPDIA	KIDS: Install pre/post actions for Kernel Files.
XPDIA0	KIDS: Install pre/post actions for Kernel Files (continued).
XPDIA1	KIDS: Install pre/post actions for Kernel Files (continued).
XPDIA2	KIDS: Delete options and clean up pointers.
XPDIA3	KIDS: Delete options and clean up pointers.
XPDIB	TBD
XPDID	KIDS: Display installation progress.
XPDIGP	KIDS: Load global distribution.
XPDIJ	KIDS: Installation job.
XPDIJ1	KIDS: Installation job.
XPDIK	KIDS: Install Kernel files and VA FileMan files.
XPDIL	KIDS: Load distribution global.
XPDIL1	KIDS: Load distribution global (continued).
XPDIN001	KIDS: Init routine.
XPDIN002	KIDS: Init routine.
XPDIN003	KIDS: Init routine.
XPDIN004	KIDS: Init routine.
XPDIN005	KIDS: Init routine.
XPDIN006	KIDS: Init routine.
XPDIN007	KIDS: Init routine.
XPDIN008	KIDS: Init routine.
XPDIN009	KIDS: Init routine.
XPDIN00A	KIDS: Init routine.
XPDIN00B	KIDS: Init routine.
XPDIN00C	KIDS: Init routine.
XPDIN00D	KIDS: Init routine.
XPDIN00E	KIDS: Init routine.
XPDIN00F	KIDS: Init routine.

Routine	Description
XPDIN00G	KIDS: Init routine.
XPDIN00H	KIDS: Init routine.
XPDIN00I	KIDS: Init routine.
XPDIN00J	KIDS: Init routine.
XPDIN00K	KIDS: Init routine.
XPDIN00L	KIDS: Init routine.
XPDIN00M	KIDS: Init routine.
XPDIN00N	KIDS: Init routine.
XPDIN00O	KIDS: Init routine.
XPDIN00P	KIDS: Init routine.
XPDIN00Q	KIDS: Init routine.
XPDIN00R	KIDS: Init routine.
XPDIN00S	KIDS: Init routine.
XPDIN00T	KIDS: Init routine.
XPDINIT	KIDS: Init routine.
XPDINIT1	KIDS: Init routine.
XPDINIT2	KIDS: Init routine.
XPDINIT3	KIDS: Init routine.
XPDINIT4	KIDS: Init routine.
XPDINIT5	KIDS: Init routine.
XPDIP	KIDS: Install PACKAGE (#9.4) and ROUTINE (#9.8) file.
XPDIPM	KIDS: Load a Packman message.
XPDIQ	KIDS: Install questions.
XPDIR	KIDS: Install restart.
XPDIST	KIDS: Site tracking.
XPDIU	KIDS: Unload/Convert/Rollup distribution global.
XPDKEY	KIDS: Tools to work on keys.
XPDKRN	KIDS: Installation program.
XPDMENU	KIDS: Manage menu items.
XPDNTEG	KIDS: Package checksum checker.
XPDPINIT	KIDS: Load a Packman message using KIDS.

Routine	Description
XPDPROT	TBD
XPDR	KIDS: Routine file edit.
XPDRSUM	KIDS: Routine checksum utilities.
XPDT	KIDS: Transport a package.
XPDTA	KIDS: Build actions for Kernel files.
XPDTA1	KIDS: Build actions for Kernel files (continued).
XPDTA2	KIDS: Build actions for Kernel files (continued).
XPDTC	KIDS: Transport calls.
XPDTP	KIDS: Transport using a Packman message.
XPDUTL	KIDS: Returns parameters of check point.
XPDUTL1	KIDS: Returns parameters of check point.
XPDV	KIDS: Verify build.
XQ	MenuMan: Menu driver: Part **1**.
XQ1	MenuMan: Menu driver: Part **2**.
XQ11	MenuMan: Menu utilities.
XQ12	MenuMan: Utilities.
XQ2	MenuMan: Menu lister and utilities.
XQ21	MenuMan: Option: **XUUSERDISP**.
XQ3	MenuMan: Clean up dangling pointers in option or help frame files.
XQ31	MenuMan: Menu management reports.
XQ32	MenuMan: List users with specified menu.
XQ33	MenuMan: Remove unreferenced options.
XQ4	MenuMan: Menu diagram with entry/exit actions.
XQ41	MenuMan: Menu diagram with entry/exit actions (continued).
XQ5	MenuMan: Menu edit utilities **Edit Option** [XUEDITOPT].
XQ55	MenuMan: Search for user's access to an option.
XW55SPEC	TBD
XQ6	MenuMan: Bulk key distribution.
XQ61	MenuMan: Bulk editorship assignment.
XQ62	MenuMan: Generalized file lookup utility.
XQ6A	MenuMan: Bulk key distribution (continued).

Routine	Description
XQ6B	MenuMan: Bulk key distribution (continued).
XQ7	MenuMan: Microsurgery of **XUTL** menu trees.
XQ71	MenuMan: Lookup response to menu prompt.
XQ72	MenuMan: Jump (**"^**) utilities: Part **1**.
XQ72A	MenuMan: Jump (**"^**) utilities: Part **2**.
XQ73	MenuMan: Rubber Band Jump (**^^**) processor.
XQ74	MenuMan: Phantom Jump processor.
XQ75	MenuMan: Lookup response for jumps.
XQ8	MenuMan: Build menu trees.
XQ81	MenuMan: Build menu trees (continued).
XQ82	MenuMan: Clean old **$JOB** data out of **XUTL("XQ",** and others.
XQ83	MenuMan: Find **^XUTL** nodes needing surgery.
XQ83A	MenuMan: Microsurgery on menu trees to add a new item to a menu.
XQ83D	MenuMan: Microsurgery on menu trees for item deleted from menu.
XQ83R	MenuMan: Microsurgery on **^XUTL("XQO",** nodes for regular modifications to options.
XQ88	TBD
XQ8A	MenuMan: Rebuild menus in all production accounts.
XQ9	MenuMan: Restrict availability of options.
XQ91	MenuMan: Restrict availability of options (continued).
XQ92	MenuMan: Date/Time for prohibited Time/Day.
XQ93	MenuMan: Date/Time for prohibited Time/Day (continued).
XQA366PO	TBD
XQABELOG	Alpha/Beta: Log alpha/beta errors received.
XQABERR	Alpha/Beta: Track errors in alpha/beta routines back to OIFO.
XQABLIST	Alpha/Beta: List usage of options in alpha/beta test.
XQABLOAD	Alpha/Beta: Set up if alpha/beta test site.
XQABTMP	TBD
XQAL173P	TBD
XQAL285P	TBD
XQALBUTL	Alerts: Utilities for OE/RR notifications.
XQALDATA	Alerts: Provide data on alerts.

Routine	Description
XQALDEL	Alerts: Delete.
XQALDOIT	Alerts: Handler.
XQALERT	Alerts: Handler.
XQALERT1	Alerts: Handler.
XQALFWD	Alerts: Forward.
XQALGUI	TBD
XQALMAKE	Alerts: High level setup.
XQALSET	Alerts: Setup.
XQALSET1	Alerts: Setup.
XQALSUR1	TBD
XQALSUR2	TBD
XQALSURO	TBD
XQARPRT1	TBD
XQARPRT2	TBD
XQCHK	MenuMan: Check security on option # **XQCY**.
XQCHK1	TBD
XQCHK2	TBD
XQCHK3	TBD
XQCS	TBD
XQDATE	MenuMan: Return Human readable date.
XQH	MenuMan: Help Processor.
XQH0	MenuMan: Help Processor (continued).
XQH1	MenuMan: Help Processor (continued).
XQH2	MenuMan: Help Processor (continued).
XQH3	MenuMan: Help frame cross-reference by parent.
XQH4	MenuMan: Help frame lister.
XQH5	MenuMan: Help frame lister (continued).
XQHLP	MenuMan: Menu helper.
XQKEY	MenuMan: Key and lock utilities.
XQLOCK	MenuMan: Find all the keys in the tree.
XQLOCK1	MenuMan: Utilities for keys in the tree.

Routine	Description
XQOO	MenuMan: Out-of-Order, man.
XQOO1	MenuMan: Out-of-Order set calls.
XQOO2	MenuMan: Out-of-Order manager utilities.
XQOO3	MenuMan: Out-of-Order utilities.
XQOPED	TBD
XQOR	MenuMan: Prepare to unwind options.
XQOR1	MenuMan: Main unwinding loop.
XQOR2	MenuMan: Process extended actions: Protocols.
XQOR3	MenuMan: Process Menus: Protocol menus.
XQOR4	MenuMan: Process **^^** jump.
XQORD	MenuMan: Dialogue utility.
XQORD1	MenuMan: Process Menus: WP during dialogue.
XQORD101	TBD
XQORDD1	TBD
XQORM	MenuMan: Menu utility.
XQORM1	MenuMan: Display selections and prompt.
XQORM2	MenuMan: Lookup for menu utility.
XQORM3	MenuMan: Lookup for menu utility (continued).
XQORM4	MenuMan: Menu messages.
XQORM5	MenuMan: Menu help.
XQORMX	MenuMan: Compile formatted menus.
XQORO	MenuMan: Order Entry calls.
XQOROP	TBD
XQP46INI	TBD
XQP50	TBD
XQSET	MenuMan: Rebuild display/user **XUTL("XQO")**.
XQSMD	MenuMan: Secure Menu Delegation (SMD): Part **1**.
XQSMD1	MenuMan: Secure Menu Delegation: Part **2**.
XQSMD2	MenuMan: Secure Menu Delegation: Part **3**.
XQSMD21	MenuMan: Secure Menu Delegation: Part **4**.
XQSMD3	MenuMan: Secure Menu Delegation utilities.

Routine	Description
XQSMD31	MenuMan: Secure Menu Delegation utilities (continued).
XQSMD4	MenuMan: Edit a user's options.
XQSMD5	MenuMan: Secure menu delegate edit user options.
XQSMD6	TBD
XQSMDCPY	MenuMan: Copy one user (primary and secondary menus, keys, files) to another user.
XQSMDFM	MenuMan: Permit user to build limited VA FileMan options.
XQSMDP	MenuMan: Post Init for XQSMD Kernel 6.
XQSRV	MenuMan: Server message processor.
XQSRV1	MenuMan: Server option utilities.
XQSRV2	MenuMan: Server task handler.
XQSRV3	MenuMan: Server to MailMan utilities.
XQSRV4	MenuMan: Server utilities.
XQSRV5	MenuMan: Check out a server option server.
XQSTCK	MenuMan: Stack utilities.
XQSUITE	TBD
XQSUITE1	TBD
XQT	MenuMan: Menu template loader.
XQT1	MenuMan: Menu template processor.
XQT2	MenuMan: Define a path template.
XQT3	MenuMan: Create menu templates (continued).
XQT4	MenuMan: Menu template utilities.
XQT5	MenuMan: Menu template utilities (continued).
XQTOC	MenuMan: Time Out/Continue/Jump Start.
XQUIT	TBD
XQUSR	MenuMan: Option: **Display User Characteristics** [XUUSERDISP].
XQUTL	TBD
XT73P113	TBD
XT73P129	TBD
XT73P132	TBD
XT73P133	TBD
XT73P136	TBD

Routine	Description
XT73P33	TBD
XT73P34	TBD
XT73P44	TBD
XT73P94	TBD
XT73P98	TBD
XT95POST	TBD
XTDEBUG	TBD
XTDEBUG1	TBD
XTDEBUG2	TBD
XTDEBUG3	TBD
XTDEBUG4	TBD
XTDEBUG5	TBD
XTDEBUG6	TBD
XTDEBUG7	TBD
XTDEBUG8	TBD
XTECGLO	TBD
XTECLIPS	TBD
XTECROU	TBD
XTEDTVXD	TBD
XTER	Error Processing: Option: **Error Trap Display** [XUERTRAP].
XTER1	Error Processing: Kernel Error Trap Display.
XTER1A	Error Processing: VA error reporting.
XTER1A1	Error Processing: VA error reporting (continued).
XTER1B	Error Processing: Package-specific variable identification.
XTER2	Error Processing: Modification of **%XTER** for use with VAX DSM.
XTERPUR	Error Processing: Delete entries from Error Trap.
XTERSUM	TBD
XTERSUM1	TBD
XTERSUM3	TBD
XTERSUM4	TBD
XTFC1	TBD

Routine	Description
XTFCE	TBD
XTFCE1	TBD
XTHC	TBD
XTHC10	TBD
XTHC10A	TBD
XTHCDEM	TBD
XTHCURL	TBD
XTHCUTL	TBD
XTID	TBD
XTID1	TBD
XTIDCTX	TBD
XTIDSET	TBD
XTIDTBL	TBD
XTIDTERM	TBD
XTIDTRM	TBD
XTKERM1	TBD
XTKERM2	TBD
XTLATSET	TBD
XTMLOG	TBD
XTMLOG1	TBD
XTMLOPAR	TBD
XTMLOSKT	TBD
XTMRPAR1	TBD
XTMRPAR2	TBD
XTMRPRNT	TBD
XTMUNIT	TBD
XTPMKPCF	TBD
XTPMKPP	TBD
XTPMKPTC	TBD
XTPMNEX7	TBD
XTPMSTA2	TBD

Routine	Description
XTPMSTAT	TBD
XTPOST	TBD
XTRCMP	TBD
XTRMON	Watch for changes in routine checksums.
XTRUTL	TBD
XTRUTL1	TBD
XTRUTL2	TBD
XTSUMBLD	TBD
XTSUMCK	TBD
XTSUMCK1	TBD
XTVNUM	TBD
XTVRC1	TBD
XTVRC1A	TBD
XU8343P	TBD
XU8343Q	TBD
XU8343R	TBD
XU8343S	TBD
XU8375P	TBD
XU8P125	TBD
XU8P132	TBD
XU8P1321	TBD
XU8P1322	TBD
XU8P135	TBD
XU8P137	TBD
XU8P204	TBD
XU8P246	TBD
XU8P260	TBD
XU8P264	TBD
XU8P264A	TBD
XU8P292	TBD
XU8P295	TBD

Routine	Description
XU8P297	TBD
XU8P307	TBD
XU8P314	TBD
XU8P317	TBD
XU8P324	TBD
XU8P327	TBD
XU8P328	TBD
XU8P328A	TBD
XU8P328B	TBD
XU8P328C	TBD
XU8P328D	TBD
XU8P330X	TBD
XU8P332	TBD
XU8P334	TBD
XU8P344	TBD
XU8P352	TBD
XU8P354	TBD
XU8P356	TBD
XU8P360	TBD
XU8P365	TBD
XU8P369	TBD
XU8P370	TBD
XU8P373	TBD
XU8P377	This routine was exported with Kernel Patch XU*8.0*377. This routine inactivates old Person Class entries.
XU8P377D	This routine was exported with Kernel Patch XU*8.0*377. This routine lists all users that will have their Person Class inactivated by Kernel Patch XU*8.0*377. In the report, the column **DISUSER** will indicate either of the following: • **NO—**An active user account. • **YES—**A *non*-active user account. Sites *must* manually update the new Person Class entries for these users.
XU8P378	TBD

Routine	Description
XU8P378A	TBD
XU8P378B	TBD
XU8P378C	TBD
XU8P378E	TBD
XU8P381	TBD
XU8P386	TBD
XU8P387	TBD
XU8P387X	TBD
XU8P410	TBD
XU8P413	TBD
XU8P420	TBD
XU8P426	TBD
XU8P428	TBD
XU8P432	TBD
XU8P436	TBD
XU8P43P	TBD
XU8P440	TBD
XU8P444	TBD
XU8P446	TBD
XU8P452	TBD
XU8P453	TBD
XU8P455	TBD
XU8P459	TBD
XU8P463	TBD
XU8P466	TBD
XU8P467	TBD
XU8P467A	TBD
XU8P469	TBD
XU8P480	TBD
XU8P481	TBD
XU8P483	TBD

Routine	Description
XU8P487	TBD
XU8P497	TBD
XU8P497A	TBD
XU8P499	TBD
XU8P504	TBD
XU8P509	TBD
XU8P509A	TBD
XU8P509B	TBD
XU8P509C	TBD
XU8P509D	TBD
XU8P511	TBD
XU8P514	TBD
XU8P518	TBD
XU8P524	TBD
XU8P531	TBD
XU8P531A	TBD
XU8P531B	TBD
XU8P536	TBD
XU8P540	TBD
XU8P541	TBD
XU8P541A	TBD
XU8P543	TBD
XU8P545	TBD
XU8P545A	TBD
XU8P546	TBD
XU8P560	TBD
XU8P571	TBD
XU8P572	TBD
XU8P580	TBD
XU8P581	TBD
XU8P582	TBD

Routine	Description
XU8P584	TBD
XU8P585	TBD
XU8P586	TBD
XU8P591	TBD
XU8P598	TBD
XU8P599	TBD
XU8P601	TBD
XU8P601A	TBD
XU8P601B	TBD
XU8P604	TBD
XU8P616	TBD
XU8P638	TBD
XU8P672E	Environment check routine for Kernel Patch XU*8.0*672.
XU8PATCH661POST	TBD
XU8PS629	TBD
XUA4A7	Give entries into **F6** a Provider key.
XUA4A71	Better Soundex. Extrinsic function call with string, returns converted string.
XUA4A72	Better Soundex. Extrinsic function call with string, returns converted string. This routine was exported with Kernel Patch XU*8.0*27. This routine provides the Person Class APIs. **REF:** For more information on the Person Class APIs, see the *Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*.
XUA4A73	Better Soundex. Extrinsic function call with string, returns converted string.
XUAF4	TBD
XUAPURGE	Purge **%ZUA** global files.
XUBA	TBD
XUCERT	Kernel PKI Certificate Utilities.
XUCERT1	Kernel PKI Certificate Utilities (continued).
XUCIDTM	Swap UCIs: DSM-11.
XUCIGTM	TBD

Routine	Description
XUCIMSM	Swap UCIs: MSM-UNIX.
XUCIMSQ	Swap UCIs: M/SQL.
XUCIONT	TBD
XUCIVXD	Swap UCIs: VAX/DSM.
XUCMNIT	TBD
XUCMNIT1	TBD
XUCMNIT2	TBD
XUCMNIT4	TBD
XUCMNT3A	TBD
XUCMPA	TBD
XUCMPR17	TBD
XUCMVPI	TBD
XUCMVPM	TBD
XUCMVPM1	TBD
XUCMXDR	TBD
XUCMXUTL	TBD
XUCS1E	TBD
XUCS1R	TBD
XUCS1RB	TBD
XUCS2E	TBD
XUCS2R	TBD
XUCS2RB	TBD
XUCS4E	TBD
XUCS4R	TBD
XUCS4RB	TBD
XUCS6R	TBD
XUCS8E	TBD
XUCS8R	TBD
XUCS8RB	TBD
XUCS8RG	TBD
XUCSCDE	TBD

Routine	Description
XUCSCDG	TBD
XUCSCDR	TBD
XUCSCDRB	TBD
XUCSPRG	TBD
XUCSRV	TBD
XUCSTM	TBD
XUCSTME	TBD
XUCSUTL3	TBD
XUCSXCD	TBD
XUCSXDR	TBD
XUCSXGR	TBD
XUCSXRT	TBD
XUCSXST	TBD
XUDHGUI	TBD
XUDHRES	TBD
XUDHSET	TBD
XUDHUTL	TBD
XUEPCSED	EPCS Utilities and Reports. RPC to handle ePCS data changes (Released with XU*8.0*580).
XUEPCSRT	EPCS Utilities and Reports (Released with XU*8.0*580).
XUESSO1	Single Sign-On Utilities.
XUESSO2	Enhanced Single Sign-On Utilities.
XUESSO3	Enhanced Single Sign-On Utilities.
XUESSO4	Enhanced Single Sign-On Utilities.
XUFILE	Assign and delete file access.
XUFILE0	Assign and delete file access (continued).
XUFILE1	Assign and delete file access (continued).
XUFILE3	File access control for Kernel 8.
XUGET	Package integrity checker.
XUGOT	TBD
XUGOT1	TBD

Routine	Description
XUHUI	TBD
XUHUI236	TBD
XUHUIHL7	TBD
XUHUIMSG	TBD
XUINCON	Builds accessible file multiple.
XUINEACH	Code that needs to be run on each CPU.
XUINEND	Post Install for Kernel 8.0.
XUINENV	TBD
XUINOK	Check to see if OK to load.
XUINP275	TBD
XUINP313	TBD
XUINP337	TBD
XUINP348	TBD
XUINPCH	TBD
XUINPCH2	TBD
XUINPCH3	TBD
XUINPCH4	TBD
XUINPRE	Kernel 8 pre-initialization.
XUINPRE1	Kernel 8 pre-initialization.
XUINTSK	TaskMan: Version 7.1 post-Init.
XUINTSK1	TaskMan: Version 7.1 post-Init.
XUINTSK2	Reschedule tasks in **IO**, **JOB**, **LINK** queues.
XUMF	TBD
XUMF0	TBD
XUMF04	TBD
XUMF04H	TBD
XUMF04P	TBD
XUMF04Q	TBD
XUMF1H	TBD
XUMF218	TBD
XUMF218A	TBD

Routine	Description
XUMF218Z	TBD
XUMF261P	TBD
XUMF299	TBD
XUMF333	TBD
XUMF382	TBD
XUMF390	TBD
XUMF397	TBD
XUMF4	TBD
XUMF416	TBD
XUMF479P	TBD
XUMF4A	TBD
XUMF4H	TBD
XUMF4L0	TBD
XUMF4L1	TBD
XUMF4L2	TBD
XUMF502	TBD
XUMF502P	TBD
XUMF512F	TBD
XUMF555P	TBD
XUMF5AT	TBD
XUMF5AU	TBD
XUMF5BYT	TBD
XUMF5I	TBD
XUMF5II	TBD
XUMF654	TBD
XUMF654P	TBD
XUMFEIMF	TBD
XUMFENV	TBD
XUMFH	TBD
XUMFH4	TBD
XUMFHM	TBD

Routine	Description
XUMFHPQ	TBD
XUMFHPR	TBD
XUMFI	TBD
XUMFI0	TBD
XUMFMD5	TBD
XUMFMFE	TBD
XUMFMFI	TBD
XUMFP	TBD
XUMFP4	TBD
XUMFP4C	TBD
XUMFP4Z	TBD
XUMFP512	TBD
XUMFP513	TBD
XUMFPFT	TBD
XUMFPMFS	TBD
XUMFPOST	TBD
XUMFPZL7	TBD
XUMFQR	TBD
XUMFR	TBD
XUMFX	TBD
XUMFXACK	TBD
XUMFXH	TBD
XUMFXHL7	TBD
XUMFXI	TBD
XUMFXP	TBD
XUMFXP1	TBD
XUMFXP2	TBD
XUMFXR	TBD
XUMPI	TBD
XUMVIENU	Entry point and processing routine for the **XUS MVI ENRICH NEW PERSON** RPC for adding and updating a record in the NEW PERSON (#200) file.

Routine	Description
XUMVINPA	Processing routine for adding a new record in the NEW PERSON (#200) file, which is associated with the **XUS MVI ENRICH NEW PERSON** RPC.
XUOAAHL7	TBD
XUOAAUTL	TBD
XUP	Set up environment for developers.
XUP468	TBD
XUP522	TBD
XUP569	TBD
XUPARAM	Look up parameter substitute, KSP values.
XUPCF	TBD
XUPCH117	TBD
XUPCSRVR	TBD
XUPOS259	TBD
XUPRE247	TBD
XUPROD	TBD
XUPS	TBD
XUPS309P	TBD
XUPSB01	TBD
XUPSCLR	TBD
XUPSGS	TBD
XUPSHL7B	TBD
XUPSNAME	TBD
XUPSNM1	TBD
XUPSORG	TBD
XUPSPAID	TBD
XUPSPD1	TBD
XUPSPRA	TBD
XUPSQRY	TBD
XUPSSTF	TBD
XUPSUTL1	TBD
XUPSUTQ	TBD

Routine	Description
XURTL	TBD
XURTL1	TBD
XURTL2	TBD
XURTL3	TBD
XURTLC	TBD
XURTLK	TBD
XUS	Signon.
XUS1	Signon.
XUS11	Read and store **DA** from terminals.
XUS1A	Signon: Overflow from **XUS1**.
XUS1B	TBD
XUS2	Check or return user attributes.
XUS3	Signon.
XUS3A	Change UCIs.
XUS4	Access code generator.
XUS5	Resume logic for continue.
XUS6	Clear users at startup.
XUS9	Find a user.
XUS91	Report of users signed on.
XUSAML	Kernel SAML Token Implementation.
XUSAP	TBD
XUSAP1	TBD
XUSBSE1	TBD
XUSBSE2	TBD
XUSC1	TBD
XUSC1C	TBD
XUSC1S	TBD
XUSC1S1	TBD
XUSCLEAN	Cleanup before exit.
XUSCNT	TBD
XUSECAD	TBD

Routine	Description
XUSECBUL	TBD
XUSER	A common set of user functions.
XUSER1	TBD
XUSER2	TBD
XUSERBLK	Bulk user (NEW PERSON) computer access.
XUSERNEW	Add a new user.
XUSERP	TBD
XUSESIG	Enter or change electronic signature code.
XUSESIG1	TBD
XUSESIG2	Determines whether the XU SIG BLOCK DISABLE parameter is set to a value of **ON** (**1**), and whether the user is assigned the XUSIG security key. If the parameter is set to **ON**, users without the security key *cannot* edit the following Electronic Signature fields in the NEW PERSON (#200) file: • DEGREE (#10.6) • SIGNATURE BLOCK PRINTED NAME (#20.2) • SIGNATURE BLOCK TITLE (#20.3)
XUSESIG3	Edits entries for the DEGREE (#10.6) field in the NEW PERSON (#200) file.
XUSFACHK	TBD
XUSG	Signon from GUI screen.
XUSG1	Signon from GUI screen (continued).
XUSHSH	Password encryption.
XUSHSHP	Hashing routine for sig block in NEW PERSON (#200) file.
XUSKAAJ	TBD
XUSKAAJ1	TBD
XUSMGR	Security utilities.
XUSNPI	TBD
XUSNPI1	TBD
XUSNPIDA	TBD
XUSNPIE1	TBD
XUSNPIE2	TBD
XUSNPIE3	TBD
XUSNPIED	TBD

Routine	Description
XUSNPIUT	TBD
XUSNPIX1	TBD
XUSNPIX2	TBD
XUSNPIX3	TBD
XUSNPIX4	TBD
XUSNPIX5	TBD
XUSNPIXI	TBD
XUSNPIXU	TBD
XUSP557	TBD
XUSPURGE	Purge routine for **XUSEC**.
XUSRA	Remote access control.
XUSRB	TBD
XUSRB1	TBD
XUSRB2	TBD
XUSRB4	TBD
XUSRB5	TBD
XUSSPKI	TBD
XUST	TBD
XUST01	TBD
XUST02	TBD
XUST04	TBD
XUST05	TBD
XUST06	TBD
XUST08	TBD
XUST09	TBD
XUST12	TBD
XUST13	TBD
XUST15	TBD
XUST17	TBD
XUST18	TBD
XUST19	TBD

Routine	Description
XUST20	TBD
XUST21	TBD
XUST22	TBD
XUST24	TBD
XUST25	TBD
XUST26	TBD
XUST27	TBD
XUST28	TBD
XUST29	TBD
XUST35	TBD
XUSTAT	User/CPU stats from signon log: Part **1**.
XUSTAT1	User/CPU stats from signon log: Part **2**.
XUSTAT2	User/CPU stats from signon log: Part **3**.
XUSTAX	TBD
XUSTERM	Deactivate user.
XUSTERM1	Deactivate user (continued).
XUSTERM2	User terminate, package file run
XUSTZ	Security Twilight Zone.
XUSTZIP	TBD
XUTMD	TaskMan: Option: **XUTMDEL**: Part **1**: Single.
XUTMD1	TaskMan: Option: **XUTMDEL**: Part **2**: Bulk Delete.
XUTMDEVQ	Device call and queue in one place.
XUTMDQ	TaskMan: Option: **XUTMDQ**: Part **1**: Single.
XUTMDQ1	TaskMan: Option: **XUTMDQ**: Part **2**: Bulk **DQ**.
XUTMG145	TaskMan: Globals: Code for VOLUME SET (#14.5) file.
XUTMG146	TaskMan: Globals: Cross-references for UCI ASSOCIATION (#14.6) file.
XUTMG14P	TaskMan: Globals: Cross-references for VOLUME SET (#14.5) and MUMPS OPERATING SYSTEM (#.7) files.
XUTMG19	TaskMan: Code for OPTION SCHEDULING (#19.2) file.
XUTMG43	TaskMan: Globals: Cross-references for KERNEL SYSTEM PARAMETERS (#8989.3) file.

Routine	Description
XUTMHR	TBD
XUTMK	TaskMan: Option: **ZTMCLEAN/ZTMQCLEAN**.
XUTMKA	TBD
XUTMKE	TaskMan: Option: **XUTME LOG***.
XUTMKE1	TaskMan: Option: **XUTME SCREEN***: Part **1**.
XUTMKE2	TaskMan: Option: **ZTME SCREEN***: Part **2**.
XUTMONH	TaskMan: Option: **XUTMON**: Part **3**: Help Driver.
XUTMONH1	TaskMan: Option: **XUTMON**: Part **4**: Help Modules.
XUTMONH2	TaskMan: Option: **XUTMON**: Part **5**: Help Modules.
XUTMOPT	One-time queue and Schedule option code.
XUTMPCH	TBD
XUTMQ	TaskMan: Option: **XUTMINQ**: Show task lists.
XUTMQ0	TaskMan: Option: **ZTMINQ**: Part **2**: Modules.
XUTMQ1	TaskMan: Option: **ZTMINQ**: Part **3**: Modules.
XUTMQ2	TaskMan: Option: **XUTMINQ**: Part **4**: Modules.
XUTMQ3	TaskMan: Option: **ZTMINQ**: Part **5**: Modules.
XUTMQH	TBD
XUTMR	TBD
XUTMR1	TBD
XUTMRJD	TBD
XUTMRJD1	TBD
XUTMRP	TBD
XUTMRP1	TBD
XUTMSYNC	TBD
XUTMT	TBD
XUTMTA	TBD
XUTMTAL	TBD
XUTMTD	TBD
XUTMTDL	TBD
XUTMTED	TBD
XUTMTEIO	TBD

Routine	Description
XUTMTEP	TBD
XUTMTES	TBD
XUTMTL	TBD
XUTMTLD	TBD
XUTMTLU	TBD
XUTMTP	TBD
XUTMTP0	TBD
XUTMTP1	TBD
XUTMTPD	TBD
XUTMTPU	TBD
XUTMTR1	TBD
XUTMTR2	TBD
XUTMTR3	TBD
XUTMTR4	TBD
XUTMTS	TBD
XUTMTU	TBD
XUTMTUL	TBD
XUTMTZ	TBD
XUTMTZ1	TBD
XUTMTZ2	TBD
XUTMTZ3	TBD
XUTMUSE	TaskMan: Option: **XUTMUSER**: Part **1**: Driver.
XUTMUSE1	TaskMan: Option: **XUTMUSER**: Part **2**: Print.
XUTMUSE2	TaskMan: Option: **XUTMUSER**: Part **3**: Edit.
XUTMUSE3	TaskMan: Option: **XUTMUSER**: Part **3**: Help.
XUTMUTL	TaskMan: Utility.
XUVERIFY	Checks a user's Access and Verify codes.
XUWORKDY	Workdays: Monday – Friday.
XUXCTY	TBD
XUXPRT	TBD
XUYDEV	TBD

Routine	Description
ZISEDIT	Device edit.
ZISPL	Utilities for spooling.
ZISPL1	Utilities for spooling (continued).
ZISPL2	Spooler cleanup.
ZISX	Executes nodes in **^%ZIS** global.
ZTMB	TaskMan: Manager: Boot/ Option: **ZTMRESTART**.
ZTMCHK	TaskMan: Option: **ZTMCHECK**: Part **1**.
ZTMCHK1	TaskMan: Option: **ZTMCHECK**: Part **2**.
ZTMKU	TaskMan: Option: **ZTMWAIT/RUN/STOP**.
ZTMON	TaskMan: Option: **ZTMON**: Part **1** (Main Loop).
ZTMON1	TaskMan: Option: **ZTMON**: Part **2** (Main Loop).
ZUA	Audit access.
ZUMSM	MSM-NT and MSM-UNIX: Tie all user terminals to this routine.
ZUVXD	DSM: Tie all terminals to this routine.

Table 10: Routines—Kernel and Toolkit Production Account Routines Released with Broker Security Enhancement (BSE)

Routine	Description
XUSBSE1	This Kernel routine contains various functions and procedures used by Broker Security Enhancement (BSE). It was released with the BSE (i.e., Kernel Patch XU*1.1*404).
XUSBSE2	This Kernel routine contains various functions and procedures used by BSE. It was released with BSE (i.e., Kernel Patch XU*1.1*404).
XUSBSEUT	This Kernel routine is the BSE unit test routine. It was released with BSE (i.e., Kernel Patch XU*1.1*404).
XUSRB	This Kernel routine contains various functions and procedures used by BSE. It was modified and released with BSE (i.e., Kernel Patch XU*1.1*404).

3.3 Additional Routines Installed by Virgin Install

Table 11 lists the additional **XV** routines that are brought in by a virgin installation for the production account:

Table 11: Routines—Virgin Installs

Routine	Description
XVIRENV	Environment check for virgin Installations.
XVIRPOST	Post Init for virgin installations.

3.4 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 used.

REF: For a list of *recommended* routine mapping, see the "Installing Kernel 8.0 in a 7.1 Environment" section in the *Kernel Installation Guide*. Under the "Installation Instructions" section, see the "Implement Routine Mapping (DSM for OpenVMS only)" section. Recommended routines to map are listed there.

4 Files

This chapter contains information on all files and globals distributed with Kernel and Kernel Toolkit. The file information includes: file numbers, file names, global location, and brief file descriptions.

REF: Table 14 lists other files that are brought in during a virgin installation.

File number ranges for Kernel and Kernel Toolkit are as follows:

- 3.05 – 3.084
- 3.1 - 3.54
- 4.00 - 4.11
- 5.00 - 5.00
- 7 - 7.1
- 9.2 - 9.8
- 10
- 11
- 13
- 14.4 - 14.8
- 15 – 15.4
- 19.00 – 19.2
- 40.5
- 49
- 101.00
- 200 – 201
- 8932.10 - 8935.91
- 8980 - 8980.22
- 8984.1 – 8984.4
- 8989.2 – 8989.3
- 8991 – 8992.1

REF: For a detailed list of the files exported with Kernel and Kernel Toolkit, see Table 15.

4.1 Globals

4.1.1 Globals—VA-FileMan-compatible Storage

These Kernel/Kernel Toolkit globals are compatible with VA FileMan files. The Kernel/Kernel Toolkit files are listed in order of the global in which they are stored:

NOTE: In Table 12, those globals specific to Kernel Toolkit are notated under the "Global Name" column and those files specific to Kernel Toolkit within other globals are noted under the "File Number" column.

Table 12: Globals—VA FileMan-Compatible Storage

Global Name	File Number	File Name
^DIC	3.1	TITLE
	4	INSTITUTION
	4.1	FACILITY TYPE
	4.11	AGENCY
	9.2	HELP FRAME
	9.4	PACKAGE
	9.8	ROUTINE
	19	OPTION
	19.1	SECURITY KEY
	19.2	OPTION SCHEDULING
	49	SERVICE/SECTION
^DIZ (Toolkit)	8980	KERMIT HOLDING
^HOLIDAY	40.5	HOLIDAY
^XPD	9.6	BUILD
	9.7	INSTALL
^XT (Toolkit)	8984.1	LOCAL KEYWORD
	8984.2	LOCAL SHORTCUT
	8984.3	LOCAL SYNONYM
	8984.4	LOCAL LOOKUP
^XTV	8989.2	KERNEL PARAMETERS
	8989.3	KERNEL SYSTEM PARAMETERS
	8991	XTV ROUTINE CHANGES

Global Name	File Number	File Name
	(Toolkit)	
	8991.19 (Toolkit)	XTV VERIFICATION PACKAGE
	8991.2 (Toolkit)	XTV GLOBAL CHANGES
	8991.5	XQAB ERRORS LOGGED
	8992	ALERT
	8992.1	ALERT TRACKING
	8992.2	ALERT RECIPIENT TYPE
	8992.3	ALERT CRITICAL TEXT
	8995.9	BINARY OBJECT
^XUSEC	3.081	SIGN-ON LOG
	19.081	AUDIT LOG FOR OPTIONS
^VA	15 (Toolkit)	DUPLICATE RECORD
	15.1 (Toolkit)	DUPLICATE RESOLUTION
	200	NEW PERSON
^%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
	14.71	TASKMAN MONITOR
	14.72	TASKMAN SNAPSHOT
^%ZISL	3.54	RESOURCE
	14.8	TASK SYNC FLAG
^%ZTER	3.075	ERROR LOG
	3.076	ERROR MESSAGES
^%ZTSK	14.4	TASKS

Global Name	File Number	File Name
^%ZUA	3.05	FAILED ACCESS ATTEMPTS LOG
	3.07	PROGRAMMER MODE LOG

REF: There are other VA FileMan files stored in the **^DIC** global. You should review the *VA FileMan Technical Manual* for information on those files.

4.1.2 Globals—Non-VA-FileMan-Compatible Storage

There are several additional Kernel/Kernel Toolkit globals that are *not* compatible with VA FileMan files. These include the following:

Table 13: Globals—*Not* VA FileMan-Compatible Storage

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

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

4.1.3 Globals—Storage Used for Additional Files during Virgin Install

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

Table 14: Globals—Storage Used for Additional Files during Virgin Installation

Global Name	File Number	File Name
^DIC	4.2	(Exported with MailMan) DOMAIN
	5	STATE
	7	PROVIDER CLASS
	7.1	SPECIALITY
	10	RACE
	11	MARITAL STATUS
	13	RELIGION
^XMB	3.8	(Exported with MailMan) MAIL GROUP

4.2 Files

4.2.1 Kernel and Kernel Toolkit Export Files

Table 15 lists the files exported with Kernel and Kernel Toolkit:

NOTE: In Table 15, those files exported with Kernel Toolkit are noted under the "File #" column. Those files that are *not* notated are exported with Kernel.

Table 15: Files—Distributed with Kernel and Kernel Toolkit

File #	File Name	Global Location	Description	Data w/ File	Data Setting
3.05	FAILED ACCESS ATTEMPTS LOG	^%ZUA(3.05,	Once the maximum signon attempts limit has been exceeded, an entry is made in this file to record all available information about the failed signon 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.	NO	N/A
3.07	PROGRAMMER MODE LOG	^%ZUA(3.07,	Entrance into programmer mode via the menu system is automatically logged in this file. It points to the NEW PERSON (#200) file to identify the user. It is *not* cross-referenced.	NO	N/A
3.075	ERROR LOG	^%ZTER(1,	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.	NO	N/A
3.076	ERROR	^%ZTER(2,	This file contains a number	YES	Merge

File #	File Name	Global Location	Description	Data w/ File	Data Setting
	MESSAGES		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.		
3.077	ERROR TRAP SUMMARY	^%ZTER(3.077,	This file captures the VistA errors at each site. These findings can be used locally and pushed to a central repository to help prioritize the efforts to seal up the hot spots in the applications.	NO	N/A
3.081	SIGN-ON LOG	^XUSEC(0,	This file records signon/signoff times by user, device, job, UCI, and CPU. It is cross-referenced by user, device, and signoff time.	NO	N/A
3.083	LOCKED IP or DEVICE	^XUSEC(3,	This file holds the IP address or domain name of a system that has failed to successfully signon within the limits imposed. Once the lock out time has passed, the record is removed, so it would be normal for this file to have no records most of the time.	NO	N/A
3.084	FAILED SIGNON ATTEMPTS	^XUSEC(4,	This file holds the count of signon attempts from an IP address or domain. This is to prevent a user from disconnecting after each try. Once a signon is successful, the record is removed, so it would be normal for this file to have no records most of the time.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
3.1	TITLE	^DIC(3.1,	This file can be used to indicate a user's title. It is pointed to by the NEW PERSON (#200) file. It is only cross-referenced by name.	NO	N/A
3.2	TERMINAL TYPE	^%ZIS(2,	This file is pointed to by the Subtype field of the DEVICE (#3.5) file. This file can hold vendor-specific code to characterize a terminal type. For example, escape sequences can be entered in the Open and Close Execute fields to set pitch or font. This file is also pointed to by the NEW PERSON (#200) file to record signon subtype characteristics by user. Data is distributed with this file to support screen-handling capabilities. This data overwrites existing data for those terminal types of the same name. However, terminal types for printers are *not* 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.	YES	Overwrite

File #	File Name	Global Location	Description	Data w/ File	Data Setting
3.22	DA RETURN CODES	^%ZIS(22,	This file holds the translation between the ANSI DA return code and the name in the TERMINAL TYPE (#3.2) file that should be associated with the return code.	YES	Merge
3.23	LINE/PORT ADDRESS	^%ZIS(3.23,	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 **$ZIO** on VAX DSM. To establish an association with a Device and Terminal Type, the DEVICE and SUBTYPE fields of this file *must* store the appropriate values that correspond to entries in the DEVICE (#3.5) and TERMINAL TYPE (#3.2) files. This file is cross-referenced by name and device.	NO	N/A
3.5	DEVICE	^%ZIS(1,	This file defines all input/output devices that can be accessed from this CPU (definitions are *not* account-specific). Each device is identified with a unique name. Each is associated with a **$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 signon system status. This file is cross-referenced by name,	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			$I, volume set (CPU), and signon/system device. It is also cross-referenced by local synonym, mnemonic, subtype, and form currently mounted.		
3.51	SPOOL DOCUMENT	^XMB(3.51,	This file stores the name of spool documents created by the Kernel spooler (i.e., **%ZIS4**) for all operating systems. It does *not* hold the text of the documents themselves. That 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, USER, OTHER AUTHORIZED USERS, SPOOL DATA, and SPOOL NUMBER.	NO	N/A
3.519	SPOOL DATA	^XMBS(3.519,	This is the holding file for spool documents until moved to a mail message or deleted.	NO	N/A
3.54	RESOURCE	^%ZISL(3.54	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 are 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.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
3.6	BULLETIN	^XMB(3.6,	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. There is also a standard set of recipients in the form of a Mail Group that is associated with the bulletin. Bulletins are processed by MailMan either because of a special cross reference type of VA FileMan, or because of a direct call in a routine. The interface for the direct call is described in the documentation on programmer entry points. VA FileMan sets up code that issues a bulletin automatically when the special cross-reference type is created. In either case, the parameters that go into the text and/or the subject make each bulletin unique.	NO	N/A
4	INSTITUTION	^DIC(4,	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).	NO	N/A
4.001	MASTER FILE PARAMETERS	^DIC(4.001,	The file holds parameters related to the Master File Server (MFS). The parameters map HL7 segment data to standard FileMan data files. Local	YES	Overwrite

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			modifications to this file will seriously disrupt standard file updating and have negative consequences to existing VistA applications. **CAUTION: Do *not* edit this file!**		
4.005	MD5 Signature	^DIC(4.005,	This file stores parameters related to the **MD5** signature of the Master File Server (MFS). For each domain (Allergy, Vitals), the parameters define the file's fields to be included in **MD5** hash procedure. Local modifications to this file will seriously disrupt standard file updating and have negative consequences to existing VistA applications. **CAUTION: Do *not* edit this file!**	YES	
4.009	STANDARD TERMINOLOGY VERSION F	^DIC(4.009,	This file stores the last Version of Standard Terminology update. The file entry is set within MFS. Local modifications to this file will seriously disrupt standard file updating and have negative consequences to existing VistA applications. **CAUTION: Do *not* edit this file!**	YES	
4.05	INSTITUTION ASSOCIATION TYPES	^DIC(4.05,	This file is used to link entries in the INSTITUTION (#4) file into associations that are meaningful.	YES	Merge

File #	File Name	Global Location	Description	Data w/ File	Data Setting
4.1	FACILITY TYPE	^DIC(4.1,	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.	YES	Merge
4.11	AGENCY	^DIC(4.11,	This file replaces the Set of Codes field AGENCY that had been used in the INSTITUTION (#4) file.	YES	Overwrite
5	STATE	^DIC(5,	This file contains the name of the state (or outlying area) as issued by the Department of Veterans Affairs (VA) and issued in M-1, Part I, Appendix B. **CAUTION: These entries should remain as distributed and should not be edited or updated unless done via a software upgrade or under direction of VA Central Office.**	YES	
5.12	POSTAL CODE	^XIP(5.12	This file stores all known Postal Codes as well as other associated information related to the Postal Code. Although the original data in this file only contains US Postal Codes, the file has been designed to allow non-US Postal Codes to be added in the future if desired.	YES	Replace

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			CAUTION: Do *not* point directly to this file until you get an Integration Control Registration (ICR).		
5.13	COUNTY CODE	^XIP(5.13,	This file contains all known US County Federal Information Processing Standards (FIPS) codes according to the United States Geological Survey (USGS), Department of Housing and Urban Development (HUD), and the United States Postal Service (USPS). **CAUTION: Do *not* point directly to this file until you get an ICR. The *only* file that is allowed to point directly to this file is the POSTAL CODE (#5.12) file.**	YES	Replace
7	PROVIDER CLASS	^DIC(7,	This file stores the provider classes. It is pointed to by the PROVIDER CLASS (#53.5) field of the NEW PERSON (#200) file.		
7.1	SPECIALITY	^DIC(7.1,	This file stores the specialties. It is pointed to by the SPECIALTY (#442121.04) sub-field of the of the CONSULTANT'S LICENSES (#442121) file.		
9.2	HELP FRAME	^DIC(9.2,	This file contains the text of help frames created via the Help Processor (XQH). Help frames can be	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			associated with options or with data dictionary fields to provide online instruction. The file is cross-referenced by name, header, date entered, author, and editor.		
9.4	PACKAGE	^DIC(9.4,	The top level of a PACKAGE (#9.4) file entry for software now stores static software information. The PACKAGE (#9.4) file stores mainly static software information that is *not* version-specific, as well as the patch history of the software. KIDS updates the VERSION (Multiple) field. Patch installations update the PATCH APPLICATION HISTORY (Multiple) field, which is within the VERSION (Multiple) field. Most other fields have been designated for removal at the top level of the PACKAGE (#9.4) file.	NO	N/A
9.6	BUILD	^XPD(9.6,	This file identifies the elements of a software application that will be transported by the Kernel Installation & Distribution System (KIDS). All components of the software (i.e., templates, options, Security Keys, etc.) *must* be listed in this file.	NO	N/A
9.7	INSTALL	^XPD(9.7,	This file contains the installation information for a site from the Kernel Installation & Distribution System (KIDS). This file should *not* be edited. All information is updated	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			when new software is installed at a site.		
9.8	ROUTINE	^DIC(9.8,	This file is used to document system routines. Parameters and entry points can 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) field will be filled in with date, device, user, and UCI. The **%ZOSF("TEST")** node can 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.	NO	N/A
10	RACE	^DIC(10,	This file contains the list of valid races. The allowable entries are maintained by VA Central Office and, as such, alteration and/or addition of entries is *not* allowed.	YES	
11	MARITAL STATUS	^DIC(11,	This file currently consists of six entries that are distributed by the MAS development team. Alteration of any of the six entries or addition of entries to this file that are *not* distributed by the MAS developers may have a negative impact on the performance of the MAS module as well as other modules.	YES	
13	RELIGION	^DIC(13,	This file currently contains **84** entries. These entries are determined by VACO	YES	

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 effects on the performance of the MAS module.		
14.4	TASKS	^%ZTSK(	This file describes TaskMan's main file of jobs to start. Because TaskMan works on this file from many UCIs, it does *not* 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 **Queuable Task Log Cleanup** [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.	NO	N/A
14.5	VOLUME SET	^%ZIS(14.5	This file describes the volume sets available in the current multiprocessor network. The information pertaining to each volume set is used primarily by Kernel, especially TaskMan. The UCIs that make up each volume set can be determined by using the cross-reference in the UCI Association	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			Table file.		
14.6	UCI ASSOCIATION	^%ZIS(14.6,	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.	NO	N/A
14.7	TASKMAN SITE PARAMETERS	^%ZIS(14.7,	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 automatically causes all accessible Task Managers on the system to update their local copies of the parameters.	NO	N/A
14.72	TASKMAN SNAPSHOT	^%ZIS(14.72,	This file holds TaskMan Snapshot data. This is a snapshot of the counts in the TaskMan **^%ZTSCH** global. There should be no user entry of this data. It is just for reporting.	NO	N/A
14.8	TASK SYNC FLAG	^%ZISL(14.8,	This file holds the task synchronization flags that control if a task can run or *must* wait.	NO	N/A
15 (Toolkit)	DUPLICATE RECORD	^VA(15,	This file is designed to analyze and resolve duplicate record problems from various data files (e.g., PATIENT [#2] file).	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			The “from” and “to” records are identified, the match status is reported, and the user initiating the process is noted. This file is cross-referenced by Status and From-record.		
15.1 (Toolkit)	DUPLICATE RESOLUTION	^VA(15.1,	This file facilitates duplicate checking and merging of files that have entries in the DUPLICATE RECORD (#15) file. It provides the overall control information that software developers need to identify duplicates within their files and then to merge the duplicate entries.	NO	N/A
15.2 (Toolkit)	XDR MERGE PROCESS	^VA(15.2,	When a merge process is set up, all its information is stored in this file. Once a merge process has completed, that entry can be purged using the **Purge Merge Process File** [XDR PURGE2] option in the Managers menu.		
15.3 (Toolkit)	XDR REPOINTED ENTRY	^VA(15.3,	This file is used to record the entry number of the **FROM** record that is merged into the **TO** record. This can be used for VA FileMan to determine which entries were merged, so the IEN of the FROM record will *not* be reused.		
15.4 (Toolkit)	MERGE IMAGES	^XDRM(	This file stores an image of the pairs of entries in files that were merged immediately prior to the actual merge. In addition, there is also a record of the locations of pointer values that were changed during the merge process.		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
19	OPTION	^DIC(19,	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 [XUEDITOPT] option of the Menu Management [XUMAINT] menu should be used (instead of VA FileMan), so that the global root (**DIC**) and other such fields are given the correct values. Options can be tailored by setting VA FileMan variables via this file. The Order Enter/Results Reporting (OE/RR) software 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.	NO	N/A
19.081	AUDIT LOG FOR OPTIONS	^XUSEC(19,	The KERNEL SYSTEM PARAMETERS (#8989.3) 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-	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			referenced by option.		
19.1	SECURITY KEY	^DIC(19.1,	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 (#19) 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.	NO	N/A
19.2	OPTION SCHEDULING	^DIC(19.2,	This file holds 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 than one CPU or at more than one time without having to duplicate the option in the OPTION (#19) file.	NO	N/A
19.8	MENUMAN QUICK HELP	^DIC(19.8,	This file holds help text to be displayed in the ScreenMan edit form for the menu file. It only changes when there are changes to the Menu system.	YES	Overwrite
20	NAME COMPONENTS	^VA(20,	This file, introduced with Name Standardization (Patch XU*8.0*134), stores the component parts of a person's name in the following fields: • FAMILY (LAST) NAME (#1) • GIVEN (FIRST) NAME (#2) • MIDDLE NAME (#3)	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			• PREFIX (#4) • SUFFIX (#5) • DEGREE (#6) The "source name" that has these components is identified by the following three fields: • FILE (#.01) • FIELD (#.02) • IENS (#.03) The "**ANAME**" cross-reference on the FAMILY (LAST) NAME, GIVEN (FIRST) NAME, MIDDLE NAME, and SUFFIX fields keep each component in synchronization with the corresponding source name. In the case of Patch XU*8.0*134, the source name is the NAME (#.01) field of the NEW PERSON (#200) file. The DEGREE and PREFIX fields are *not* considered part of a standard name but can be used to build formatted names for display.		
40.5	HOLIDAY	^HOLIDAY(	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.	NO	N/A
46.11	RAI MDS MONITOR	^DGRU(46.11,	This file stores the modified and original contents of the **#.01** field of the Master file entry and file reference information. **NOTE:** RAI/MDS = Resident Assessment	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			Instrument/Minimum Data Set.		
49	SERVICE/ SECTION	^DIC(49,	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.	NO	N/A
101	PROTOCOL	^ORD(101,	This file contains the orderables and methods for accomplishing orders (protocols) within Order Entry/Results Reporting (OE/RR).	NO	N/A
200	NEW PERSON	^VA(200,	This file contains data on employees, users, practitioners, etc., that was previously stored in the User, Person, Provider, and other files. VistA software developers *must* check with the Kernel developers to see that a given number/namespace is available for use.	NO	N/A
201	USER CLASS	^VA(201,	This file is used for identifying the kinds of all other entries in the NEW	YES	Overwrite

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			PERSON (#200) file that are *not* providers identified with PERSON CLASS.		
8932.1	PERSON CLASS	^USC(8932.1,	This file stores the Centers for Medicare & Medicaid Services (CMS) Health Care Financing Administration (HCFA) provider type data. In 2001, ANSI ASC X12N asked the National Uniform Claim Committee (NUCC) to become the official maintainer of the Health Care Provider Taxonomy List (provider type). PERSON CLASS is to be used for identifying provider types for roll-ups. Patches need to review the technical description in the INDIVIDUAL/NON (#90002) field. This field is in the Indian Health Service (HIS) numberspace and is for their use pending development and deployment of a file to support a Non-Individual taxonomy. PERSON CLASS is intended for Individuals. As of August 30, 2002, IHS has added entries for non-Individuals to the file. Patches should take that into account when planning how to load new data. Per VHA Directive 2005-044, this file has been “locked down” by Data Standardization (DS). The file definition (i.e., data dictionary) *shall not* be modified. All additions,	YES	Overwrite

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			changes and deletions to entries in the file *shall* be done by Enterprise Reference Terminology (ERT) using the Master File Server (MFS), provided by Common Services (CS).		
8932.2	PROGRAM OF STUDY	^USC(8932.2,	This file stores the names and information of programs of study.	YES	Replace
8980 (Toolkit)	KERMIT HOLDING	^DIZ(8980,	This file provides storage for data being transferred by the KERMIT protocol. By default, the data can only be accessed by the user that created it. The Kermit Menu (XT-KERMIT) can be used to send and receive data via this file. The menu also allows the creator of the data to permit access by others. This file is cross-referenced by Name, Creator, and Access Allowed to a user.	NO	N/A
8980.2	PKI Digital Signatures	^XUSSPKI(8980.2,	This file stores the Public Key Infrastructure (PKI) digital signatures.	NO	N/A
8980.22	PKI CRL URLS	^XUSSPKI(8980.22,	This file stores the Universal Resource Locator's (URL) for the Certificate Revocation List's (CRL) from the Certificate Distribution Points (CDP) in the users Public Key Infrastructure (PKI) Certificate. These URL's are sent up to a Windows server to keep a database of Certificate Revocation's up to date.	NO	N/A
8984.1 (Toolkit)	LOCAL KEYWORD	^XT(8984.1,	The lookup entry (or code) can be associated with multiple key words or key	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			phrases. The entry is displayed if the user enters all or any part of a key phrase. Lookups are performed in the following order: 1. SHORTCUT—Stops here if a match is found. 2. SYNONYM. 3. KEYWORD.		
8984.2 (Toolkit)	LOCAL SHORTCUT	^XT(8984.2,	This is a word or phrase that will be used *exclusively* to find an entry. During a lookup, this file is checked first. If a shortcut matches the user's entry, the corresponding entry is displayed, and no other lookups will be performed.	NO	N/A
8984.3 (Toolkit)	LOCAL SYNONYM	^XT(8984.3,	Synonyms are single terms that can be associated with one or more TERMS in the lookup file (tokens in the MTLU cross-reference). For example, "CANCER" can be associated with each of the specific forms of cancer that might be found. **NOTE:** If the user enters a phrase, all terms in the phrase *must* be true to get a match; therefore, "LUNG CANCER" might significantly restrict the search.	NO	N/A
8984.4 (Toolkit)	LOCAL LOOKUP	^XT(8984.4,	This file is used to define other files that have been configured for Multi-term lookups, along with the name of the file's MTLU cross-reference.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
8989.2	KERNEL PARAMETERS	^XTV(8989.2,	This file holds parameters that Kernel uses and the site is allowed to change. For example, 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.	NO	N/A
8989.3	KERNEL SYSTEM PARAMETERS	^XTV(8989.3,	This file holds the site parameters for this installation of Kernel. It has 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 can be edited subsequent to installation. Spooling and Audit parameters can be established. Priorities can be set for interactive users and for TaskMan. Defaults for fields (e.g., timed read, auto-menu, and ask device) are defined for use when *not* otherwise specified for a user or device.	NO	N/A
8989.51	PARAMETER DEFINITION	^XTV(8989.51,	This file contains the characteristics of parameters. Entries in this file *must* be namespaced.	YES	Replace
8991 (Toolkit)	XTV ROUTINE CHANGES	^XTV(8991,	This file is used to record the most current version of a routine, and information about changes that have occurred in that routine in prior versions. Routines	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			are checked for any changes by using the **Update with current routines** [XTVR UPDATE] option, which enters any changes noted and updates the most current version. There is no need for manual entry into this file. Use the **Routine Compare - Current with Previous** [XTVR COMPARE] option to obtain listings of the changes recorded for the routines from the most recent to earlier changes.		
8991.19 (Toolkit)	XTV VERIFICATION PACKAGE	^XTV(8991.19,	This file is used to indicate the file numbers for the main files and namespaces for options, keys, etc., which are to be included as a part of a package undergoing verification. This file is used to determine the files and other entries to be included by the routines that are used in preparing and comparing the XTV GLOBAL CHANGES file.	NO	N/A
8991.2 (Toolkit)	XTV GLOBAL CHANGES	^XTV(8991.2,	This file records the state of a given verification package in terms of DD entries, options, keys, templates, etc. for comparison with a subsequent version of the package.	NO	N/A
8991.5	XQAB ERRORS LOGGED	^XTV(8991.5,	This file is used to maintain a log of errors occurring at alpha/beta test sites.	NO	N/A
8991.6	XUEPCS DATA	^XTV(8991.6,	This file is used for the DEA ePCS project (Kernel Patch XU*8.0*580). It stores audit data for ePCS-	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			related fields that have been modified.		
8991.7	XUEPCS PSDRPH AUDIT	^XTV(8991.7,	This file is used for the DEA ePCS project (Kernel Patch XU*8.0*580). It stores audit data when a user is allocated or de-allocated the PSDRPH security key.	NO	N/A
8992	ALERT	^XTV(8992,	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 (#200) 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.	NO	N/A
8992.1	ALERT TRACKING	^XTV(8992.1,	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	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 is deleted from the file after **30** days. If a longer lifetime is specified, it will *not* be deleted until after that period passes.		
8992.2	ALERT RECIPIENT TYPE	^XTV(8992.2,	This file was added with Kernel Patch XU*8.0*285. This file was added to contain indicators as to why an alert was sent.	NO	N/A
8992.3	ALERT CRITICAL TEXT	^XTV(8992.3,	This file makes it easier for packages or sites to specify text that should be used to indicate an alert to be marked as **Critical**. It contains those text strings that are identified as indicating a **Critical**-type alert. This checking is *not* case sensitive, and if the identified string is immediately preceded by either of the following words, it will *not* be indicated as a **Critical**-type alert: • **NOT** • **NON** **NOTE:** This file was added with Kernel Patch XU*8.0*513. Using this file means that	YES	Overwrite

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			the package or site can add desired text for identification as **Critical**-type by using Integration Control Registration (ICR) #6869, ALERT CRITICAL TEXT LOOKUP AND EDIT. This is a "Controlled Subscription" type ICR that allows application development teams to release patches that update the ALERT CRITICAL TEXT (#8992.3) file. **CAUTION: Application development teams making changes to the ALERT CRITICAL TEXT (#8992.3) file are responsible for confirming the change does *not* affect Kernel's reporting of Critical-type alerts.** **Adding an entry with Critical-type text to the ALERT CRITICAL TEXT (#8992.3) file reports any alert containing that text as Critical. Careful analysis is necessary to confirm changes do *not* cause malfunction of any VistA alerts. When creating a**		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			new entry in the ALERT CRITICAL TEXT (#8992.3) file, it is *recommended* the associated application be indicated in the CREATING PACKAGE (#.03) field. Thus, any inquiries regarding the Critical alert text can be directed to the appropriate development team. Also, the description included in the PACKAGE-ID (#.02) field in the ALERT CRITICAL TEXT (#8992.3) file should be reviewed to determine if it *must* be defined. That field's description indicates that data in this field can further screen alerts from being reported as critical. Its use should be understood when adding entries to the ALERT CRITICAL TEXT (#8992.3) file.		
8994	REMOTE PROCEDURE	^XWB(8994,	This file is owned by RPC Broker. This file is used as a repository of server-based procedures in the context of the Client/Server	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			architecture. By using the Remote Procedure Call (RPC) Broker, applications running on client workstations can invoke (call) the procedures in this file to be executed by the server and the results are returned to the client application. Each remote procedure entry is associated with an entry point (ROUTINE with optional TAG). Calls to these procedures can include parameters of different value types. The resulting value of the call can be either a string, a list of strings, or a word-processing string as indicated by the RETURN VALUE TYPE (.04) field. The remote procedure may be available for use by anyone or its use may be restricted to one or more applications. The range of availability is indicated by the AVAILABILITY field. **NOTE:** If there is no entry in the AVAILABILITY field, then the procedure is assumed to be PUBLIC. A remote procedure can be removed from service for a period of time by setting the INACTIVE field. A request for use of a procedure, which is marked inactive, will result in an error being returned to the originating application.		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
8994.5	REMOTE APPLICATIO N	^XWB(8994.5,	This file is owned by RPC Broker and used by Kernel security to identify remote applications. Kernel uses this file to identify external applications in the SIGN-ON LOG (#3.081) file and for assigning a role-based user context to authenticated applications. The REMOTE APPLICATION file was introduced as part of the Broker Security Enhancement (BSE) to secure access via the remote user or visitor approach by GUI applications (formerly known as the CAPRI approach for the first application to use this access style). The remote visitor access permits applications where users need to access a large number of sites to do so without requiring a separate Access code and Verify code at each site. Following the Broker Security Enhancement, applications are able to use the remote visitor access only if they have an entry in this file with a one-way hash of a secure phrase. Identification of an entry in the file is based on the application passing in the original phrase, which is then hashed and used for a cross-reference lookup. The application *must* have at least one entry in the		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			CALLBACKTYPE sub-file indicating: • A connection type. • A valid address for the authenticating server. • A connection port number. This information is necessary for the remote server to directly connect the authenticating server to obtain the demographic information necessary to create or match the visitor entry in the NEW PERSON (#200) file. The application also specifies the desired context option for the user and this is given to the remote visitor instead of the application having to figure out how to set this value.		

4.2.2 Additional Files Installed During Virgin Installation

The Virgin Installation brings in the following additional files:

Table 16: Files—Kernel Virgin Installation Files

File #	File Name	Global Location	Description	Data w/ File	Data Setting
3.8	MAIL GROUP	^XMB(3.8,	(Exported with MailMan) This file holds the names of all groups and their members known to MailMan.	NO	N/A
4.2	DOMAIN	^DIC(4.2,	(Exported with MailMan) This file is used to name all of the nodes to which MailMan messages can be routed. Each name in this file corresponds to the right side of a MailMan address, the part following the **@** symbol.	NO	N/A
5	STATE	^DIC(5,	This file contains a list of state names and abbreviations.	YES	Overwrite
7	PROVIDER CLASS	^DIC(7,	This file is used to identify various classifications or types of providers.	NO	N/A
7.1	SPECIALITY	^DIC(7.1,	This file identifies locally added specialties and their associated services.	NO	N/A
10	RACE	^DIC(10,	This 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.	YES	Overwrite
11	MARITAL STATUS	^DIC(11,	This 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.	YES	Overwrite

File #	File Name	Global Location	Description	Data w/ File	Data Setting
13	RELIGION	^DIC(13,	This 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 effects on the performance of the MAS module.	YES	Overwrite

4.3 Fields

4.3.1 PERSON CLASS (#8932.1) File

The PERSON CLASS (#8932.1) file contains the Health Care Financing Administration (HCFA) taxonomy that reflects provider type. It contains the following fields:

Table 17: Field List—PERSON CLASS (#8932.1) File (Kernel Patch XU*8.0*27)

Field #	Field Name	Description
.001	NUMBER	This is a number field to allow adding new entries by number.
.01	PROVIDER TYPE	This is Level I of the National Uniform Claim Committee (NUCC) structure of the Provider Taxonomy. **REF:** For more information on the NUCC, please visit the NUCC website located at the following Web address: http://www.nucc.org/
.011	PROVIDER TYPE CODE	This is Level I, Provider Type—**2**-byte alphanumeric, consisting of the **1st** and **2nd** characters of **X12 CODE**, which is a code that identifies a major grouping of services or occupations of health care providers.
1	CLASSIFICATION	This is the **CMS (X12)** Classification (Level **II**). Values *must* be from **3** to **65** characters in length.
1.1	CLASSIFICATION CODE	This is Level II, Classification Code—**2**-byte alphanumeric consisting of the **3rd** and **4th** characters of the **X12 CODE**, which is a code that identifies more specific services or occupations within the health care provider type. The coding is based on licensed provider

Field #	Field Name	Description
		classifications.
2	AREA OF SPECIALIZATION	This is Level III in NUCC's structure of the Provider Taxonomy. It is the most specific, but sometimes defines a "sub-category" of Classification. Values *must* be from **2** to **75** characters in length.
2.1	AREA OF SPECIALIZATION CODE	This is Level III, Area of Specialization—**5**-byte alphanumeric consisting of the **5th** through **9th** characters of the **X12 CODE**, which is a code that identifies: • Provider's specialization. • Segment of the population that a health care provider chooses to service. • Specific medical service. • Specialization in treating a specific disease. • Any other descriptive characteristic about the providers practice relating to the services rendered.
3	STATUS	This field allows old entries to be disabled *without* removing them from the table. Valid values are: • **a—**Active • **i—**Inactive
4	DATE INACTIVATED	This field holds the date that a Provider Class was inactivated.
5	VA CODE	This field holds the **7**-character VA assigned code for national rollup.
6	X12 CODE	This is the code assigned by American National Standards Institute (ANSI) **X12**. **X12** published the joint **X12N** and Centers for Medicare & Medicaid Service (CMS) Health Care Provider Taxonomy following the June 1997 **X12** meeting. **NOTE:** ANSI **X12** subcommittee **N** covers standards in the insurance industry, including health insurance; hence these are **X12N** standards. "X12N standards include transactions for claims/encounters, attachments, enrollment, disenrollment, eligibility, payment/remittance advice, premium payments, first report of injury, claim status,

Field #	Field Name	Description
		referral certification/authorization, and coordination of benefits."1 **NOTE:** A revised ANSI X12N 837 Professional Health Care Claim Companion Document was created in 2005.
7	reserved	This field is only used with a conversion routine for updates to the file. Any data is only used by an update routine.
8	SPECIALTY CODE	This field holds the **2**-character specialty code associated with the classification.
11	DEFINITION	Enter the definition of this Provider Type. Types with **X12** codes are defined by the National Uniform Claim Committee (NUCC), provided by various sources.
90002	INDIVIDUAL/NON	This field indicates whether the entry is for an Individual or for a Non-Individual. Valid values are: • **I—**Individual • **N—**Non-Individual This field was added at the request of Indian Health Service (IHS) in their numberspace, until the file supporting Non-Individual taxonomies can be defined. Currently, the **X12 CODE** definition does *not* explicitly indicate whether an entry is for an Individual or for a Non-Individual, either in value or structure definition.

The following field was exported with the Assigning Person Class to Providers software (i.e., Kernel Patch XU*8.0*27):

Table 18: Field List—Assigning Person Class to Providers Software (i.e., Kernel Patches XU*8.0*27, 377, and 531)

File Number	File Name	Field Name and Number	Description
200	NEW PERSON	PERSON CLASS (#.05) field	This is a Multiple field. It includes the following subfields: • NUMBER (#.001). • PERSON CLASS (#.01)—Pointer to the PERSON CLASS (#8932.1) file.

1 Excerpt taken from the "X12N" topic on the University of Miami; Miller School of Medicine website: http://privacy.med.miami.edu/glossary/xd_x12n.htm, last modified May 11, 2005 (RC)

File Number	File Name	Field Name and Number	Description
			• EFFECTIVE DATE (#2)—The date the PERSON CLASS became effective. • EXPIRATION DATE (#3)—The date the PERSON CLASS is no longer valid. Kernel Patch XU*8.0*27 added the PERSON CLASS field to the following Kernel options: • **Edit an Existing User** [XUSEREDIT] • **Add a New User to the System** [XUSERNEW] • **Reactivate a User** [XUSERREACT]

5 Exported Options

This chapter lists the options exported with Kernel and Kernel Toolkit.

5.1 Menu Tree Roots

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 submenus:
  - **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 menu 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 **Schedule/Unschedule Options** [XUTM SCHEDULE] option.

5.2 Menu Tree Diagrams

The menu tree diagrams for the menus described in the "Menu Tree Roots" section are presented in this section.

- The menu tree diagram for the **Systems Manager Menu** [EVE] is broken into the individual menu trees for each EVE option.
- The menu tree diagrams for the **Parent of Queuable Options** [ZTMQUEUABLE OPTIONS] and the **SYSTEM COMMAND OPTIONS** [XUCOMMAND] menus are presented intact.

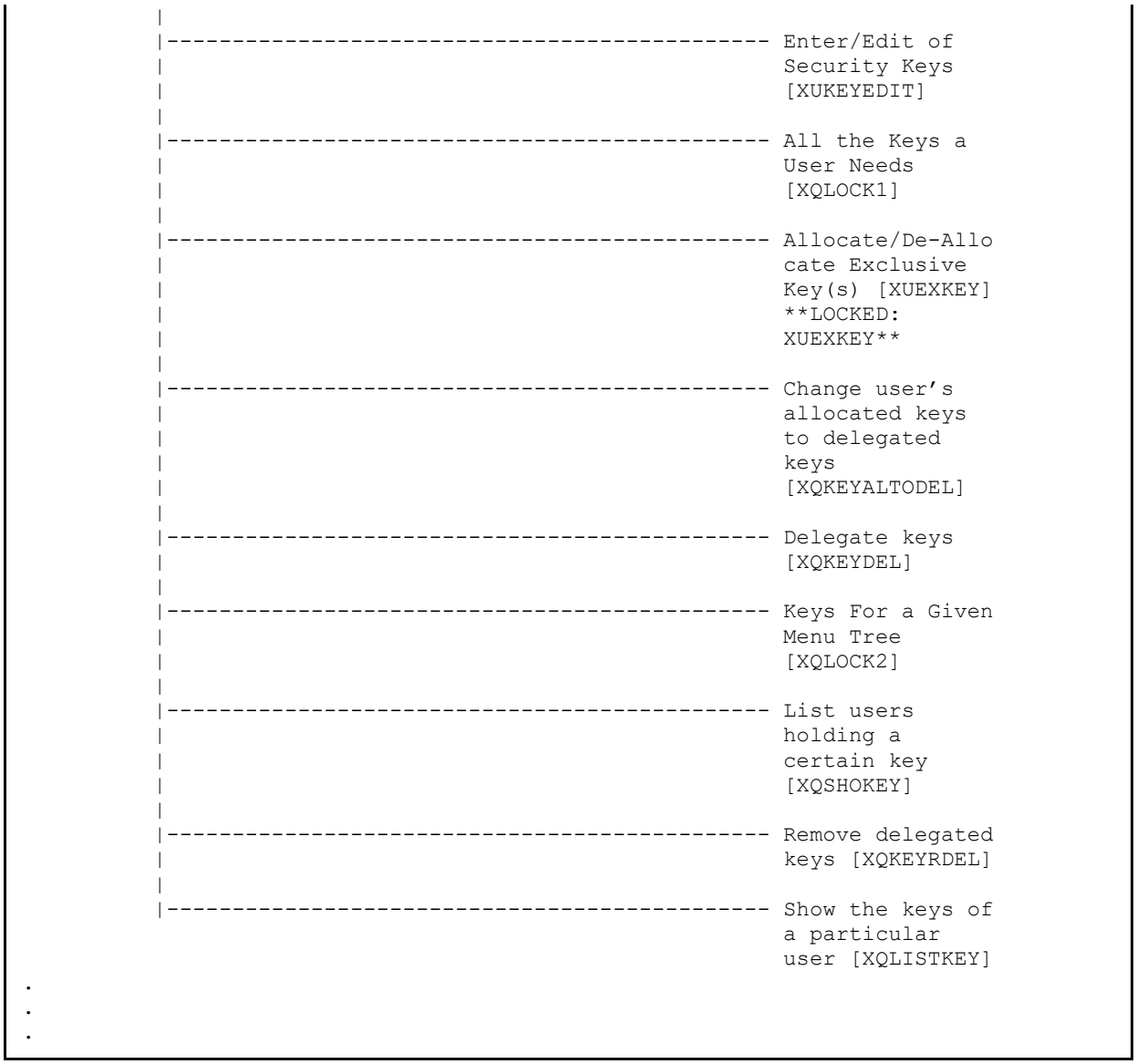
5.2.1 Generating Menu Diagrams

To generate a menu tree diagram, perform the following procedure:

1. From the **Systems Manager Menu** [EVE, select the **Menu Management** option [XUMAINT].
2. At the "Select Menu Management Option:" prompt, select the **Display Menus and Options** option [XQDISPLAY OPTIONS]:
3. At the "Select Display Menus and Options Option:" prompt, select the **Diagram Menus** option [XUUSERACC].
4. At the "Select USER (U.xxxxx) or OPTION (O.xxxxx) name:" prompt, enter **O.*XXXXXXXX***, where "*XXXXXXXX*" is the option name you want diagrammed (e.g., O.XUMAINT for the Menu Management menu).
5. At the "DEVICE: HOME//"and "Right Margin: 80//" prompts, press **Enter** to display the diagram to the screen.

Figure 6: Menus—Generating Menu Diagrams: Sample from OAKTST "Gold" Account

```
          Core Applications ...
          Device Management ...
   FM     VA FileMan ...
          Manage Mailman ...
          Menu Management ...
          Programmer Options ...
          Operations Management ...
          Spool Management ...
          Information Security Officer Menu ...
          Taskman Management ...
          User Management ...
   HL7    HL7 Main Menu ...
   VDEF   VDEF Configuration and Status ...
          Application Utilities ...
          Capacity Planning ...
          Fileman Access for the OIG ...

Select Systems Manager Menu Option: MENU <Enter> Management

          Edit options
          Key Management ...
          Secure Menu Delegation ...
          Restrict Availability of Options
          Option Access By User
          List Options by Parents and Use
          Fix Option File Pointers
          Help Processor ...
   OPED   Screen-based Option Editor
          Display Menus and Options ...
          Menu Rebuild Menu ...
          Out-Of-Order Set Management ...
          See if a User Has Access to a Particular Option
          Show Users with a Selected primary Menu

Select Menu Management Option: DISPLAY <Enter> Menus and Options

          Abbreviated Menu Diagrams
          Diagram Menus
          Menu Diagrams (with Entry/Exit Actions)
          Option Function Inquiry
          Print Option File

Select Display Menus and Options Option: DIAGRAM <Enter> Menus

Select USER (U.xxxxx) or OPTION (O.xxxxx) name: O.XUMAINT <Enter> Menu Management
DEVICE: HOME// <Enter> HOME  (CRT) Right Margin: 80// <Enter>


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]
Allocate/De-Allocate Exclusive Key(s) [XUEXKEY] **LOCKED: XUEXKEY**
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]

.
.
.

5.2.2 Systems Manager Menu [EVE]

The Systems Manager Menu EVE contains the following menu trees:

- XUCORE
- XUTIO
- XUMAINT
- XUSITEMGR
- XUPROG
- XU-SPL-MGR
- XUSPY
- XUTM MGR
- XUSER
- Parent of Queuable Options [ZTMQUEUABLE OPTIONS]
- SYSTEM COMMAND OPTIONS [XUCOMMAND]

REF: Each of these menu trees is listed individually in the sections that follow.

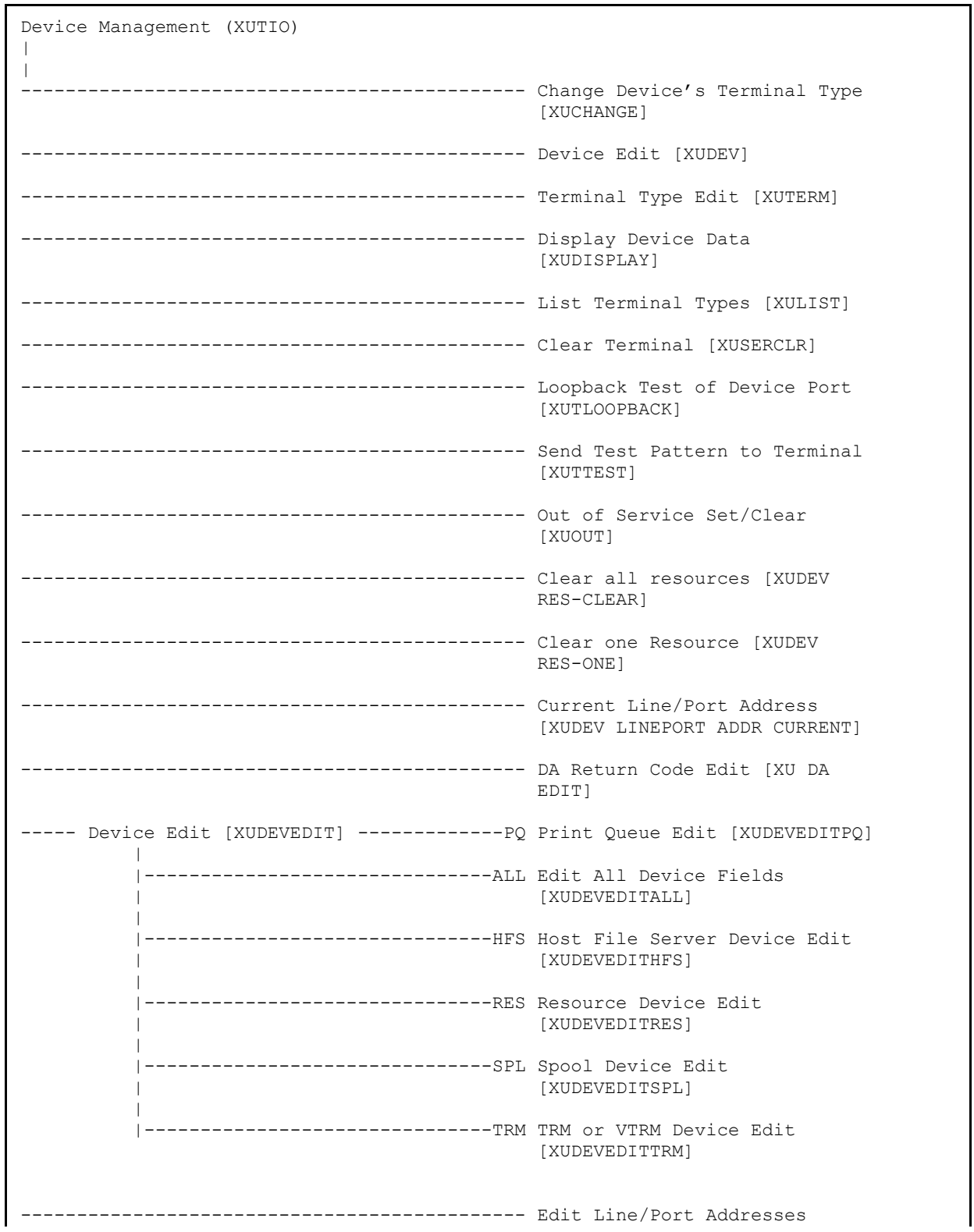
5.2.3 XUCORE

Figure 7: XUCORE—Menu Tree Diagram: Sample from OAKTST "Gold" Account

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

5.2.4 XUTIO

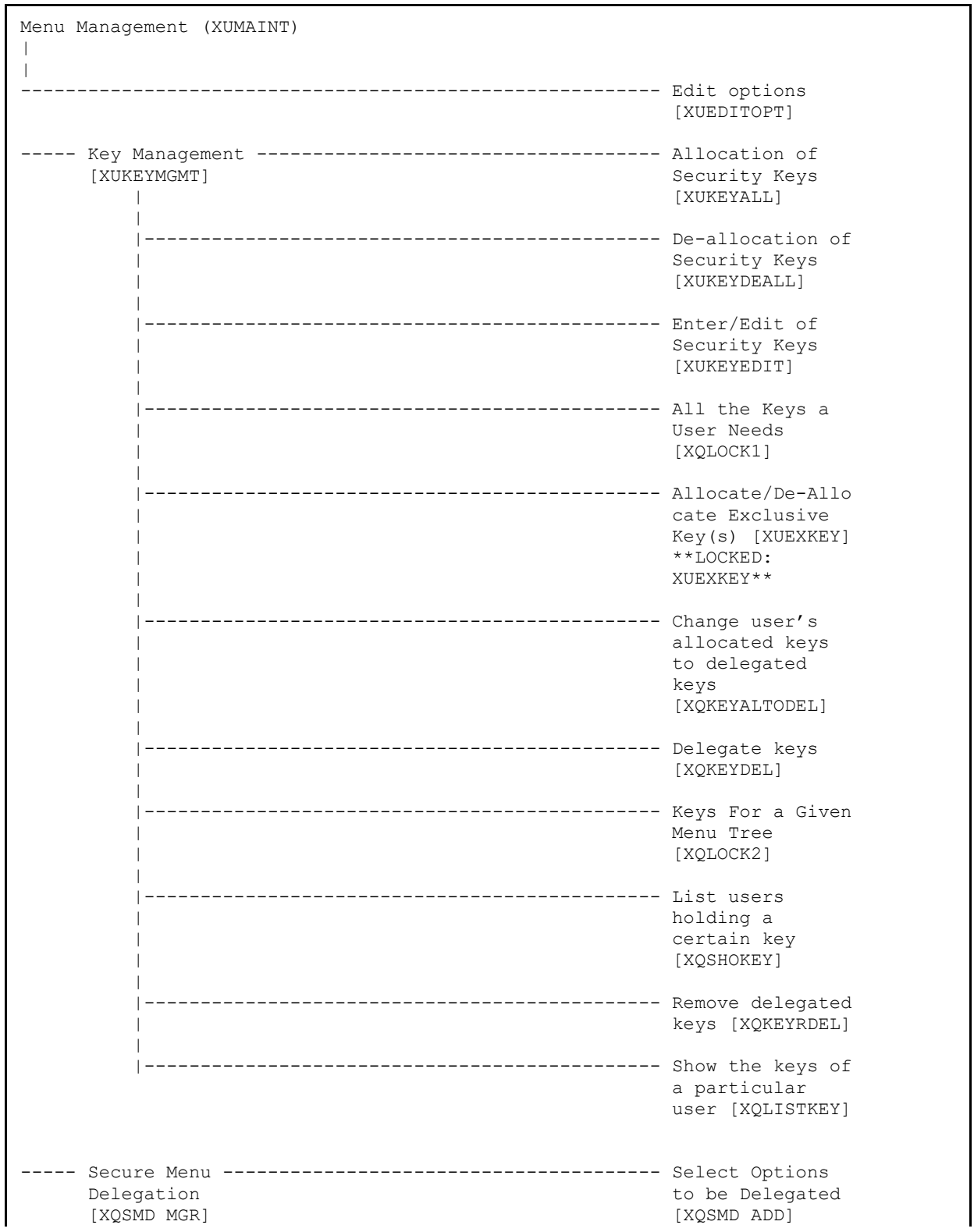
Figure 8: XUTIO—Menu Tree Diagram: Sample from OAKTST "Gold" Account

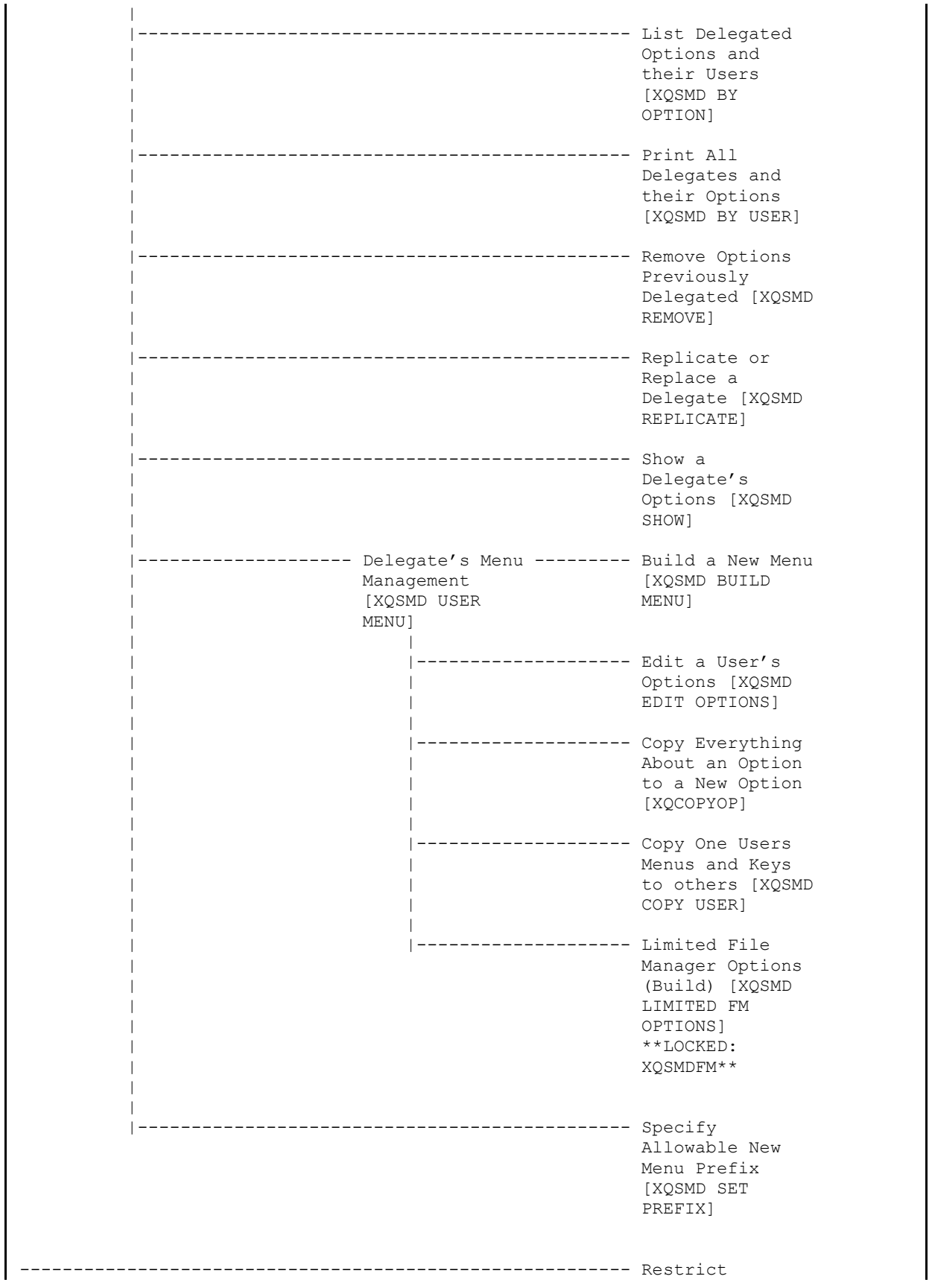


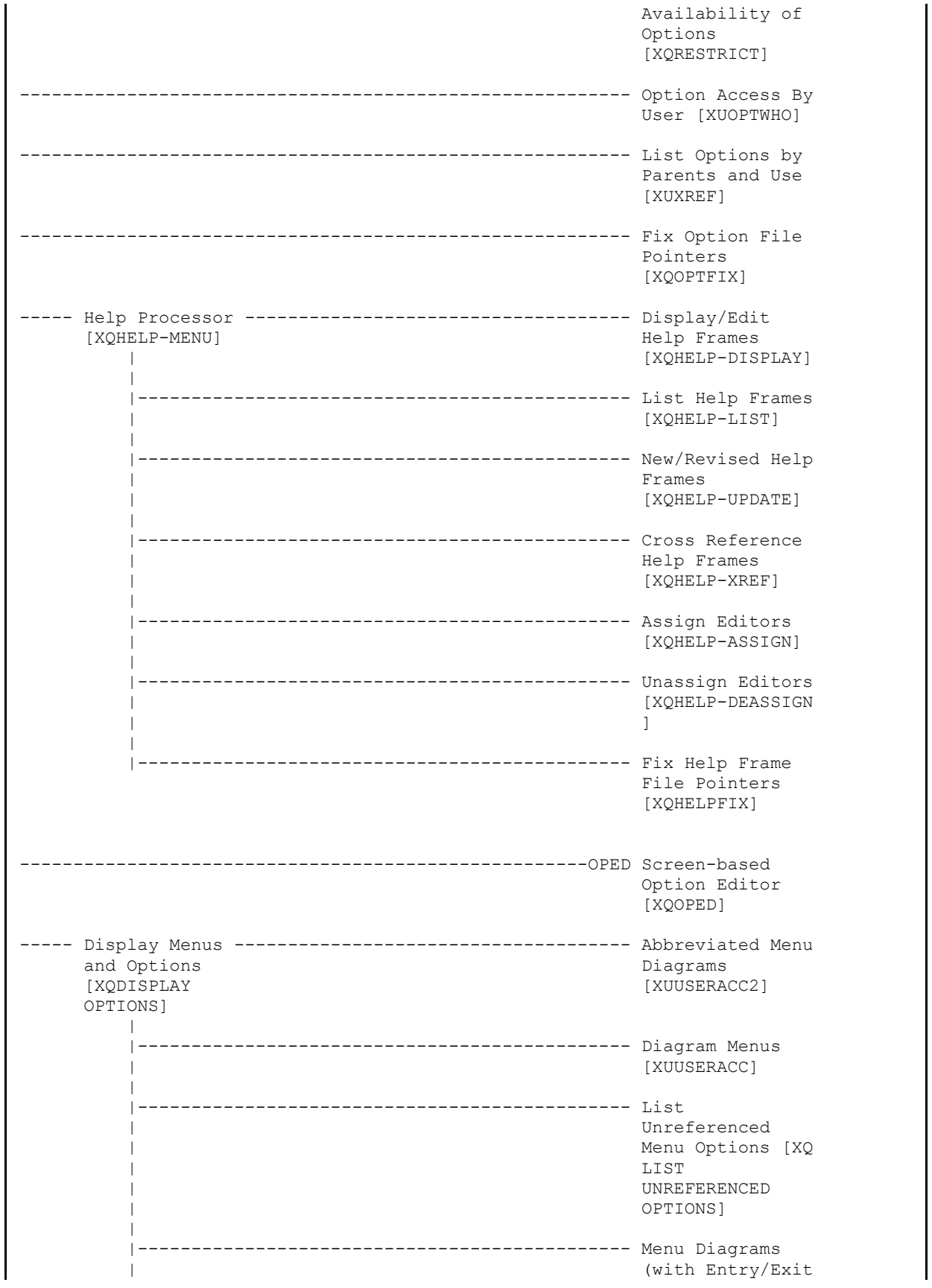
```
                                                [XUDEV LINEPORT ADDR EDIT]

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

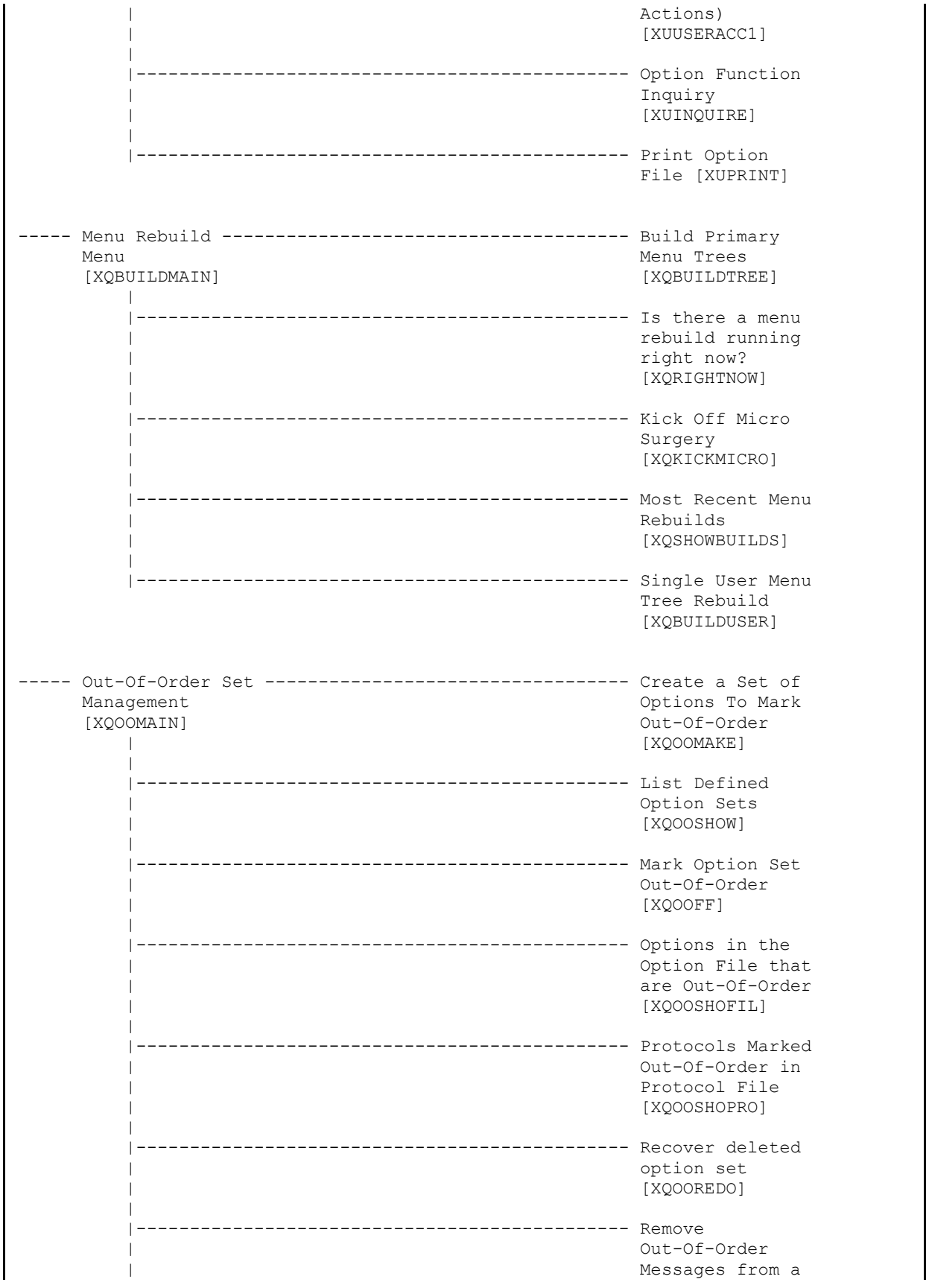
5.2.5 XUMAINT

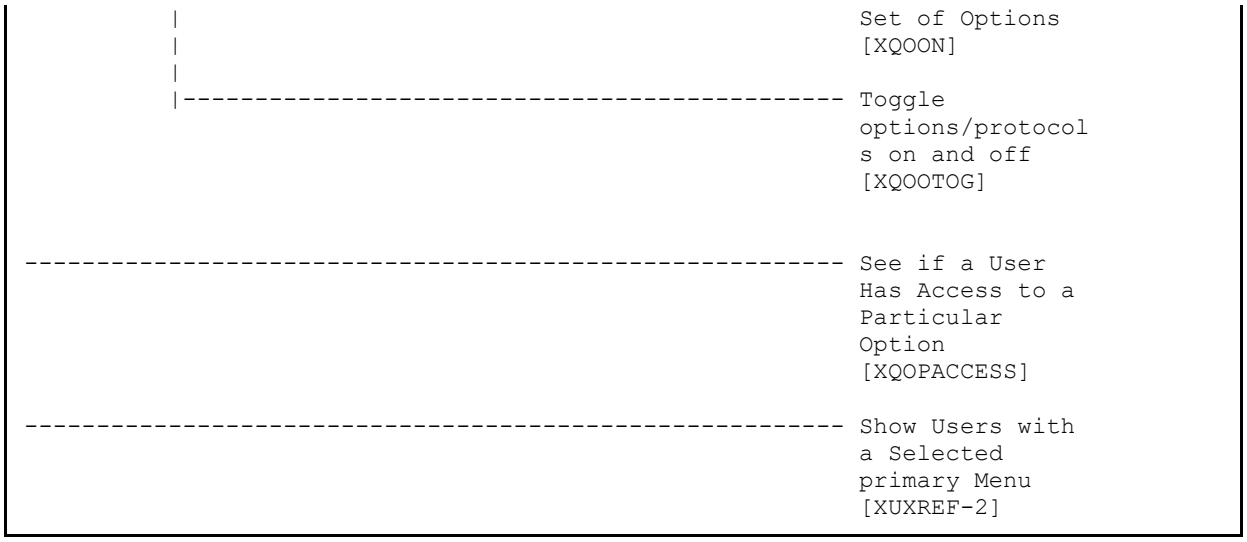
Figure 9: XUMAINT—Menu Tree Diagram: Sample from OAKTST "Gold" Account




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

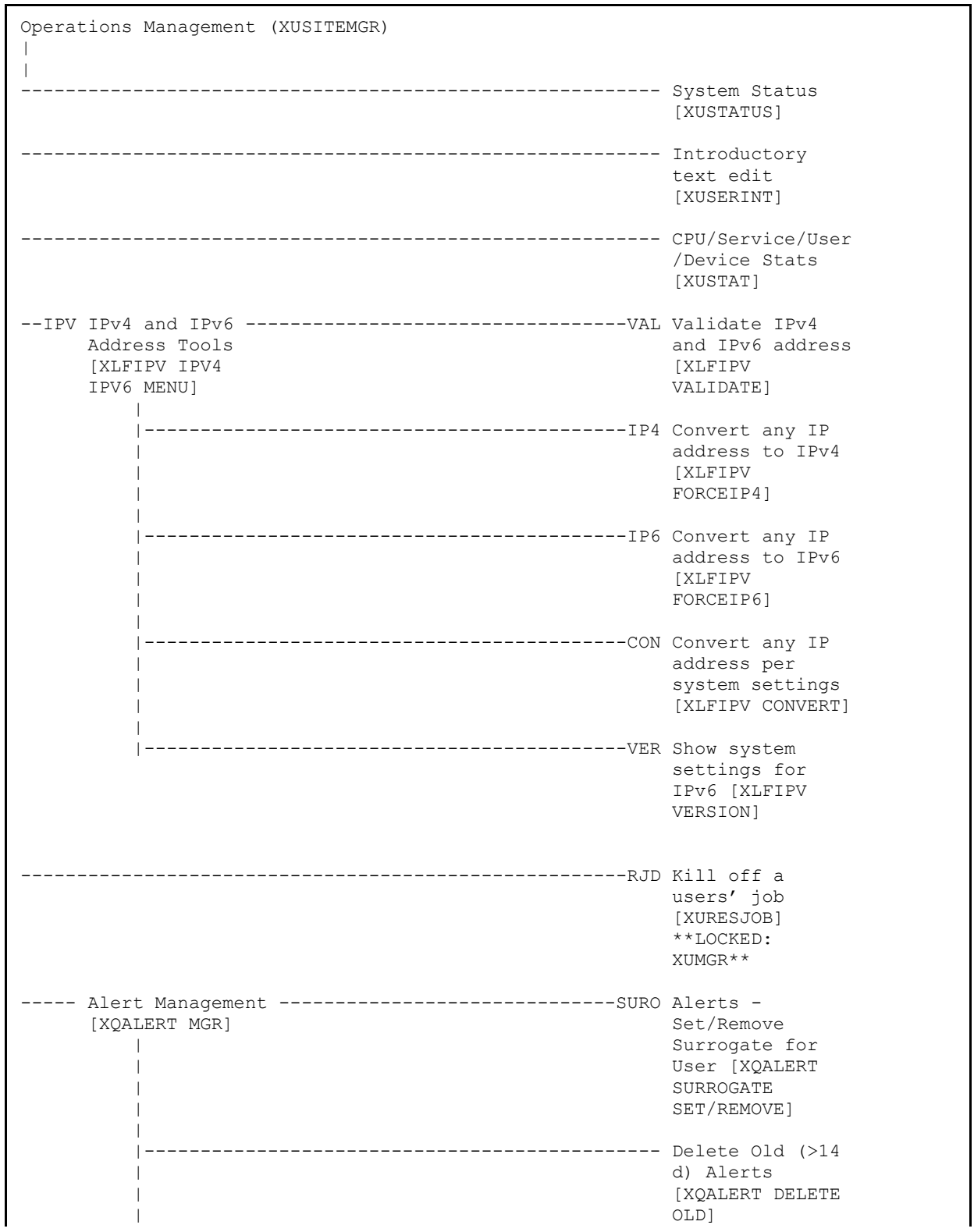

Availability of Options [XQRESTRICT]
Option Access By User [XUOPTWHO]
List Options by Parents and Use [XUXREF]
Fix Option File Pointers [XQOPTFIX]
Help Processor [XQHELP-MENU]
Display/Edit Help Frames [XQHELP-DISPLAY]
List Help Frames [XQHELP-LIST]
New/Revised Help Frames [XQHELP-UPDATE]
Cross Reference Help Frames [XQHELP-XREF]
Assign Editors [XQHELP-ASSIGN]
Unassign Editors [XQHELP-DEASSIGN]
Fix Help Frame File Pointers [XQHELPFIX]
OPED Screen-based Option Editor [XQOPED]
Display Menus and Options [XQDISPLAY OPTIONS]
Abbreviated Menu Diagrams [XUUSERACC2]
Diagram Menus [XUUSERACC]
List Unreferenced Menu Options [XQ LIST UNREFERENCED OPTIONS]
Menu Diagrams (with Entry/Exit

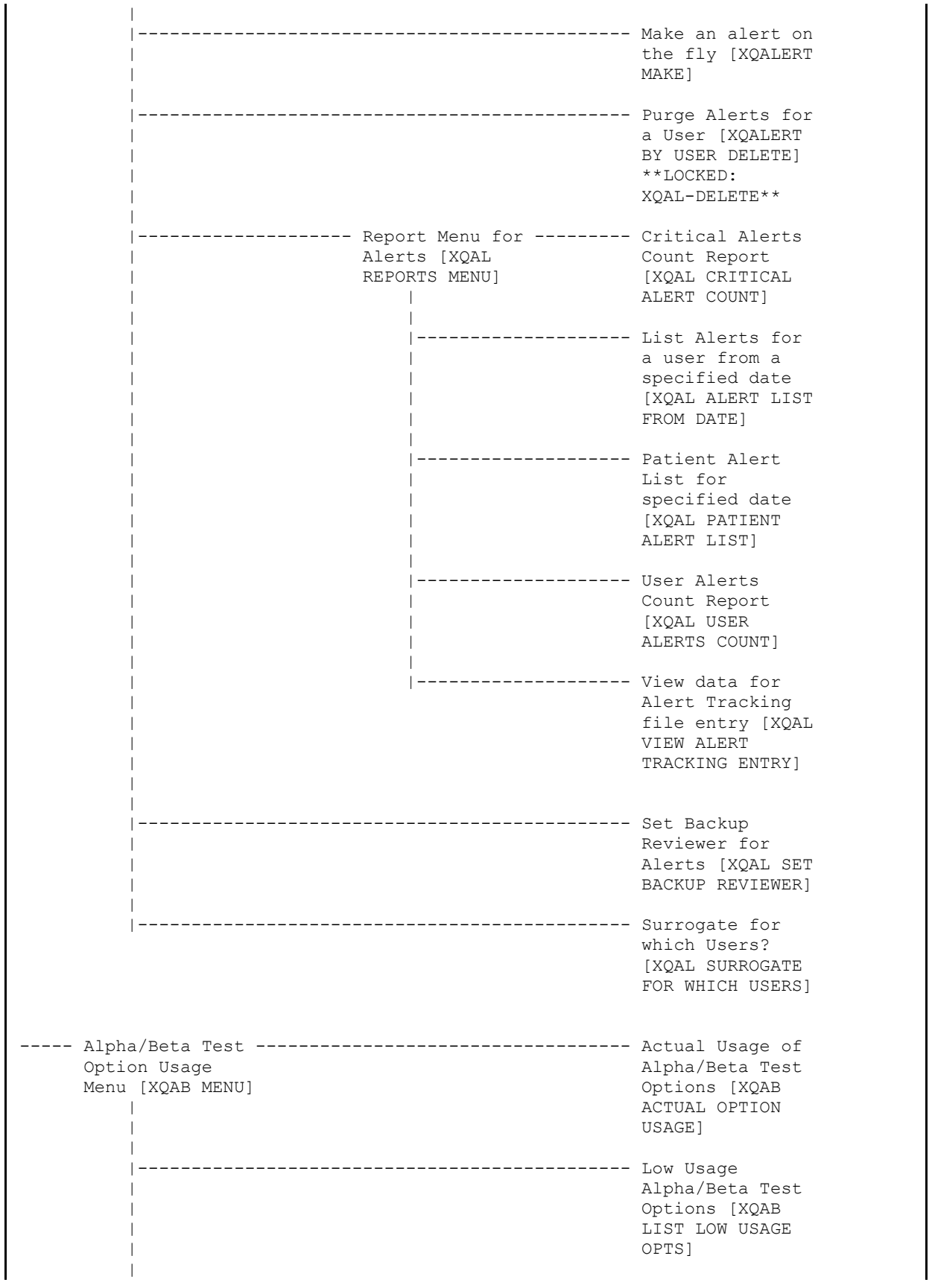

Actions)
[XUUSERACC1]
Option Function
Inquiry
[XUINQUIRE]
Print Option
File [XUPRINT]
Menu Rebuild
Menu
[XQBUILDMAIN]
Build Primary
Menu Trees
[XQBUILDTREE]
Is there a menu
rebuild running
right now?
[XQRIGHTNOW]
Kick Off Micro
Surgery
[XQKICKMICRO]
Most Recent Menu
Rebuilds
[XQSHOWBUILDS]
Single User Menu
Tree Rebuild
[XQBUILDUSER]
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

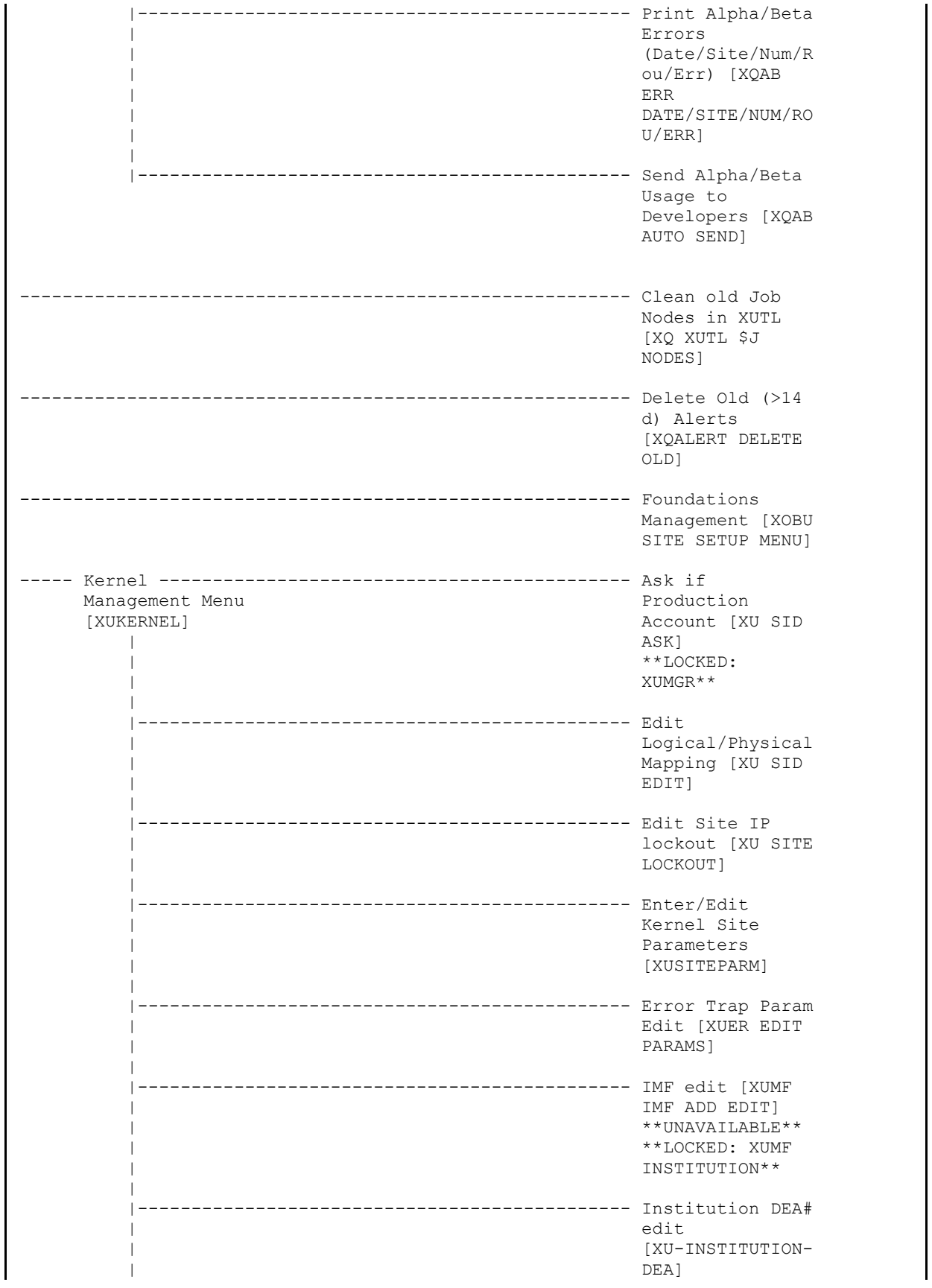

Set of Options
[XQOON]
Toggle
options/protocol
s on and off
[XQOOTOG]
See if a User
Has Access to a
Particular
Option
[XQOPACCESS]
Show Users with
a Selected
primary Menu
[XUXREF-2]

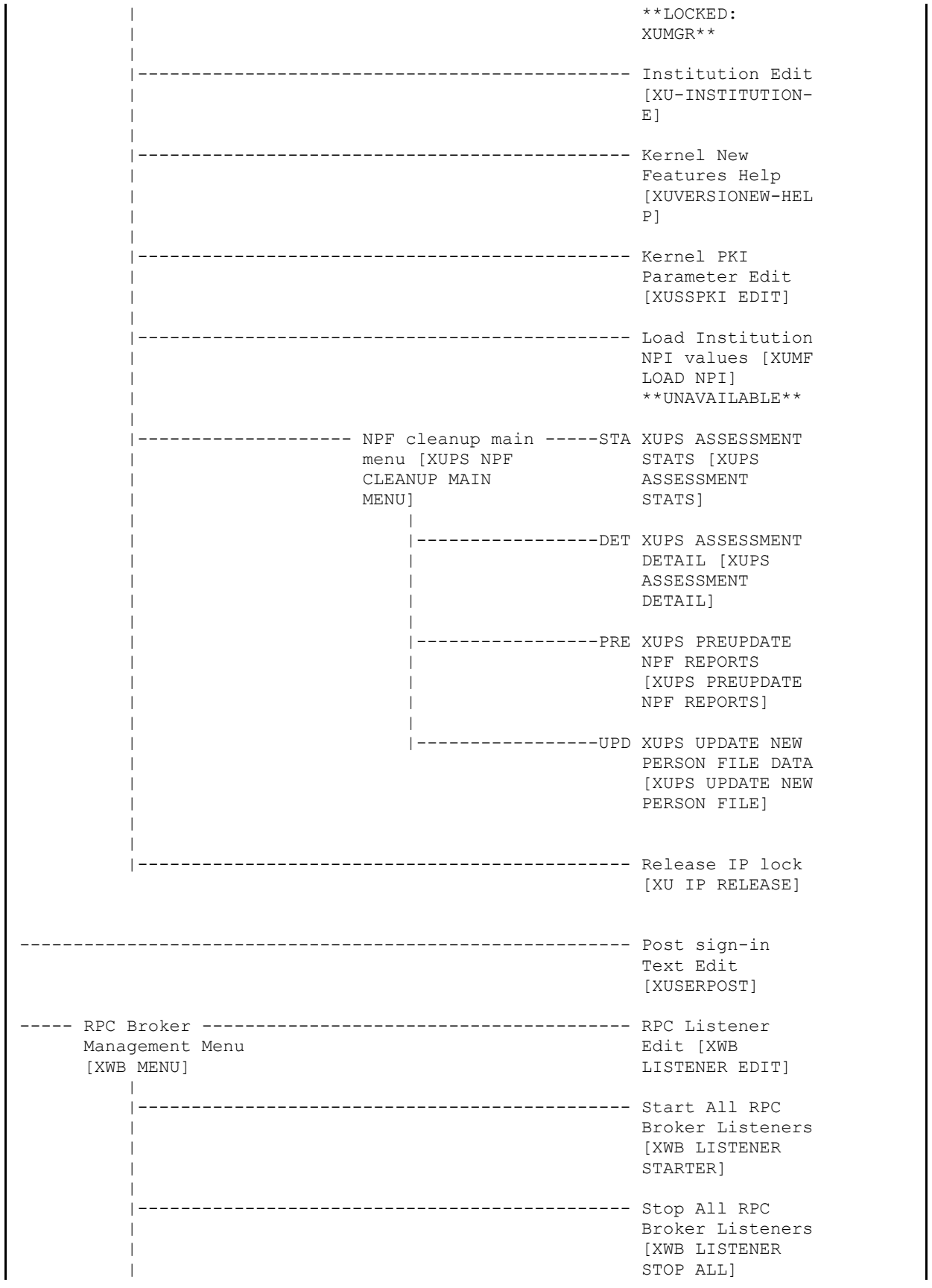
5.2.6 XUSITEMGR

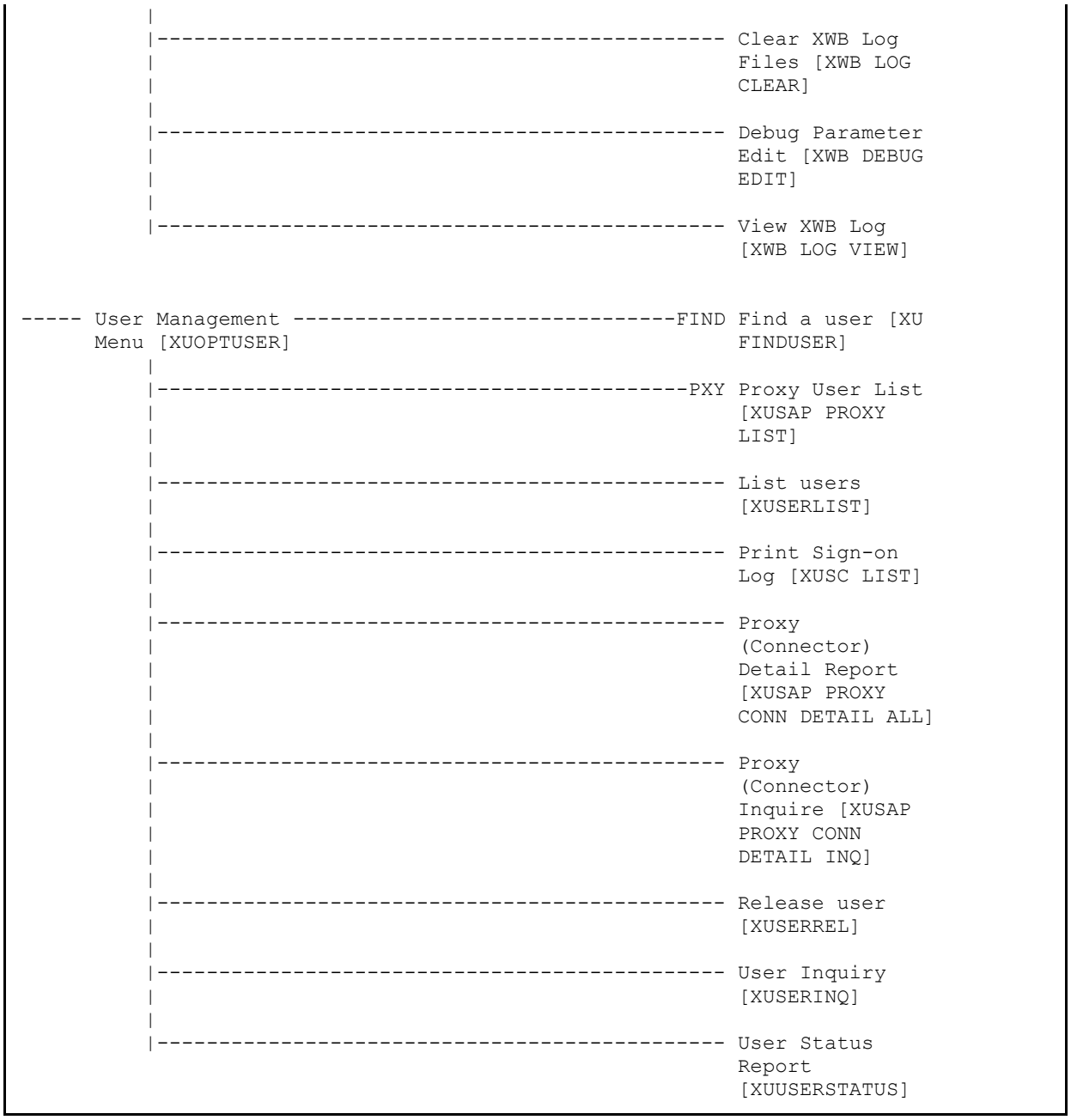
Figure 10: XUSITEMGR—Menu Tree Diagram: Sample from OAKTST "Gold" Account




Make an alert on the fly [XQALERT MAKE]
Purge Alerts for a User [XQALERT BY USER DELETE] **LOCKED: XQAL-DELETE**
Report Menu for Alerts [XQAL REPORTS MENU]
Critical Alerts Count Report [XQAL CRITICAL ALERT COUNT]
List Alerts for a user from a specified date [XQAL ALERT LIST FROM DATE]
Patient Alert List for specified date [XQAL PATIENT ALERT LIST]
User Alerts Count Report [XQAL USER ALERTS COUNT]
View data for Alert Tracking file entry [XQAL VIEW ALERT TRACKING ENTRY]
Set Backup Reviewer for Alerts [XQAL SET BACKUP REVIEWER]
Surrogate for which Users? [XQAL SURROGATE FOR WHICH USERS]
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]

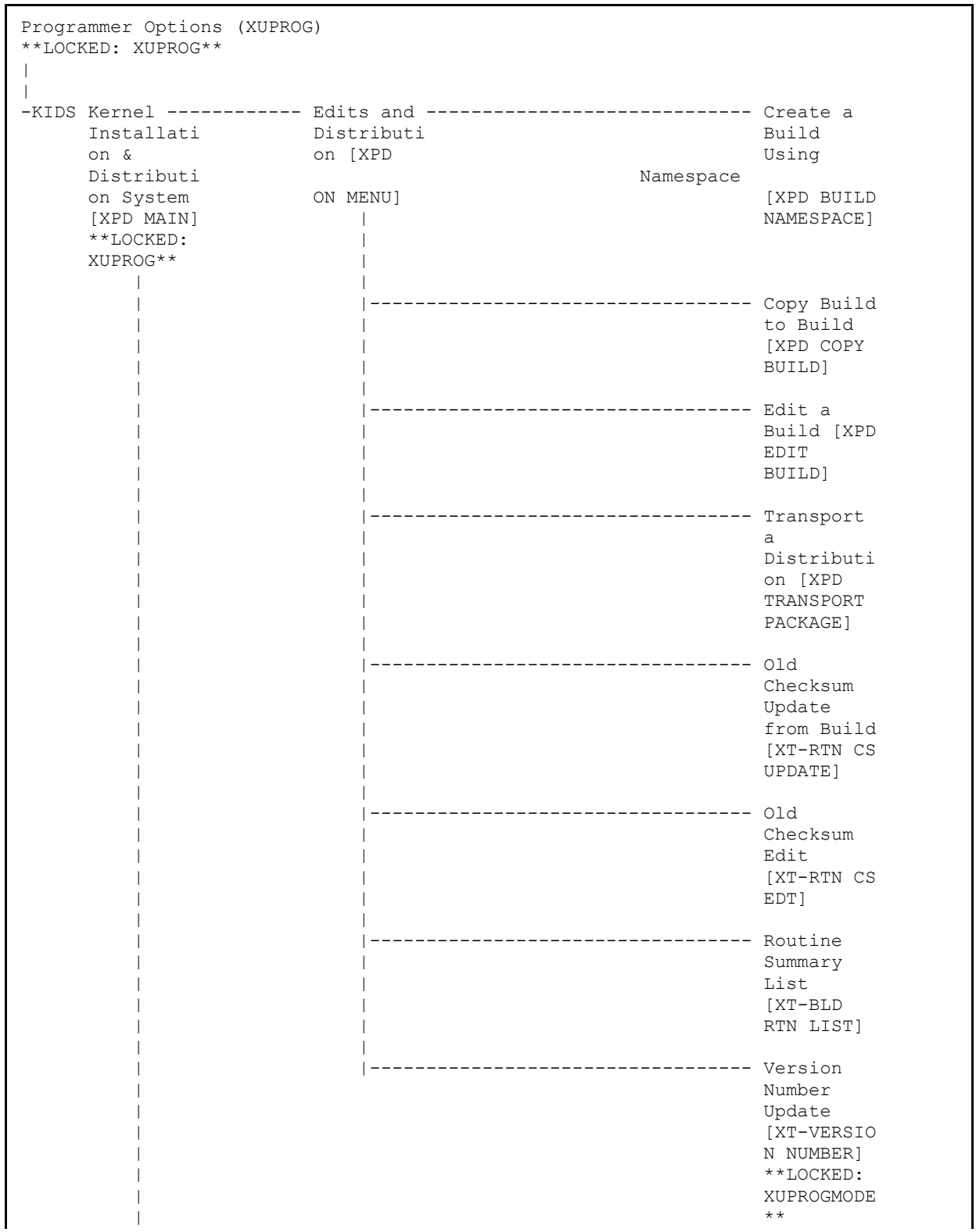

Print Alpha/Beta Errors (Date/Site/Num/Rou/Err) [XQAB ERR DATE/SITE/NUM/ROU/ERR]
Send Alpha/Beta Usage to Developers [XQAB AUTO SEND]
Clean old Job Nodes in XUTL [XQ XUTL $J NODES]
Delete Old (>14 d) Alerts [XQALERT DELETE OLD]
Foundations Management [XOBU SITE SETUP MENU]
Kernel Management Menu [XUKERNEL]
Ask if Production Account [XU SID ASK]
LOCKED: XUMGR
Edit Logical/Physical Mapping [XU SID EDIT]
Edit Site IP lockout [XU SITE LOCKOUT]
Enter/Edit Kernel Site Parameters [XUSITEPARM]
Error Trap Param Edit [XUER EDIT PARAMS]
IMF edit [XUMF IMF ADD EDIT]
UNAVAILABLE
LOCKED: XUMF INSTITUTION
Institution DEA# edit [XU-INSTITUTION-DEA]

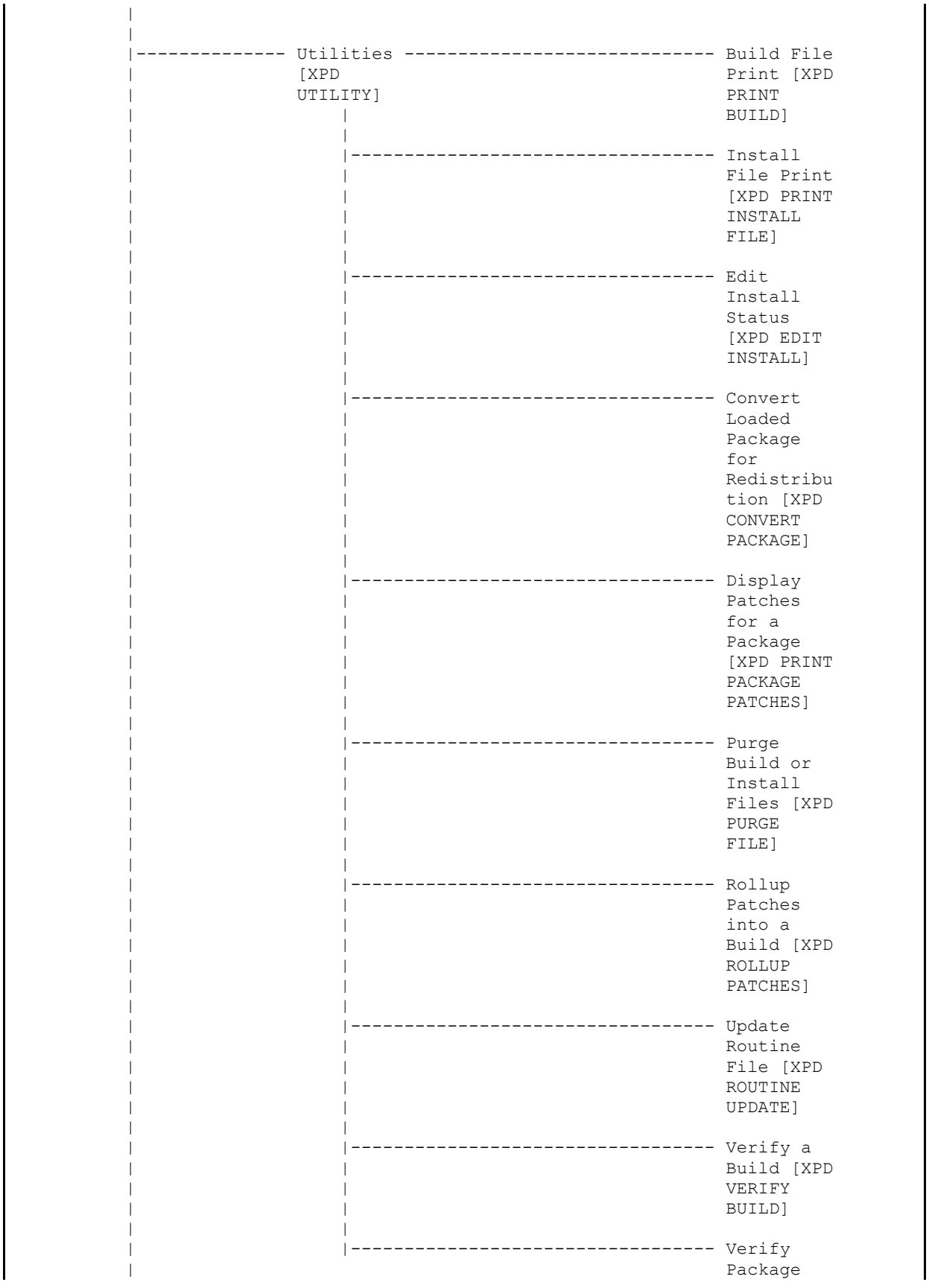

LOCKED: XUMGR
Institution Edit [XU-INSTITUTION-E]
Kernel New Features Help [XUVERSIONEW-HELP]
Kernel PKI Parameter Edit [XUSSPKI EDIT]
Load Institution NPI values [XUMF LOAD NPI] **UNAVAILABLE**
NPF cleanup main menu [XUPS NPF CLEANUP MAIN MENU]
STA XUPS ASSESSMENT STATS [XUPS ASSESSMENT STATS]
DET XUPS ASSESSMENT DETAIL [XUPS ASSESSMENT DETAIL]
PRE XUPS PREUPDATE NPF REPORTS [XUPS PREUPDATE NPF REPORTS]
UPD XUPS UPDATE NEW PERSON FILE DATA [XUPS UPDATE NEW PERSON FILE]
Release IP lock [XU IP RELEASE]
Post sign-in Text Edit [XUSERPOST]
RPC Broker Management Menu [XWB MENU]
RPC Listener Edit [XWB LISTENER EDIT]
Start All RPC Broker Listeners [XWB LISTENER STARTER]
Stop All RPC Broker Listeners [XWB LISTENER STOP ALL]

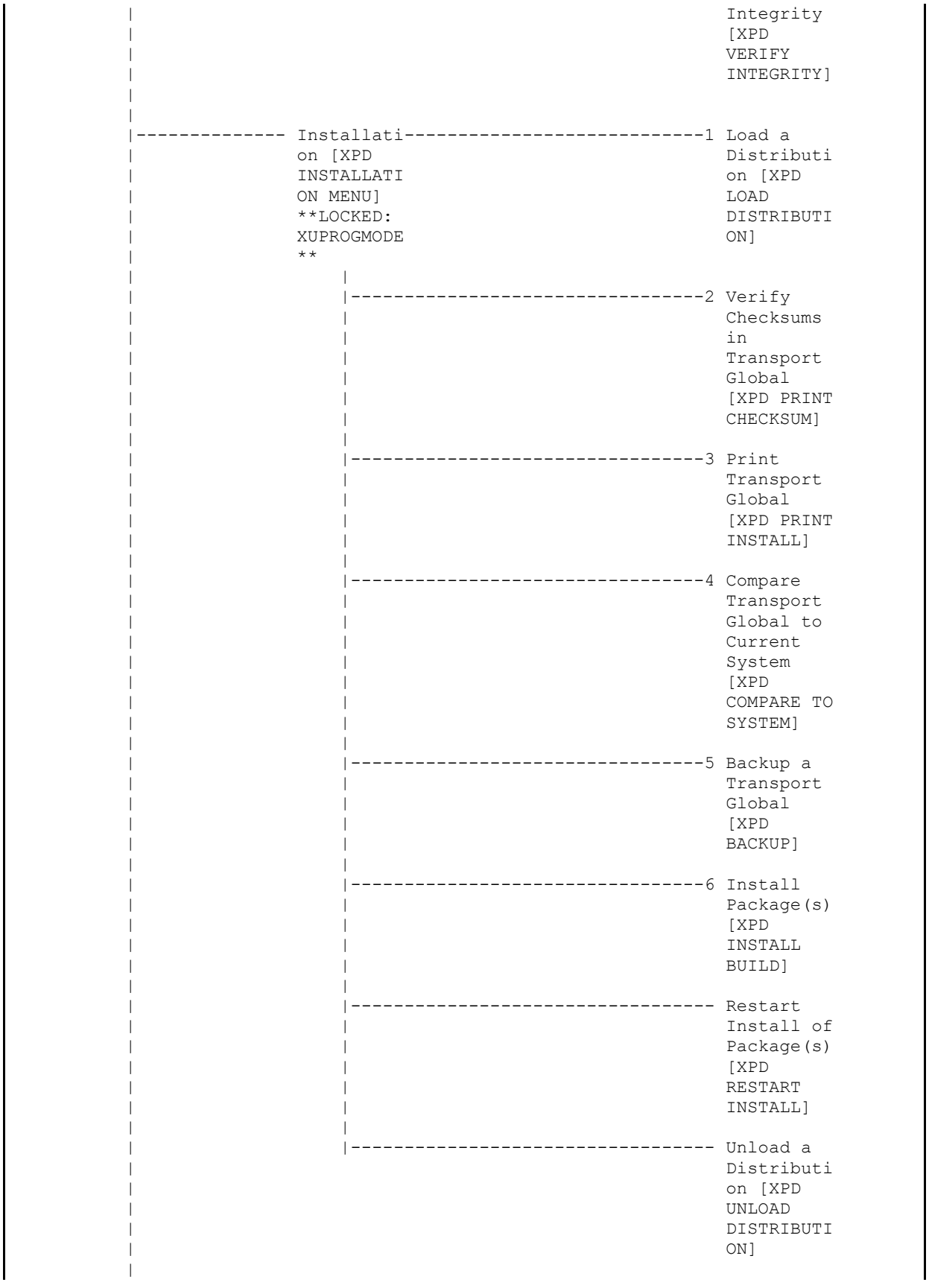

|
|---------- Clear XWB Log Files [XWB LOG CLEAR]
|
|---------- Debug Parameter Edit [XWB DEBUG EDIT]
|
|---------- View XWB Log [XWB LOG VIEW]
----- User Management Menu [XUOPTUSER] ----------FIND Find a user [XU FINDUSER]
|
|----------PXY Proxy User List [XUSAP PROXY LIST]
|
|---------- List users [XUSERLIST]
|
|---------- Print Sign-on Log [XUSC LIST]
|
|---------- Proxy (Connector) Detail Report [XUSAP PROXY CONN DETAIL ALL]
|
|---------- Proxy (Connector) Inquire [XUSAP PROXY CONN DETAIL INQ]
|
|---------- Release user [XUSERREL]
|
|---------- User Inquiry [XUSERINQ]
|
|---------- User Status Report [XUUSERSTATUS]

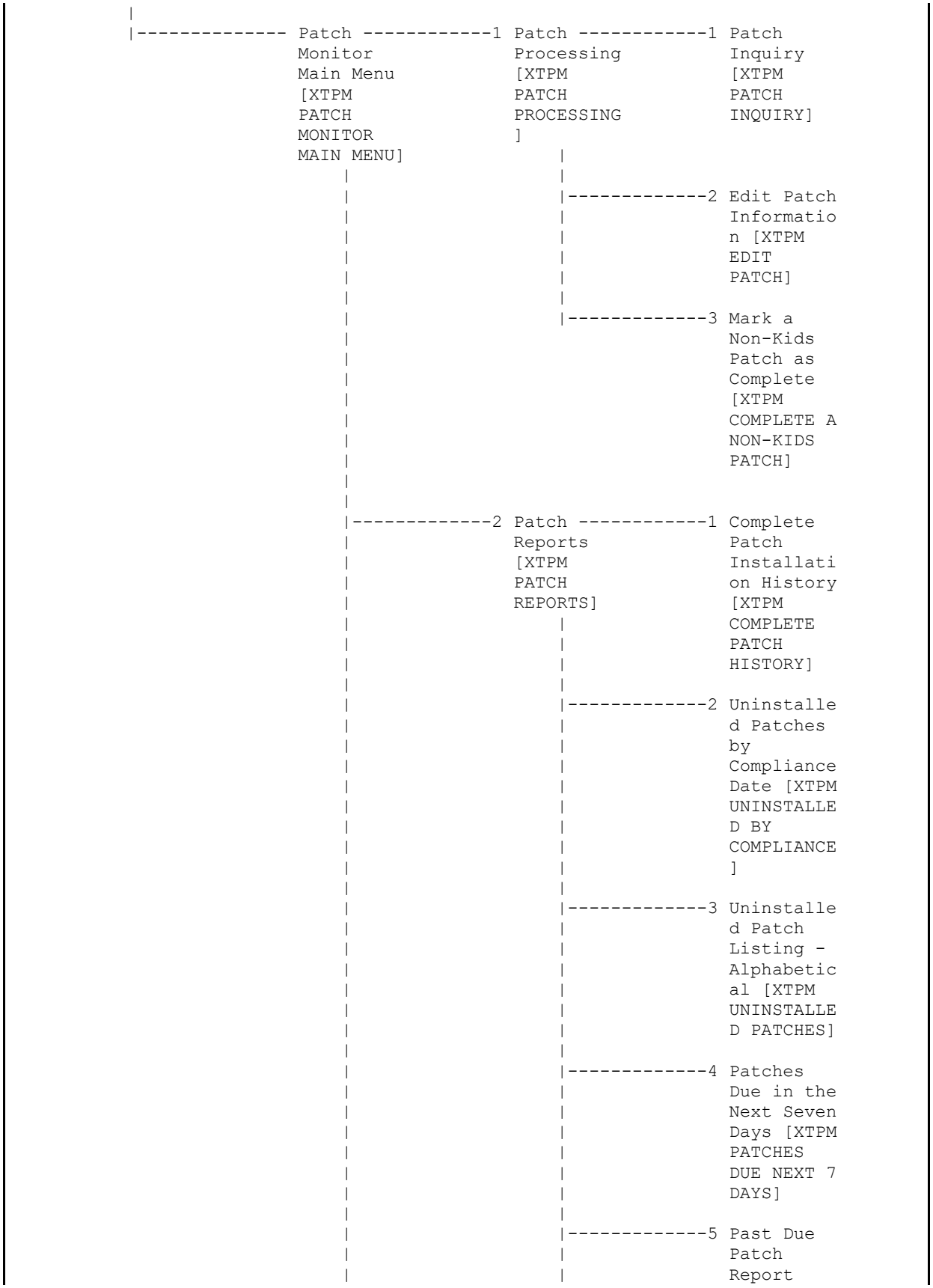
5.2.7 XUPROG

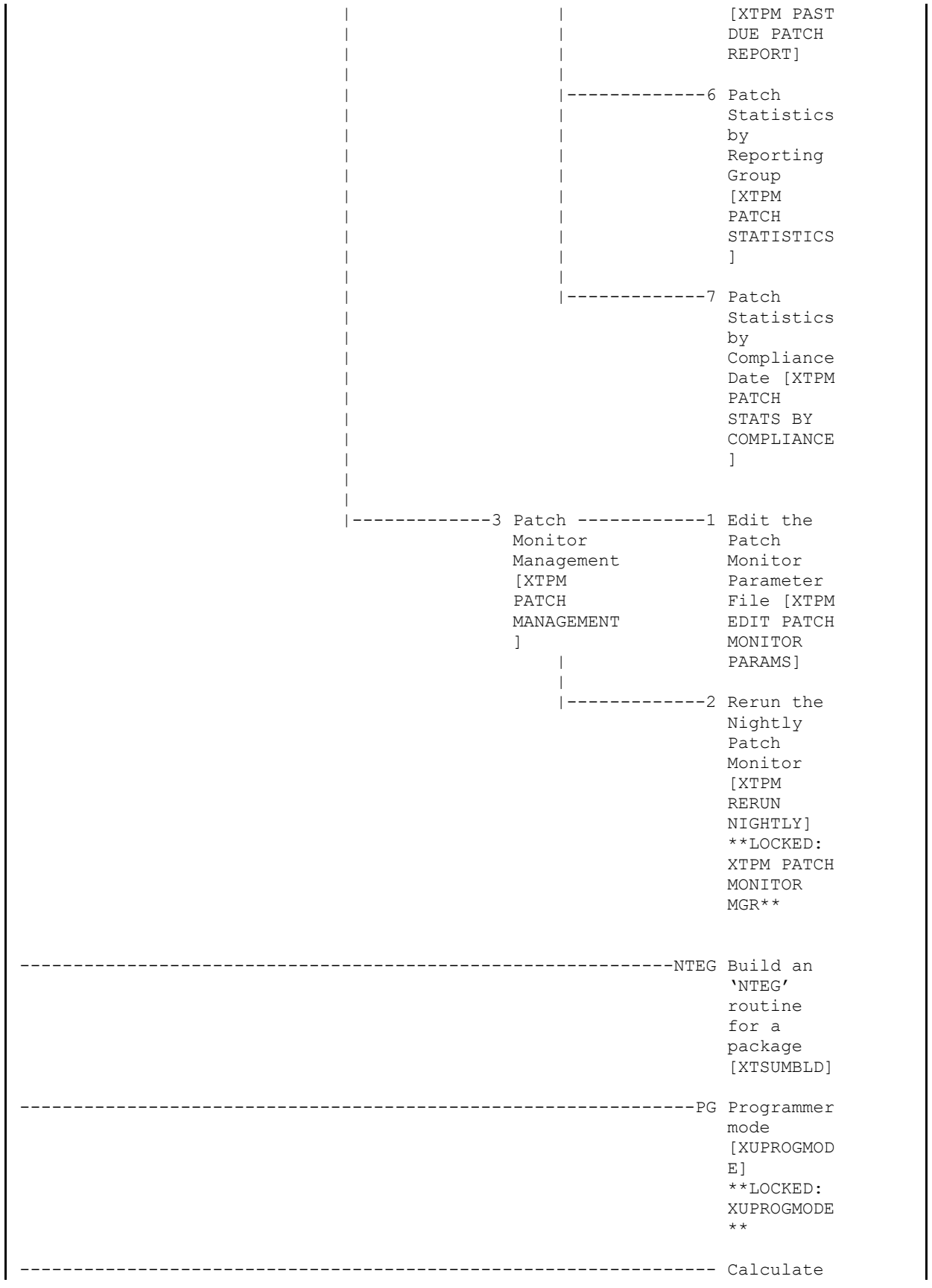
Figure 11: XUPROG—Menu Tree Diagram: Sample from OAKTST "Gold" Account

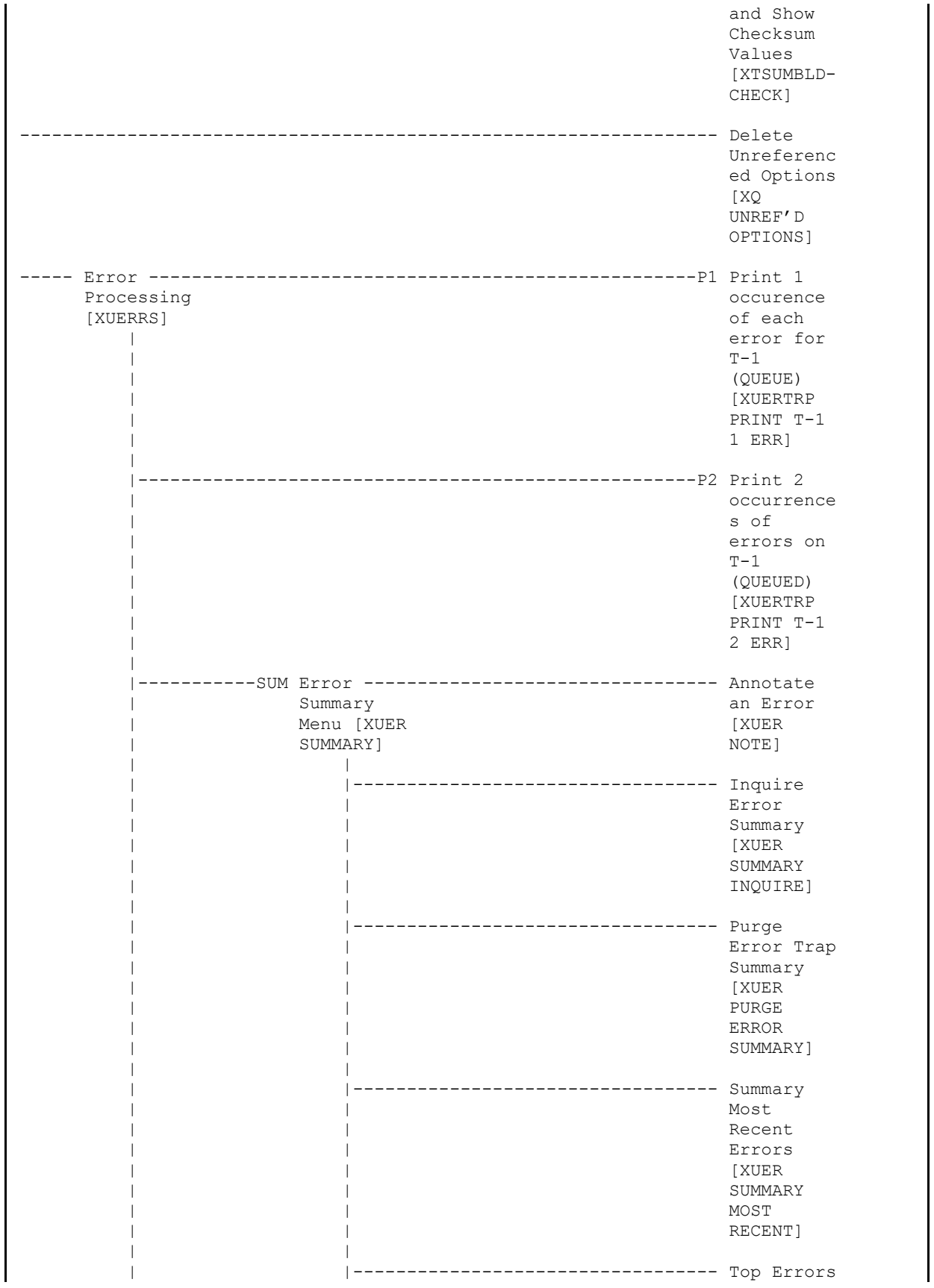


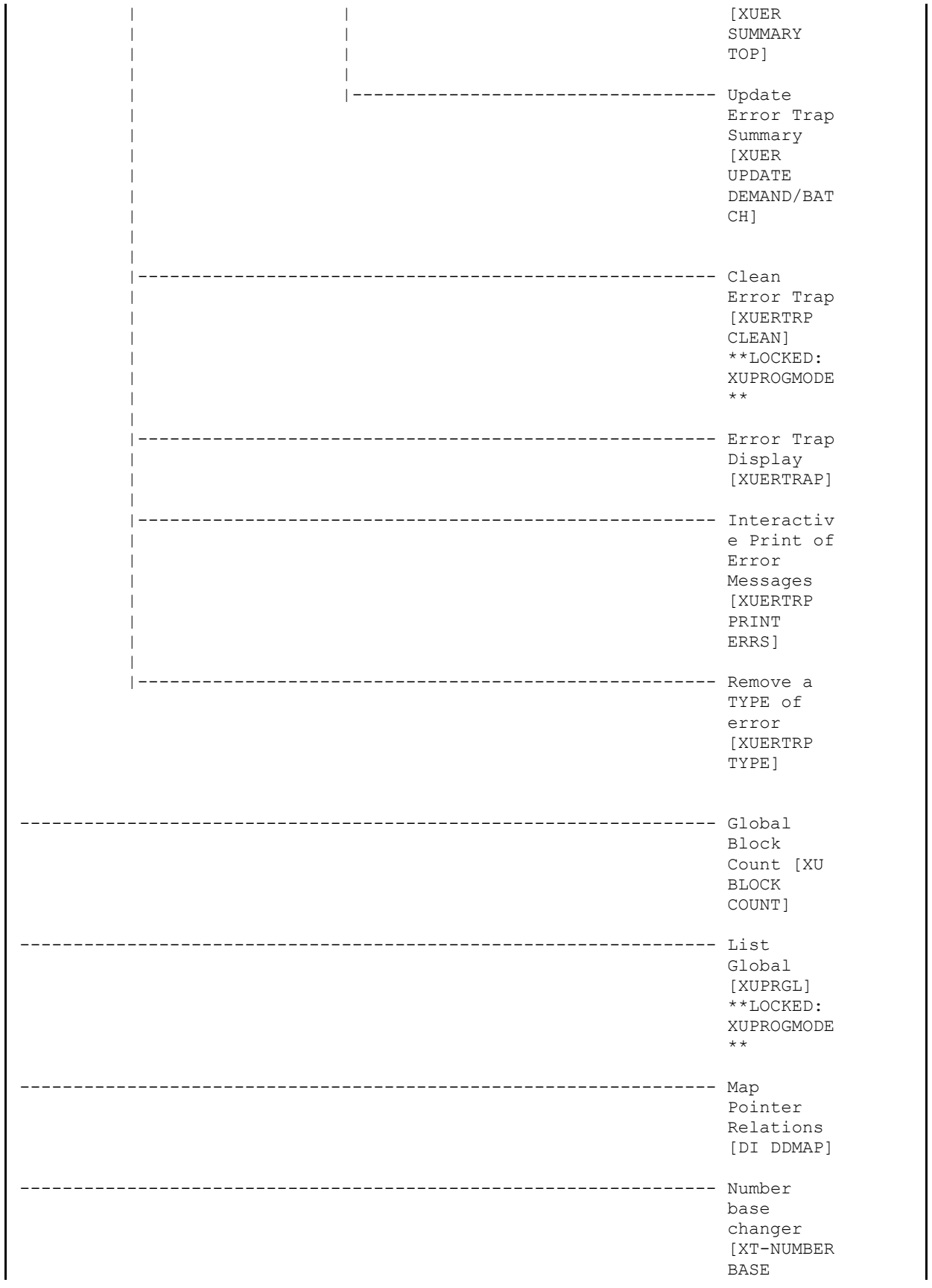

Utilities [XPD UTILITY]
Build File Print [XPD PRINT BUILD]
Install File Print [XPD PRINT INSTALL FILE]
Edit Install Status [XPD EDIT INSTALL]
Convert Loaded Package for Redistribution [XPD CONVERT PACKAGE]
Display Patches for a Package [XPD PRINT PACKAGE PATCHES]
Purge Build or Install Files [XPD PURGE FILE]
Rollup Patches into a Build [XPD ROLLUP PATCHES]
Update Routine File [XPD ROUTINE UPDATE]
Verify a Build [XPD VERIFY BUILD]
Verify Package

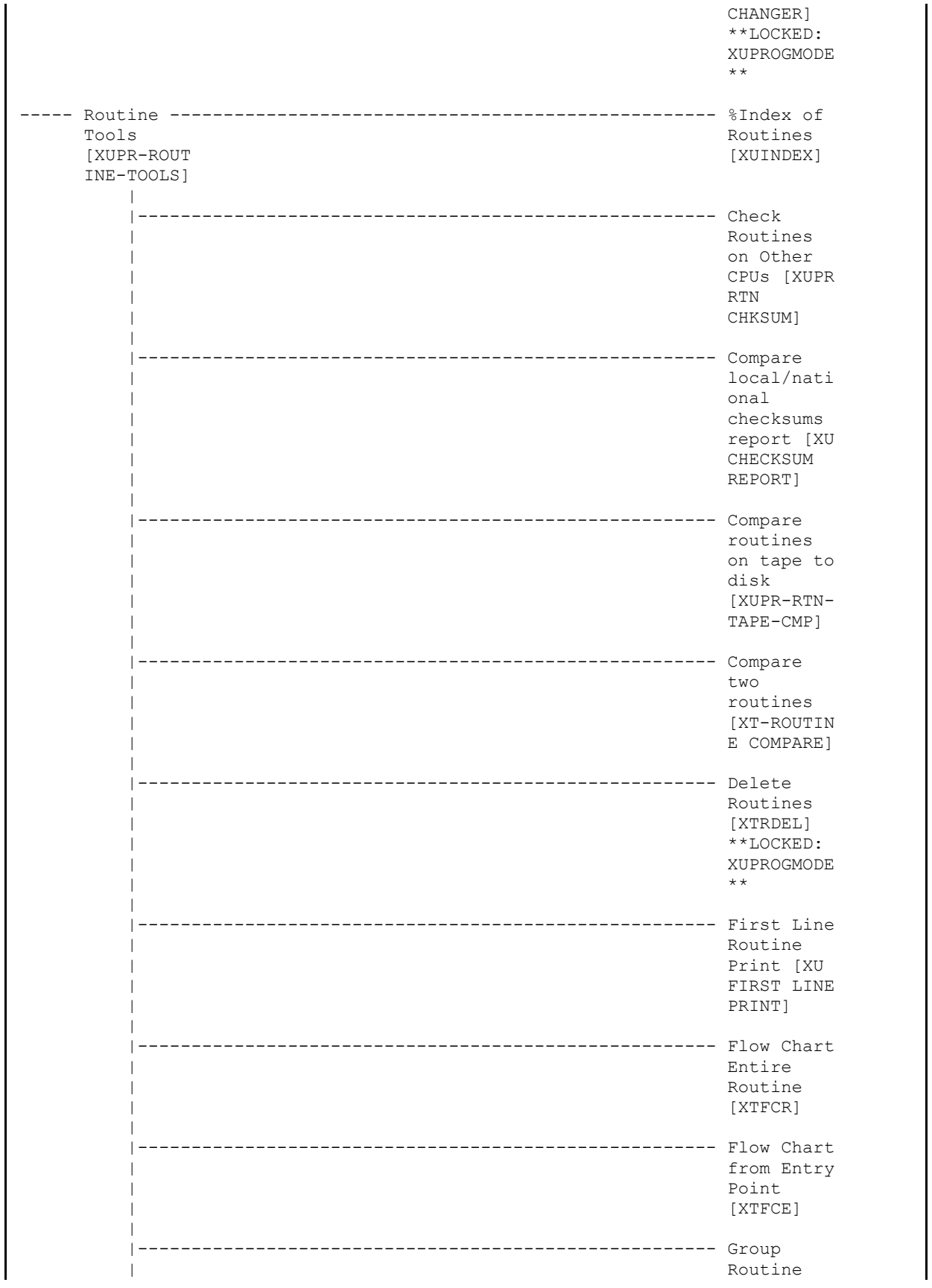

Integrity [XPD VERIFY INTEGRITY]
Installation [XPD INSTALLATION MENU] **LOCKED: XUPROGMODE **
1 Load a Distribution [XPD LOAD DISTRIBUTION]
2 Verify Checksums in Transport Global [XPD PRINT CHECKSUM]
3 Print Transport Global [XPD PRINT INSTALL]
4 Compare Transport Global to Current System [XPD COMPARE TO SYSTEM]
5 Backup a Transport Global [XPD BACKUP]
6 Install Package(s) [XPD INSTALL BUILD]
Restart Install of Package(s) [XPD RESTART INSTALL]
Unload a Distribution [XPD UNLOAD DISTRIBUTION]

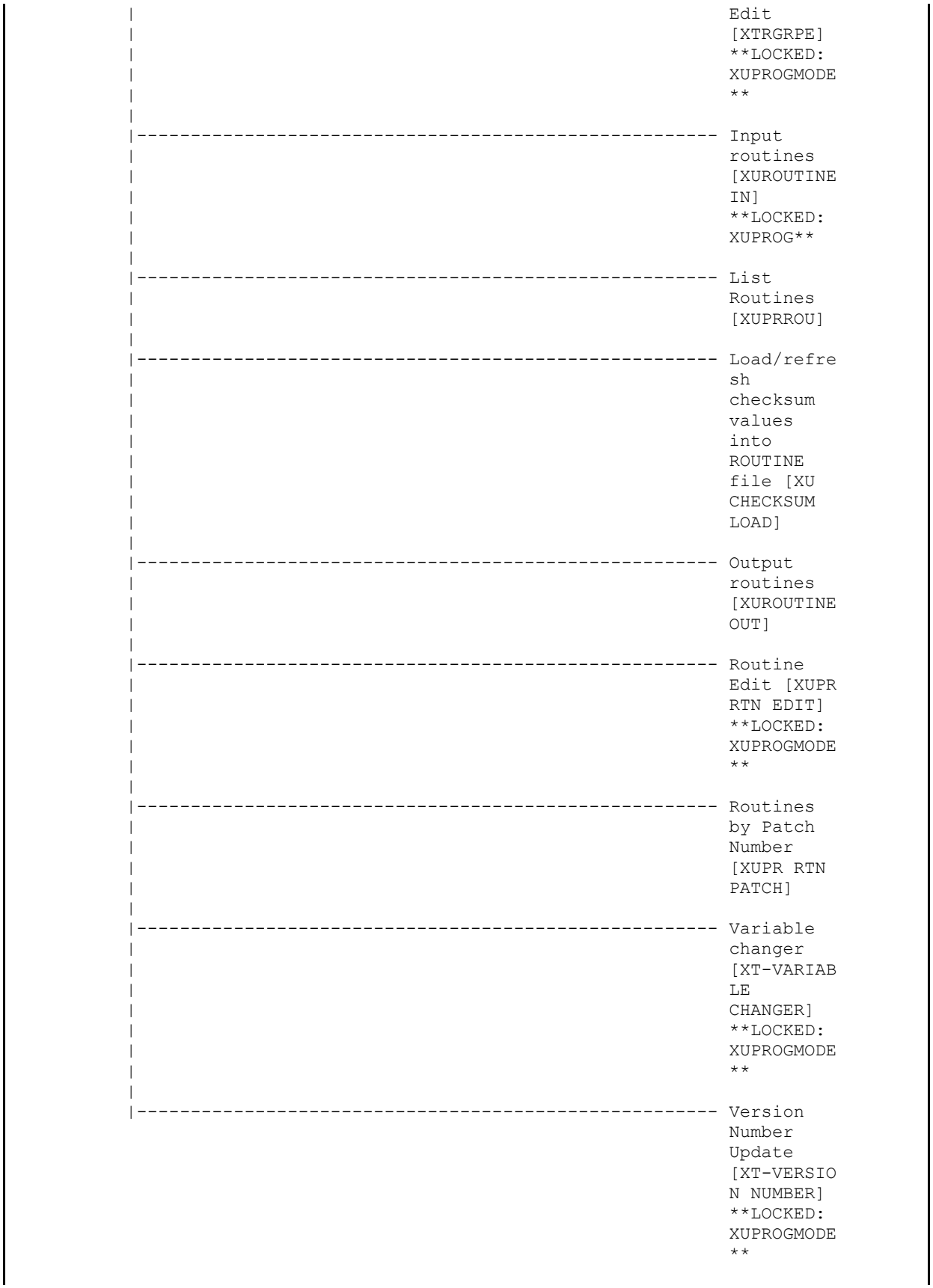

Patch Monitor Main Menu [XTPM PATCH MONITOR MAIN MENU]
1 Patch Processing [XTPM PATCH PROCESSING]
1 Patch Inquiry [XTPM PATCH INQUIRY]
2 Edit Patch Information [XTPM EDIT PATCH]
3 Mark a Non-Kids Patch as Complete [XTPM COMPLETE A NON-KIDS PATCH]
2 Patch Reports [XTPM PATCH REPORTS]
1 Complete Patch Installation History [XTPM COMPLETE PATCH HISTORY]
2 Uninstalled Patches by Compliance Date [XTPM UNINSTALLED BY COMPLIANCE]
3 Uninstalled Patch Listing - Alphabetical [XTPM UNINSTALLED PATCHES]
4 Patches Due in the Next Seven Days [XTPM PATCHES DUE NEXT 7 DAYS]
5 Past Due Patch Report

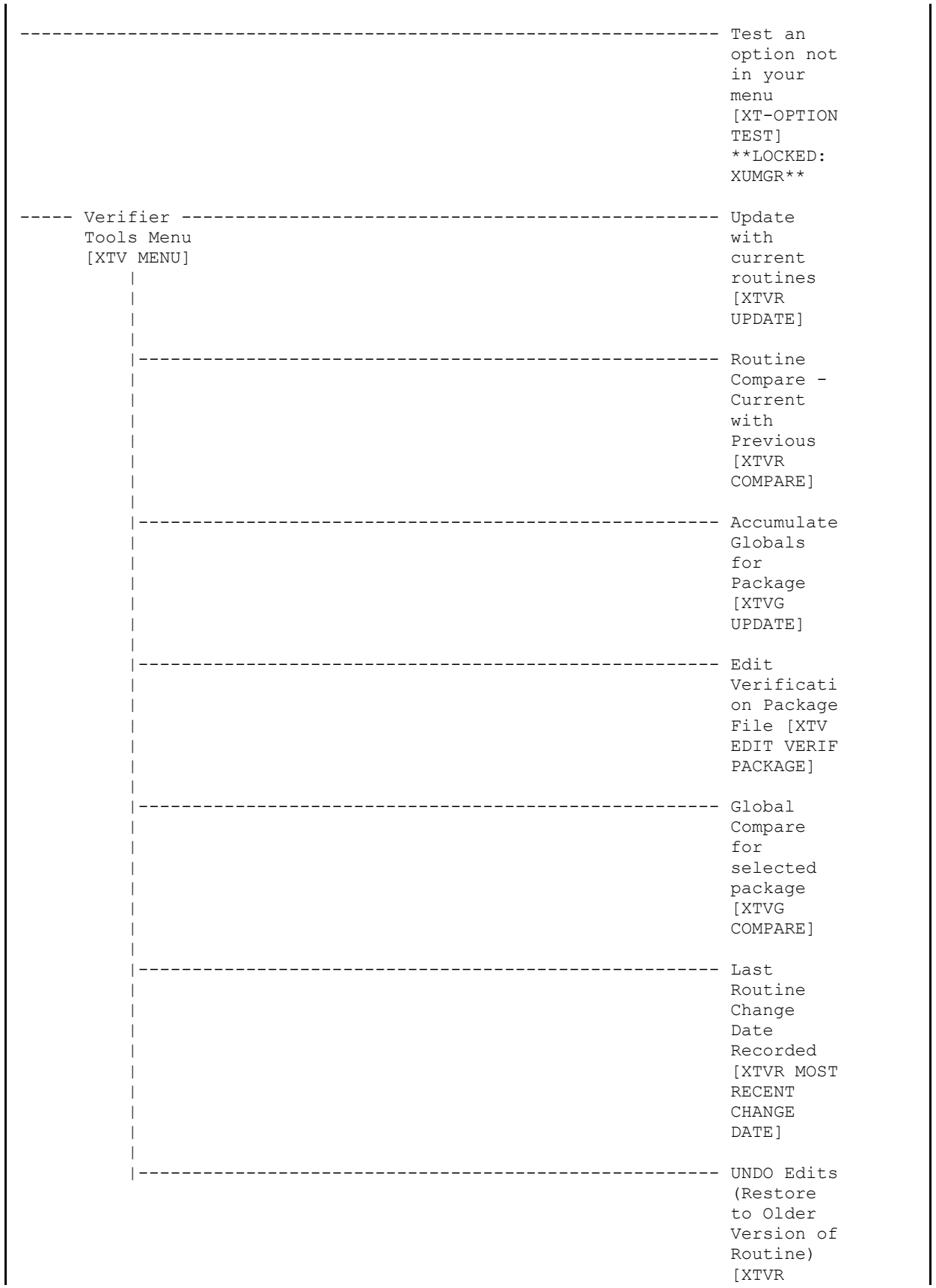

[XTPM PAST DUE PATCH REPORT]
6 Patch Statistics by Reporting Group [XTPM PATCH STATISTICS]
7 Patch Statistics by Compliance Date [XTPM PATCH STATS BY COMPLIANCE]
3 Patch Monitor Management [XTPM PATCH MANAGEMENT]
1 Edit the Patch Monitor Parameter File [XTPM EDIT PATCH MONITOR PARAMS]
2 Rerun the Nightly Patch Monitor [XTPM RERUN NIGHTLY] **LOCKED: XTPM PATCH MONITOR MGR**
NTEG Build an 'NTEG' routine for a package [XTSUMBLD]
PG Programmer mode [XUPROGMODE] **LOCKED: XUPROGMODE**
Calculate


and Show Checksum Values [XTSUMBLD-CHECK]
Delete Unreferenced Options [XQ UNREF'D OPTIONS]
Error Processing [XUERRS]
P1 Print 1 occurence of each error for T-1 (QUEUE) [XUERTRP PRINT T-1 1 ERR]
P2 Print 2 occurrences of errors on T-1 (QUEUED) [XUERTRP PRINT T-1 2 ERR]
SUM Error Summary Menu [XUER SUMMARY]
Annotate an Error [XUER NOTE]
Inquire Error Summary [XUER SUMMARY INQUIRE]
Purge Error Trap Summary [XUER PURGE ERROR SUMMARY]
Summary Most Recent Errors [XUER SUMMARY MOST RECENT]
Top Errors


[XUER SUMMARY TOP]
Update Error Trap Summary [XUER UPDATE DEMAND/BATCH]
Clean Error Trap [XUERTRP CLEAN] **LOCKED: XUPROGMODE**
Error Trap Display [XUERTRAP]
Interactive Print of Error Messages [XUERTRP PRINT ERRS]
Remove a TYPE of error [XUERTRP TYPE]
Global Block Count [XU BLOCK COUNT]
List Global [XUPRGL] **LOCKED: XUPROGMODE**
Map Pointer Relations [DI DDMAP]
Number base changer [XT-NUMBER BASE


CHANGER]
**LOCKED:
XUPROGMODE
**
----- Routine ----------
Tools
[XUPR-ROUT
INE-TOOLS]
%Index of
Routines
[XUINDEX]
Check
Routines
on Other
CPUs [XUPR
RTN
CHKSUM]
Compare
local/nati
onal
checksums
report [XU
CHECKSUM
REPORT]
Compare
routines
on tape to
disk
[XUPR-RTN-
TAPE-CMP]
Compare
two
routines
[XT-ROUTIN
E COMPARE]
Delete
Routines
[XTRDEL]
**LOCKED:
XUPROGMODE
**
First Line
Routine
Print [XU
FIRST LINE
PRINT]
Flow Chart
Entire
Routine
[XTFCR]
Flow Chart
from Entry
Point
[XTFCE]
Group
Routine


Edit [XTRGRPE] **LOCKED: XUPROGMODE **
Input routines [XUROUTINE IN] **LOCKED: XUPROG**
List Routines [XUPRROU]
Load/refresh checksum values into ROUTINE file [XU CHECKSUM LOAD]
Output routines [XUROUTINE OUT]
Routine Edit [XUPR RTN EDIT] **LOCKED: XUPROGMODE **
Routines by Patch Number [XUPR RTN PATCH]
Variable changer [XT-VARIABLE CHANGER] **LOCKED: XUPROGMODE **
Version Number Update [XT-VERSION NUMBER] **LOCKED: XUPROGMODE **


---------- Test an option not in your menu [XT-OPTION TEST] **LOCKED: XUMGR**
----- Verifier Tools Menu [XTV MENU] ---------- Update with current routines [XTVR UPDATE]
---------- Routine Compare - Current with Previous [XTVR COMPARE]
---------- Accumulate Globals for Package [XTVG UPDATE]
---------- Edit Verificati on Package File [XTV EDIT VERIF PACKAGE]
---------- Global Compare for selected package [XTVG COMPARE]
---------- Last Routine Change Date Recorded [XTVR MOST RECENT CHANGE DATE]
---------- UNDO Edits (Restore to Older Version of Routine) [XTVR

```
                                                                RESTORE
                                                                PREV
                                                                ROUTINE]
```

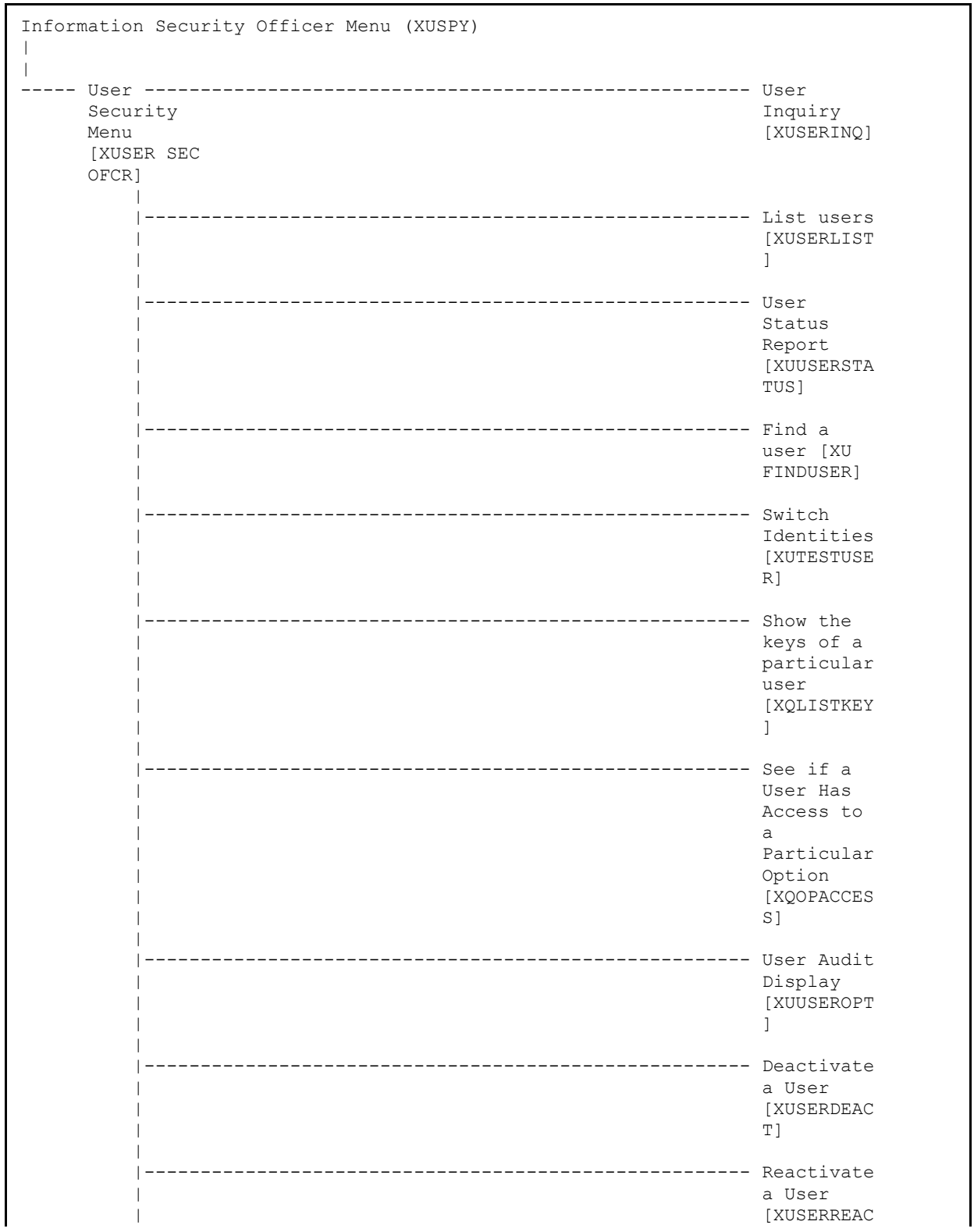
5.2.8 XU-SPL-MGR

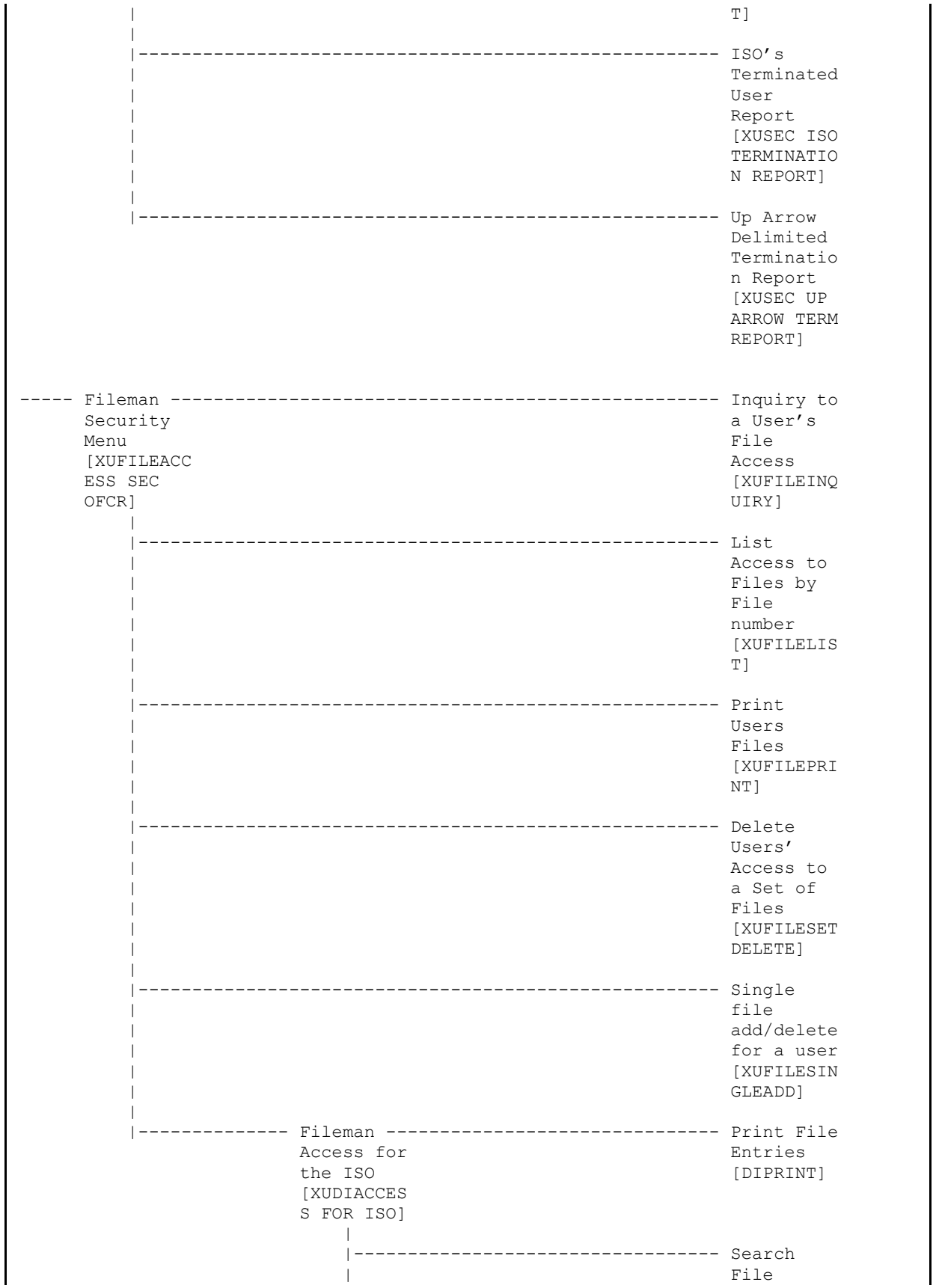
Figure 12: XU-SPL-MGR—Menu Tree Diagram: Sample from OAKTST "Gold" Account

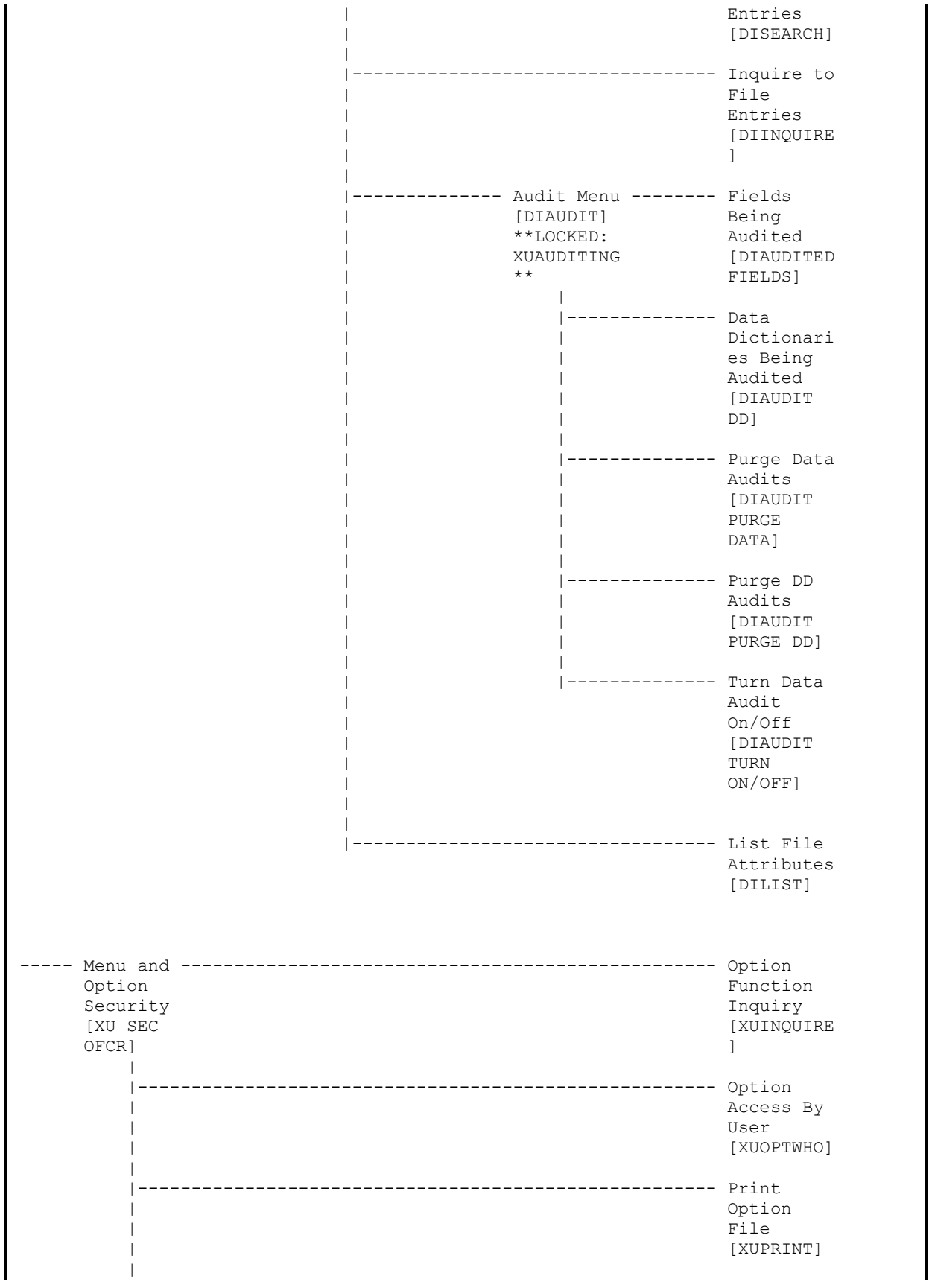
```
Spool Management (XU-SPL-MGR)
|
|
----- Delete A Spool Document
      [XU-SPL-DELETE]

----- 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]
```

5.2.9 XUSPY

Figure 13: XUSPY—Menu Tree Diagram: Sample from OAKTST "Gold" Account




T]
ISO's Terminated User Report [XUSEC ISO TERMINATIO N REPORT]
Up Arrow Delimited Terminatio n Report [XUSEC UP ARROW TERM REPORT]
Fileman Security Menu [XUFILEACC ESS SEC OFCR]
Inquiry to a User's File Access [XUFILEINQ UIRY]
List Access to Files by File number [XUFILELIS T]
Print Users Files [XUFILEPRI NT]
Delete Users' Access to a Set of Files [XUFILESET DELETE]
Single file add/delete for a user [XUFILESIN GLEADD]
Fileman Access for the ISO [XUDIACCES S FOR ISO]
Print File Entries [DIPRINT]
Search File


Entries
[DISEARCH]
Inquire to
File
Entries
[DIINQUIRE
]
Audit Menu
[DIAUDIT]
**LOCKED:
XUAUDITING
**
Fields
Being
Audited
[DIAUDITED
FIELDS]
Data
Dictionari
es Being
Audited
[DIAUDIT
DD]
Purge Data
Audits
[DIAUDIT
PURGE
DATA]
Purge DD
Audits
[DIAUDIT
PURGE DD]
Turn Data
Audit
On/Off
[DIAUDIT
TURN
ON/OFF]
List File
Attributes
[DILIST]
Menu and
Option
Security
[XU SEC
OFCR]
Option
Function
Inquiry
[XUINQUIRE
]
Option
Access By
User
[XUOPTWHO]
Print
Option
File
[XUPRINT]

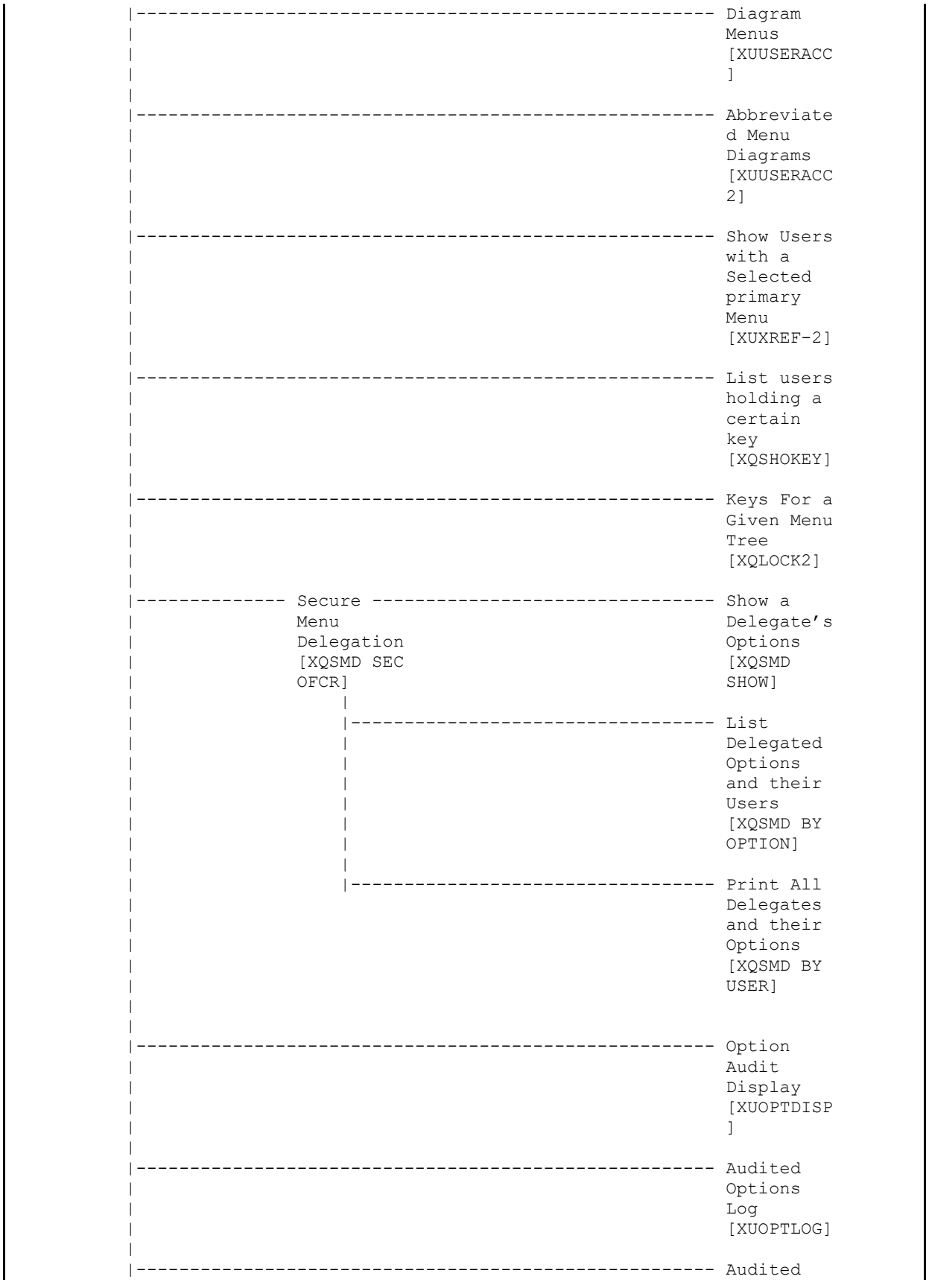
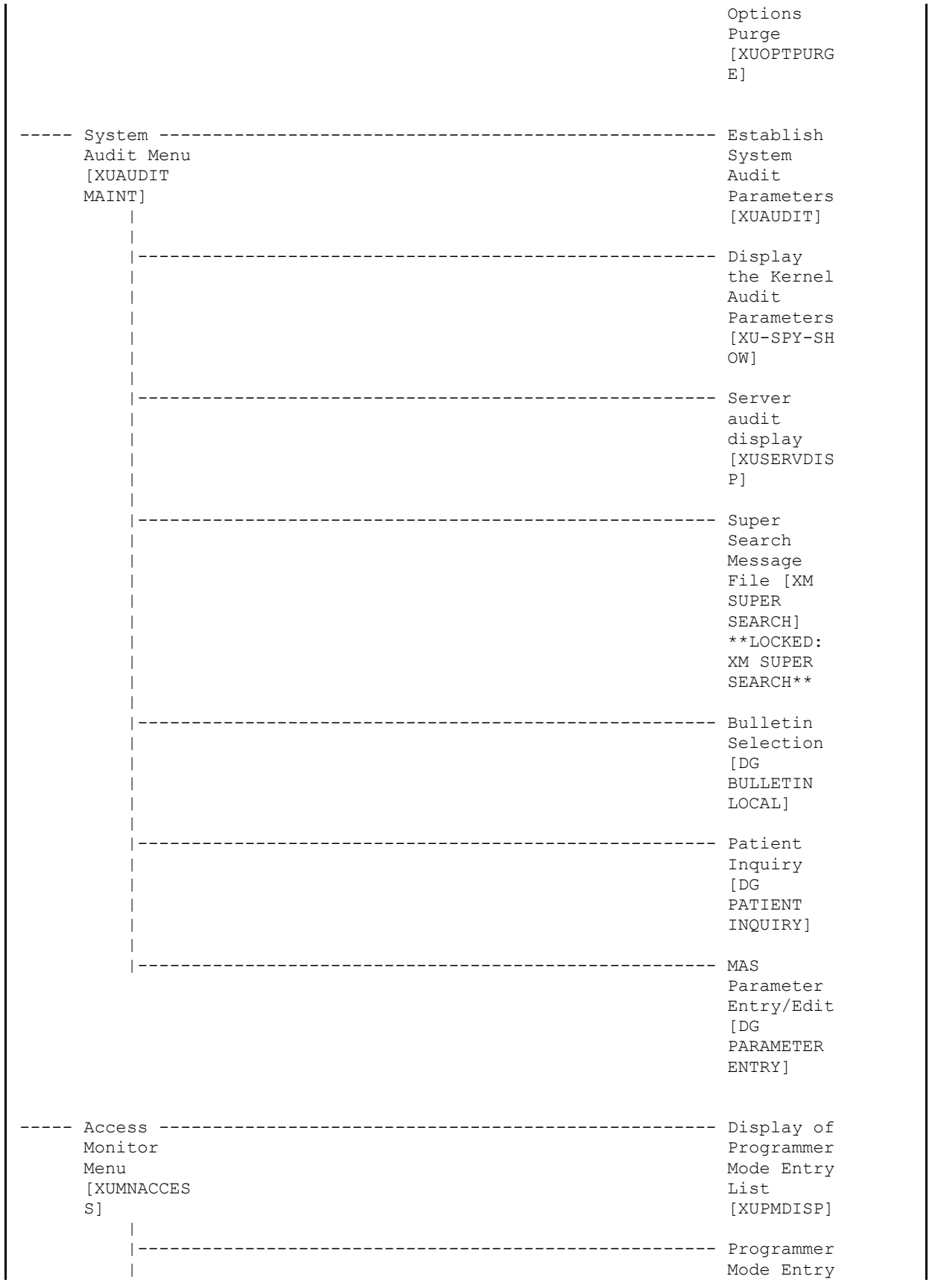
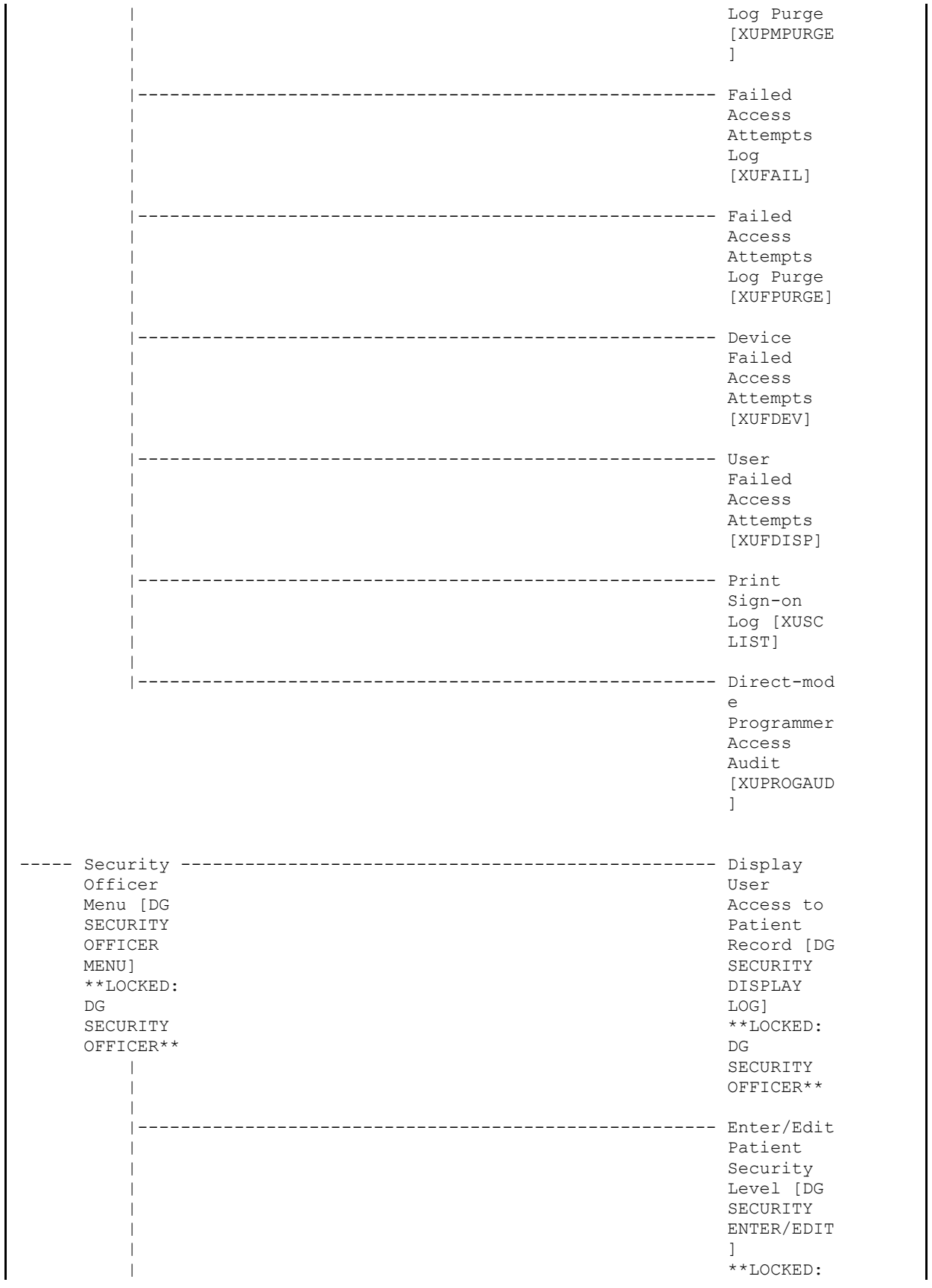


Diagram Menus [XUUSERACC]
Abbreviated Menu Diagrams [XUUSERACC 2]
Show Users with a Selected primary Menu [XUXREF-2]
List users holding a certain key [XQSHOKEY]
Keys For a Given Menu Tree [XQLOCK2]
Secure Menu Delegation [XQSMD SEC OFCR]
Show a Delegate's Options [XQSMD SHOW]
List Delegated Options and their Users [XQSMD BY OPTION]
Print All Delegates and their Options [XQSMD BY USER]
Option Audit Display [XUOPTDISP]
Audited Options Log [XUOPTLOG]
Audited

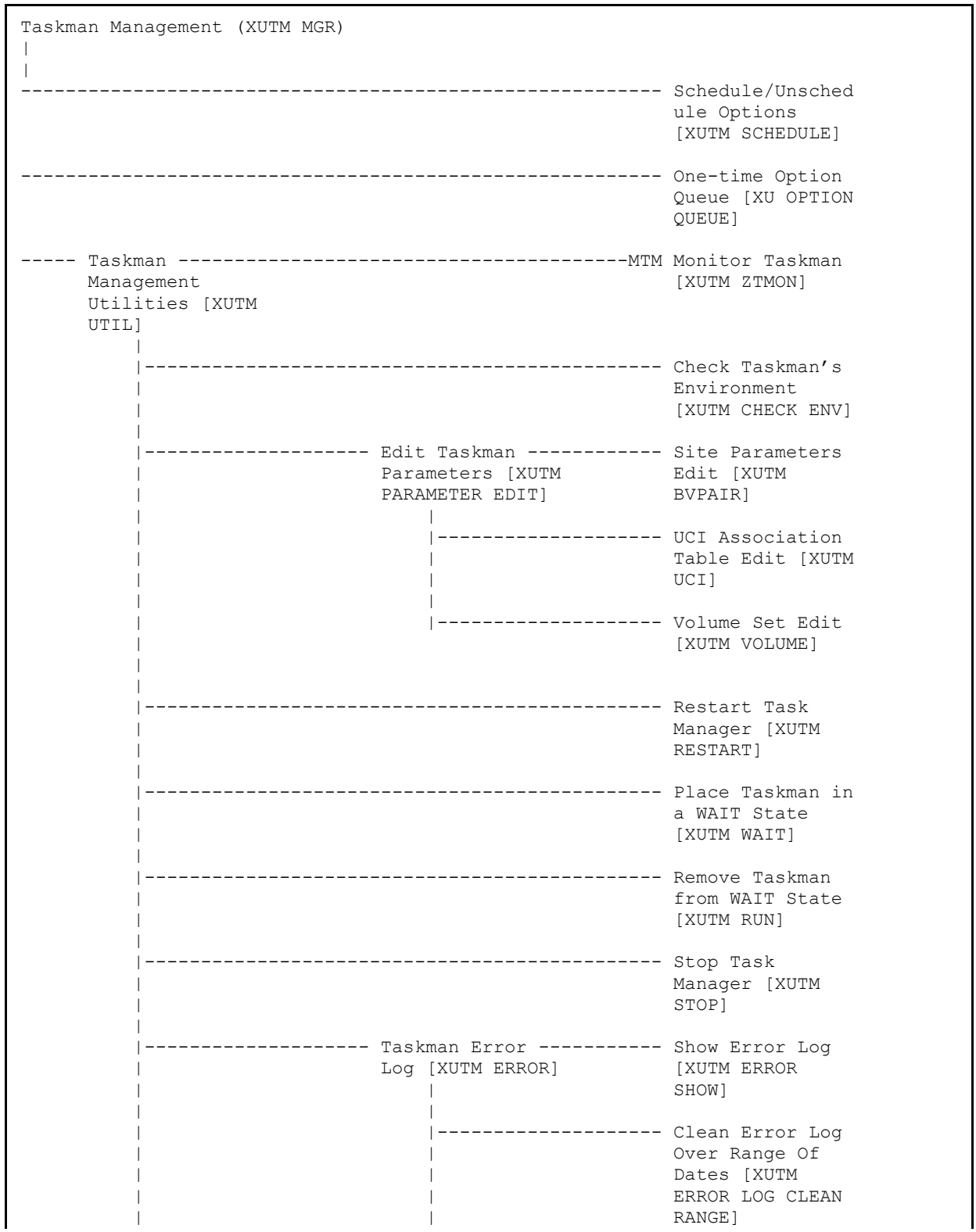

Options
Purge
[XUOPTPURG
E]
----- System Audit Menu [XUAUDIT MAINT] ----- Establish System Audit Parameters [XUAUDIT]
Display the Kernel Audit Parameters [XU-SPY-SHOW]
Server audit display [XUSERVDISP]
Super Search Message File [XM SUPER SEARCH] **LOCKED: XM SUPER SEARCH**
Bulletin Selection [DG BULLETIN LOCAL]
Patient Inquiry [DG PATIENT INQUIRY]
MAS Parameter Entry/Edit [DG PARAMETER ENTRY]
----- Access Monitor Menu [XUMNACCES S] ----- Display of Programmer Mode Entry List [XUPMDISP]
Programmer Mode Entry

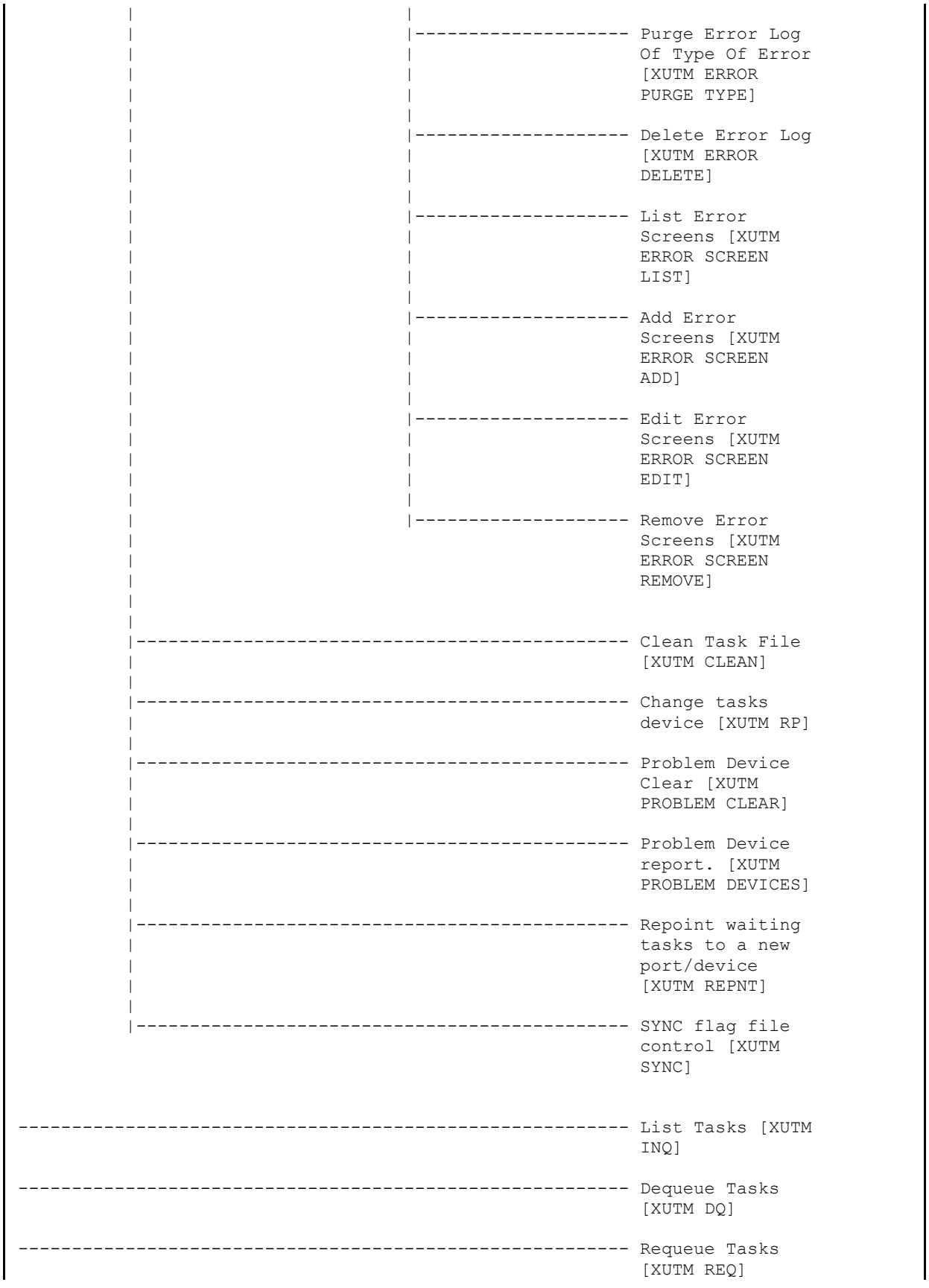

Log Purge [XUPMPURGE]
Failed Access Attempts Log [XUFAIL]
Failed Access Attempts Log Purge [XUFPURGE]
Device Failed Access Attempts [XUFDEV]
User Failed Access Attempts [XUFDISP]
Print Sign-on Log [XUSCLIST]
Direct-mode Programmer Access Audit [XUPROGAUD]
Security Officer Menu [DG SECURITY OFFICER MENU] **LOCKED: DG SECURITY OFFICER**
Display User Access to Patient Record [DG SECURITY DISPLAY LOG] **LOCKED: DG SECURITY OFFICER**
Enter/Edit Patient Security Level [DG SECURITY ENTER/EDIT] **LOCKED:

```
|                                                      DG
|                                                      SENSITIVIT
|                                                      Y**
|
|------------------------------------------------------ Purge
|                                                      Non-sensit
|                                                      ive
|                                                      Patients
|                                                      from
|                                                      Security
|                                                      Log [DG
|                                                      SECURITY
|                                                      PURGE
|                                                      PATIENTS]
|                                                      **LOCKED:
|                                                      DG
|                                                      SECURITY
|                                                      OFFICER**
|
|------------------------------------------------------ Purge
|                                                      Record of
|                                                      User
|                                                      Access
|                                                      from
|                                                      Security
|                                                      Log [DG
|                                                      SECURITY
|                                                      PURGE LOG]
|                                                      **LOCKED:
|                                                      DG
|                                                      SECURITY
|                                                      OFFICER**
|
|-----------------------------------------------------EXP ISO
|                                                      Sensitive
|                                                      Records
|                                                      Report-Exp
|                                                      ort [DG
|                                                      SENSITIVE
|                                                      RCDS
|                                                      RPT-EXPORT
|                                                      ]
|
|-----------------------------------------------------FMT ISO
                                                       Sensitive
                                                       Records
                                                       Report-For
                                                       matted
                                                       Report [DG
                                                       SENSITIVE
                                                       RCDS
                                                       RPT-FORMAT
                                                       ]
```

5.2.10 XUTM MGR

Figure 14: XUTM MGR—Menu Tree Diagram: Sample from OAKTST "Gold" Account

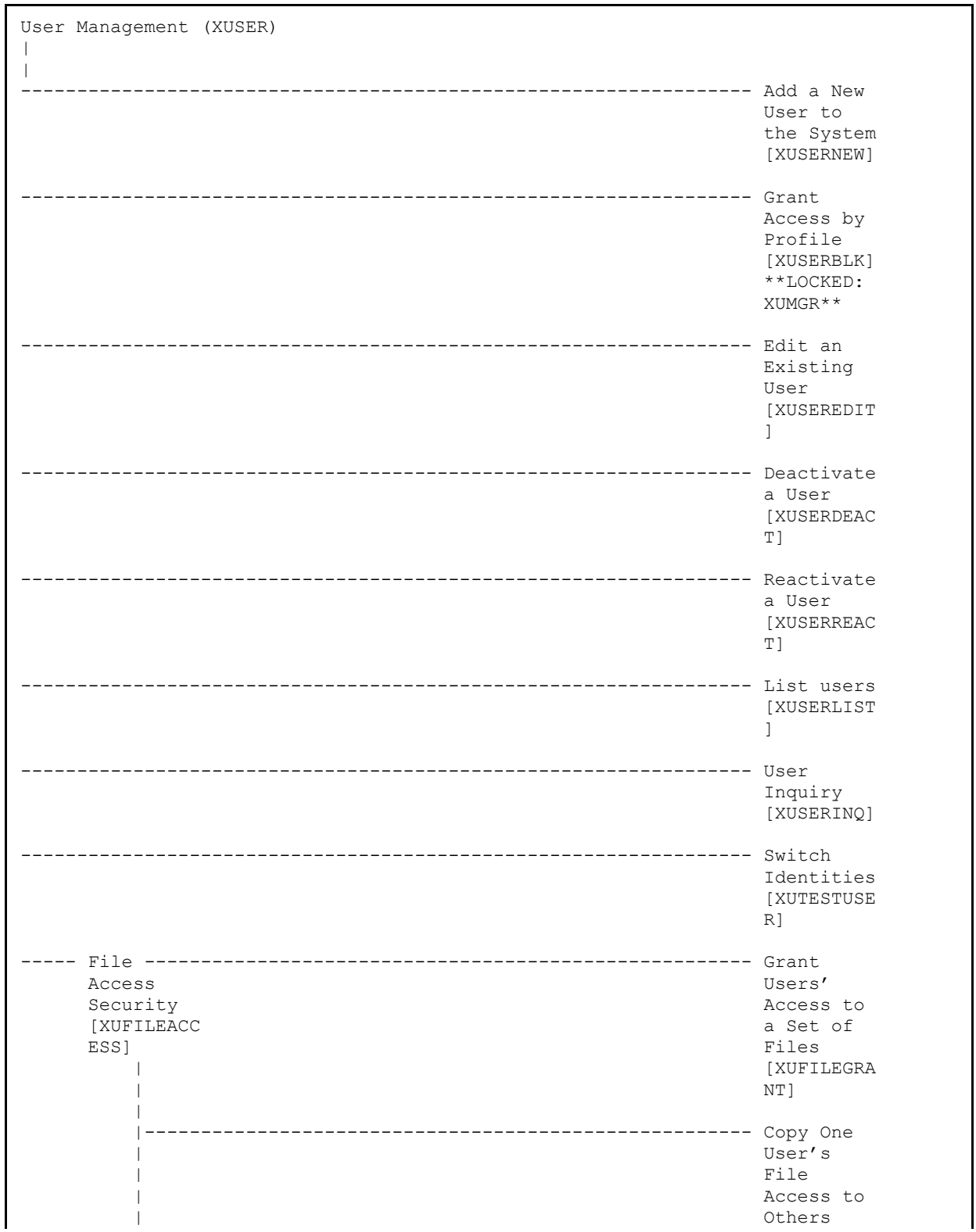


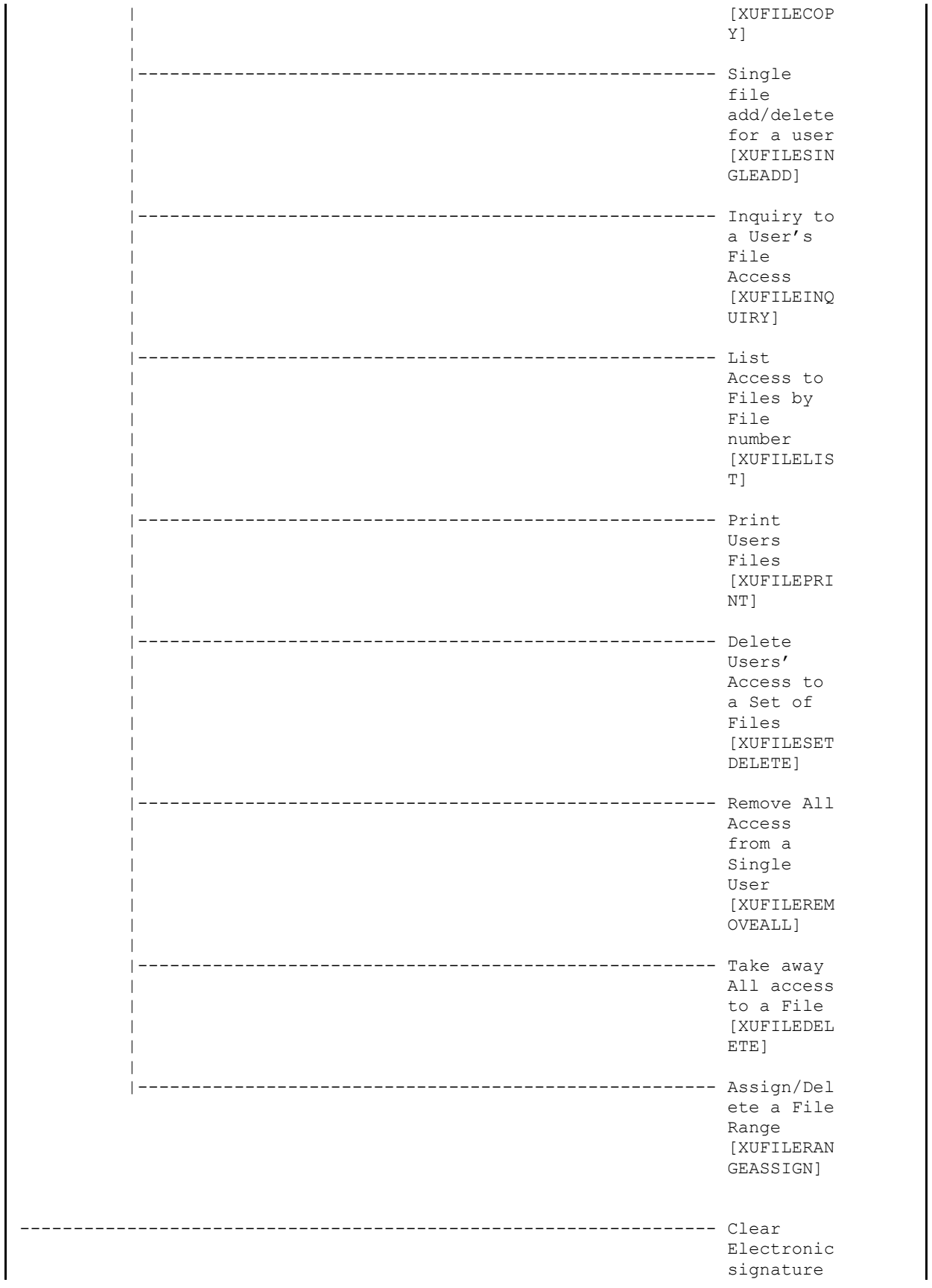

Purge Error Log Of Type Of Error [XUTM ERROR PURGE TYPE]
Delete Error Log [XUTM ERROR DELETE]
List Error Screens [XUTM ERROR SCREEN LIST]
Add Error Screens [XUTM ERROR SCREEN ADD]
Edit Error Screens [XUTM ERROR SCREEN EDIT]
Remove Error Screens [XUTM ERROR SCREEN REMOVE]
Clean Task File [XUTM CLEAN]
Change tasks device [XUTM RP]
Problem Device Clear [XUTM PROBLEM CLEAR]
Problem Device report. [XUTM PROBLEM DEVICES]
Repoint waiting tasks to a new port/device [XUTM REPNT]
SYNC flag file control [XUTM SYNC]
List Tasks [XUTM INQ]
Dequeue Tasks [XUTM DQ]
Requeue Tasks [XUTM REQ]

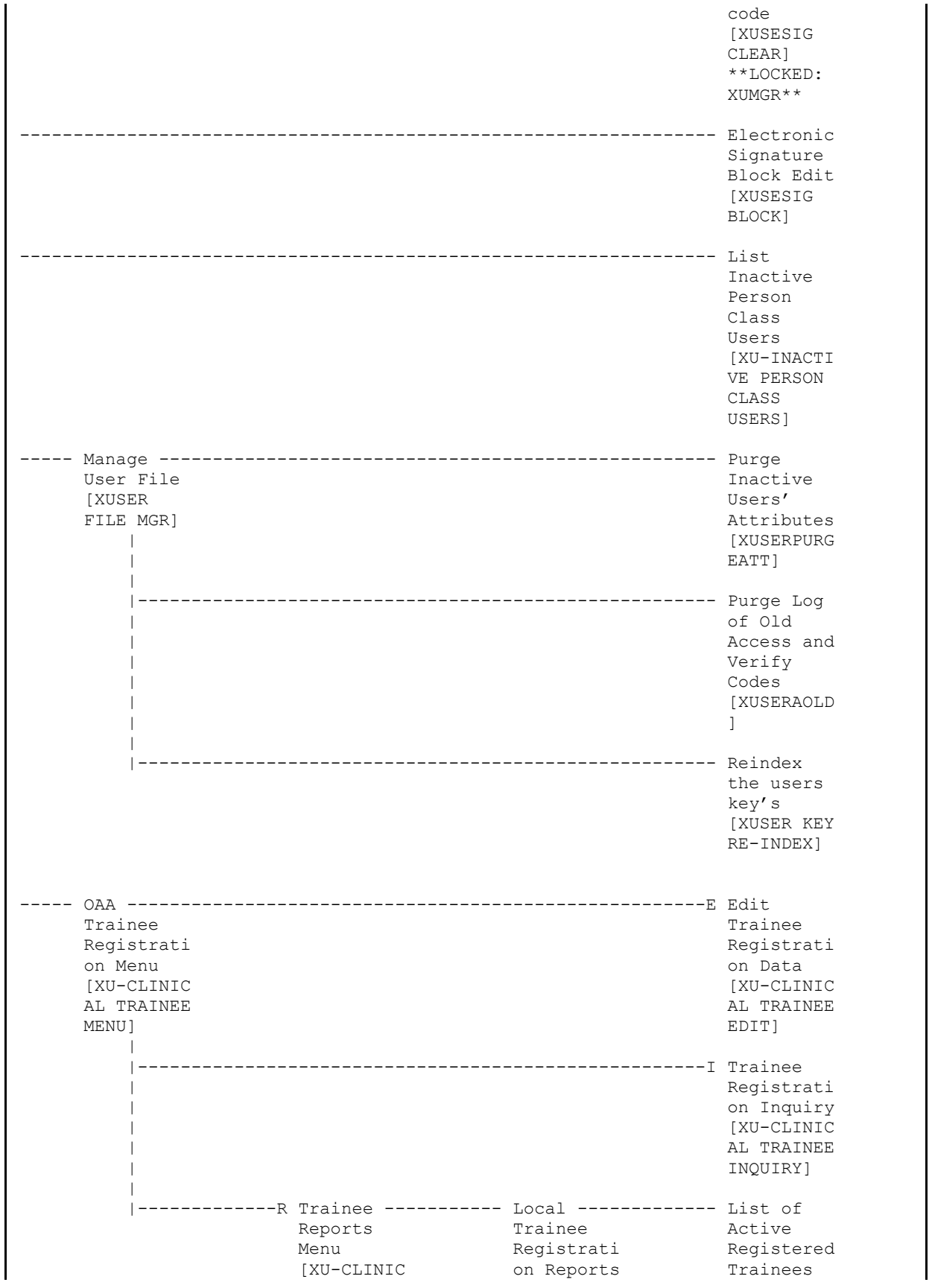
```
---------------------------------------------------------- Delete Tasks
                                                           [XUTM DEL]

---------------------------------------------------------- Print Options
                                                           that are
                                                           Scheduled to run
                                                           [XUTM BACKGROUND
                                                           PRINT]

---------------------------------------------------------- Cleanup Task
                                                           List [XUTM TL
                                                           CLEAN]

---------------------------------------------------------- Print Options
                                                           Recommended for
                                                           Queueing [XUTM
                                                           BACKGROUND
                                                           RECOMMENDED]
```

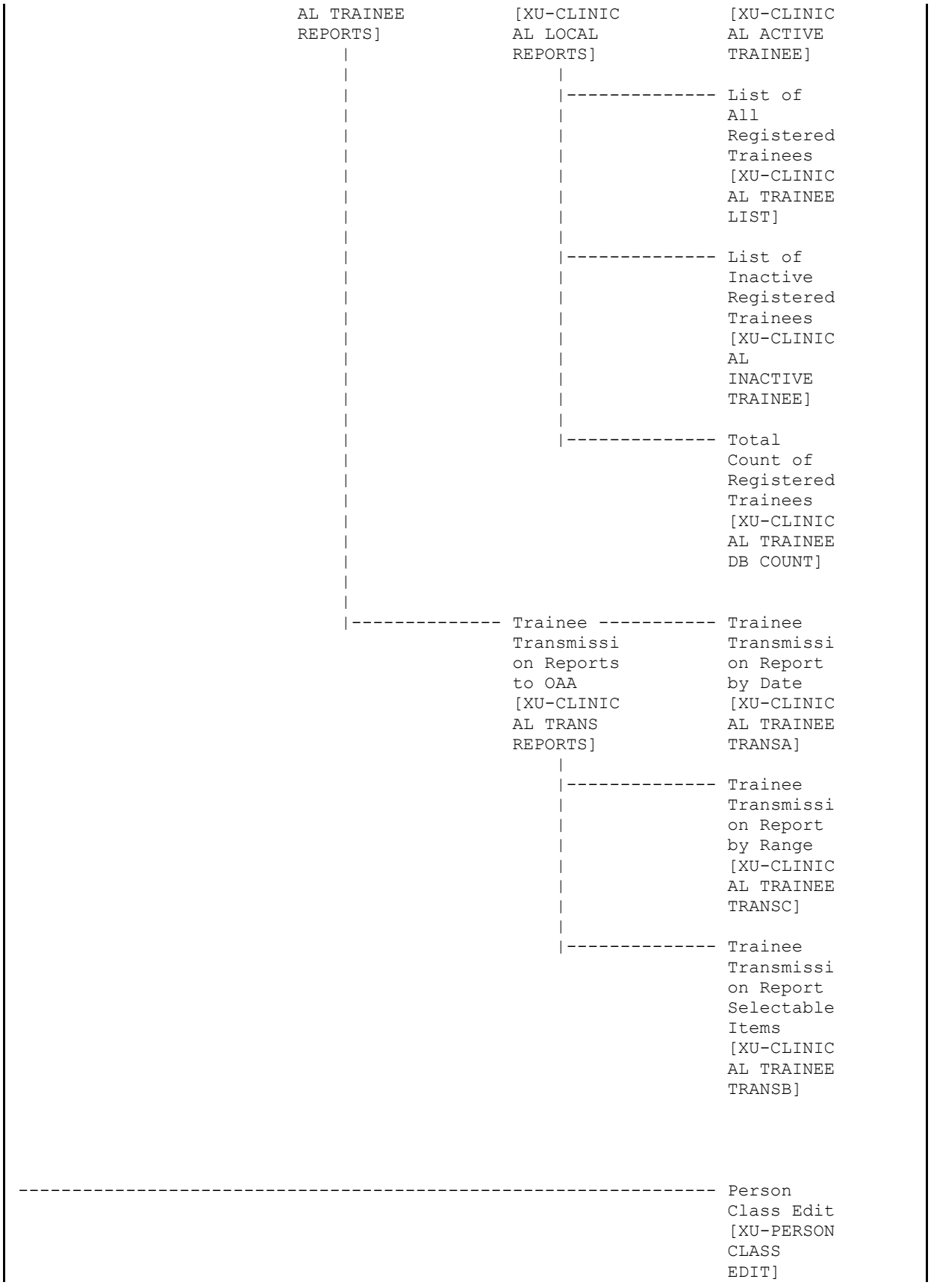
5.2.11 XUSER

Figure 15: XUSER—Menu Tree Diagram: Sample from OAKTST "Gold" Account




[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]
List
Inactive
Person
Class
Users
[XU-INACTI
VE PERSON
CLASS
USERS]
Manage
User File
[XUSER
FILE MGR]
Purge
Inactive
Users'
Attributes
[XUSERPURG
EATT]
Purge Log
of Old
Access and
Verify
Codes
[XUSERAOLD
]
Reindex
the users
key's
[XUSER KEY
RE-INDEX]
OAA
Trainee
Registrati
on Menu
[XU-CLINIC
AL TRAINEE
MENU]
E Edit
Trainee
Registrati
on Data
[XU-CLINIC
AL TRAINEE
EDIT]
I Trainee
Registrati
on Inquiry
[XU-CLINIC
AL TRAINEE
INQUIRY]
R Trainee
Reports
Menu
[XU-CLINIC
Local
Trainee
Registrati
on Reports
List of
Active
Registered
Trainees


AL TRAINEE REPORTS]
[XU-CLINIC AL LOCAL REPORTS]
[XU-CLINIC AL ACTIVE TRAINEE]
List of All Registered Trainees [XU-CLINIC AL TRAINEE LIST]
List of Inactive Registered Trainees [XU-CLINIC AL INACTIVE TRAINEE]
Total Count of Registered Trainees [XU-CLINIC AL TRAINEE DB COUNT]
Trainee Transmissi on Reports to OAA [XU-CLINIC AL TRANS REPORTS]
Trainee Transmissi on Report by Date [XU-CLINIC AL TRAINEE TRANSA]
Trainee Transmissi on Report by Range [XU-CLINIC AL TRAINEE TRANSC]
Trainee Transmissi on Report Selectable Items [XU-CLINIC AL TRAINEE TRANSB]
Person Class Edit [XU-PERSON CLASS EDIT]

```
------------------------------------------------------------------ Reprint
                                                                   Access
                                                                   agreement
                                                                   letter
                                                                   [XUSERREPR
                                                                   INT]
```

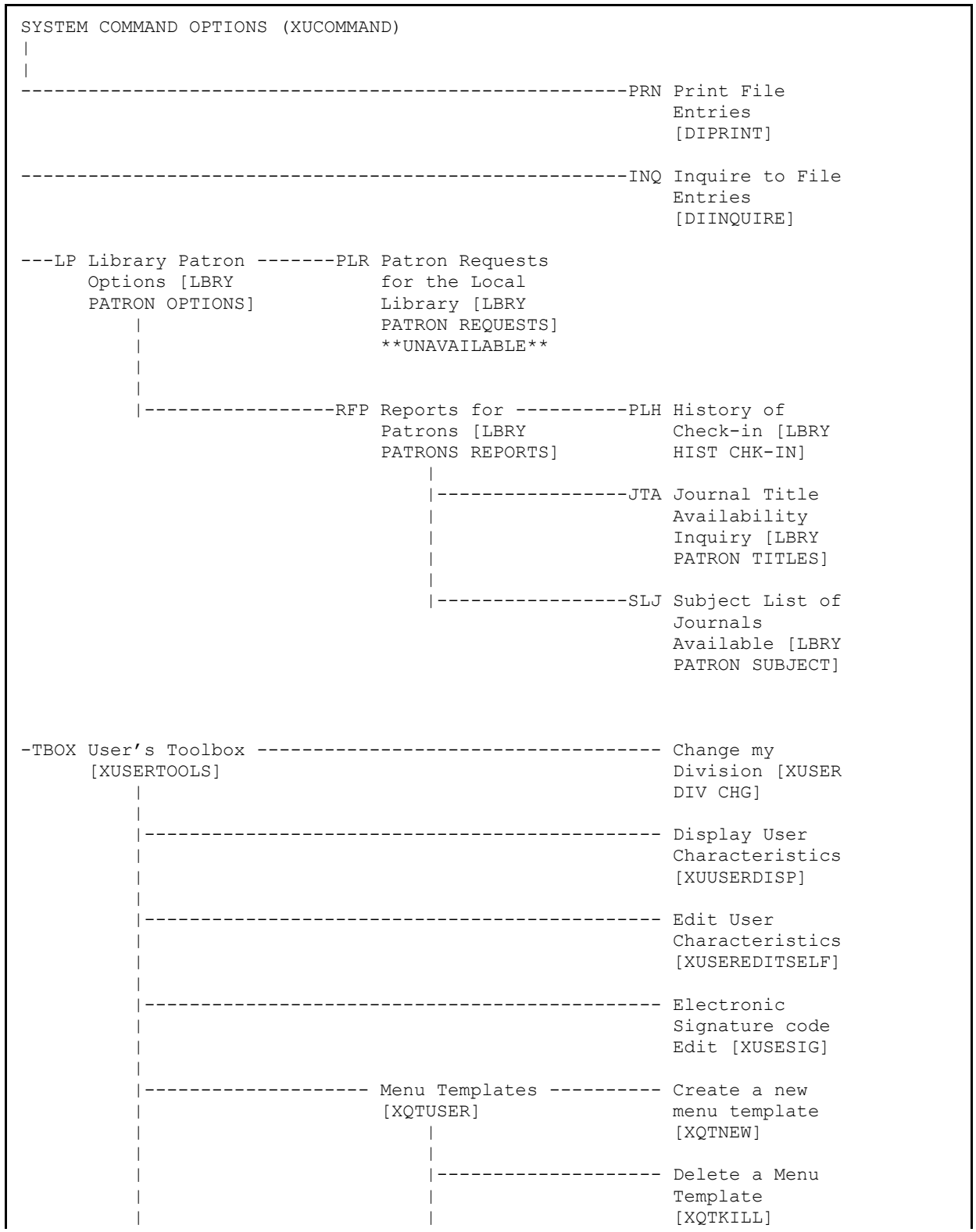
5.2.12 Parent of Queuable Options [ZTMQUEUABLE OPTIONS]

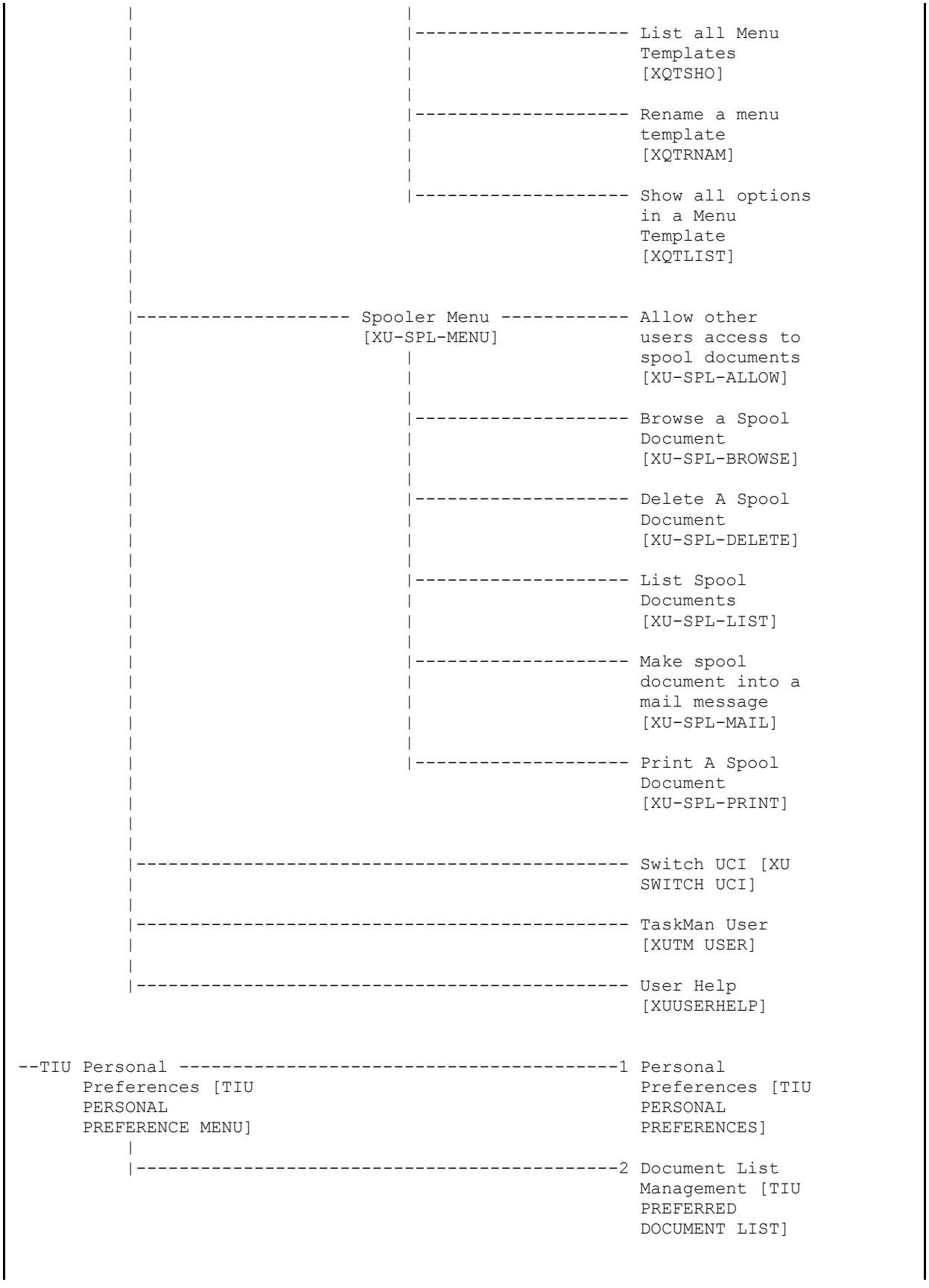
Figure 16: ZTMQUEUABLE OPTIONS—Menu Tree Diagram: Sample from OAKTST "Gold" Account

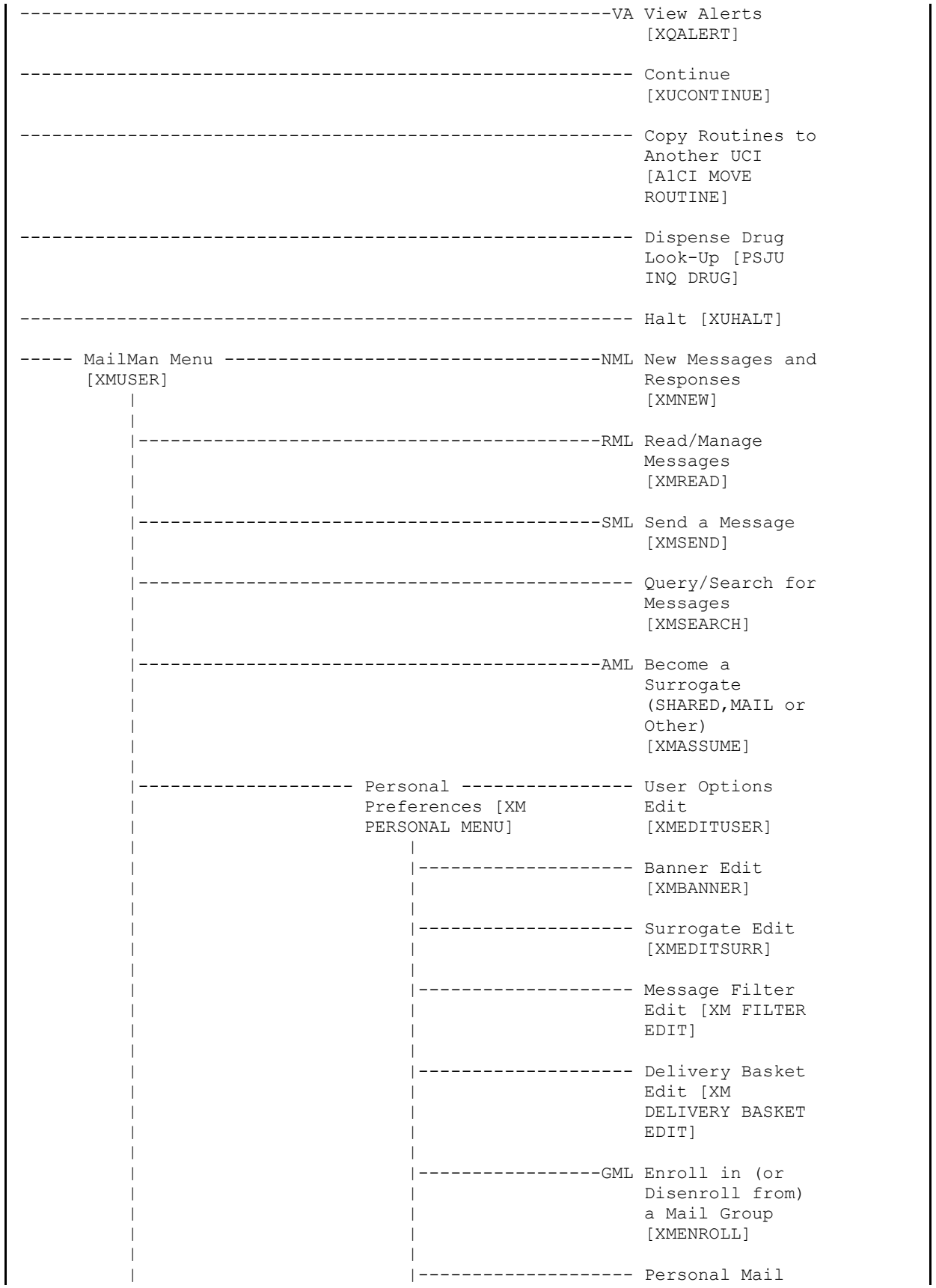
```
Parent of Queuable Options (ZTMQUEUABLE OPTIONS)
|
|
----- Automatic Deactivation of Users
      [XUAUTODEACTIVATE]

----- 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]

----- Unlinked payers notification
      [IBCNE EIV PAYER LINK NOTIFY]
```

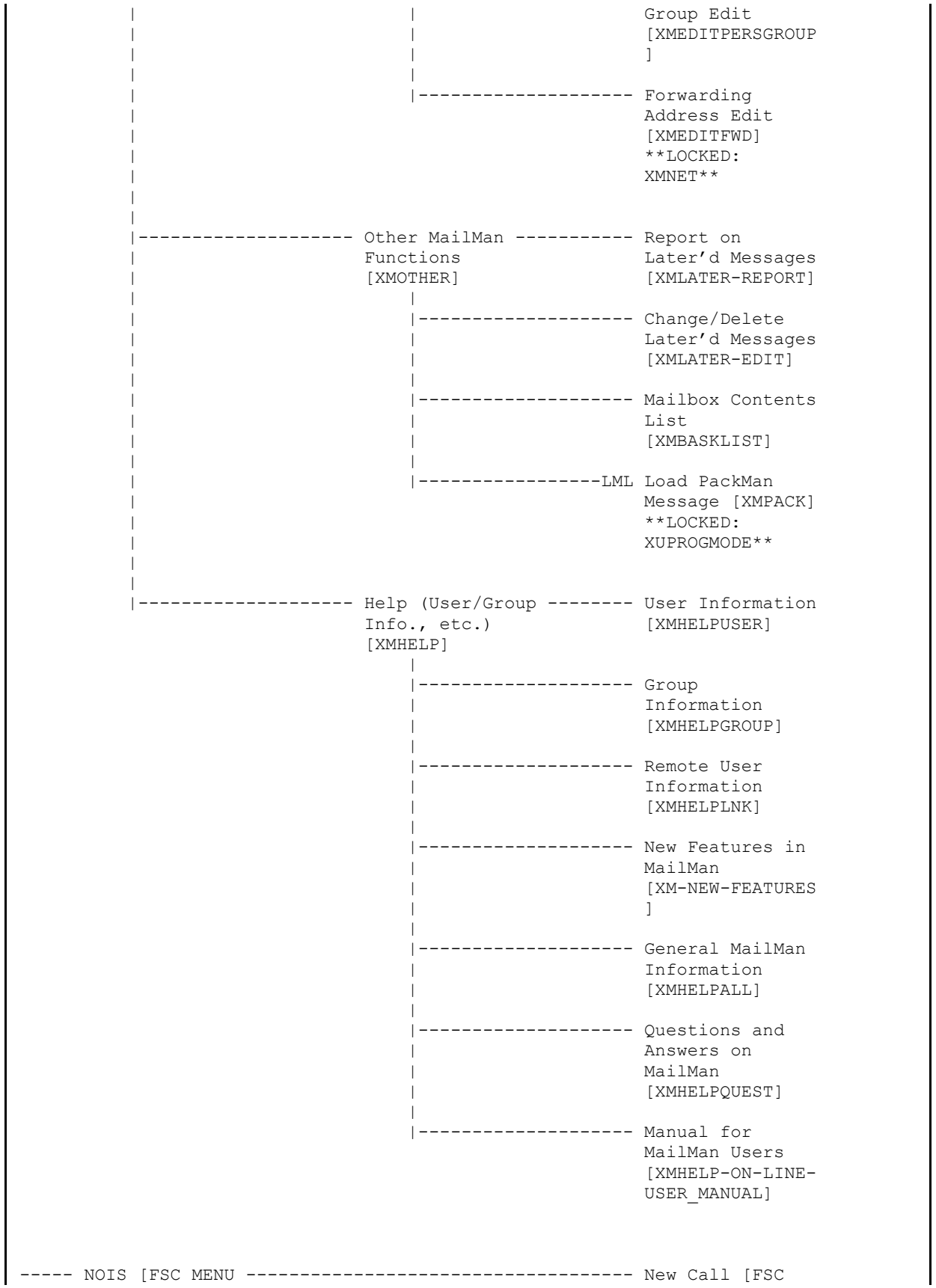
5.2.13 SYSTEM COMMAND OPTIONS [XUCOMMAND]

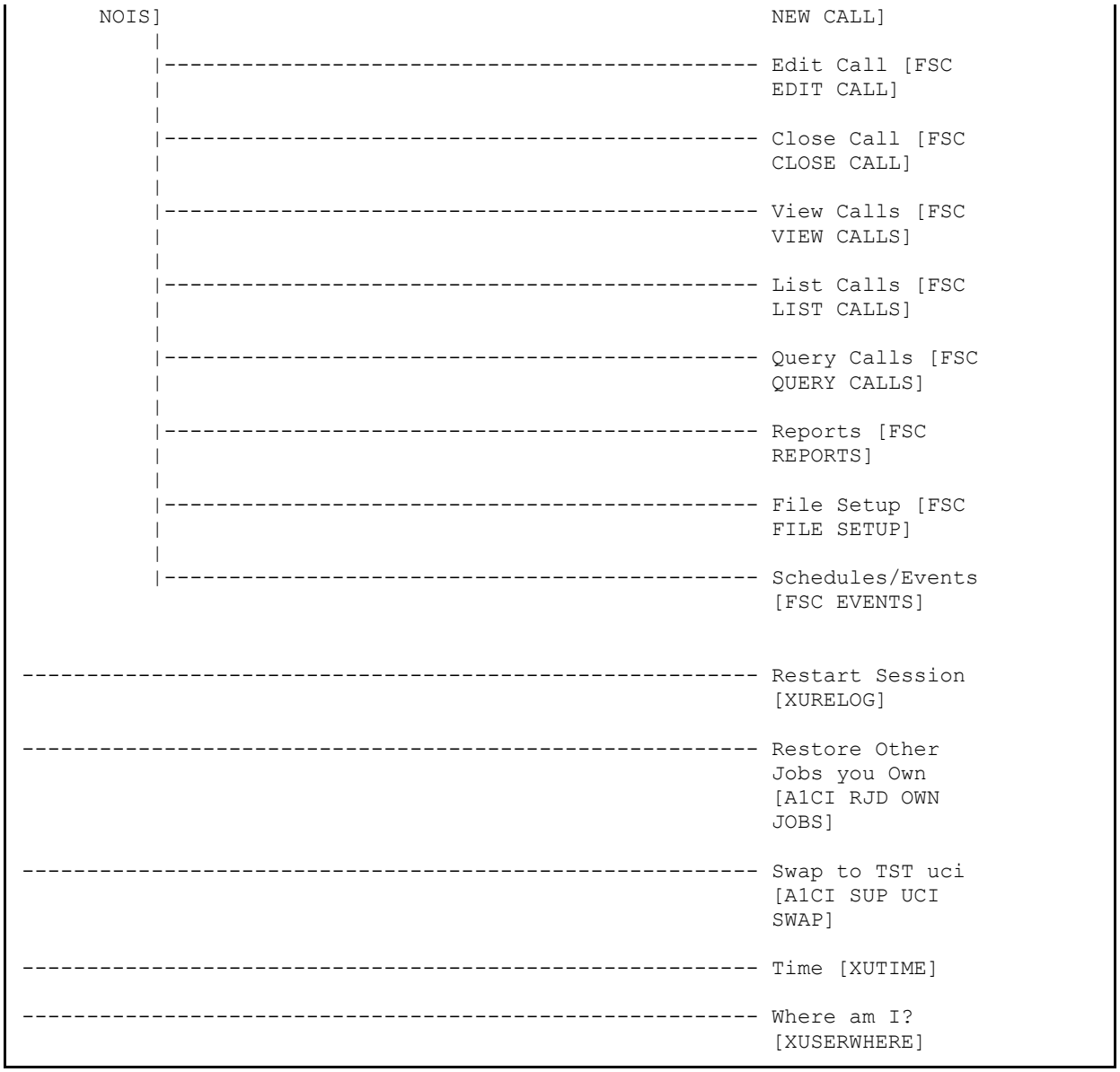
Figure 17: XUCOMMAND—Menu Tree Diagram: Sample from OAKTST "Gold" Account




List all Menu Templates [XQTSHO]
Rename a menu template [XQTRNAM]
Show all options in a Menu Template [XQTLIST]
Spooler Menu [XU-SPL-MENU]
Allow other users access to spool documents [XU-SPL-ALLOW]
Browse a Spool Document [XU-SPL-BROWSE]
Delete A Spool Document [XU-SPL-DELETE]
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]
--TIU Personal Preferences [TIU PERSONAL PREFERENCE MENU]
1 Personal Preferences [TIU PERSONAL PREFERENCES]
2 Document List Management [TIU PREFERRED DOCUMENT LIST]


VA View Alerts [XQALERT]
Continue [XUCONTINUE]
Copy Routines to Another UCI [A1CI MOVE ROUTINE]
Dispense Drug Look-Up [PSJU INQ DRUG]
Halt [XUHALT]
MailMan Menu [XMUSER]
NML New Messages and Responses [XMNEW]
RML Read/Manage Messages [XMREAD]
SML Send a Message [XMSEND]
Query/Search for Messages [XMSEARCH]
AML Become a Surrogate (SHARED,MAIL or Other) [XMASSUME]
Personal Preferences [XM PERSONAL MENU]
User Options Edit [XMEDITUSER]
Banner Edit [XMBANNER]
Surrogate Edit [XMEDITSURR]
Message Filter Edit [XM FILTER EDIT]
Delivery Basket Edit [XM DELIVERY BASKET EDIT]
GML Enroll in (or Disenroll from) a Mail Group [XMENROLL]
Personal Mail


Group Edit [XMEDITPERSGROUP]
Forwarding Address Edit [XMEDITFWD] **LOCKED: XMNET**
Other MailMan Functions [XMOTHER]
Report on Later'd Messages [XMLATER-REPORT]
Change/Delete Later'd Messages [XMLATER-EDIT]
Mailbox Contents List [XMBASKLIST]
LML Load PackMan Message [XMPACK] **LOCKED: XUPROGMODE**
Help (User/Group Info., etc.) [XMHELP]
User Information [XMHELPUSER]
Group Information [XMHELPGROUP]
Remote User Information [XMHELPLNK]
New Features in MailMan [XM-NEW-FEATURES]
General MailMan Information [XMHELPALL]
Questions and Answers on MailMan [XMHELPQUEST]
Manual for MailMan Users [XMHELP-ON-LINE-USER_MANUAL]
----- NOIS [FSC MENU ----------
New Call [FSC


NOIS]
NEW CALL]
Edit Call [FSC EDIT CALL]
Close Call [FSC CLOSE CALL]
View Calls [FSC VIEW CALLS]
List Calls [FSC LIST CALLS]
Query Calls [FSC QUERY CALLS]
Reports [FSC REPORTS]
File Setup [FSC FILE SETUP]
Schedules/Events [FSC EVENTS]
Restart Session [XURELOG]
Restore Other Jobs you Own [A1CI RJD OWN JOBS]
Swap to TST uci [A1CI SUP UCI SWAP]
Time [XUTIME]
Where am I? [XUSERWHERE]

5.2.14 Extended-Action Options

Table 19: Protocols—Extended-Action Options

Option	Description
XU USER SIGN-ON	This is a protocol option to link other software applications that want to know about a user signon event. The protocols *must not* READ/WRITE to the screen because it may be doing a GUI signon. They can set text that is displayed to the user by calling **SET^XUS1A(string)** The first character should be a **!** to cause the text to be placed on a new line. **DUZ** will be defined but other variables may *not* be. It is called from the **XUS1A** routine.
XU USER START-UP	Added with Kernel Patch XU*8.0*593, this is a protocol option used exclusively during a VistA user signon event. Items attached to this option are "**TYPE: action**" options in the OPTION (#19) file, which can be used for software-specific actions that prompt users for input upon VistA signon before their Primary Menu Option is displayed. Unlike the **User sign-on event** [XU USER SIGN-ON] option, it can provide interactive prompting to users. It is *not* used for GUI signon. It is called from the **XQ12** routine.
XU USER TERMINATE	This is a protocol option to link other software applications that want to know about a USER TERMINATE event. Other software can attach to this protocol option and they will be called when a user is terminated. The call is just after the users Access and Verify codes have been removed. **DUZ** will be the person that is running the terminate option. **XUIFN** points to the NEW PERSON (#200) file entry that is being terminated. Returns selected File #200 data to **XUSR(field name)** array for NEW PERSON components. It is called in the **XUSTERM** routine from the **XUSERP** routine.

5.2.15 Server Options

Table 20: Options—Server Options

Option	Description
XQAB ERROR LOG SERVER	This server option is used to store data sent by the Errors Logged in Alpha/Beta Test (QUEUED) [XQAB ERROR LOG XMIT] option back to the developing site (usually an OIFO). As a server request to which the mail messages containing data on the types and frequencies of errors associated with a software application in alpha or beta test, this option starts a routine that processes the message contents and stores the data in the XQAB ERRORS LOGGED (#8991.5) file (**^XTV(8991.5,...**). The contents of the file can be processed using several options or by the use of VA FileMan directly. The file contains data on the: • Type of error. • Routine involved. • Option that was in use at the time of the error. • Date. • Number of errors for that date, by site (and if multiple Error Traps are used at a site, by the VOL,UCI).
XQSCHK	This server option is used to test other server options by examining the host OPTION (#19) file and returning the data associated with the target server option. A message is sent to the host site with the name of the server option to be examined on the first line of the message.
XQSPING	This is a PING server option that works like PING under TCP/IP. If you send a message to this sever option it sends it back to you, thereby showing that the network mail channel is open.
XU-PING-SERVER	This is a PING server option that works like PING under TCP/IP. If you send a message to this server option, it sends it back to you.

5.2.16 Options Attached to Menus for Other Software

Table 21: Options—Attached to Menus for Other Software

Option	Description
XT-KERMIT SPOOL DL	"Download a Spool file entry"; attached to Kernel Toolkit's **Kermit menu** [XT-KERMIT MENU] menu.

5.2.17 DEA ePCS Utility

Kernel Patch XU*8.0*580 was created in support of the Drug Enforcement Agency (DEA) e-Prescribing of Controlled Substances (ePCS) Utility using Public Key Infrastructure (PKI). The DEA ePCS Utility consists of the following standalone menu and options:

Table 22: Options—DEA ePCS Utility

Option Name	Description
XU EPCS UTILITY FUNCTIONS	The **ePCS DEA Utility Functions** [XU EPCS UTILITY FUNCTIONS] menu is the main menu for the DEA ePCS Utility. This menu includes the following options to print reports and utility functions: • **Print DEA Expiration Date Null** [XU EPCS EXP DATE] • **Print DISUSER DEA Expiration Date Null** [XU EPCS DISUSER EXP DATE] • **Print DEA Expiration Date Expires 30 days** [XU EPCS XDATE EXPIRES] • **Print DISUSER DEA Expiration Date Expires 30 days** [XU EPCS DISUSER XDATE EXPIRES] • **Print Prescribers with Privilege** [XU EPCS PRIVS] • **Print DISUSER Prescribers with Privileges** [XU EPCS DISUSER PRIVS] • **Print PSDRPH Key Holders** [XU EPCS PSDRPH] • **Print Setting Parameters Privileges** [XU EPCS SET PARMS] • **Print Audits for Prescriber Editing** [XU EPCS PRINT EDIT AUDIT] • **Task Changes to DEA Prescribing Privileges Report** [XU EPCS LOGICAL ACCESS] • **Task Allocation Audit of PSDRPH Key Report** [XU EPCS PSDRPH AUDIT] • **Allocate/De-Allocate of PSDRPH Key** [XU EPCS PSDRPH KEY] • **Edit Facility DEA# and Expiration Date** [XU EPCS EDIT DEA# AND XDATE]
XU EPCS EXP DATE	The **Print DEA Expiration Date Null** [XU EPCS EXP DATE] option prints all active users with an unpopulated DEA# and DEA EXPIRATION DATE. This option prints the following data: • NAME • DEA# • DEA EXPIRATION DATE
XU EPCS DISUSER EXP DATE	The **Print DISUSER DEA Expiration Date Null** [XU EPCS DISUSER EXP DATE] option prints all DISUSERed users with an unpopulated DEA# and DEA EXPIRATION DATE. This option

Option Name	Description
	prints the following data: • NAME • DEA# • TERMINATION DATE • DEA EXPIRATION DATE
XU EPCS XDATE EXPIRES	The **Print DEA Expiration Date Expires 30 days** [XU EPCS XDATE EXPIRES] option prints all active users with DEA # and where the DEA EXPIRATION DATE expires within **30** days. This option prints the following data: • NAME • DEA# • DEA EXPIRATION DATE
XU EPCS DISUSER XDATE EXPIRES	The **Print DISUSER DEA Expiration Date Expires 30 days** [XU EPCS DISUSER XDATE EXPIRES] option prints all DISUSERed users with DEA # and where the DEA EXPIRATION DATE expires within **30** days. This option prints the following data: • NAME • DEA# • DEA EXPIRATION DATE
XU EPCS PRIVS	The **Print Prescribers with Privileges** [XU EPCS PRIVS] option prints all active users who have privileges to any of the SCHEDULEs **II** through **V** and who have a DEA# or VA#. This option prints the following data: • NAME • **DUZ** • DEA# • VA# • SCHEDULESs
XU EPCS DISUSER PRIVS	The **Print DISUSER Prescribers with Privileges** [XU EPCS DISUSER PRIVS] option prints all DISUSERed users who have privileges to any of the SCHEDULEs **II** through **V** and who have a DEA# or VA#. This option prints the following data: • NAME • **DUZ** • DEA# • TERMINATION DATE • VA# • SCHEDULESs
XU EPCS PSDRPH	The **Print PSDRPH Key Holders** [XU EPCS PSDRPH] option prints all active users holding the PSDRPH security key. This

Option Name	Description
	report sorts by Division, and within DIVISION, it sorts by NAME. This option prints the following data: • NAME • **DUZ** • GIVEN BY (Person Who Assigned Key) • DATE GIVEN (Date Assigned)
XU EPCS SET PARMS	The **Print Setting Parameters Privileges** [XU EPCS SET PARMS] option prints all active users holding the XUEPCSEDIT security key. This option identifies individuals responsible for setting the parameters.
XU EPCS PRINT EDIT AUDIT	The **Print Audits for Prescriber Editing** [XU EPCS PRINT EDIT AUDIT] option prints information related to the editing of prescriber information.
XU EPCS LOGICAL ACCESS	The **Task Changes to DEA Prescribing Privileges Report** [XU EPCS LOGICAL ACCESS] option prints the setting or change to DEA prescribing privileges related to issuance of a controlled substance prescription. This option only prints data from the previous day and with data that has been modified. The data is retrieved from the XUEPCS DATA (#8991.6) file. This option should be scheduled to run on a daily basis.
XU EPCS PSDRPH AUDIT	The **Task Allocation Audit of PSDRPH Key Report** [XU EPCS PSDRPH AUDIT] option prints the allocation of the PSDRPH security key. This option only prints data from the previous day and with data that has been modified. The report prints data for the archive XUEPCS PSDRPH AUDI T (#8991.7) file. This option should be scheduled to run on a daily basis.
XU EPCS PSDRPH KEY	The **Allocate/De-Allocate of PSDRPH Key** [XU EPCS PSDRPH KEY] option allows users to allocate or de-allocate the PSDRPH security key.

5.3 Options—Listed Alphabetically by Name

Each option listed in this section includes the following information:

- Option Name
- Option Text
- Type
- Routine/Action
- Description (including any lock, entry action, and exit action information).

5.3.1 Kernel

The following option namespaces are distributed with Kernel and Kernel Toolkit: "**XDR***," "**XI***," "**XPAR***," "**XPD***," "**XQ***," and "**XU***" (listed alphabetically by option name):

Table 23: Options—Exported Kernel Options

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XDR ADD VERIFIED DUPS	Add Verified Duplicate Pair	Run Routine	Routine: **XDRMADD**	This option adds a pair of records that are *not* already identified as potential or verified duplicates to the DUPLICATE RECORD (#15) file. The pair goes through comparisons (Duplicate Tests). The comparison results in a computed value based on similarity of one record to the other. The resulting value is measured against the Potential Duplicate Threshold Percentage. When the record pair scores evaluate above this percentage, they are considered to be potential duplicates and are placed in the DUPLICATE RECORD (#15) file. If the user has the XUMGR security key, the user has the option to bypass the Potential Duplicate Threshold Percentage thereby adding the pair directly to the DUPLICATE RECORD (#15) file.
XDR ANCILLARY REVIEW	Ancillary Data Review	Run Routine	Routine: **XDRRMRG0**	This option is used by the ancillary services to verify potential duplicates. This option is used when a user is

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				not notified by an alert.
XDR APPROVE FOR MERGE	Approve verified duplicates for merging	Run Routine	Routine: **APPROVE^XDRMERGA**	This option is used by the coordinator or team responsible for Duplicate Resolution to give final approval for selected duplicate pairs to be included in the next merge process.
XDR AUTO MERGE	Automatically Merge all Ready Verified Duplicates	Action	Entry Action: `S XDRM("AUTO")="" D EN1^XDRMAIN K XDRM`	This option is used to non-interactively merge all verified duplicate pairs that are ready to be merged. This option may take some time, depending on how many verified duplicate pairs there are to be merged.
XDR CHECK MERGE PROCESS STATUS	Check Merge Process Status (reverse order)	Run Routine	Routine: **CHECK^XDRMERG2**	This option indicates the status of a selected merge process (or all of them) displaying the information provided by the last checkpoint during its operation. This information includes the file that is being processed, which stage it is in, and the last internal entry processed. Kernel Toolkit Patch XT*7.3*46 reversed the order of printing from last to first.
XDR CHECK PAIR	Check Pair of Records to see if Duplicates	Run Routine	Routine: **XDRDCOMP**	This option allows the input of two records, and then run them through the Duplicate Resolution software to see what their Match Score would be. It does *not* add records to the DUPLICATE RECORD

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(#15) file.
XDR DISPLAY SEARCH STATUS	Display Search Status	Run Routine	Routine: **XDRDSTAT**	This option displays the status of a selected search for duplicates. It is locked with the XDR security key. The status can be any of the following: • **RUNNING** • **HALTED** • **ERROE(STOP)** • **COMPLETED** If you are checking the status to make sure the Duplicate Checking software is running you *must* make sure that *not* only is the STATUS stated to be **RUNNING** but also that the COUNT, which is the number of records that have been checked for duplicates, is also steadily increasing. If the COUNT is *not* increasing notify your site manager.
XDR EDIT DUP RECORD STATUS	Edit Duplicate Record Status	Run Routine	Routine: **XDRDEDT**	This option is used to edit the STATUS (#.03) field of the DUPLICATE RECORD (#15) file entry. It would be used when a pair was identified as Verified Duplicate or Verified Not A Duplicate and you want to change the status back to Potential Duplicate, Unverified.
XDR EDIT DUP RESOLUTION	Edit Duplicate Resolution	ScreenMan		This option edits the values used by the Duplicate Resolution

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
FILE	File			software for determining whether to add an entry or *not*. Once you find the sequence of scores that best fit your facility, it is recommended that you do *not* change these values.
XDR FIND POTENTIAL DUPLICATES	Find Potential Duplicates for an Entry in a File	Run Routine	Routine: **XDRDFPD**	This option finds all potential duplicates for an entry in a file. Any potential duplicate pairs are then added to the DUPLICATE RECORD (#15) file. The user is prompted to enter the file and then to select an entry within that file.

XDR MAIN MENU	Duplicate Resolution System	Menu	Exit Action:
			`W:$D(IOF) @IOF K AUPNLK("ALL")`
			`Entry Action:`
			`W:$D(IOF) @IOF W !,"Duplicate Resolution System Menu",! S AUPNLK("ALL")=""`
				This is the Duplicate Resolution System main menu. It is locked with the XDR security key. It includes the following options:
				• **XDR OPERATIONS MENU**
				• **XDR UTILITIES MENU**
				• **XDR MANAGER UTILITIES**
				REF: For more information on the XDR* options, see the *Duplicate Record Merge: Patient Merge* documentation located on the VDL at: http://www.va.gov/vdl/application.as

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				p?appid=2

XDR MANAGER UTILITIES	Manager Utilities	Menu	Exit Action:
			`W:$D(IOF) @IOF W !,"Duplicate Resolution System Menu",!`
			Entry Action:
			`W:$D(IOF) @IOF W !,"Duplicate Manager Utilities Menu",!`
				This menu controls access to various manager utilities. These utilities include: Automatically merging ready to merge duplicates, Editing the DUPLICATE RESOLUTION (#15.1) file, and Purging the DUPLICATE RECORD (#15) File. This option is locked with the XDRMGR security key. It includes the following options:
				• **XDR EDIT DUP RESOLUTION FILE**
				• **XDR PRELIMINARY SCAN**
				• **XDR PRELIMINARY SCAN LIST**
				• **XDR SEARCH ALL**
				• **XDR MERGE READY DUPLICATES**
				• **XDR STOP MERGE PROCESS**
				• **XDR RESTART MERGE PROCESS**
				• **XDR PURGE**
				• **XDR PURGE2**

XDR MERGE READY DUPLICATES	Schedule Process to Merge Verified Duplicates	Run Routine	Routine: **QUE^XDRMERG0**	This option merges all entries that currently are ready to merge verified duplicate pairs that are *not* included in another merge process.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XDR MERGE SELECTED PAIR	Merge Selected Verified Duplicate Pair	Run Routine	Routine: **EN2^XDRMAIN**	This option is used to select a certain ready to merge verified duplicate pair for merging.

XDR OPERATIONS MENU	Operations	Menu	Exit Action:
			`W:$D(IOF) @IOF W !,"Duplicate Resolution System Menu",!`
			Entry Action:
			`W:$D(IOF) @IOF W !,"Duplicate Resolution Operations Menu",!`
				This menu contains options for running duplicate check searches and verifying and merging duplicate pairs. It includes the following options:
				• **XDR DISPLAY SEARCH STATUS**
				• **XDR APPROVE FOR MERGE**
				• **XDR VERIFY ALL**
				• **XDR ANCILLARY REVIEW**
				• **XDR CHECK MERGE PROCESS STATUS**
				• **XDR STOP MERGE PROCESS**

XDR PRELIMINARY SCAN	Preliminary Scan of File for errors	Run Routine	Routine: **XDRDPREL**	This option scans through a file selected for Duplicate Resolution to check for entries within the file that are missing identifiers (which are presumed to be significant data elements) or have other problems.
XDR PRELIMINARY SCAN LIST	List file entries identified in preliminary scan	Run Routine	Routine: **XDRDPRE1**	This option is used to generate a list of those entries in the file that were identified as lacking a zero node, having a bad SSN value, or missing one or more of the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				identifiers in the file.
XDR PRINT LIST	Print List of File Duplicates	Run Routine	Routine: **XDRDLIST**	This option prints a list of file duplicates. You can choose to print potential duplicates, verified ready to merge duplicates, not ready to merge verified duplicates, and merged verified duplicates. You can also choose to print a brief listing or a captioned listing.
XDR PURGE	Purge Duplicate Record File	Run Routine	Routine: **XDRDPRGE**	This option is used to purge entries in the DUPLICATE RECORD (#15) file; you can purge just the Potential Duplicates, the Verified Non-Duplicates, or both. This option should only be used by the site manager.
XDR PURGE2	Purge Merge Process File	Run routine	Routine: **XDRDPRG2**	This option is used to purge selected entries in the XDR MERGE PROCESS (#15.2) file. This option should only be used by the site manager.
XDR RESTART MERGE PROCESS	Restart a merge process	Run routine	Routine: **RESTART^XDRMERGA**	This option is used to schedule the restart of a merge process at the current time or at some point in the future.
XDR SCAN POSSIBLE DUPLICATES	Scan Possible Duplicates	Run routine	Routine: **XDRDDATA**	This option provides a rapid scan of possible duplicates by listing the zero node of the PATIENT (#2) file for each individual. If the output is *not* queued to a printer, then the data will be

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				sent to the VA FileMan Browser for examination.
XDR SEARCH ALL	Start/Halt Duplicate Search	Run routine	Routine: **XDRDQUE**	This utility searches a selected file for potential duplicates. It provides a choice of two methods. A Basic search starts at the beginning of a file and checks each record against a selected subgroup of potential duplicates. A new search takes records that have been edited and checks them against a select subgroup of records. This is a tasked job that can be started and halted until the entire file has been checked.
XDR STOP MERGE PROCESS	STOP an active merge process	Run routine	Routine: **STOP^XDRMERGA**	This option is used to stop a currently running merge process and any associated threads.
XDR TALLY STATUS FIELDS	Tally STATUS and MERGE STATUS fields	Run routine	Routine: **XDRCNT**	This option produces a summary report of how many records are Verified Duplicates, Verified Not Duplicates, or Potential Duplicates, Unverified. The total number of records merged and ready to be merged will be displayed.

XDR UTILITIES MENU	Utilities	Menu	Exit Action:
			`W:$D(IOF) @IOF W !,"Duplicate Resolution System Menu",!`
			Entry Action:
			`W:$D(IOF) @IOF W`
				This menu gives access to various Duplicate Resolution Utilities. It includes the following options:
				• **XDR ADD**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			!,"Duplicate Resolution Utilities Menu",!	**VERIFIED DUPS** • **XDR CHECK MERGE PROCESS STATUS** • **XDR CHECK PAIR** • **XDR DISPLAY SEARCH STATUS** • **XDR EDIT DUP RECORD STATUS** • **XDR FIND POTENTIAL DUPLICATES** • **XDR PRINT LIST** • **XDR SCAN POSSIBLE DUPLICATES** • **XDR TALLY STATUS FIELDS** • **XDR VIEW DUPLICATE RECORD**
XDR VALID CHECK	Identify Potential Merge Problems	Run Routine	Routine: **EN^XDRDVAL1**	This option identifies potential merge problems.
XDR VERIFY ALL	Verify Potential Duplicates	Run Routine	Routine: **XDRDPICK**	This option is used to mark a potential duplicate as an actual duplicate (or mark a potential duplicate pair as **VERIFIED - NOT DUPLICATES**). The "from" and "to" records are identified and all top-level PATIENT (#2) file fields resolved, and a bulletin generated informing the Verified Duplicate mail group of the actual duplicate. If there is no interactive package merge that needs to take place,

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				the merge process will also occur.
XDR VERIFY SELECTED PAIR	Verify Selected Potential Duplicate Pair	Run routine	Routine: **EN3^XDRMAIN**	This option is used to select a Potential Duplicate pair and verify as either Verified Non-Duplicate or Verified Duplicate. The merge process will then be initiated if there are no package interactive merges that need to occur.
XDR VIEW DUPLICATE RECORD	View Duplicate Record Entries	Inquire		This option is used to view Duplicate Record entries in a captioned format.
XIP SYNCHRONIZE COUNTY	Queuable Synchronize County Multiple With 5.13	Action	Entry Action: `D DEQUE^XIPSYNC`	This option synchronizes the master COUNTY CODE (#5.13) file and the STATE (#5) file's COUNTY Multiple. No output device is needed. It is recommended that this option have a scheduling frequency of every three months, at a time when little to no patient registration activity will be taking place.
XIP ZIP CODE LIST	ZIP Code List	Print		This option produces a report of selected ZIP codes so that they can be compared to the U.S. Postal Service's website located at: http://www.usps.com/zip4/citytown.htm
XIPMAILSERVER	Check file 5.13 & file 5	Server	Routine: **XIPMAIL**	This is a server option that checks the COUNTY CODE

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(#5.13) and STATE (#5) files. It also checks the STATE (#5) file for any states that are *not* recognized by the Corporate Franchise Data Center (CFD). Server Fields: • SERVER ACTION: RUN IMMEDIATELY • SERVER MAIL GROUP: XIP SERVER RESPONSE
XIPSRVR	Postal Code Update Server	Server	Routine: **E1^XIPSRVR**	This option takes the data contained within a message on FORUM and modifies the POSTAL CODE (#5.12) file as follows: • Adds a new postal code • Inactivates the postal code • Edits the postal code Server Fields: • SERVER ACTION: RUN IMMEDIATELY • SERVER AUDIT: NO • SERVER REPLY: NO REPLY • SUPRESS BULLETIN: YES • SAVE REQUEST: SAVE REQUEST IN POSTMASTER BASKET
XLFIPV	Convert any			(Released with Patch

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
CONVERT	IP address per system settings			XU*8.0*605)
XLFIPV FORCEIP4	Convert any IP address to IPv4			(Released with Patch XU*8.0*605)
XLFIPV FORCEIP6	Convert any IP address to IPv6			(Released with Patch XU*8.0*605)
XLFIPV IPV4 IPV6 MENU	IPV—IPv4 and IPv6 Address Tools	Menu		This option was released with Patch XU*8.0*605. It includes the following options: • **XLFIPV CONVERT** • **XLFIPV FORCEIP4** • **XLFIPV FORCEIP6** • **XLFIPV VALIDATE** • **XLFIPV VERSION**
XLFIPV VALIDATE	Validate IPv4 and IPv6 address			(Released with Patch XU*8.0*605)
XLFIPV VERSION	Show system settings for IPv6			(Released with Patch XU*8.0*605)
XPAR EDIT BY TEMPLATE	Edit Parameter Values with Template	Action	Entry Action: `D SELTED^XPAREDT3`	This option prompts for a Parameter template and then uses the selected template to edit parameter values.
XPAR EDIT KEYWORD	Edit Parameter Definition Keyword	Edit		This option edits the KEYWORD field in the PARAMETER DEFINITION (#8989.51) file.
XPAR EDIT PARAMETER	Edit Parameter Values	Action	Entry Action: `D ^XPAREDIT`	This option calls the low-level parameter editor that allows you to edit the values for every parameter. Normally, VistA software applications

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				supply other means of editing parameters.
XPAR LIST BY ENTITY	List Values for a Selected Entity	Action	Entry Action: `D ALLENTS^XPARLIST`	This option prompts the user for the entry of an entity (e.g., location, user, etc.) and lists all value instances for that entity.
XPAR LIST BY PACKAGE	List Values for a Selected Package	Action	Entry Action: `D ALLPKG^XPARLIST`	This option prompts the user for a VistA software application and lists all parameter values for the selected application.
XPAR LIST BY PARAM	List Values for a Selected Parameter	Action	Entry Action: `D ALLPARS^XPARLIST`	This option prompts the user for a parameter (i.e., defined in the PARAMETER DEFINITION [#8989.51] file) and lists all value instances for that parameter.
XPAR LIST BY TEMPLATE	List Values for a Selected Template	Action	Entry Action: `D TMPLT^XPARLIST()`	This option prompts the user for a Parameter template. Depending on the definition of the template, additional information may be requested, and then the parameter values defined by the template are displayed.
XPAR MENU TOOLS	General Parameter Tools	Menu		This menu contains general purpose tools for managing parameters. It includes the following options: • **XPAR LIST BY PARAM** • **XPAR LIST BY ENTITY** • **XPAR LIST BY PACKAGE**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XPAR LIST BY TEMPLATE** • **XPAR EDIT PARAMETER** • **XPAR EDIT BY TEMPLATE** • **XPAR EDIT KEYWORD** **REF:** For more information on the XPAR* APIs, see the *Parameter Tools Supplement to Patch Description: XT*7.3*26* documentation located on the VDL at: http://www.va.gov/vdl/application.asp?appid=12
XPD BACKUP	Backup a Transport Global	Run Routine	Routine: **EN^XPDIB**	This option creates a MailMan message that will back up all current routines on your system that would be replaced by the packages (VistA M-based software applications) in this Transport Global. Those components that are *not* routines *must* be backed up separately if they need to be preserved.
XPD BUILD NAMESPACE	Create a Build Using Namespace	Run Routine	Routine: **BUILD^XPDE**	This option creates a new entry in the BUILD (#9.6) file, and populates the entry using a namespace.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XPD COMPARE TO SYSTEM	Compare Transport Global to Current System	Run Routine	Routine: **XPDCOM**	This option lets you compare the components of a transport global, which is currently loaded in the **XTMP** global, to your current system.
XPD CONVERT PACKAGE	Convert Loaded Package for Redistributio n	Run Routine	Routine: **EN2^XPDIU**	This option changes a package (VistA M-based software application) that was loaded on your system, to a package that can be transported in a distribution. The loaded package will be unloaded from your system and deleted from the INSTALL (#9.7) file. A BUILD (#9.6) file entry will be created for this package. You can use the Transport a Distribution option [XPD TRANSPORT PACKAGE] to create a new distribution with this package.
XPD COPY BUILD	Copy Build to Build	Run Routine	Routine: **COPY^XPDE**	This option copies one entry in the BUILD (#9.6) file to another.
XPD DISTRIBUTION MENU	Edits and Distribution	Menu		This menu contains options to create, edit, and transport a package (VistA M-based software application). It includes the following options: • **XPD BUILD NAMESPACE** • **XPD COPY BUILD** • **XPD EDIT BUILD** • **XPD TRANSPORT**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				PACKAGE • **XT-BLD RTN LIST** • **XT-VERSION NUMBER** • **XT-RTN CS EDT** • **XT-RTN CS UPDATE**
XPD EDIT BUILD	Edit a Build	Run Routine	Routine: **EDIT^XPDE**	This option lets you edit BUILD (#9.6) file entries.
XPD EDIT INSTALL	Edit Install Status	Edit		This option edits the STATUS and the INSTALL COMPLETE TIME fields in the INSTALL (#9.7) file.
XPD INSTALL BUILD	Install Package(s)	Run Routine	Routine: **EN^XPDI**	This option starts the install process for all packages (VistA M-based software applications) in a Transport Global that are part of a distribution. **NOTE:** You *must* load the distribution *before* you can use this option to install it.
XPD INSTALLATION MENU	Installation	Menu		This menu contains options to load, install, and restart the install of a KIDS Distribution. It includes the following options: • **XPD LOAD DISTRIBUTION** • **XPD PRINT CHECKSUM** • **XPD PRINT INSTALL** • **XPD COMPARE**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				TO SYSTEM • **XPD BACKUP** • **XPD INSTALL BUILD** • **XPD RESTART INSTALL** • **XPD UNLOAD DISTRIBUTION**
XPD LOAD DISTRIBUTION	Load a Distribution	Run Routine	Routine: **EN1^XPDIL**	This option loads a KIDS distribution. A distribution is a Host File Server (HFS) file that contains one or more transport globals.
XPD MAIN	Kernel Installation & Distribution System	Menu		This menu contains options to prepare a VistA M-based module for distribution and install the module at a site. It includes the following options: • **XPD DISTRIBUTION MENU** • **XPD UTILITY** • **XPD INSTALLATION MENU** • **XPD AUTOMATIC PATCHING MENU**
XPD PRINT BUILD	Build File Print	Run Routine	Routine: **EN1^XPDDP**	This option prints the contents of an entry in the BUILD (#9.6) file.
XPD PRINT CHECKSUM	Verify Checksums in Transport Global	Run Routine	Routine: **EN1^XPDDCS**	This option verifies the checksums for the components of a Transport Global and reports any checksums that are incorrect.
XPD PRINT INSTALL	Print Transport Global	Run Routine	Routine: **EN2^XPDDP**	This option lets you print the contents of a Transport Global that is

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				currently loaded in the **^XTMP** global.
XPD PRINT INSTALL FILE	Install File Print	Run Routine	Routine: **EN1^XPDDI**	This option prints the contents of an entry in the INSTALL (#9.7) file.
XPD PRINT PACKAGE PATCHES	Display Patches for a Package	Run Routine	Routine: **EN1^XPDDPCK**	This option prints all patches installed for a package (VistA M-based software application). It displays the Date Installed and who installed the patches. It optionally prints the description of the patch. All information comes from the PACKAGE (#9.4) file.
XPD PURGE FILE	Purge Build or Install Files	Run Routine	Routine: **PURGE^XPDR**	This option purges entries in the BUILD (#9.6) or INSTALL (#9.7) files. You are prompted for the version numbers to retain.
XPD RESTART INSTALL	Restart Install of Package(s)	Run Routine	Routine: **EN^XPDIR**	This option restarts the install process for packages (VistA M-based software applications) in a transport global.
XPD ROLLUP PATCHES	Rollup Patches into a Build	Run Routine	Routine: **EN1^XPDER**	This option finds all the patches for a package (VistA M-based software application) and adds their BUILD (#9.6) file definition to the package BUILD (#9.6) file definition. This enables you to create a single BUILD (#9.6) file entry that contains the definition for a patched package.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XPD ROUTINE UPDATE	Update Routine File	Run Routine	Routine: **UPDT^XPDR**	This option lets you update the ROUTINE (#9.8) file by adding existing routine names from the current system. You enter the namespaces for the routines being updated and the namespaces of the routines to be excluded from the update. Optionally, this option goes through the ROUTINE (#9.8) file and deletes any local routine names that no longer exist on the system. Any routine listed as national will *not* be removed from the file.
XPD TRANSPORT PACKAGE	Transport a Distribution	Run Routine	Routine: **XPDT**	This option uses entries in the BUILD (#9.6) file to create a Transport Global to export packages (VistA M-based software applications). If you choose a Host File Server (HFS) file as an output device, the Transport Global is written to the **HFS** file, creating a distribution. If you do *not* choose a device, the Transport Global is written to the **^XTMP** global on your system.
XPD UNLOAD DISTRIBUTION	Unload a Distribution	Run Routine	Routine: **EN1^XPDIU**	This option removes the Transport Global and packages (VistA M-based software applications in the INSTALL (#9.7) file for a loaded distribution. It

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				also removes any dangling packages in the Transport Global. You can only select the starting package.
XPD UTILITY	Utilities	Menu		This menu contains options to print and verify a BUILD (#9.6) file \ entry. It also contains options to maintain the ROUTINE (#9.8) file. This menu contains the following options: • **XPD PRINT BUILD** • **XPD PRINT INSTALL FILE** • **XPD CONVERT PACKAGE** • **XPD PRINT PACKAGE PATCHES** • **XPD PURGE FILE** • **XPD ROLLUP PATCHES** • **XPD ROUTINE UPDATE** • **XPD VERIFY BUILD** • **XPD VERIFY INTEGRITY**
XPD VERIFY BUILD	Verify a Build	Run Routine	Routine: **VER^XPDE**	This option verifies the contents of a build. It checks that every component that is listed in the build still exists on your system. You should use it before you export a package (VistA M-based software application).

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XPD VERIFY INTEGRITY	Verify Package Integrity	Run Routine	Routine: **EN2^XPDDCS**	This option checks the integrity of a package (VistA M-based software application) on your system. It compares the current checksums with the checksums sent with the distribution.
XQ LIST UNREFERENCED OPTIONS	List Unreferenced Menu Options	Run Routine	Routine: **LIST^XQ33**	(Released with Patch XU*8.0*614) This option runs a report listing unreferenced options in the OPTION (#19) file. It lists entries that are *not* assigned to any user or attached to any other menu option. It does *not* include options that are assigned in TaskMan or have the KEEP FROM DELETING (#209.2) field set to "**Yes**".
XQ UNREF'D OPTIONS	Delete Unreferenced Options	Run Routine	Routine: **XQ33**	This option can be used to examine those options that are *not* on any menu, are *not* used as primary or secondary options, and are *not* tasked to run. The user may then decide in each case whether to delete the unreferenced option.
XQ XUTL $J NODES	Clean old Job Nodes in XUTL	Run Routine	Routine: **XQ82**	This option should be scheduled to run once a day after midnight. It can be run from a host system script to get non-global files like **^TMP**. This option cleans up several temporary

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				globals that applications may have left behind or got left because of trapping and error or other abnormal job termination. This option causes old job-related nodes that may remain in the following globals to be removed: • **^XUTL("XQ",$J,** • **^UTILITY($J,** • **^TMP($J,** An old job node is one that was started seven days prior to the current day, irrespective of the time of day. Does *not* have a **^XUTL("XQ",$J,"KEEPALIVE")** node with a more current date in **$H** format. If it has a **^XUTL("XQ",$J,"ZTSKNUM")** node and a lock of **^%ZTSCH("TASK",tasknumber)** is in place it will *not* be purged. It looks at **^UTILITY($J)** and **^TMP($J)** for entries without a **^XUTL("XQ",$J)** to kill. It looks at **^UTILITY(namespace,$J)** and **^TMP(namespace,$J)** for entries without a **^XUTL("XQ",$J)** to kill. It looks for

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				^XTMP(namespace) entries without a **zero** node or the **zero** node date is less than today. It looks for signon log "**CUR**", "**AS1**" and "**AS2**" cross-reference entries more than seven days old and sets the current date as the signoff value and sets the FORCE CLOSE field to "**Yes**". It clears Menu build nodes in **^XUTL("XQO",n,"^BUILD")**. It clears any **^DISV** data for terminated users.
XQAB ACTUAL OPTION USAGE	Actual Usage of Alpha/Beta Test Options	Run Routine	Routine: **ACTUAL^XQABLIST**	This option is available for listing actual usage of options within a package that is in alpha or beta testing. It lists only those options that have been accessed one or more times since the last installation of the package.
XQAB AUTO SEND	Send Alpha/Beta Usage to Developers	Run Routine	Routine: **DOMAIL^XQABLIST**	This option is set up to automatically send to the developing OIFO information on the usage of options in those packages currently in test status. If it is selected manually, it sends similar messages as well.
XQAB ERR DATE/SITE/NU	Print Alpha/Beta	Print		This option is used to print a listing of

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
M/ROU/ERR	Errors (Date/Site/Num/Rou/Err)			alpha/beta test errors reported from the test sites. The print is for a range of dates and lists the sites, the number of the errors reported by a site, the routine involved, and the error text. The range of dates, sites, and routine names are user selectable. The output format includes: • Date of Errors • Site.name • Number.of.errors • Routine • Error.text The subtotals and totals are given for number of errors.
XQAB ERROR LOG SERVER	Handle Alpha/Beta Errors Logged at Sites	Server	Routine: **XQABELOG** • Suppress Bulletin: **YES, SUPRESS IT** • Server Action: **RUN IMMEDIATELY** • Server Reply: **NO REPLY (DEFAULT)**	This SERVER option is used to store data sent by the XQAB ERROR LOG XMIT option back to the developing site (usually an OIFO). As a server to which the mail messages containing data on the types and frequencies of errors associated with an application package in alpha or beta test, this option starts a routine that processes the message contents and stores the data in File #8991.5 (**^XTV(8991.5,...**). The contents of the file can be processed using several options or by the use of VA FileMan

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				directly. The file contains data on the following: • Type of error • Routine involved • Option that was in use at the time of the error • Date • Number of errors for that date, by site (and if multiple Error Traps are used at a site, by the VOL,UCI)
XQAB ERROR LOG XMIT	Errors Logged in Alpha/Beta Test (QUEUED)	Run Routine	Routine: **XQABERR** Scheduling Recommended: **YES**	This option is used to identify any errors associated with an application package hat is in either alpha or beta test. The identified errors are combined in a mail message that includes the following: • Type of error • Routine involved • Date (usually the previous day) • Option that was being used at the time of the error • Number of times the error was logged. • Volume and UCI are included so that stations with error logs being maintained on different CPUs can run the task on each different system.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				This option was designed to be tasked. It does *not* require a device and generates a mail message to the developing OIFO. An alpha or beta package is indicated by the presence of the package (and its namespaces in the ALPHA/BETA TEST PACKAGE (#32) Multiple field in the KERNEL SYSTEM PARAMETERS (#8989.3) file. The option should usually be scheduled to run after midnight and scheduled for re-queuing at a daily interval.
XQAB LIST LOW USAGE OPTS	Low Usage Alpha/Beta Test Options	Run Routine	Routine: **LOW^XQABLIST**	This option is available for obtaining a listing of options that are in a package under alpha or beta testing and have low levels of use since the last installation of the package. An option with low use is any option in the package namespaces with zero to five accesses.
XQAB MENU	Alpha/Beta Test Option Usage Menu	Menu		This menu option is available for accessing the following options related to usage of options in alpha or beta test packages: • **XQAB ACTUAL OPTION USAGE** • **XQAB LIST LOW**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				USAGE OPTS • **XQAB AUTO SEND** • **XQAB ERR DATE/SITE/NUM/ROU/ERR**
XQAL ALERT LIST FROM DATE	List Alerts for a user from a specified	Run Routine	Routine: **EN^XQARPRT2**	This option reports all alerts from the ALERT TRACKING (#8992.1) file for a selected user within a specified date range. If an end date is *not* specified, the report does *not* run. The listing includes the following: • Internal Entry Number (IEN) for the alert in the ALERT TRACKING (#8992.1) file. • Date and time the alert was generated. • Message text of the alert. • Information about any option or routine to be executed for processing the alert.
XQAL CRITICAL ALERT COUNT	Critical Alerts Count Report	Run Routine	Routine: **CRITICAL^XQARPRT1**	This option is used to generate a report of users who have alerts defined as **Critical** based upon inclusion of text entries from the ALERT CRITICAL TEXT (#8992.3) file between the specified start and end dates. For example, **Critical**-type alerts contain the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				following words: • **ABNL IMA** **NOTE:** This entry was added with Kernel Patch XU*8.0*690. • **ABNORMAL IMA** • **CRITICAL** • **POSSIBLE MALIG** How the report is presented depends on the order by which method the user selects: • **Name—**Report lists items alphabetized by name. • **Number—**Report list items in descending order for the number of **Critical**-type alerts present. Kernel Patch XU*8.0*690 modified the **Critical Alerts Count Report** output, so any **Critical**-type alerts preceded with the words "**NOT**" or "**NON**", the only two supported **Critical**-type alert negation indicators, are automatically screened from this report. For each user who has the specified number of **Critical**-type alerts or more, the report includes the following: • **Name—**User

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				name. • **Service/Section—** Section/Service for the user. • **Alerts—**Number of alerts in the ALERT (#8992) file. • **Last Sign-on—** Last sign-on date. • **CRIT—**Number of alerts with **Critical**-type text. • **Alert—**Date of the oldest alert.
XQAL GUI ALERTS	Kernel GUI Alerts	Broker (Client / Server)		This is the context option for the Kernel Alert components: • RPC: XQAL GUI ALERTS • RPC: XUS KEY CHECK • RPC: DDR DELETE ENTRY • RPC: DDR FILER • RPC: DDR FIND1 • RPC: DDR FINDER • RPC: DDR GET DD HELP • RPC: DDR GETS ENTRY DATA • RPC: DDR KEY VALIDATOR • RPC: DDR LISTER • RPC: DDR LOCK/UNLOCK NODE • RPC: DDR VALIDATOR
XQAL NO BACKUP REVIEWER	No Alert Backup Reviewer	Run Routine	Routine: **RPT1^XUP468**	This option runs the report that generates a list of active

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				users/providers that hold the ORES security key and backup reviewers for alerts.
XQAL PATIENT ALERT LIST	Patient Alert List for specified date	Run Routine	Routine: **DTPT^XQARPRT2**	This option is used to obtain a list of alerts for a specified patient from the ALERT TRACKING (#8992.1) file for a selected date. A prompt is provided to obtain a quick scan listing of dates with at least some alerts for the patient on it based on OR and DVB alerts (other patient-related alerts need to be identified by looking at each alert's message text and are included in the full list, but *not* the quick scan). The listing includes: • Internal entry number for the alert in the ALERT TRACKING (#8992.1) file • Date and time the alert was generated • Message text of the alert • Information about any option or routine to be executed for processing the alert
XQAL REPORTS MENU	Report Menu for Alerts	Menu		This menu provides several options for generating reports on alerts for users or patients. It includes the following options:

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XQAL USER ALERTS COUNT** • **XQAL CRITICAL ALERT COUNT** • **XQAL ALERT LIST FROM DATE** • **XQAL PATIENT ALERT LIST** • **XQAL VIEW ALERT TRACKING ENTRY**
XQAL SET BACKUP REVIEWER	Set Backup Reviewer for Alerts	Run Routine	Routine: **BKUPREVW^XQALDEL**	This option provides a mechanism for a user to set entries into the PARAMETERS (#8989.5) file that will assign an individual as Backup Reviewer for alerts if there is a date specified for Days For Backup Reviewer in the Alert. If this is the case, an alert that remains unread for the indicated number of days will be forwarded to the Backup Reviewer found for the lowest level for the user in the PARAMETERS (#8989.5) file starting with User, and progressing through OERR Team, Service, Division, up to System.
XQAL SURROGATE FOR WHICH USERS	Surrogate for which Users?	Run Routine	Routine: **GETFOR^XQALSURO**	This option provides a view of which users have specified a selected user as surrogates for themselves.
XQAL USER	User Alerts	Run	Routine:	This option is used to

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
ALERTS COUNT	Count Report	Routine	**EN1^XQARPRT1**	generate a report on users who have more than a specified number of alerts in the ALERT (#8992) file. This report also includes users who have alerts defined as **Critical** based upon inclusion of text entries from the ALERT CRITICAL TEXT (#8992.3) file. For example, **Critical**-type alerts containing the following words: • **ABNL IMA** **NOTE:** This entry was added with Kernel Patch XU*8.0*690. • **ABNORMAL IMA** • **CRITICAL** • **POSSIBLE MALIG** Kernel Patch XU*8.0*690 modified the **User Alerts Count Report** output, so any **Critical**-type alerts preceded with the words "**NOT**" or "**NON**", the only two supported **Critical**-type alert negation indicators, are automatically screened from this report. The report covers a specified range of dates, and can be sorted by any of the following data: • User name.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• Number of alerts. • Service/Section. In addition, the report in each of these formats may be generated by Divisions if desired. For each user who has the specified number of alerts or more, the report includes the following: • **Name—**User name. • **Service/Section—** Section/Service for the user. • **Alerts—**Number of alerts in the ALERTS (#8992) file. • **Last Sign-on—** Last sign-on date. • **CRIT—**Number of alerts with **Critical**-type text. • **Alert—**Date of the oldest alert.
XQAL VIEW ALERT TRACKING ENTRY	View data for Alert Tracking file entry	Run Routine	Routine: **VIEWTRAK^XQARPRT2**	This option can be used to view data for one or more entries in the ALERT TRACKING (#8992.1) file in captioned format. The internal entry numbers for the entries to be displayed *must* be entered individually.
XQALERT	View Alerts	Run Routine	Routine: **DOIT^XQALERT** Exit Action: `K:$D(ORVP) ORVP`	This option is used to select alerts or notifications produced by application packages for viewing

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				or to perform any actions associated with the alert or notification received.
XQALERT BY USER DELETE	Purge Alerts for a User	Run Routine	Routine: **USERDEL^XQALERT**	This option permits users holding the XQAL-DELETE security key to delete alerts for another user. This is intended for when a user has been inactive for a period of time (e.g., vacation, etc.) and has accumulated a number of alerts which should *not* need processing.
XQALERT DELETE OLD	Delete Old (>14 d) Alerts	Run Routine	Routine: **OLDDEL^XQALERT**	This option is used to remove alerts that remain in the ALERT (#8992) file Applications can set a retention date (or even keep indefinitely for some clinical alerts). The **>14d** is the default if a retention date is *not* set.
XQALERT MAKE	Make an alert on the fly	Run Routine	Routine: **XQALMAKE**	This option creates an alert and sends it to users or mail groups on-the-fly.
XQALERT MGR	Alert Management	Menu		This menu provides a menu of options for managing alerts. These options include the ability to delete options based on time or a particular user, to generate a new alert, etc. It includes the following options: • **XQALERT BY USER DELETE**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XQALERT DELETE OLD** • **XQALERT MAKE** • **XQALERT SURROGATE SET/REMOVE** • **XQAL SURROGATE FOR WHICH USERS** • **XQAL SET BACKUP REVIEWER** • **XQAL REPORTS MENU**
XQALERT SURROGATE SET/REMOVE	Alerts - Set/Remove Surrogate for User	Run Routine	Routine: **OTHRSURO^XQALSURO**	System administrators or ADPACs can use this option to set or remove a surrogate for receiving alerts for a user. The option prompts for a user to be selected, then is ready to specify a new surrogate for the selected user, or to remove the current surrogate for that user. This option is *not* needed by the individual users who may select to name or remove a surrogate as one of the options while processing alerts (or, if no alerts are present for the user, as his only option on selecting alert processing).
XQBUILDMAIN	Menu Rebuild Menu	Menu		This is the main menu for all menu rebuild options. It includes the following options: • **XQSHOWBUILDS**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XQKICKMICRO** • **XQRIGHTNOW** • **XQBUILDTREE** • **XQBUILDUSER** This option is locked with the XUPROGMODE security key.
XQBUILDTREE	Build Primary Menu Trees	Run Routine	Routine: **BUILD^XQ81**	This option can be used to force the rebuilding of the tree structures used for the **^JUMP**. Whenever an item in a menu is modified, the tree *must* get rebuilt. This happens automatically the first time it is referenced but forcing the rebuild can often save time. The rebuilding of all trees can be queued.
XQBUILDTREEQUE	Non-interactive Build Primary Menu Trees	Run Routine	Routine: **QUE^XQ81** Exit Action: `;S XQSTOP=$$HTE^XLFDT($H),^FINN(DT,"STOP")=XQSTOP K XQSTOP`	This option may be queued to run at a given frequency (e.g., daily) and does *not* require interaction with a user at the time it is run. Other than being non-interactive it does the same job as **XQBUILDTREE** with specification of no verification and queue the job.
XQBUILDUSER	Single User Menu Tree Rebuild	Run Routine	Routine: **USER^XQ84**	(Released with Patch XU*8.0*614) This option collects the menus that a user has in the primary and secondary fields of the OPTION (#19) file and

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				then rebuilds the menu tree. It is attached to the **Menu Rebuild Menu** [XQBUILDMAIN] option. **NOTE:** Other users might have the same menu tree, but this will only rebuild the menu tree for the selected user.
XQCOPYOP	Copy Everything About an Option to a New Option	Run Routine	Routine: **XQ11**	This option does a **%RCR** copy of one option's fields into a new option. It also tries to enforce namespacing rules when the new option is named.
XQDIAGMENU	Menu Diagrams	Menu		This menu contains the various methods of diagramming menus. It includes the following methods: • **XUUSERACC** • **XUUSERACC2** • **XUUSERACC1**
XQDISPLAY OPTIONS	Display Menus and Options	Menu		This is a menu of options that help the user display menus and their options. It includes the following options: • **XUINQUIRE** • **XUPRINT** • **XUUSERACC1** • **XUUSERACC2** • **XUUSERACC** • **XQ LIST UNREFERENCED**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				OPTIONS
XQHELP-ASSIGN	Assign Editors	Run Routine	Routine: **EN1^XQ61**	This option allows the author of a help frame to assign editors. A help frame is editable thru **^E** by the author, the editors, and anyone holding the XUAUTHOR security key.
XQHELP-DEASSIGN	Unassign Editors	Run Routine	Routine: **EN2^XQ61**	This option allows the author of a help frame to take away edit privileges previously assigned.
XQHELP-DISPLAY	Display/Edit Help Frames	Run Routine	Routine: **XQH**	This option displays the text of a help frame, and allows for the edit of the name, header, text, or related frames.
XQHELP-LIST	List Help Frames	Run Routine	Routine: **XQH4**	This option lists the help frames, progressing through the tree. Several different formats are available.
XQHELP-MENU	Help Processor	Menu		This menu option contains several functions for entering help text, displaying it, and listing it. It includes the following options (listed in display order): • **XQHELP-DISPLAY** (1) • **XQHELP-LIST** (2) • **XQHELP-UPDATE** (3) • **XQHELP-XREF** (4) • **XQHELP-ASSIGN** (5) • **XQHELP-**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				DEASSIGN (6) • **XQHELPFIX** (7)
XQHELP-UPDATE	New/Revised Help Frames	Print		This option produces a VA FileMan listing of help frames sorted by DATE LAST UPDATED. It allows you to view any recently created or revised frames. You can also sort by package prefix.
XQHELP-XREF	Cross Reference Help Frames	Run Routine	Routine: **XQH3**	Lists all the help frames for a specified package, showing parent frames, linked to menu options, and invoked routines.
XQHELPFIX	Fix Help Frame File Pointers	Action	Entry Action: `S %=0 D ENASK^XQ3`	This option scans through the HELP FRAME (#9.2) file for dangling pointers. It deletes keywords that point to help frames that no longer exist.
XQKEYALTODEL	Change user's allocated keys to delegated keys	Run Routine	Routine: **ATOD^XQ6**	This option prompts for a user and uses **%XY^%RCR** to make all security keys the user holds delegated security keys, so that the user can give them to others. This option is locked with the ADP security key.
XQKEYDEL	Delegate keys	Run Routine	Routine: **EN3^XQ6**	This option delegates security keys to a user, so that user can then give them out to other users. It also allows other users to delegate them in return.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				This option is locked with the ADP security key.
XQKEYRDEL	Remove delegated keys	Run Routine	Routine: **EN4^XQ6**	This option removes security keys previously delegated to a user.
XQKICKMICRO	Kick Off Micro Surgery	Run Routine	Routine: **CHEK^XQ83** Entry Action: `W !!,?5,$S($D(^DIC(19,"AT")):"Done.",1:"Nothing to rebuild.")`	When certain changes are made to the OPTION (#19) file those changes are recorded in the **^DIC(19,"AT")** cross-reference. Micro surgery is the software in **^XQ83*** that uses this data to rebuild the compiled menu trees in **^DIC(19,"AXQ")**. Micro surgery is normally triggered when a user logs into a system, but this option allows the programmer to start it manually if minor changes are made to the OPTION (#19) file, which do *not* merit a complete rebuild. If there is nothing in the "**AT**" cross-reference to work on, the option responds with: "Nothing to rebuild." If there is work to do, then the option responds with: "**Done**," which means that Micro surgery has been started.
XQLISTKEY	Show the keys of a particular user	Run Routine	Routine: **LIST^XQ6**	This option lists the security keys held by a particular user.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XQLOCK1	All the Keys a User Needs	Run Routine	Routine: **EN1^XQLOCK**	This option invokes a routine that follows the menu trees of a user and collects all of the security keys into a list that are needed to effectively use a menu.
XQLOCK2	Keys For a Given Menu Tree	Run Routine	Routine: **EN2^XQLOCK**	This option runs a routine that searches the children of a given parent option and compiles a list of the security keys needed for that menu tree.
XQOOFF	Mark Option Set Out-Of-Order	Run Routine	Routine: **OFFOP^XQOO1**	This option marks an option set Out-Of-Order.
XQOOMAIN	Out-Of-Order Set Management	Menu		This menu includes the following options: • **XQOOMAKE** • **XQOOFF** • **XQOON** • **XQOOSHOFIL** • **XQOOSHOW** • **XQOOSHOPRO** • **XQOOREDO** • **XQOOTOG** This option is locked with the ADP security key.
XQOOMAKE	Create a Set of Options To Mark Out-Of-Order	Run Routine	Routine: **EN^XQOO**	This option creates a set of options to mark Out-Of-Order.
XQOON	Remove Out-Of-Order Messages from a Set of Options	Run Routine	Routine: **ONOP^XQOO1**	This option removes Out-Of-Order messages from a set of options.
XQOOREDO	Recover deleted	Run Routine	Routine:	This option recovers an option set that has

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	option set		**REBLD^XQOO1**	been deleted from the **^XTMP** global by looping through the OPTION (#19) and PROTOCOL (#101) files to find all that have a particular Out-Of-Order message. It rebuilds the option set in the **^XTMP** global.
XQOOSHOFIL	Options in the Option File that are Out-Of-Order	Run Routine	Routine: **LALL^XQOO3**	This option presents a list of options in the OPTION (#19) file that are currently marked Out-Of-Order.
XQOOSHOPRO	Protocols Marked Out-Of-Order in Protocol File	Run Routine	Routine: **LAPR^XQOO3**	This option presents a list of protocols in the PROTOCOL (#101) file that are currently marked as Out-Of-Order.
XQOOSHOW	List Defined Option Sets	Run Routine	Routine: **EN^XQOO2**	This option lists the option sets that have been created in **^XUTL** by their names.
XQOOTOG	Toggle options/protocols on and off	Run Routine	Routine: **TOG^XQOO1**	This option is used to write or remove Out-Of-Order messages from individual options or protocols.
XQOPACCESS	See if a User Has Access to a Particular Option	Run Routine	Routine: **OPACCES^XQCHK**	This option prompts for an option name and the name of a user and then searches the user's menu trees to see if the user has access to the option. It also checks to see if the user has the security key for a locked option.
XQOPED	Screen-based Option	ScreenMan	Entry Action: `D EA^XQOPED`	This option runs the ScreenMan option editor form

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Editor		Exit Action: `D XA^XQOPED`	XQEDTOPT. This option is locked with the ADP security key.
XQOPTFIX	Fix Option File Pointers	Action	Entry Action: `S %=1 D ENASK^XQ3`	This option scans through the OPTION (#19) file for dangling pointers. It deletes menu items that point to options that no longer exist.
XQORPHANOPTIONS	Non-queuable options with no parents	Menu		The options on this menu should *not* be assigned to a user's menu. They are also *not* queueable, so they do *not* appear on the ZTQUEUABLE OPTIONS menu. They are collected on this menu, so that they are *not* accidentally deleted from the system.
XQRESTRICT	Restrict Availability of Options	Run Routine	Routine: **XQ9**	This option is used to assign various sorts of restrictions to options. The following fields can be set, for individual options or groups of options: • LOCK • PROHIBITED TIMES • SPECIFY DEVICES • PRIORITY • OUT OF ORDER This option is locked with the ADP security key.
XQRIGHTNOW	Is there a menu rebuild running right	Run Routine	Routine: **NOW^XQ84**	This option checks the various flags set in **^DIC(19,"AXQ","P0")**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	now?			to determine if there is menu rebuild activity on your system right now.
XQSCHK	Server-type Option Test Server	Server	Routine: **XQSRV5** Server Action: **RUN IMMEDIATELY**	This server-type option is used to test other servers by examining the host OPTION (#19) file and returning the data associated with the target server. A message is sent to the host site with the name of the server option to be examined on the first line of the message.
XQSHOKEY	List users holding a certain key	Run Routine	Routine: **SHOW^XQ6**	This option displays all the holders of a certain security key.
XQSMD ADD	Select Options to be Delegated	Run Routine	Routine: **XQSMD**	This option is used to delegate the management of a set of options (or remove options already delegated) to a particular user or set of users.
XQSMD BUILD MENU	Build a New Menu	Run Routine	Routine: **BUILD^XQSMD4**	This option allows the delegated menu manager to build (create) new menus from the ones that are allowed.
XQSMD BY OPTION	List Delegated Options and their Users	Print		This option prints the Secure Menu Delegation (SMD) options and the users that can delegate them.
XQSMD BY USER	Print All Delegates and their Options	Print		This option prints the users that have SMD and the options that they can delegate.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XQSMD COPY USER	Copy One Users Menus and Keys to others	Run Routine	Routine: **XQSMDCPY**	This option is used to copy the primary menu and secondary menu options from one user to one or more others. The only options transferred will be those that have been delegated to the current user. Likewise, keys that are held by the selected user can be copied to the recipient users if the current user has been delegated this capacity as well. This option provides an application coordinator the ability to produce users that have the capabilities of a current user (e.g., a ward clerk, scheduling clerk, etc.).
XQSMD EDIT OPTIONS	Edit a User's Options	Run Routine	Routine: **ENTRY^XQSMD5**	Allows user to edit primary and secondary user options.
XQSMD LIMITED FM OPTIONS	Limited File Manager Options (Build)	Run Routine	Routine: **XQSMDFM**	This option permits a user to build limited PRINT, EDIT, or INQUIRE options. The user *must* have one or more ALLOWABLE MENU PREFIX and the XQSMDFM security keys. • Edit Option—To build an edit option, the user *must* have an edit template to use. • Print Option—To build a print option, the user *must* have both a sort

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				template and a print template. • Inquire Option—To build an inquire option the user can have a print template or can specify the file to use. The option is entered among the user's delegated options, so that they can be included on a menu built under the Secure Menu Delegation or given to other users as secondary options. The name of the option is restricted to the namespace designated in the ALLOWABLE MENU PREFIX followed by a **Z**, and then identifying text.
XQSMD MGR	Secure Menu Delegation	Menu		This menu manages the Secure Menu Delegation system. For those who are allowed to add and remove options from delegated sets of options. It includes the following options: • **XQSMD ADD** • **XQSMD REMOVE** • **XQSMD BY OPTION** • **XQSMD BY USER** • **XQSMD USER MENU** • **XQSMD SHOW** • **XQSMD REPLICATE**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XQSMD SET PREFIX**
XQSMD REMOVE	Remove Options Previously Delegated	Run Routine	Routine: **EN2^XQSMD** Help Frame: **XQSMD-OPTION**	Removes options from already established delegates.
XQSMD REPLICATE	Replicate or Replace a Delegate	Run Routine	Routine: **XQSMD3** Help Frame: **XQSMD-REPLICATE**	This option transfers the set of options delegated to a particular user to another user; optionally, allowing the original user's delegated options to be removed.
XQSMD SEC OFCR	Secure Menu Delegation	Menu		This menu includes Secure Menu Delegation options for reviewing the delegates and the options which they may delegate. It includes the following options: • **XQSMD SHOW** • **XQSMD BY OPTION** • **XQSMD BY USER**
XQSMD SET PREFIX	Specify Allowable New Menu Prefix	Edit		Permits the user to give another user an Allowable New Menu Prefix for purposes of Secure Menu Delegation (SMD), so that the delegate can build new menus from the options that have been delegated.
XQSMD SHOW	Show a Delegate's Options	Run Routine	Routine: **SHOW^XQSMD21**	This option shows you who created a delegate, when, and what delegation level they are; as well as all of the options

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				delegated to that person, when each was delegated, and by whom.
XQSMD USER MENU	Delegate's Menu Management	Menu		This is the Secure Menu Delegation (SMD) menu that is given to individuals who can modify other's primary or secondary menus. It includes the following options: • **XQSMD BUILD MENU** • **XQSMD EDIT OPTIONS** • **XQSMD LIMITED FM OPTIONS** • **XQSMD COPY USER** • XQCOPYOP
XQSPING	TCP/IP Type Ping Server	Server	• Server Action: **RUN IMMEDIATELY** • Server Audit: **NO** • Suppress Bulletin: **YES, SUPRESS IT** • Server Reply: **REPLY ON ERROR ONLY**	This is a PING server that works like PING under TCP/IP. If you send a message to this sever it sends it back to you, thereby showing that the network mail channel is open.
XQTKILL	Delete a Menu Template	Run Routine	Routine: **KILL^XQT4**	Removes a menu template from the NEW PERSON (#200) file.
XQTLIST	Show all options in a Menu Template	Run Routine	Routine: **LIST^XQT4**	List out all of the options in a particular menu template.
XQTNEW	Create a new menu	Run Routine	Routine:	This option invokes a routine that walks the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	template		**XQT2**	user through the menu trees creating a new menu template.
XQTRNAM	Rename a menu template	Run Routine	Routine: **RNAM^XQT4**	This option renames a particular menu template.
XQTSHO	List all Menu Templates	Run Routine	Routine: **SHO^XQT4**	This option lists all of the menu templates for the invoking user along with the first two options in that template.
XQTUSER	Menu Templates	Menu		This is the user's menu of menu template utilities. It includes the following options: • **XQTSHO** • **XQTLIST** • **XQTKILL** • **XQTRNAM** • **XQTNEW**
XU BLOCK COUNT	Global Block Count	Run Routine	Routine: **%ZTBKC**	This option counts the number of data blocks in a global.
XU CHECKSUM LOAD	Load/refresh checksum values into ROUTINE file	Run Routine	Routine: **LOAD^XUGOT**	This option updates the ROUTINE (#9.8) file with the latest checksum values from FORUM.
XU CHECKSUM REPORT	Compare local/national checksums report	Run Routine	Routine: **REPORT^XUGOT1**	This option compares checksums for routines to the values in the ROUTINE (#9.8) file. It provides a report listing routines that differ by patch or version, version or patch is correct, but checksums are off, local routines being tracked and information *not* on record for a patch

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(e.g., test patches). Nationally released routines' checksums are sent by Master File Updates to the local ROUTINE (#9.8) file automatically. Local sites may also record checksums in the CHECKSUM VALUE field in the ROUTINE (#9.8) file. To compare local routines which are being tracked, the CHECKSUM REPORT field should be set to "**Local report**".
XU DA EDIT	DA Return Code Edit	Run Routine	Routine: **XUS11**	This option runs a routine to allow the setup and editing of the DA RETURNS CODE (#3.22) file.
XU EPCS	User start-up event	Extended Action		Released with Kernel Patch XU*8.0*580, this option is used exclusively during a VistA user signon event. Items listed in this option are "TYPE:action" options in the OPTION (#19) file that can be used to prompt users for input upon VistA signon and before their Primary Menu Option is displayed. It will *not* be used for GUI signons. It is called from **XQ12** routine. **REF:** For instructions on how to use this option, see

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				Kernel Patch XU*8.0*593 and the Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide.
XU EPCS DISUSER EXP DATE	Print DISUSER DEA Expiration Date Null	Print		Released with Kernel Patch XU*8.0*580, this option prints all DISUSERed users with an unpopulated DEA# and DEA EXPIRATION DATE. This option prints the following data: • NAME • DEA# • TERMINATION DATE • DEA EXPIRATION DATE
XU EPCS DISUSER PRIVS	Print DISUSER Prescribers with Privileges	Print		Released with Kernel Patch XU*8.0*580, this option prints all DISUSERed users who have privileges to any of the SCHEDULEs **II** through **V** and who have a DEA# or VA#. This option prints the following data: • NAME • **DUZ** • DEA# • TERMINATION DATE • VA# • SCHEDULESs
XU EPCS DISUSER XDATE EXPIRES	Print DISUSER DEA Expiration	Print		This option prints all DISUSERed users with a DEA# and where the DEA EXPIRATION

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Date Expires 30 days			DATE expires within **30** days. This option prints the following data: • NAME • DEA# • DEA EXPIRATION DATE **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS EDIT DATA	ePCS Edit Prescriber Data	Broker (Client/ Server)	RPCs: • **XU EPCS EDIT** • **XUS KEY CHECK** • **DDR DELETE ENTRY** • **DDR FILER** • **DDR FIND1** • **DDR FINDER** • **DDR GET DD HELP** • **DDR GETS ENTRY DATA** • **DDR KEY VALIDATOR** • **DDR LISTER** • **DDR LOCK/UNLOCK NODE** • **DDR VALIDATOR** • **XWB GET VARIABLE VALUE** • **XUS PKI SET UPN** • **XUS PKI GET**	This is a Broker-type context option that is given to those individuals who are permitted to edit the data related to e-prescribing of controlled substances. It includes the **XQAL GUI ALERTS** option. This option is locked with the XUEPCSEDIT security key. **NOTE:** This option was released with Kernel Patch XU*8.0*580.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			UPN	
XU EPCS EDIT DEA# AND XDATE	Edit Facility DEA# and Expiration Date	Edit		This option edits the FACILITY DEA NUMBER (#52) and FACILITY DEA EXPIRATION DATE (#52.1) fields in the INSTITUTION (#4) file. **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS EXP DATE	Print DEA Expiration Date Null	Print		This option prints all active users with an unpopulated DEA# and DEA EXPIRATION DATE. This option prints the following data: • NAME • DEA# • DEA EXPIRATION DATE **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS LOGICAL ACCESS	Task Changes to DEA Prescribing Privileges Report	Run Routine	Routine: **RPT1^XUEPCSRT**	This tasked option prints the setting or change to DEA prescribing privileges related to issuance of a controlled substance prescription. This option only prints data from the previous day and with data that has been modified. The data is retrieved from the XUEPCS DATA

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(#8991.6) file. This option should be scheduled to run on a daily basis. **NOTE:** No data is displayed to the screen; the data is printed to the device indicated by the XUEPCS REPORT DEVICE parameter. **CAUTION: Verify that the XUEPCS REPORT DEVICE parameter has been set *before* using this option.** **To set the parameter, see the "Set the XUEPCS REPORT DEVICE Parameter" section in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*.** **NOTE:** This option was released with Kernel Patch XU*8.0*580.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XU EPCS PRINT EDIT AUDIT	Print Audits for Prescriber Editing	Run Routine	Routine: **PRINT^XUEPCSED**	This option prints information related to the editing of prescriber information. **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS PRIVS	Print Prescribers with Privileges	Print		This option prints all active users who have privileges to any of the SCHEDULEs **II** through **V** and who have a DEA# or VA#. This option prints the following data: • NAME • **DUZ** • DEA# • VA# • SCHEDULESs **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS PSDRPH	Print PSDRPH Key Holders	Print		This option prints all active users holding the PSDRPH security key. This report sorts by Division, and within DIVISION, it sorts by NAME. This option prints the following data: • NAME • **DUZ** • GIVEN BY (Person Who Assigned Key)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• DATE GIVEN (Date Assigned) **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS PSDRPH AUDIT	Task Allocation Audit of PSDRPH Key Report	Run Routine	Routine: **RPT2^XUEPCSRT**	This tasked option prints the allocation of the PSDRPH security key. This option only prints data from the previous day and with data that has been modified. The report prints data for the archive XUEPCS PSDRPH AUDIT (#8991.7) file. This option should be scheduled to run on a daily basis. **NOTE:** No data is displayed to the screen; the data is printed to the device indicated by the XUEPCS REPORT DEVICE parameter. **CAUTION: Verify that the XUEPCS REPORT DEVICE parameter has been set *before* using this option.**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				To set the parameter, see the "Set the XUEPCS REPORT DEVICE Parameter" section in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*. **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS PSDRPH KEY	Allocate/De-Allocate of PSDRPH Key	Run Routine	Routine: **PSDKEY^XUEPCSRT**	This option allows users to allocate or de-allocate the PSDRPH security key. **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS SET PARMS	Print Setting Parameters Privileges	Print		This option prints all active users holding the XUEPCSEDIT security key. This option identifies individuals responsible for setting the parameters. **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU EPCS	ePCS DEA	Menu		This is DEA ePCS

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
UTILITY FUNCTIONS	Utility Functions			Utility main menu. It includes the following options (listed in display order): • **XU EPCS EXP DATE** (1; SYNONYM: 1) • **XU EPCS DISUSER EXP DATE** (2; SYNONYM: 2) • **XU EPCS XDATE EXPIRES** (3; SYNONYM: 3) • **XU EPCS DISUSER XDATE EXPIRES** (4; SYNONYM: 4) • **XU EPCS PRIVS** (5; SYNONYM: 5) • **XU EPCS DISUSER PRIVS** (6; SYNONYM: 6) • **XU EPCS PSDRPH** (7; SYNONYM: 7) • **XU EPCS SET PARMS** (8; SYNONYM: 8) • **XU EPCS PRINT EDIT AUDIT** (9; SYNONYM: 9) • **XU EPCS LOGICAL ACCESS** (10; SYNONYM: 10) • **XU EPCS PSDRPH AUDIT** (11; SYNONYM: 11) • **XU EPCS PSDRPH KEY** (12; SYNONYM:

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				12) • **XU EPCS EDIT DEA# AND XDATE** (13; SYNONYM: 13)
XU EPCS XDATE EXPIRES	Print DEA Expiration Date Expires 30 days	Print		This option prints all active users with a DEA# and where the DEA EXPIRATION DATE expires within **30** days. This option prints the following data: • NAME • DEA# • DEA EXPIRATION DATE **NOTE:** This option was released with Kernel Patch XU*8.0*580.
XU FINDUSER	Find a user	Run Routine	Routine: **XUS9**	This option finds a user that is currently signed on to the system in this UCI group. If the user is on this CPU it also shows the menu path. It uses the "CUR" cross-reference on the SIGN-ON LOG (#3.081) file.
XU FIRST LINE PRINT	First Line Routine Print	Run Routine	Routine: **%ZTP1**	This option uses the **%ZTP1** utility to print the first line of routines.
XU IP RELEASE	Release IP lock	Run Routine	Routine: **X6IP^XUSTZIP**	This option releases the lock on an IP address caused by too many invalid signon attempts.
XU NOP MENU	Do nothing menu	Menu		This menu is just a placeholder for some special access

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				methods. **CAUTION: Do *not* place any new items in the menu multiple.**
XU OPTION QUEUE	One-time Option Queue	Run Routine	Routine: **XUTMOPT**	This option allows any option that is in the OPTION (#19) file with the SCHEDULING RECOMMENDED field set to **Yes**, to be set up for one-time queuing.
XU OPTION START	One-time Option Start (Internal Use Only)	Action	Entry Action: `N XQY,XQY0 S XQY0=$G(^DIC(19,XUXQM,0)),XQT=$P(XQY0,U,4) I $L(XQT),"APR"[XQT S XQY=XUXQM D ZTSK2^XQ1 Q`	This option works with XU OPTION QUEUE (**One-time Option Queue**) to allow site managers to schedule an option that usually runs on a cycle without disrupting that cycle. **This option should *not* be used directly, either from a menu or through the Schedule/Unschedule Options [XUTM SCHEDULE] option; it is used internally by XU OPTION QUEUE to make that option work correctly.**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XU PROC CNT CLUP	XUS Process count cleanup	Run Routine	Routine: **CLEAR^XUSCNT (0)**	This option is only needed for GT.M sites. This is the Kernel process count cleanup routine. It checks the entries in **XUTL("XUSYS",$J)** to see if they are still active, and if *not*, removes the entry. For GT.M sites only, schedule this option to run between every **1** to **8** hours.
XU SEC OFCR	Menu and Option Security	Menu		This menu includes options to allow the user to review options. It includes the following options: • **XUINQUIRE** • **XUOPTWHO** • **XUPRINT** • **XUUSERACC** • **XUUSERACC2** • **XUXREF-2** • **XQSHOKEY** • **XQLOCK2** • **XQSMD SEC OFCR** • **XUOPTDISP** • **XUOPTLOG** • **XUOPTPURGE**
XU SID ASK	Ask if Production Account	Run Routine	Routine: **ASK^XUPROD**	This option allows the user to claim that the current account is the Production account and set the SID into the KERNEL SYSTEM PARAMETERS (#8989.3) file. This option is locked with the XUMGR

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				security key.
XU SID EDIT	Edit Logical/Physical Mapping	Run Routine	Routine: **EDIT^XUPROD**	This option lets you edit the two fields that are used in the SID code to map a logical name in the Cache **cpf** file to the Physical name that is returned by a **$ZU(12,"")** call.
XU SID STARTUP	Startup PROD check	Run Routine	Routine: **CHECK^XUPROD**	This option should run at every startup to check if the current SID matches the stored SID. To do this, the option needs to be in the OPTION SCHEDULING (#19.2) file with the SPECIAL QUEUEING field set to Startup Persistent.
XU SITE LOCKOUT	Edit Site IP lockout	Action	Entry Action: `N DA,DR,DIE S DA=1,DR="[XUSITEIP]",DIE=8989.3 D XUDIE^XUS5`	This option edits the KERNEL SYSTEM PARAMETERS (#8989.3) file for IP lockout, User lockout, and Terminal server list entry.
XU SWITCH UCI	Switch UCI	Run Routine	Routine: **SWITCH^XUS3A**	This option switches UCIs.
XU USER ADD	New User Event	Extended Action	Entry Action: `D GET^XUSERP(XUIEN,.XUSR)`	This is a protocol to link other software applications that want to know about a USER ADD event. Other packages can attach to this protocol option, and they are called when a new USER is Added. At the end of editing, the user data XU USER CHANGE protocol is called. **DUZ** is the person that is running the add user

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				option. XUIFN points to the NEW PERSON (#200) file entry that has been added. It returns selected File #200 data to XUSR(field name) array for NEW PERSON components. It is called from **XUSERNEW** by **XUSERP**. It includes the following option: • **PSB BCBU PMU MESSAGE BUILDER**
XU USER CHANGE	User Change Event	Extended Action	Entry Action: `D GET^XUSERP(XUIEN, .XUSR)`	This is a protocol to link other software applications that want to know about a USER CHANGE event. Other packages can attach to this protocol option, and they are called when a user is Edited. **DUZ** is the person that is running the edit user option. **XUIFN** points to the NEW PERSON (#200) file entry that has been changed. It returns selected File #200 data to XUSR(field name) array for NEW PERSON components. It includes the following option: • **PSB BCBU PMU MESSAGE BUILDER**
XU USER SIGN-ON	User sign-on event	Extended Action		This is a protocol option to link other software applications that want to know

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				about a user signon event. The protocols *must not* **READ/WRITE** to the screen, because it may be doing a GUI signon. They can set text that is displayed to the user by calling SET^XUS1A(string) The first character should be a **!** to cause the text to be placed on a new line. **DUZ** is defined but other variables may *not* be. It is called from **XUS1A**. It includes the following options: • **PRSAZ SUP ALERTS** • **RA SIGN-ON MSG** • **VAFC EXCEPTION NOTIFIER** • **RG EXCEPTION NOTIFIER** • **ASL ESIG ACCESS AGREEMENT** • **ADR PURCHASE CARD ACTIONS** • **AEA CMR TURN IN ALERT** • **AEA PPM TURN IN ALERT** • **AEA WHSE TURN IN ALERT** • **ENIT RESP NOTIFY**
XU USER START-UP	User start-up event	Extended Action	Routine: **XQ12**	This is a protocol option that is used exclusively during a VistA user signon event. Items attached to this option are

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				"**TYPE:action**" options in the OPTION (#19) file, which can be used to prompt users for input upon VistA signon and before their Primary Menu Option is displayed. Unlike the XU USER SIGN-ON option, it can provide interactive prompting to users. It is *not* used for GUI signon. For example, The KEEP FROM DELETING (#209.2) field has been set to **Yes** on the **User start-up event** [XU USER START-UP] option. This option is called from the **XQ12** routine. **NOTE:** This option was released with Kernel Patch XU*8.0*593.
XU USER TERMINATE	User terminate event	Extended Action	Entry Action: `D GET^XUSERP(XUIEN, .XUSR)`	This is a protocol to link other software applications that want to know about a USER TERMINATE event. Other applications can attach to this protocol option and they will be called when a USER is terminated. The call is just after the user's Access and Verify codes have been removed. **DUZ** is the person that is running the terminate option. **XUIFN** points to the NEW PERSON (#200)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				file entry that is being terminated. It returns selected File #200 data to XUSR(field name) array for NEW PERSON components. It is called in XUSTERM from XUSERP. It includes the following options: • **USR USER TERMINATE** • **GMRC TERMINATE CLEANUP** • **OR TERMINATE CLEANUP** • **PRCS TERMINATE** • **AEA XU TERMINATE REMOTE** • **TIU TEMPLATE USER DELETE** • **PSB BCBU PMU MESSAGE BUILDER** • **ENIT USER ACCOUNT TERMINATED**
XU-486 MENU COPY	Copy the compiled menus from the print server	Action	Entry Action: `S SYS="CS" F S SYS=$O(^%ZIS(14.5,"B",SYS)) Q:SYS'["CS" S UCI="VAH",%X="^XUTL(""XQO"",",%Y="^[UCI,SYS]XUTL(""XQO"",",%=$E(%Y,1,$L(%Y)-1)_")" X "K @% D %XY^%RCR"`	(Obsolete) This option is just for the MSM 486 site that run TaskMan only on the print server and need to get updated compiled menus to the Compute servers. It should be scheduled to run after the menu tree rebuild has finished on the print server. As distributed, it only copies the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				compiled menus to a UCI named **VAH** on compute servers named **CSA,CSB,…** It uses **%RCR** to copy the data.
XU-CLINICAL ACTIVE TRAINEE	List of Active Registered Trainees	Print		This option prints a report of active Registered Trainees. The SCHEDULING RECOMMENDED (#209) field has been set to **YES** in case the site decides they want to schedule this report at regular intervals. When manually launching this report, it is recommended that it be QUEUED.
XU-CLINICAL INACTIVE TRAINEE	List of Inactive Registered Trainees	Print		This option prints a report of inactive Registered Trainees. The SCHEDULING RECOMMENDED (#209) field has been set to **YES** in case the site decides they want to schedule this report at regular intervals. When manually launching this report, it is recommended that it be QUEUED.
XU-CLINICAL LOCAL REPORTS	Local Trainee Registration Reports	Menu		This menu option provides various Trainee Registration reports that look at the local database. It includes the following options: • **XU-CLINICAL TRAINEE DB COUNT** • **XU-CLINICAL**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ACTIVE TRAINEE • **XU-CLINICAL INACTIVE TRAINEE** • **XU-CLINICAL TRAINEE LIST**
XU-CLINICAL TRAINEE COUNT	Count of Clinical Trainee's	Print		This option prints a reports of the total number of Clinical Trainee's that have been entered into the NEW PERSON (#200) file.
XU-CLINICAL TRAINEE DB COUNT	Total Count of Registered Trainees	Print		This option prints a report of the total number of Clinical Trainee's that have been entered into the NEW PERSON (#200) file.
XU-CLINICAL TRAINEE EDIT DB COUNT	Edit Trainee Registration Data	Action	Entry Action: **S DIC="^VA(200,",DIC(0)="AEMQ",DIC("S")="I $S($P(^(0),U,11):$P(^(0),U,11)'<$$FMADD^XLFDT(DT,"-1096"),1:1)" D ^DIC K DIC Q:Y=-1 S DA=+Y,DR="[XU-CLINICAL TRAINEE]",DIE="^VA(200," D XUDIE^XUS5 K D0,DA,DIE,DR**	This option is used to edit the Registered Trainee data.
XU-CLINICAL TRAINEE INQUIRY	Trainee Registration Inquiry	Inquire		This option displays various attributes of Registered Trainees.
XU-CLINICAL TRAINEE LIST	List of All Registered Trainees	Print		This option reports both active and inactive Registered Trainees. The SCHEDULING RECOMMENDED (#209) field has been set to **YES** in case the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				site decides they want to schedule this report at regular intervals. When manually launching this report, it is *recommended* that it be QUEUED.
XU-CLINICAL TRAINEE MENU	OAA Trainee Registration Menu	Menu		This is the primary menu for managing Trainee Registration. It includes the following options: • **XU-CLINICAL TRAINEE EDIT** • **XU-CLINICAL TRAINEE INQUIRY** • **XU-CLINICAL TRAINEE REPORTS**
XU-CLINICAL TRAINEE REPORTS	Trainee Reports Menu	Menu		This is the Trainee Registration main reports menu. It includes the following options: • **XU-CLINICAL LOCAL REPORTS** • **XU-CLINICAL TRANS REPORTS**
XU-CLINICAL TRAINEE TRANSA	Trainee Transmission Report by Date	Print		This option produces a report of transmitted trainees by date transmitted to the OAA.
XU-CLINICAL TRAINEE TRANSB	Trainee Transmission Report Selectable Items	Print		This option selects a range for date transmitted and a range for the VHA training facility.
XU-CLINICAL TRAINEE TRANSC	Trainee Transmission Report by Range	Print		This report displays/prints the Registered Trainee transmission counts for a selected period of time.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XU-CLINICAL TRANS REPORTS	Trainee Transmission Reports to OAA	Menu		This is the menu for the Various Trainee Registration transmission reports to the OAA. It includes the following options: • **XU-CLINICAL TRAINEE TRANSA** • **XU-CLINICAL TRAINEE TRANSB** • **XU-CLINICAL TRAINEE TRANSC**
XU-INACTIVE PERSON CLASS USERS	List Inactive Person Class Users	Run Routine	Routine: **PR^XUBA**	This option lists users who currently have inactive Person Classes and need to be assigned new Person Classes.
XU-INSTITUTION-DEA	Institution DEA# edit	Edit		This option edits the Facility DEA number in the INSTITUTION (#4) file.
XU-INSTITUTION-E	Institution Edit	ScreenMan		This option edits a subset of the fields in the INSTITUTION (#4) file.
XU-PERSON CLASS EDIT	Person Class Edit	Action	Entry Action: **S DIC="^VA(200,",DIC(0)="AEMQ",DIC("S")="I $S($P(^(0),U,11):$P(^(0),U,11)'<DT,1:1)" D ^DIC K DIC Q:Y=-1 S DA=+Y,DR="[XU-PERSON CLASS]",DIE="^VA(200," D XUDIE^XUS5 K D0,DA,DIE,DR**	This option is used to edit Person Class data. This option is located under the User Management menu [XUSER]. This option can be given to any user who needs to edit this data. Users that have been terminated *cannot* be edited.
XU-PERSON CLASS REMOVE	Remove a person class entry	Run Routine	Routine: **REMOVE^XUA4A72**	This option should be given only to those persons that the site trusts to remove entries from the Person Class

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				multiple of the NEW PERSON (#200) file. The PERSON CLASS Multiple holds a history, and under normal use, entries should *not* be removed. This option is to fix real messes.
XU-PING-SERVER	TCP/IP type PING server	Server	Routine: **XTSPING**	This is a PING server that works like PING under TCP/IP. If you send a message to this server it will send it back to you.
XU-SPL-ALLOW	Allow other users access to spool documents	Edit		This option edits the OTHER AUTHORIZED USERS field in the SPOOL DOCUMENT file to allow other users access to a spool document.
XU-SPL-BROWSE	Browse a Spool Document	Run Routine	Routine: **BROWSE^ZISPL**	This option uses the VA FileMan Browser tool on a Spool Document.
XU-SPL-DELETE	Delete A Spool Document	Run Routine	Routine: **DELETE^ZISPL**	Delete a spool document from the SPOOL DOCUMENT file and delete the associated message if they are still linked.
XU-SPL-LIST	List Spool Documents	Print		This option lists entries in the SPOOL DOCUMENT file.
XU-SPL-MAIL	Make spool document into a mail message	Run Routine	Routine: **MAIL^ZISPL**	This option takes a spool document and posts it as a MailMan message to the user's **IN** basket. This does *not* move the data at all but does decrease the number of lines charged to the user.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XU-SPL-MENU	Spooler Menu	Menu		This is the menu of options to work with spooled documents after they have been created. It includes the following options: • **XU-SPL-LIST** • **XU-SPL-PRINT** • **XU-SPL-DELETE** • **XU-SPL-MAIL** • **XU-SPL-ALLOW** • **XU-SPL-BROWSE**
XU-SPL-MGR	Spool Management	Menu		This is the menu for the system administrators to manage the spooler access. It includes the following options (listed in display order): • **XU-SPL-DELETE** (1) • **XU-SPL-USER** (2) • **XU-SPL-LIST** (3) • **XU-SPL-PRINT** (4) • **XU-SPL-SITE** (5) This menu is locked with the XUMGR security key.
XU-SPL-PRINT	Print A Spool Document	Run Routine	Routine: **PRINT^ZISPL**	This option prints a document that has been spooled.
XU-SPL-PURGE	Purge old spool documents	Run Routine	Routine: **1^ZISPL2**	This option should be tasked to run at least once a week to delete spool documents that are older than the number of days in the KERNEL SYSTEM PARAMETERS (#8989.3) file.
XU-SPL-SITE	Spooler Site Parameters	Edit		Edit the site parameters for the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Edit			Spooler.
XU-SPL-USER	Edit User's Spooler Access	Edit		This option allows the system administrators to edit the spooler fields in the NEW PERSON (#200) file.
XU-SPY-SHOW	Display the Kernel Audit Parameters	Print		This is an inquire to the KERNEL SYSTEM PARAMETERS (#8989.3) file to show the current AUDIT parameters that are set up.
XUADISP	Audit Display	Menu		This is the Audit Display menu. It includes the following options (listed in display order): • **XUOPTDISP** (1) • **XUUSEROPT** (2) • **XUFDEV** (3) • **XUFDISP** (4) • **XUPMDISP** (5)
XUAUDIT	Establish System Audit Parameters	Action	Entry Action: `S DA=1,DIE="^XTV(8989.3,",DR="[XUAUDIT]" D XUDIE^XUS5K DA,DIE,DR`	This option establishes the audit parameters for which option, namespace, user, device, and failed access attempt to audit. Includes date to initiate and terminate this audit function.
XUAUDIT MAINT	System Audit Menu	Menu		This menu establishes and maintains audit functions. It includes the following options (listed in display order; no #5): • **XUAUDIT** (1) • **XU-SPY-SHOW** (2) • **XUSERVDISP** (3) • **XM SUPER**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				SEARCH (4) • **DG BULLETIN LOCAL** (6) • **DG PATIENT INQUIRY** (7) • **DG PARAMETER ENTRY** (8)
XUAUDIT MENU	Audit Features	Menu		This menu includes options to establish Kernel Audit Parameters and to print/display audit data. It includes the following options (listed in display order): • **XUAUDIT MAINT** (1) • **XUAUDIT RPT** (2) • **XUADISP** (3)
XUAUDIT RPT	System Audit Reports	Menu		This is a menu of reports pertaining to the audit of options, users, and the system. It includes the following options (listed in display order): • **XUFAIL** (1) • **XUOPTLOG** (2) • **XUSC LIST** (3)
XUAUTODEACTIVATE	Automatic Deactivation of Users	Run Routine	Routine: **CHECK^XUSTERM1**	This option will go thru the NEW PERSON (#200) file, and search for users with a termination date in the past who still have an access code. It deletes their Access code and security keys. It calls the XU USER TERMINATE protocol in the OPTION (#19) file, so other applications can take

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				any action needed. If the DELETE ALL MAIL ACCESS field is set, then the user is removed from the MailMan system. This deletes their mail boxes and deletes them from any mail groups. Patch XU*8*514 implements the Logical Access Controls section of VA Handbook 6500. Item **d** states that accounts are automatically disabled if inactive for **30** days. The routine checks for users that have an access code and a LAST SIGNON DATE (#202) where the LAST SIGNON DATE is more than **30** days old and sets the DISUSER (#7) field flag for the user. If the site has set the ACADEMIC AFFILIATION WAIVER (#13) field to **YES** in the KERNEL SYSTEM PARAMETERS (#8989.3) file then a **90** day limit is used in place of **30** days.
XUCHANGE	Change Device's Terminal Type	Edit		This option changes the TERMINAL TYPE associated with a given device.
XUCOMMAND	SYSTEM COMMAND OPTIONS	Menu		This is the basic command menu that holds commands executable from

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				anywhere in the menu processor. It includes the following options: • **XUHALT** • **XUTIME** • **XUCONTINUE** • **XURELOG** • **XMUSER** • **XUSERTOOLS** (SYNONYM: TBOX) • **XQALERT** (SYNONYM: VA) • **ENWOWARD** (SYNONYM: WOR) • **PRSA EMP MENU** (SYNONYM: LEAV) • **ZPBOOK** (SYNONYM: PB) • **ZPSOMD DRUG LOOK-UP** (SYNONYM: FORM) • **452 VA STATION INQ** (SYNONYM: PB) • **RTZ USER MENU** (SYNONYM: RTZ) • **OOPS GUI EMPLOYEE** • **XUS SIGNON** • **XUS KAAJEE WEB LOGON** • **XOBE ESIG USER** • **ENIT OWNER MENU** (SYNONYM: IT O) • **EC GUI CONTEXT** • **VEJDWPB CORE RPCS**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUCONTINUE	Continue	Action	Entry Action: `S XQUR="CON",^("T")=^XUTL("XQ",$J,"T")-1 G CON^XQ12`	This option halts processing, allowing for the user to directly proceed to the last option accessed on the next login.
XUCORE	Core Applications	Menu	Entry Action: `D ^ASTR2,XM^ABOC`	This menu branches to each of the CORE application packages. It includes the following options: • **PSMENU** (DISPLAY ORDER: 10) • **DIUSER** (SYNONYM: FM DISPLAY ORDER: 17) • **MRMENU** (DISPLAY ORDER: 7) • **FHMGR** (DISPLAY ORDER: 2) • **YSUSER** (DISPLAY ORDER: 6) • **RADIOLOGY SYSTEM** (DISPLAY ORDER: 13) • **CRMGR** (DISPLAY ORDER: 1) • **LRZMENU** (DISPLAY ORDER: 4) • **VOLMENU** (DISPLAY ORDER: 18) • **SOWK** (DISPLAY ORDER: 15)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **DGZMGR** (SYNONYM: PIMS DISPLAY ORDER: 5) • **FHDMP** (DISPLAY ORDER: 9) • **NURS-SYS-MGR** (SYNONYM: NS) • **ENMGR** (SYNONYM: EN) • **ABSV VAVS MASTER MENU** (SYNONYM: VOL) • **HL MAIN MENU** (SYNONYM: HL7) • **MAG WINDOWS** • **RDP1 UTIL MENU** (SYNONYM: RDP)
XUDEV	Device Edit	Edit		This option changes the device characteristics for a given device.
XUDEV LINEPORT ADDR CURRENT	Current Line/Port Address	Action	Entry Action: `W !,"Your current Line/Port address is "_$$LNPRTNAM^%ZISUTL`	This option identifies your current Line/Port address.
XUDEV LINEPORT ADDR EDIT	Edit Line/Port Addresses	Edit		This option edits the Line/Port addresses.
XUDEV LINEPORT ADDR RPT	Line/Port Address report	Print		This option prints a report listing Line/Port Addresses.
XUDEV RES-CLEAR	Clear all resources	Run Routine	Routine: **RELALL^XUDHRES**	This option loops through all entries in the RESOURCE file (3.54) and removes any slot in use entries. **CAUTION:**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				This option should only be used as a TaskMan Startup option or by a knowledgeable site person.
XUDEV RES-ONE	Clear one Resource	Run Routine	Routine: **RELONE^XUDHRES**	This option clears/resets one entry of one resource. System administrators use this option to clear problems.
XUDEVEDIT	Edit Devices by Specific Types	Menu		This menu edits specific types of devices using ScreenMan or edits all device fields. It includes the following options: • **XUDEVEDITSPL** (SYNONYM: SPL) • **XUDEVEDITHFS** (SYNONYM: HFS) • **XUDEVEDITRES** (SYNONYM: RES) • **XUDEVEDITTRM** (SYNONYM: TRM) • **XUDEVEDITALL** (SYNONYM: ALL)
XUDEVEDITALL	Edit All Device Fields	Edit		This option will allow the editing of all the fields in the DEVICE (#3.5) file.
XUDEVEDITCHAN	Network Channel Device Edit	Run Routine	Routine: **CHAN^ZISEDIT**	This is a ScreenMan-oriented edit option for editing synchronous devices.
XUDEVEDITHFS	Host File Server Device Edit	Run Routine	Routine: **HFS^ZISEDIT**	This is a ScreenMan-oriented edit option for editing Host file devices.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUDEVEDITLPD	LPD/VMS Device Edit	ScreenMan		This option calls a ScreenMan form to edit a VMS LPD device.
XUDEVEDITMT	Magtape Device Edit	Run Routine	Routine: **MT^ZISEDIT**	This is a ScreenMan oriented edit option for editing magtape devices.
XUDEVEDITRES	Resource Device Edit	Run Routine	Routine: **RES^ZISEDIT**	This is a ScreenMan-oriented edit option for editing resource devices.
XUDEVEDITSPL	Spool Device Edit	Run Routine	Routine: **SPL^ZISEDIT**	This is a ScreenMan-oriented edit option for editing spool devices.
XUDEVEDITSYNC	Network Channel Device Edit	Run Routine	Routine: **CHAN^ZISEDIT**	This is a ScreenMan oriented edit option for editing synchronous devices.
XUDEVEDITTRM	TRM or VTRM Device Edit	Run Routine	Routine: **TRM^ZISEDIT**	This option calls a ScreenMan form to edit a **TRM** or **VTRM** device.
XUDIACCESS FOR ISO	Fileman Access for the ISO	Menu		This menu contains VA FileMan options. VA FileMan access is basically required until such time as all necessary reports can be generated by standardized menu options. It includes the following options (listed in display order): • **DIPRINT** (1) • **DISEARCH** (2) • **DIINQUIRE** (3) • **DIAUDIT** (4) • **DILIST** (5)
XUDISPLAY	Display Device Data	Print		This option prints a list of all the devices in the DEVICE file.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description

XUEDITOPT	Edit options	Edit	Entry Action:
			`S DLAYGO=19`
			Exit Action:
			`K DLAYGO D KICK^XQ7`
				This option creates the building blocks of the menu system. Each option should have an internal name, menu text, a description, and a type. Depending on its type, other fields are filled in.

XUER EDIT PARAMS	Error Trap Param Edit	ScreenMan		This option allows the editing of Error Trap parameters in the KERNEL SYSTEM PARAMETERS (#8989.3) file.
XUER NOTE	Annotate an Error	Edit		This option provides a means of letting a programmer annotate an error that has been logged automatically.
XUER PURGE ERROR SUMMARY	Purge Error Trap Summary	Run Routine	Routine: **PURGE^XTERSUM1**	This option should be scheduled weekly or monthly to purge the error summary of old errors. It only purges entries where the last error was over **90** days ago.
XUER SUMMARY	Error Summary Menu	Menu		This menu holds the Error Summary options. It includes the following options: • **XUER SUMMARY MOST RECENT** • **XUER NOTE** • **XUER PURGE ERROR SUMMARY** • **XUER UPDATE DEMAND/BATCH** • **XUER SUMMARY INQUIRE** • **XUER SUMMARY**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				TOP
XUER SUMMARY INQUIRE	Inquire Error Summary	Inquire		This option inquires into the ERROR TRAP SUMMARY (#3.077) file.
XUER SUMMARY MOST RECENT	Summary Most Recent Errors	Print		This option displays the most recent errors in the ERROR TRAP SUMMARY (#3.077) file.
XUER SUMMARY TOP	Top Errors	Run Routine	Routine: **SHOW^XTERSUM4**	This option runs a report of the top errors and prints a graph of when they occurred.
XUER UPDATE DEMAND/BATCH	Update Error Trap Summary	Run Routine	Routine: **TODAY^XTERSUM**	This option is run on demand or by batch to update the ERROR TRAP SUMMARY (#3.077) file from the current Error Trap. This only processes the errors for the current day. **DO ADD^XTERSUM** to add error from the last **30** days. See the code to reach back even further.
XUERRS	Error Processing	Menu		This menu provides access to options pertaining to the Error Trap: displaying, printing, and purging errors. It includes the following options: • **XUERTRAP** • **XUERTRP PRINT ERRS** • **XUERTRP PRINT T-1 1 ERR** (SYNONYM: P1) • **XUERTRP PRINT T-1 2 ERR**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(SYNONYM: P2) • **XUERTRP CLEAN** • **XUERTRP TYPE** • **XUER SUMMARY** (SYNONYM: SUM)
XUERTRAP	Error Trap Display	Run Routine	Routine: **XTER**	This option displays programmer error messages (operating-system dependent).
XUERTRP AUTO CLEAN	Error trap Auto clean	Run Routine	Routine: **AUTO^XTERPUR**	This is a queueable option to clean up the Error Trap. By default, this option cleans up any errors that were recorded more than **7** days ago. If in the **TaskMan Schedule/Unschedule Options** [XUTM SCHEDULE] option the TASK PARAMETERS field has another numeric value that is used instead.
XUERTRP CLEAN	Clean Error Trap	Run Routine	Routine: **XTERPUR**	This option is available to delete old errors from the Error Trap. This option is locked with the XUPROGMODE security key.
XUERTRP PRINT ERRS	Interactive Print of Error Messages	Run Routine	Routine: **INTRACT^XTER1A**	This option provides an interactive print of the first ***n*** occurrences of an error (where ***n*** is user-selectable) over the specified date range.
XUERTRP PRINT T-1 1 ERR	Print 1 occurence of each error for T-1 (QUEUE)	Run Routine	Routine: **ONE^XTER1A**	This option obtains a listing of the first occurrence of each error recorded on the previous day. It can be

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				queued to run shortly after midnight. If a device is specified, the output is sent to the specified device. If a device is *not* specified, the output is sent in a mail message to the individual who queued the option to run. It should be set to automatically requeue at a **1D** (every day) interval.
XUERTRP PRINT T-1 2 ERR	Print 2 occurrences of errors on T-1 (QUEUED)	Run Routine	Routine: **TWO^XTER1A**	This option obtains a listing of the first two occurrences of each error recorded on the previous day. It can be queued to run shortly after midnight. If a device is specified, the output is sent to the specified device. If a device is *not* specified, the output is sent in a mail message to the individual who queued the option to run. It should be set to automatically requeue at a **1D** (every day) interval.
XUERTRP TYPE	Remove a TYPE of error	Run Routine	Routine: **TYPE^XTERPUR**	This option removes a type of error.
XUEXKEY	Allocate/De-Allocate Exclusive Key(s)	Run Routine	Routine: **EXCLUSE^XQ6B**	This option can be used to just edit the MUTUALLY EXCLUSIVE KEYS Multiple in the SECURITY KEY file. This option is locked with the XUEXKEY security key.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUFAIL	Failed Access Attempts Log	Print		This option prints a list by date/time of those users who have failed access into the system.
XUFDEV	Device Failed Access Attempts	Print		This option displays failed access attempts; it sorts on device then date/time. It gives a subtotal of attempts for each device and a total of all those attempts requested in the sort. It prompts for a print device to generate a hard copy if desired.
XUFDISP	User Failed Access Attempts	Print		This option displays the user failed access attempts; it sorts on name then date/time of attempt. It prompts for device. It gives subtotals by user; total for all failed access attempts.
XUFILEACCESS	File Access Security	Menu		This menu gives and takes away files from any user; as long as you have the same access and the same files as the user you are granting or taking away the files. It includes the following options: • **XUFILEGRANT** (DISPLAY ORDER: 1) • **XUFILESETDELETE** (DISPLAY ORDER: 40) • **XUFILEPRINT** (DISPLAY ORDER: 30)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XUFILELIST** (DISPLAY ORDER: 25) • **XUFILECOPY** (DISPLAY ORDER: 5) • **XUFILEREMOVEALL** (DISPLAY ORDER: 45) • **XUFILESINGLEADD** (DISPLAY ORDER: 10) • **XUFILEINQUIRY** (DISPLAY ORDER: 20) • **XUFILEDELETE** (DISPLAY ORDER: 50) • **XUFILERANGEASSIGN**
XUFILEACCESS SEC OFCR	Fileman Security Menu	Menu		This menu includes options to display/print the VA FileMan files users can access. It includes the following options (listed in display order): • **XUFILEINQUIRY** (1) • **XUFILELIST** (2) • **XUFILEPRINT** (3) • **XUFILESETDELETE** (4) • **XUFILESINGLEADD** (5) • **XUDIACCESS FOR OIG** (6)
XUFILECOPY	Copy One User's File Access to	Run Routine	Routine: **COPY^XUFILE**	This option copies the file access that one user holds and give

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Others			that same access to others.
XUFILEDELETE	Take away All access to a File	Run Routine	Routine: **DELF^XUFILE1**	This option deletes the access all users hold to a particular file. This does *not* include those users with programmer access [i.e., **DUZ(0)="@"**].
XUFILEGRANT	Grant Users' Access to a Set of Files	Run Routine	Routine: **XUFILE**	This option gives one or more users access to selected files. You can enter an individual file number, a range of numbers, and/or a list of file numbers. **NOTE:** You can only give out access to files to which you have access.
XUFILEINQUIRY	Inquiry to a User's File Access	Inquire	Exit Action: `K %ZISI,DISYS,DP,P,V,W,X1`	This option shows what kind of file access a particular user has.
XUFILELIST	List Access to Files by File number	Run Routine	Routine: **ACC^XUFILE1**	This option lists, by file number, those users who have access to the range of files selected and what that access is.
XUFILEPRINT	Print Users Files	Print	Exit Action: `K %ZISI,B,P,DIJ,DISYS`	This option lists, by user, each file the user has access to, and what that access is. Users who have no access are *not* listed.
XUFILERANGEASSIGN	Assign/Delete a File Range	Edit	Exit Action: `K %X,%Y,DI,DISYS,DQ,V,W`	This option assigns or deletes a file range for a user. This file range is used when creating a new file. If the range is present, then the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				user can only create new files whose numbers are within the range.
XUFILEREMOVEALL	Remove All Access from a Single User	Run Routine	Routine: **DELI^XUFILE1**	This option removes all the file access a single user holds.
XUFILESETDELETE	Delete Users' Access to a Set of Files	Run Routine	Routine: **XUDEL^XUFILE**	This option deletes the access to files held by one or more users. You can enter an individual file number, a range of numbers, and/or a list of file numbers.
XUFILESINGLEADD	Single file add/delete for a user	Edit	Exit Action: `K V,W,C,DI,DISYS,DQ,%X,%Y,DLAYGO`	This option adds or deletes the access a user has for a single file.
XUFPURGE	Failed Access Attempts Log Purge	Run Routine	Routine: **FAPURGE^XUAPURGE**	This option asks for a beginning and ending date to purge all those entries in that range. Also, it asks for a date/time when this task will be queued to run.
XUHALT	Halt	Action	ENTRY ACTION: `S:'$D(XQCH) XQCH="HALT" G:$L(XQCH)>2 HALT^XQ12 S XQUR="HALT" G XPRMP^XQ12`	This is the command that is used to terminate processing in MenuMan.
XUINDEX	%Index of Routines	Run Routine	Routine: **XINDEX**	This option runs the **%INDEX** routine.
XUINDEX2	Structured Routine listing	Run Routine	Routine: **XCR^%INDX8**	This option allows the direct printing of **%INDEX**'s structured routine print.
XUINQUIRE	Option Function Inquiry	Inquire		This option displays the information known to MenuMan about a

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				given option.
XUKERNEL	Kernel Management Menu	Menu		This menu contains Kernel management options. It includes the following options: • **XUSITEPARM** • **XUVERSIONEW-HELP** • **XU-INSTITUTION-E** • **XUMF INSTITUTION** • **XUMF IMF ADD EDIT** • **XUSSPKI EDIT** • **XU-INSTITUTION-DEA** • **XUPS NPF CLEANUP MAIN MENU** • **XU SID ASK** • **XU SITE LOCKOUT** • **XU IP RELEASE** • **XUMF LOAD NPI** • **XU SID EDIT** • **XUER EDIT PARAMS**
XUKEYALL	Allocation of Security Keys	Run Routine	Routine: **EN1^XQ6**	This option assigns a set of security keys to an individual user or a single key to a set of users. To be eligible, a security key *must* be in existence and owned by the user of this option.
XUKEYDEALL	De-allocation of Security Keys	Run Routine	Routine: **EN2^XQ6**	This option is used to take away a set of security keys from an individual user or a

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				single key from a set of users. To be eligible, a key *must* be in existence and owned by the user of this option.
XUKEYEDIT	Enter/Edit of Security Keys	Edit		This option edits the descriptions of existing security keys and adds new keys to the system. Holders are specified through the **Allocation of Security Keys** [XUKEYALL] option.
XUKEYMGMT	Key Management	Menu		This menu contains all of the options used to manage security keys. It includes the following options: • **ORLEASE** (DISPLAY ORDER: 1) • **XUKEYDEALL** (DISPLAY ORDER: 2) • **XUKEYEDIT** (DISPLAY ORDER: 3) • **XQSHOKEY** • **XQLISTKEY** • **XQKEYDEL** • **XQKEYRDEL** • **XQKEYALTODEL** • **XQLOCK1** • **XQLOCK2** • **XUEXKEY** This menu is locked with the XUSPY security key.
XULIST	List Terminal Types	Print		This option prints a list of the various terminal

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				types known to the system.
XUMAINT	Menu Management	Menu		This menu allows the systems manager or developer to maintain the menus, options, and security. It includes the following options: • **XUEDITOPT** (DISPLAY ORDER: 1) • **XUXREF** (DISPLAY ORDER: 8) • **XQHELP-MENU** (DISPLAY ORDER: 12) • **XQRESTRICT** (DISPLAY ORDER: 5) • **XUOPTWHO** (DISPLAY ORDER: 6) • **XQOPTFIX** (DISPLAY ORDER: 11) • **XQSMD MGR** (DISPLAY ORDER: 4) • **XUKEYMGMT** (DISPLAY ORDER: 3) • **XUXREF-2** • **XQOOMAIN** • **XQDISPLAY OPTIONS** • **XQOPED** (SYNONYM: OPED) • **XQBUILDMAIN**
XUMF DMIS ID LOAD	Load DMIS ID's	Run Routine	Routine: **DMIS^XUMF04Q**	This option is used to queue a background

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				job that will query the Institution Master File (IMF) and get the DoD DMIS ID facilities and populate the local INSTITUTION (#4) file with them. This option is locked with the XUMF INSTITUTION security key.
XUMF IMF ADD EDIT	IMF edit	Run Routine	Out of Order Message: **LOG REMEDY TICKET TO CHANGE NATIONAL ENTRY**	This option edits this facility's (or associated facility's) address information. The edits update your local INSTITUTION (#4) file *and* the Institution Master File (IMF) on FORUM. **CAUTION: Use extreme care updating this information, because you will be updating not just your own database but the national database as well.** This option is locked with the XUMF INSTITUTION security key.
XUMF IMF EDIT STATUS	IMF Display Cleanup Status	Run Routine	Out of Order Message: **DO NOT USE THIS OPTION**	This option displays the facilities associated with the user and the status of the IMF data cleanup for each facility.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUMF INSTITUTION	Institution File Query / Update	Run Routine	Routine: **EN^XUMF4** Out of Order Message: **Use XUMF LOAD INSTITUTION**	This option provides clean up utilities to check for duplicate station numbers and to get a copy of Institution Master File from FORUM for comparison and update purposes. The cleanup utilities provide several lists to compare the local INSTITUTION (#4) file with the Institution Master File (IMF) -- the "Gold" file of Institutions complete with all approved station numbers including inactive as well as active station numbers. Utilities will be included to resolve duplicate station numbers and to automatically populate the local INSTITUTION (#4) file with national IMF data. The INSTITUTION (#4) file cleanup utilities use the query functionality provided by the Master File Server mechanism. An HL7 Master File Query (MFQ) message is sent to FORUM to get the IFM. The MFQ message is handled by the VistA HL7 package that invokes the Master File Sever (MFS) message handler. The MFS handler interprets the query

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				and builds/sends the appropriate response to the local site in an HL7 Master File Response (MFR) message. The VistA HL7 package invokes the MFS handler on the local site that stores the IMF data in a temporary global. The cleanup utilities use this information for the displays and to automatically update the local INSTITUTION (#4) file. This option is locked with the XUMF INSTITUTION security key.
XUMF LOAD INSTITUTION	Update/refresh Institution file with IMF data	Run Routine	Routine: **EN^XUMF04Q**	This option queries the Institution Master File (IMF) to get the gold file of institutions and automatically updates the local INSTITUTION (#4) file. This option is locked with the XUMF INSTITUTION security key.
XUMF LOAD NPI	Load Institution NPI values	Run Routine	Routine: **EN^XUMF416** Out of Order Message: **USE XUMF LOAD INSTITUTION**	This option will execute an HL7 query to FORUM to get the NPI values from the Institution Master File (IMF) and update the local INSTITUTION (#4) file.
XUMF335 clean 4.1 and 4	Patch XU*8*335 clean 4.1 and 4	Run Routine	Out of Order Message: **USE XUMF LOAD INSTITUTION**	This option removes existing entries from the FACILITY TYPE (#4.1) file and gets the “Gold” standard from

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				FORUM. It updates the INSTITUTION (#4) file with IMF data. This option is locked with the XUMF INSTITUTION security key.
XUMNACCESS	Access Monitor Menu	Menu		This menu includes options to the Access Monitor Menu. It includes the following options (listed in display order): • **XUPMDISP** (1) • **XUPMPURGE** (2) • **XUFAIL** (3) • **XUFPURGE** (4) • **XUFDEV** (5) • **XUFDISP** (6) • **XUSC LIST** (7)
XUOAA SEND HL7 MESSAGE	Send HL7 PMU message	Run Routine	Routine: **OAA^XUOAAHL7**	This option sends an HL7 PMU message to the Office of Academic Affiliations (OAA).
XUOPTDISP	Option Audit Display	Print		This display sorts on option then date/time. Also prompts for print device to generate a hard copy of listing.
XUOPTLOG	Audited Options Log	Print		This report sorts on date/time then option; it prints all data elements of each entry requested.
XUOPTPURGE	Audited Options Purge	Run Routine	Routine: **OPTPURGE^XUAPURGE**	This option prompts for a beginning and ending date *and* time to purge the Option Audit entries. Also, it prompts for when the task will be run.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUOPTUSER	User Management Menu	Menu		This menu contains various Kernel options that have to do with managing individual users. It includes the following options: • **XUUSERSTATUS** • **XU FINDUSER** (SYNONYM: FIND) • **XUSERREL** • **XUSC LIST** • **XUSERLIST** • **XUSERINQ** • **XUSAP PROXY LIST** (SYNONYM: PXY)
XUOPTWHO	Option Access By User	Run Routine	Routine: **XQ55**	This option prompts for a menu option, and then prints a list of which users can access this option. The list can be printed with or without the menu paths to the option.
XUOUT	Out of Service Set/Clear	Edit		This option controls whether a device is out of order or *not*. If set Out of Order by this option, a device *cannot* be used for logon.
XUPMDISP	Display of Programmer Mode Entry List	Print		This displays which users entered into programmer mode, sorts by user name, and then date/time. It prompts for a print device to generate a hard copy if desired. It gives count of entries by user.
XUPMPURGE	Programmer Mode Entry	Run Routine	Routine: **PMPURGE^XUAP**	This option runs the **XUPMPURG** routine to

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Log Purge		**URGE**	purge the log of programmer mode entry.
XUPR RTN CHKSUM	Check Routines on Other CPUs	Run Routine	Routine: **XTSUMCK**	This option compares the checksum for routines on one system to the checksums for the same routines on another system. It is only for sites that have Compute and Print Servers with different routine directories.
XUPR RTN EDIT	Routine Edit	Action	Entry Action: `R !,"ROUTINE: ",X:DTIME I X?1A1.7AN X ^%ZOSF("TEST") I X "ZL @X ^%Z"`	This option allows developers on the site manager's staff to edit MUMPS routines. This option is locked with the security XUPROGMODE key. **CAUTION: This option is only for developers.**
XUPR RTN PATCH	Routines by Patch Number	Run Routine	Routine: **%ZTPTCH**	This option prints routines associated with a patch. You *must* enter a list of routines and then the output will be by patch numbers.
XUPR-ROUTINE-TOOLS	Routine Tools	Menu		This is the group of programmer options that deal with routines. It includes the following options: • **XUINDEX** • **XU FIRST LINE PRINT** • **XTFCR** • **XTFCE** • **XUROUTINE IN**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XUPRROU** • **XUROUTINE OUT** • **XT-ROUTINE COMPARE** • **XUPR RTN EDIT** • **XT-VARIABLE CHANGER** • **XT-VERSION NUMBER** • **XTRGRPE** • **XUPR-RTN-TAPE-CMP** • **XTRDEL** • **XUPR RTN PATCH** • **XUPR RTN CHKSUM** • **XU CHECKSUM REPORT** • **XU CHECKSUM LOAD**
XUPR-RTN-TAPE-CMP	Compare routines on tape to disk	Run Routine	Routine: **TAPE^XTRCMP**	This option reads a standard DSM **%RS** tape or disk file or M/11 tape and compares the routines on the tape with a routine with the same name in the current account.
XUPRGL	List Global	Action	Routine: **%G** Entry Action: `D @($S(^%ZOSF("OS")["MSM":"^%GL",^%ZOSF("OS")["DTM":"^%g",1:"^%G"))`	This option runs the operating system routine to list specified globals. For MSM this is **%GL** for other systems it is **%G**. This option is locked with the XUPROGMODE security key.
XUPRINT	Print Option File	Print		This option produces a formatted listing of the OPTION (#19) file, showing each option

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				and its associated information.
XUPROG	Programmer Options	Menu		This menu is used by developers. It includes the following options: • **XUPROGMODE** (SYNONYM: PG) • **XUPRGL** • **XUERRS** • **XT-NUMBER BASE CHANGER** • **XTSUMBLD** (SYNONYM: NTEG) • **DI DDMAP** • **XT-OPTION TEST** • **XQ UNREF'D OPTIONS** • **XUPR-ROUTINE-TOOLS** • **XTSUMBLD-CHECK** • **XTV MENU** • **XPD MAIN** (SYNONYM: KIDS) • **XUROUTINES**
XUPROGMODE	Programmer mode	Run Routine	Routine: **PRGMODE^%ZOSV**	This option drops the programmer into programmer direct mode. This option is locked with the XUPROGMODE security key.

XUPROTOCOL EDIT	Edit a Protocol	Edit	Entry Action:
			`S DLAYGO=101`
			Exit Action:
			`K DLAYGO I $D(NAME) S XQORM=$O(^ORD(101,"B",NAME,0))_";ORD(101," D`
				This option creates or edits a protocol.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			`XREF^XQORM K XQORM,NAME`	
XUPRROU	List Routines	Run Routine	Routine: **%ZTPP**	This option uses the **%ZTPP** routine to print a listing of the routines.
XUPS ASSESSMENT DETAIL	XUPS ASSESSMENT DETAIL	Run Routine	Routine: **DETAIL^XUPSCLR**	List NEW PERSON (#200) file entries that have missing DOB, SSN, or SEX, and NEW PERSON (#200) file statistics.
XUPS ASSESSMENT STATS	XUPS ASSESSMENT STATS	Run Routine	Routine: **STATS^XUPSCLR**	List NEW PERSON (#200) file statistics for the cleanup.
XUPS NPF CLEANUP MAIN MENU	NPF cleanup main menu	Menu		This is the main menu for the NEW PERSON (#200) file cleanup. It includes the following options (listed in display order): • **XUPS ASSESSMENT STATS** (SYNONYM: STA; DISPLAY ORDER: 1) • **XUPS ASSESSMENT DETAIL** (SYNONYM: DET; DISPLAY ORDER: 2) • **XUPS PREUPDATE NPF REPORTS** (SYNONYM: PRE; DISPLAY ORDER: 3) • **XUPS UPDATE NEW PERSON FILE** (SYNONYM: UPD; DISPLAY ORDER: 4)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description

XUPS PREUPDATE NPF REPORTS	XUPS PREUPDATE NPF REPORTS	Run Routine	Routine:
			EN^XUPSPAID
			Entry Action:
			`S XUPSACT="PRINT"`
			Exit Action:
			`K XUPSACT`
				This option reports on all of the NEW PERSON (#200) file entries whose Name, DOB, and/or Sex is different from their corresponding PAID EMPLOYEE file entries, as well as the NEW PERSON (#200) file entries that will be updated.

XUPS UPDATE NEW PERSON FILE	XUPS UPDATE NEW PERSON FILE DATA	Run Routine	Routine: **EN^XUPSPAID** Entry Action: `S XUPSACT="UPDATE"`	This option updates NEW PERSON (#200) file entries with data from the PAID EMPLOYEE file.
XUPS VISTALINK	XUPS VISTALINK	Broker (Client / Server)	RPC: **XUPS PERSONQUERY**	This option is an RPC Broker Client / Server option.
XURELOG	Restart Session	Action	Entry Action: `S:'$D(XQCH) XQCH="REST" G:$L(XQCH)>2 REST^XQ12 S XQUR="REST" G XPRMP^XQ12`	This option returns a user to the signon logic, so that a session can be restarted without dropping a telecommunication line.

XURESJOB	Kill off a users' job
	Synonym: RJD
		Action	Entry Action:
			`W:'$D(^%ZOSF("RESJOB")) !,*7,"NOT AVAILABLE" X:$D(^("RESJOB")) ^("RESJOB")`
			Exit Action:
			`D ^XUTMRJD ;call TaskMan utility to adjust the list of running tasks`
				This option uses the MUMPS vendor's exit forcing utility to allow the system manager to forcibly exit MUMPS jobs.
				An exit action on this option allows the system manager to adjust TaskMan's list of running tasks if some of the processes forcibly exited were tasks.
				This option is locked with the XUMGR security key.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUROUTINE IN	Input routines	Action	Entry Action: `N % S %=$G(^%ZOSF("OS")) D @$S(%["OpenM":"^%RI",%["DTM":"^%rload",%["GT.M":"^%RI",1:"^%RR")`	Loads routines from an external device, like a host file. **CAUTION: Do *not* use this option if you are not sure how to run it!**
XUROUTINE OUT	Output routines	Action	Entry Action: `N % S %=$G(^%ZOSF("OS")) D @$S(%["GT.M":"^ZRO",%["OpenM":"^%RO",%["DTM":"^%rsave",1:"^%RS")`	This routine outputs routines to an external device, such as a host file.
XUROUTINES	Routine Management Menu	Menu		This menu contains various Kernel options relating to the management of routines on the system. It includes the following options: • **XTMOVE** • **XTRDEL** • **XTMOVE-IN** • **XUPRROU** • **XU FIRST LINE PRINT**
XUS KAAJEE PROXY LOGON	KAAJEE PROXY BROKER CONTEXT	Broker (Client/ Server)	RPC: **XUS KAAJEE GET USER VIA PROXY**	This is the KAAJEE Application User Broker Context option.
XUS KAAJEE WEB LOGON	KAAJEE BROKER CONTEXT	Broker (Client / Server)	RPCs: • **XUS KAAJEE GET USER INFO** • **XUS KAAJEE LOGOUT** • **XUS ALLKEYS**	This option is an RPC Broker Client/Server option.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			• **XUS KAAJEE GET CCOW TOKEN**	
XUS NPI CBO LIST	List of NPI data for CBO	Run Routine	Routine: **CBOLIST^XUSNPIED**	This option lists providers related to the NPI rollout. This list is sent to the CBO on a monthly basis for tracking status of the rollout.
XUS NPI ENTER NPI FOR PROVIDER	Add/Edit NPI values for Providers	Run Routine	Routine: **CLEREDIT^XUSNPIED**	This option is intended for support staff to be able to enter data related to an NPI value for providers.
XUS NPI EXEMPT PROVIDER	Mark/Unmark Provider Exempt from requiring an NPI	Run Routine	Routine: **CLERXMPT^XUSNPIED**	This option is used by support staff to indicate that a provider who has a Person Class entry relating to a taxonomy value that would normally require and NPI value, as *not* needing one (e.g., if the provider were doing administrative work full time).
XUS NPI EXTRACT	XUS NPI EXTRACT REPORT	Run Routine	Routine: **TASKMAN^XUSNPIX1**	This option compiles the NPI Extract file and emails it to XXX@Q-NPS.VA.GOV
XUS NPI LOCAL REPORTS	Print Local NPI Reports	Run Routine	Routine: **PRINTOPT^XUSNPIED**	This option generates reports for the local facility on those who are expected to have NPI values entered.
XUS NPI MENU	NPI (National Provider ID) Menu	Menu		This menu provides the ability to enter data for a provider related to the National Provider ID. It includes the following options: • **XUS NPI ENTER**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				NPI FOR PROVIDER • **XUS NPI EXEMPT PROVIDER** • **XUS NPI LOCAL REPORTS** This option is locked with the XUSNPIMTL security key.
XUS NPI PROVIDER SELF ENTRY	PROVIDER NPI SELF ENTRY	Run Routine	Routine: **USEREDIT^XUSNPIED**	This option provides the ability for a provider to enter his/her own NPI value and effective date. It is intended to be attached to the **XU COMMON** menu and checks for whether the user selecting it has the need to enter an NPI value.
XUS NPI SIGNON CHECK	NPI Signon Check	Action	Entry Action: `D SIGNON^XUSNPIED`	This option checks a user's signon to see whether the user needs to enter an NPI value. If so, a message is displayed to the user.
XUS SIGNON	Kernel sign-on context	Broker (Client / Server)	RPCs: • **XUS SIGNON SETUP** • **XUS AV CODE** • **XUS INTRO MSG** • **XUS CVC** • **XUS AV HELP** • **XUS DIVISION SET** • **XUS GET USER INFO** • **XUS DIVISION GET** • **XWB GET**	This option is an RPC Broker Client/Server option.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			BROKER INFO • **XUS GET TOKEN** • **XUS CCOW VAULT PARAM** • **XUS GET CCOW TOKEN**	
XUSAP PROXY LIST	Proxy User List	Print		This option runs a VA FileMan (FM) print to show any users that have a USER CLASS of APPLICATION PROXY or CONNECTOR PROXY.

XUSAZONK	Purge of the %ZUA global	Run Routine	Routine:
			PURG^ZUA[MGR]
			Entry Action:
			`S XUSLNT=1`
			Exit Action:
			`K XUSLNT`
				This option purges the FAILED ACCESS ATTEMPTS and PROGRAMMER MODE ACCESS logs of all entries older than **30** days.

XUSC LIST	Print Sign-on Log	Print		This option prints the SIGN-ON LOG.
XUSCZONK	Purge Sign-On log	Run Routine	Routine: **SCPURG^XUSPURGE**	This option purges the SIGN-ON LOG. All entries older than **30** days are removed permanently from the file.
XUSEC ISO ACTIVE USER EXTRACT	Special Active User Excel output	Print		This option produces a special Microsoft® Excel formatted output.
XUSEC ISO Q TERMINATION REPORT	Queueable ISO Terminated User Report	Print		This is a queueable version of the ISO's termination date report. The report dates are from the current date minus eight (**8**) days to

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				the current date minus one (**1**) day.
XUSEC ISO TERMINATION REPORT	ISO's Terminated User Report	Run Routine	Routine: **EP1^XUSECAD**	This is the interactive option for the ISOs, where the user can select beginning and ending dates.
XUSEC UP ARROW TERM REPORT	Up Arrow Delimited Termination Report	Run Routine	Routine: **EP1^XUSECAD** Entry Action: `S XUSECU="`	This option produces a report that is a caret (**^**; aka **Up-Arrow**) delimited termination report that can be used as a spread sheet. It is suggested that the report be sent to an **HFS** device. If the screen is used, it will require a **132**-column width.
XUSEC ISO ACTIVE USER EXTRACT	Special Active User Excel Output	Print		This option is used by the Information Security Officer (ISO) to extract information to Microsoft® Excel for the 2008 SMART Database. **NOTE:** This option was requested by OCIS and released with Kernel Patch XU*8.0*424.
XUSER	User Management	Menu		This menu is used to add, change, and delete users from the NEW PERSON (#200) file, as well as clear devices for signon purposes. It includes the following options: • **XUSERNEW** (DISPLAY ORDER:

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				5) • **XUSEREDIT** (DISPLAY ORDER: 15) • **XUSERREACT** (DISPLAY ORDER: 25) • **XUSERDEACT** (DISPLAY ORDER: 20) • **XUTESTUSER** (DISPLAY ORDER: 40) • **XUSERINQ** (DISPLAY ORDER: 35) • **XUFILEACCESS** (DISPLAY ORDER: 45) • **XUSESIG CLEAR** (DISPLAY ORDER: 60) • **XUSERBLK** (DISPLAY ORDER: 10) • **XUSESIG BLOCK** • **XUSERREPRINT** • **XUSER FILE MGR** • **XU-PERSON CLASS EDIT** • **XU-CLINICAL TRAINEE MENU** • **XUOPTWHO** (SYNONYM: WHO) • **XU-INACTIVE PERSON CLASS USERS**
XUSER DIV CHG	Change my Division	Run Routine	Routine: **DIVCHG^XUSER 1**	This option changes the division to which you are currently assigned. It performs the same function as

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				entering your current division at the “Select DIVISION: default division //” signon prompt. If you only have one division to select from, **XUSER DIV CHG** shows you your current division and indicates that you *cannot* change it.
XUSER FILE MGR	Manage User File	Menu		This menu manages the NEW PERSON (#200) file. It includes the following options: • **XUSERPURGEATT** • **XUSERAOLD** • **XUSER KEY RE-INDEX**
XUSER KEY RE-INDEX	Reindex the users key’s	Run Routine	Routine: **IXKEY^XUSMGR**	This option re-indexes the NEW PERSON (#200) file KEY subfield.
XUSER PC BUILD	User PC build Print	Print		This option prints a list of users in the NEW PERSON (#200) file who hold the PROVIDER security key *and* have a Verify code. This option is *not* attached to a menu but can be added to the secondary menu of any user who will be working on this project and then removed when the project is complete. This option prints the following fields:

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• NAME • PERSON CLASS (Free Text) • PROVIDER TYPE (Set of Codes). **NOTE:** The last two fields can only contain data at sites that have implemented the Decision Support System (DSS).
XUSER PC BUILD EDIT	User PC build Edit	Edit		This option allows the rapid data entry (R/S) of Person Class data. This option is *not* attached to a menu but can be added to the secondary menu of a user who will be performing data entry and then removed when the project is complete.
XUSER SEC OFCR	User Security Menu	Menu		This menu contains options that allow the user to review users on the system. It includes the following options (listed in display order): • **XUSERINQ** (1) • **XUSERLIST** (2) • **XUUSERSTATUS** (3) • **XU FINDUSER** (4) • **XUTESTUSER** (5) • **XQLISTKEY** (6) • **XQOPACCESS** (7) • **XUUSEROPT** (8) • **XUSERDEACT** (9) • **XUSERREACT**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(10) • **XUSEC ISO TERMINATION REPORT** (11) • **XUSEC UP ARROW TERM REPORT** (12)
XUSER-CLEAR-ALL	Clear all users at startup	Run Routine	Routine: **XUS6**	This option is to be setup in the SPECIAL QUEUING to run whenever TaskMan starts up. It goes through and clears all users signed-on from the multiple signon restriction.
XUSERAOLD	Purge Log of Old Access and Verify Codes	Run Routine	Routine: **AOLD^XUSPURGE**	This option purges all inactive Access and Verify codes that are more than **270** to **400** days old. This allows for the recycling of codes after a minimum of **3** changes.
XUSERBLK	Grant Access by Profile	Run Routine	Routine: **XUSERBLK**	This option adds or edits one or more users according to an existing user profile. The complete profile of the actual or dummy user, menus, and security keys included, is copied to the other users. For new users, security forms are generated. (Use the Help Processor menu to edit the XUSER COMPUTER ACCOUNT help frame containing the text of the forms.) To route forms, be sure that the user profile has a service/section and

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				that the corresponding entry in the SERVICE/SECTION file has a Coordinator. This option is locked with the XUMGR and XUADD security keys and is restricted for use by systems management staff.
XUSERCLR	Clear Terminal	Run Routine	Routine: **X6^XUSMGR**	This option clears a terminal that has been locked up due to too many errors during signon.
XUSERDEACT	Deactivate a User	Run Routine	Routine: **XUSTERM**	As of a specified TERMINATION DATE, user will *not* be allowed to sign on to the computer.
XUSEREDIT	Edit an Existing User	Action	Entry Action: `S DIC="^VA(200,",DIC(0)="AEMQ",DIC("S")="I $S($P(^(0),U,11):$P(^(0),U,11)'<DT,1:1)" D ^DIC K DIC Q:Y=-1 S DA=+Y,DR="[XUEXISTING USER]",DIE="^VA(200," D XUDIE^XUS5K D0,DA,DIE,DR`	This option edits a user's characteristics. Users that have been terminated *cannot* be edited.
XUSEREDITSELF	Edit User Characteristics	Run Routine	Routine: **EUC^XUS5**	This option edits certain user attributes as defined by the KERNEL SYSTEM PARAMETERS (#8989.3) file. At most, the user can edit their own VERIFY CODE, AUTO-MENU, TYPE-AHEAD, and NICKNAME. This can vary at your site. A user can also edit the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				SUBTYPE of their device.
XUSERINQ	User Inquiry	Inquire	Routine: **USERINQ^XUSMGR**	This option displays various user attributes. If the user is currently signed on, it displays the job and device numbers, the signon time, and what option is being executed. Otherwise, it displays the last signon time. It also displays which security keys are held by this user.
XUSERINT	Introductory text edit	Action	Entry Action: `W !!,"Enter introductory text to be displayed at each logon",!! S DIE="^XTV(8989.3,",DA=1,DR=240 D ^DIE`	This option edits the introductory text that is displayed each time the user signs on.
XUSERLIST	List users	Print		This message lists users known to the system.
XUSERNEW	Add a New User to the System	Run Routine	Routine: **XUSERNEW**	This option adds a new user to the system.
XUSERPOST	Post sign-in Text Edit	Action	Entry Action: `W !!,"Enter Post Logon Text to be displayed after each logon.",!! S DIE="^XTV(8989.3,",DA=1,DR=245 D ^DIE`	This option displays the logon text after a user signs onto the system.
XUSERPURGEATT	Purge Inactive Users' Attributes	Run Routine	Routine: **XUSTERM1**	This utility cleans up files. It removes all mailboxes and messages, mail groups, and security keys for users who have been terminated. If any of these users

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				still retain Access codes, these will be deleted.
XUSERREACT	Reactivate a User	Run Routine	Routine: **REACT^XUSERNEW**	This option reactivates a user who has a TERMINATION DATE. You are asked to enter their ACCESS CODE. If you give him/her an Access code (or if he/she still has one), their TERMINATION DATE is removed.
XUSERREL	Release user	Run Routine	Routine: **X8^XUSMGR**	This option clears the record that a user is signed on to another terminal. It may seem that a user is signed on when there is an abnormal exit, such as an error or entry into Programmer Mode.
XUSERREPRINT	Reprint Access agreement letter	Run Routine	Routine: **REPRINT^XUSERNEW**	This option allows a site manager to reprint the computer access agreement letter. It will *not* reprint the Access code on the letter.
XUSERTOOLS	User's Toolbox	Menu		This menu provides several different utilities designed for the average user. It includes the following options: • **XQTUSER** • **XU-SPL-MENU** • **XUSEREDITSELF** • **XUUSERDISP** • **XUUSERHELP** • **XUSESIG** • **XUTM USER** • **XUSER DIV CHG**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUSERVDISP	Server audit display	Print		This option displays the server-type option audit data.
XUSERWHERE	Where am I?	Action	Entry Action: `D GETENV^%ZOSV W !!,"UCI: ",$P(Y,U),"  VOLUME SET: ",$P(Y,U,2) W :$P(Y,U,3)]"" " NODE: ",$P(Y,U,3) W !," DEVICE: ",$I,$S($D(IO("IP")):"  ("_IO("IP")_")",1:"")`	This option shows a user their environment. Changed from showing **IO("ZIO")** to **IO("IP")**.
XUSESIG	Electronic Signature code Edit	Run Routine	Routine: **XUSESIG**	This option edits a user's INITIALS, SIGNATURE BLOCK TITLE, ELECTRONIC SIGNATURE CODE, and OFFICE PHONE.
XUSESIG BLOCK	Electronic Signature Block Edit	Run Routine	Routine: **EN^XUSESIG2**	This option gives access to the Signature Block of the Electronic Signature. This is automatically set by a cross-reference of the NAME field. If it is changed with this option, it *must* contain the last name from the NAME field. Also, if the NAME field is changed this field will be changed and may need to be re-edited.
XUSESIG CLEAR	Clear Electronic signature code	Run Routine	Routine: **CLEAR^XUSESIG**	This option allows the site manager to clear (delete) a user's electronic signature code, so they may enter a new one.
XUSESIG DEG	EDUCATION (Degree) File Edit	Edit	**DIC(20.11,**	This option is used to edit degree entries in the EDUCATION

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(#20.11) file. These entries define valid degrees that users can enter in the DEGREE (#10.6) field in the NEW PERSON (#200) file.
XUSFACHK	Check Failed Access Log	Run Routine	Routine: FAILED^XUSFACHK	This option runs the Failed Access Check routine **XUSFACHK**. It looks to see if there have been a large number of failed access attempts, since the routine was last run. If it finds that the number of failed access attempts is greater than the limit in the FAILED ATTEMPTS LIMIT - IRM field in the KERNEL SYSTEM PARAMETERS (#8989.3) file during normal business hours (**8:00 a.m.** to **4:30 p.m.**) it sends a message to the mail group stored in the IRM MAIL GROUP field or the limit set in the FAILED ATTEMPTS LIMIT – AOD field in the KERNEL SYSTEM PARAMETERS (#8989.3) file after hours, it sends a message to the mail group in the AFTER HOURS MAIL GROUP.
XUSITEMGR	Operations Management	Menu		This menu contains options of use to the site manager, such as options for managing Kernel site parameters,

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				sign-on log, introductory text, etc. It includes the following options: • **XUSERINT** (DISPLAY ORDER: 5) • **XUSTATUS** (DISPLAY ORDER: 1) • **XUSTAT** (DISPLAY ORDER: 6) • **XQ XUTL $J NODES** • **XQAB MENU** • **XUOPTUSER** • **XUKERNEL** • **XQALERT DELETE OLD** • **XUSERPOST** • **XQALERT MGR** • **XWB MENU** • **XOBU SITE SETUP MENU**

XUSITEPARM	Enter/Edit Kernel Site Parameters	Action	Entry Action:
			`W !!,"Note: the TaskMan site parameters have been moved out of this file.",!,"Use the Edit TaskMan Parameters option to edit those values.",! S DA=1,DR="[XUSITEPARM]",DIE=8989.3 D XUDIE^XUS5`
			Exit Action:
			`K DA,DIE,DR`
				This option edits the KERNEL SYSTEM PARAMETERS (#8989.3) file. It contains fields for default system values, lifetime of Verify code, auto-generation of Access codes, and name of user-characteristic edit template.

XUSPY	Information Security Officer Menu	Menu	Entry Action: **D ^ASTR2**	This menu is for the person serving as the Information Security

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				Officer (ISO). It includes the following options: • **XUSER SEC OFCR** (DISPLAY ORDER: 1) • **XUFILEACCESS SEC OFCR** (DISPLAY ORDER: 2) • **XU SEC OFCR** (DISPLAY ORDER: 3) • **XUAUDIT MAINT** (DISPLAY ORDER: 4) • **XUMNACCESS** (DISPLAY ORDER: 5) • **DG SECURITY OFFICER MENU** (DISPLAY ORDER: 6) • **XUSEC ISO ACTIVE USER EXTRACT** • **452 SECURITY LOG BY USER** (SYNONYM: SL3)
XUSSPKI CRL UPLOAD	PKI CRL Upload	Run Routine	Routine: **CRLUP^XUSSPKI**	This option should be scheduled to run every hour to send any new URL for the CRLs to be collected by the PKI verification server.
XUSSPKI EDIT	Kernel PKI Parameter Edit	Action	Entry Action: `N DA,DR,DDSFILE S DA=1,DR="[XUSSPKI]",DDSFILE=8989.3 D ^DDS`	This option runs the XUSSPKI form to edit the PKI server IP address.
XUSSPKI UPN SET	ePCS Set SAN from	Broker (Client/	RPCs: • **XUS PKI GET**	This is a Broker-type context option that sets the SUBJECT

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	PIV Card	Server	**UPN** • **XUS PKI SET UPN**	ALTERNATIVE NAME (#501.2) field (aka SAN field or USER PRINCIPLE NAME) in the NEW PERSON (#200) file from the Personal Identification Verification (PIV) Smart Card. This is used with the DEA ePCS electronic signature (e-sig) to be sure the correct certificate is selected from the PIV card. **NOTE:** This option only needs to be run once for a user at a site. It was released with Kernel Patch XU*8.0*580.
XUSTAT	CPU/Service /User/Device Stats	Run Routine	Routine: **XUSTAT**	This option gives you a system utilization report for CPUs, Services, or users.
XUSTATUS	System Status	Action	Entry Action: `W @IOF N DUZ,DT,DTIME X:$D(^%ZOSF("SS")) )#2 ^("SS") D HOME^%ZIS`	This option uses an operating system utility to show all current jobs signed onto the computer.
XUTERM	Terminal Type Edit	Edit		This option edits the TERMINAL TYPE (#3.2) file.
XUTESTUSER	Switch Identities	Run Routine	Routine: **TESTM^XUS91**	This option simulates signing on as another user, and thus, tests out a user's menus. It assigns all security keys but will *not* allow for the execution of any options.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUTIME	Time	Action	Entry Action: `W !!,$$HTE^XLFDT($H,"P")`	This command displays the time and date.
XUTIO	Device Management	Menu		This menu maintains the DEVICE (#3.5) file, which defines the characteristics of each device attached to the computer. It includes the following options: • **XUTERM** (DISPLAY ORDER: 3) • **XUDEV** (DISPLAY ORDER: 2) • **XUOUT** (DISPLAY ORDER: 10) • **XUDISPLAY** (DISPLAY ORDER: 5) • **XUCHANGE** (DISPLAY ORDER: 1) • **XULIST** (DISPLAY ORDER: 6) • **XUTTEST** (DISPLAY ORDER: 9) • **XUTLOOPBACK** (DISPLAY ORDER: 8) • **XUSERCLR** (DISPLAY ORDER: 7) • **XU DA EDIT** • **XUDEVEDIT** • **XUDEV LINEPORT ADDR CURRENT** • **XUDEV LINEPORT**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ADDR EDIT • **XUDEV LINEPORT ADDR RPT** • **XUDEV RES-ONE** • **XUDEV RES-CLEAR**
XUTLOOPBACK	Loopback Test of Device Port	Action	Entry Action: `D ^%ZIS Q:POP X ^%ZOSF("EOFF"),^%ZOSF("TYPE-AHEAD"),"F I=65:1:90 U IO W *I R *X:1 U IO(0) W:X>32 $C(X)" X ^%ZOSF("EON"),^%ZIS("C")`	This option tests a terminal line with the use of a loopback connection on the line. A loopback connector just ties pins **2**, **3** together.
XUTM BACKGROUND PRINT	Print Options that are Scheduled to run	Print		This option prints a list of options from the OPTION SCHEDULING (#19.2) file that have data in one of the background task fields: • QUEUED TO RUN AT WHAT TIME • DEVICE FOR QUEUED JOB OUTPUT • RESCHEDULING FREQUENCY • SPECIAL QUEUEING
XUTM BACKGROUND RECOMMENDED	Print Options Recommended for Queueing	Print		This option prints a list of options that have been recommended by the developers for background queueing.
XUTM BVPAIR	Site Parameters Edit	Edit		This option allows the system manager to edit the TASKMAN SITE PARAMETERS (#14.7) file.
XUTM CHECK	Check Taskman's	Run	Routine:	This option checks TaskMan's

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
ENV	Environment	Routine	**ZTMCHK**	environment to make sure that links and global nodes required by TaskMan are present. These checks are the same checks that TaskMan performs every time it is started or restarted.
XUTM CLEAN	Clean Task File	Run Routine	Routine: **OPTION^XUTMK**	This option cleans out the Task Log for the site manager, removing all entries for tasks that have completed, have been rejected, or have failed with an error. The site manager is asked to specify how old such entries can be before they should be deleted. It then deletes them from **^%ZTSK** for all inactive tasks that are older than that. **NOTE:** This option is *not* queueable; though, it does create a tasked job to do the actual deletion. **ZTMQCLEAN** is the queueable version of this option.
XUTM DEL	Delete Tasks	Run Routine	Routine: **XUTMD**	This option allows users to dequeue their own tasks and delete them from the Task Log. Users can delete either a single task or a range of tasks. Holders of the ZTMQ security key selecting this

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				option can delete any tasks.
XUTM DQ	Dequeue Tasks	Run Routine	Routine: **XUTMDQ**	This option allows users to dequeue their own tasks. Holders of the ZTMQ security key selecting this option can dequeue any tasks.
XUTM ERROR	Taskman Error Log	Menu		This menu contains options to help the site manager manage TaskMan's log of errors. It includes the following options: • **XUTM ERROR SHOW** (1) • **XUTM ERROR LOG CLEAN RANGE** (2) • **XUTM ERROR PURGE TYPE** (3) • **XUTM ERROR DELETE** (4) • **XUTM ERROR SCREEN LIST** (5) • **XUTM ERROR SCREEN ADD** (6) • **XUTM ERROR SCREEN EDIT** (7) • **XUTM ERROR SCREEN REMOVE** (8)
XUTM ERROR DELETE	Delete Error Log	Run Routine	Routine: **KILL^XUTMKE**	This option deletes the Task Error Log.
XUTM ERROR LOG CLEAN RANGE	Clean Error Log Over Range Of Dates	Run Routine	Routine: **RANGE^XUTMKE**	This option allows the site manager to remove from TaskMan's error log all entries that occur on or between two dates. The site manager

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				enters the two dates, first the earlier date and then the later date, and then the option removes the appropriate entries.
XUTM ERROR PURGE TYPE	Purge Error Log Of Type Of Error	Run Routine	Routine: **TYPE^XUTMKE**	This option provides a way to clean TaskMan's log of errors. The site manager can enter a string, and this option then deletes every entry in the log that contains that string. For example, if the site manager enters "**<UNDEF>**", then every error that contains this string will be deleted. Two other examples are **ZTSK+3^XQ1:4** and **E**. The first removes all errors that occurred on the line and command indicated while the second removes *all* errors whose **$ZE** value contains an **E**. **NOTE:** This does *not* edit the system's main error log, only TaskMan's Error Log in the **^%ZTSCH** global.
XUTM ERROR SCREEN ADD	Add Error Screens	Run Routine	Routine: **SCRAD^XUTMKE2**	This option adds more error screens. An error screen is a string of characters that TaskMan compares to the **$ZE** value of every error it traps. TaskMan only logs those trapped

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				errors whose **$ZE** values do *not* contain an error screen as a substring. The system manager can choose to have the screen count the number of errors it screens out.
XUTM ERROR SCREEN EDIT	Edit Error Screens	Run Routine	Routine: **SCRED^XUTMKE2**	This option edits error screens. This involves deciding whether or *not* each edited screen should count the errors that occur while the screen is in place, and whether to reset counters for screens that have already counted some screened errors. The screens themselves are just strings of characters that TaskMan compares against the **$ZE** values of all errors it traps. Those errors whose **$ZE** values do *not* contain any screens as substrings are logged, but those that do are *not* logged.
XUTM ERROR SCREEN LIST	List Error Screens	Run Routine	Routine: **SCLIST^XUTMKE1**	This option displays the error screens that are currently in place. An error screen is a string of characters. Any error that TaskMan logs is checked against the list of error screens. If an error occurs whose **$ZE** string contains a screen as a substring, then that error is *not* logged. Some error screens count the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				number of errors that they prevent from being logged.
XUTM ERROR SCREEN REMOVE	Remove Error Screens	Run Routine	Routine: **SCREM^XUTMKE1**	This option removes error screens. Error screens provide the system manager with a way to prevent certain errors from being logged. TaskMan traps every error caused by its own code or by the code of the tasks it runs, but the only errors logged in the system error log and in TaskMan's error log are those errors whose **$ZE** values do *not* contain an error screen as a substring. The system manager can decide whether to count the number of errors screened out.
XUTM ERROR SHOW	Show Error Log	Run Routine	Routine: **LIST^XUTMKE**	This option displays a simple list of the errors recorded by TaskMan.
XUTM INQ	List Tasks	Run Routine	Routine: **XUTMQ**	This option lists either all tasks currently queued or else all tasks listed in the Task Log.
XUTM MGR	Taskman Management	Menu	Entry Action: `W:'$$TM^%ZTLOAD *7,!!,"WARNING -- TASK MANAGER DOESN'T SEEM TO BE RUNNING!!!!",!!,*7`	This menu is for site managers. It allows the manipulation of TaskMan. It includes the following options: • **XUTM SCHEDULE** (DISPLAY ORDER: 1) • **XUTM BACKGROUND PRINT** (DISPLAY

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ORDER: 7) • **XUTM DEL** (DISPLAY ORDER: 6) • **XUTM REQ** (DISPLAY ORDER: 5) • **XUTM DQ** (DISPLAY ORDER: 4) • **XUTM UTIL** (DISPLAY ORDER: 2) • **XU OPTION QUEUE** (DISPLAY ORDER: 2) • **XUTM INQ** (DISPLAY ORDER: 3) • **XUTM BACKGROUND RECOMMENDED** • **XUTM TL CLEAN**
XUTM PARAMETER EDIT	Edit Taskman Parameters	Menu		This menu contains the options that edit the TaskMan parameter files. It includes the following options: • **XUTM BVPAIR** • **XUTM UCI** • **XUTM VOLUME**
XUTM PROBLEM CLEAR	Problem Device Clear	Run Routine	Routine: **CLEAR^XUTMKA**	This option clears the Problem Device global.
XUTM PROBLEM DEVICES	Problem Device report	Run Routine	Routine: **EN1^XUTMKA**	This option runs the **XUTMKA** routine to produce a list of devices that TaskMan is having problems opening. At the end of the report the Problem Device list is cleared.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUTM QCLEAN	Queuable Task Log Cleanup	Run Routine	Routine: **XUTMK**	This option is equivalent to **ZTMCLEAN** except that this option can be scheduled through the **Schedule/Unschedule Options** [XUTM SCHEDULE] option to run periodically. This option only keeps completed entries from the last **seven** (**7**) days, unless overridden by the DAYS TO KEEP OLD TASKS field in the VOLUME SET file, as well as all queued entries.
XUTM QPROBLEM DEVICES	Queuable Problem Device report	Run Routine	Routines: **TASK^XUTMKA**	This option is for the queueable version of **XUTM PROBLEM DEVICES** option. At the end of the report the Problem Device list is cleared.
XUTM REPNT	Repoint waiting tasks to a new port/device	Run Routine	Routine: **REPNT^XUTMRP**	This option allows the site staff to take all tasks waiting for a given port/LTA device and reschedule them to some new device and/or to a new time. This is useful when a port stops working, and the tasks backed up waiting for it can be sent to another device until it is fixed.
XUTM REQ	Requeue Tasks	Run Routine	Routine: **XUTMR**	This option requeues a user's own tasks. Users can modify the device that the task is to be run on and also the time that the task is

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				to be run. Holders of the ZTMQ security key selecting this option can requeue any tasks and can also modify the task's priority and partition size.
XUTM RESTART	Restart Task Manager	Run Routine	Out of Order Message: **Not used in RDP environment** Routine: **RESTART^ZTMB**	This option re-starts TaskMan, if it has failed.
XUTM RP	Change tasks device	Run Routine	Routine: **XUTMRP**	This option allows site staff to indicate a replacement device and to then repoint and waiting and future tasks to the new device. This is useful when a site renames devices or device becomes dedicated to a special task. This option can also go through the OPTION SCHEDULING (#19.2) file to repoint devices in this file.
XUTM RUN	Remove Taskman from WAIT State	Run Routine	Routine: **RUN^ZTMKU**	This option places TaskMan in a **RUN** state, in which TaskMan processes tasks normally, within fifteen seconds.
XUTM SCHEDULE	Schedule/Unschedule Options	ScreenMan		This option edits the background job fields in the OPTION SCHEDULING (#19.2) file. The result of this action is to schedule or unschedule Task

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				Manager tasks.
XUTM SNAPSHOT	Taskman snapshot	Run Routine	Routine: **SNAP^XUTMHR**	Schedule this option to grab a snapshot of TaskMan work counts and save them in the TASKMAN SNAPSHOT (#14.72) file. When the Task is scheduled, it takes an entry in the TASK PARAMETERS field. This is how many MINUTES to sample for, "**,**" and how many SECONDS to wait between samples. It has a limit of **480** minutes (**8** hours) and a minimum of **2** seconds to wait. At these limits it would record **14400** samples. It defaults to **60** minutes with a sample every **60** seconds if the TASK PARAMETERS field is *not* filled in.
XUTM STOP	Stop Task Manager	Run Routine	Routine: **STOP^ZTMKU**	This option shuts down TaskMan.
XUTM SYNC	SYNC flag file control	Run Routine	Routine: **XUTMSYNC**	This option runs the SYNC flag file control.
XUTM TL CLEAN	Cleanup Task List	Run Routine	Routine: **ASK^XUTMRJD**	This option runs the Cleanup Task List.
XUTM UCI	UCI Association Table Edit	Edit		This option allows the system manager to edit the UCI ASSOCIATION (#14.6) file.
XUTM USER	TaskMan User	Run Routine	Routine: **XUTMUSE**	This option provides end users with information about their current tasks and with the ability to stop or

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				modify and reschedule those tasks.
XUTM UTIL	Taskman Management Utilities	Menu		This menu contains options to assist in managing TaskMan. It includes the following options: • **XUTM WAIT** (DISPLAY ORDER: 5) • **XUTM RUN** (DISPLAY ORDER: 6) • **XUTM STOP** (DISPLAY ORDER: 7) • **XUTM ERROR** (DISPLAY ORDER: 8) • **XUTM CLEAN** (DISPLAY ORDER: 9) • **XUTM CHECK ENV** (DISPLAY ORDER: 2) • **XUTM ZTMON** (SYNONYM: MTM) (DISPLAY ORDER: 1) • **XUTM PARAMETER EDIT** (DISPLAY ORDER: 3) • **XUTM SYNC** • **XUTM RP** • **XUTM REPNT** • **XUTM PROBLEM DEVICES** • **XUTM PROBLEM CLEAR**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUTM VOLUME	Volume Set Edit	Edit		This option allows the system manager to edit the Volume Set file.
XUTM WAIT	Place Taskman in a WAIT State	Run Routine	Routine: **WAIT^ZTMKU**	This option places TaskMan in a **WAIT** state, in which TaskMan is active but does *not* process any tasks, within fifteen seconds.
XUTM ZTMON	Monitor Taskman	Run Routine	Routine: **ZTMON**	This option continually monitors the status of TaskMan and its queues.
XUTTEST	Send Test Pattern to Terminal	Action	Entry Action: `D ^%ZIS I 'POP R "HOW MANY LINES? ",X:DTIME U IO S Y=0 X "F X=X:-1 W ! Q:'X  F I=1:1:IOM W $C(I+X#96+32)" X ^%ZIS("C")`	This option prints a selected number of nonsense lines on a terminal to test data communications.
XUUSERACC	Diagram Menus	Run Routine	Routine: **NORMAL^XQ4**	This option displays all of the options available to a given user, including all of the menus and options, according to the security and primary option.
XUUSERACC1	Menu Diagrams (with Entry/Exit Actions)	Run Routine	Routine: **FULL^XQ4**	This option displays all of the options available to a given user, including all of the menus and options, according to the user's security and primary option. The information displayed includes: • Entry Actions • Exit Actions • Prohibited Times • Locks

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• Option Names • Synonyms
XUUSERACC2	Abbreviated Menu Diagrams	Run Routine	Routine: **ABBREV^XQ4**	This option provides an abbreviated (Option Names, Menu Text, and Synonyms) display of all the options available to a given user, including all of the menus and options, according to the user's security and primary menu.
XUUSERDISP	Display User Characteristics	Run Routine	Routine: **XQUSR**	This option displays the user's name, location, and characteristics.
XUUSERHELP	User Help	Action	Entry Action: `S XQH="XQ-USERHELP" D EN^XQH`	This option displays basic help information for the user.
XUUSEROPT	User Audit Display	Print		This option display sorts by user then by option. It also prompts for print device to generate a hard copy listing.
XUUSERSTATUS	User Status Report	Run Routine	Routine: **XUS91**	This option produces a report of the users currently signed onto this CPU and this UCI. It shows the option they are running and when they signed on, as well as their device and job numbers.
XUVERSIONEW-HELP	Kernel New Features Help	Action	Entry Action: `S XQH="XUDOC NEW FEATURES*" D EN^XQH`	This option directs you to a series of help frames describing the new features of Kernel.
XUXREF	List Options by Parents and Use	Run Routine	Routine: **XQ31**	This option produces a cross-reference listing of all options, showing their parents on the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				menu tree, detecting bad pointers, and showing which options have no parents. It also shows the uses of the option as a: • Primary menu option • Secondary menu option • Tasked option • Combination of these.
XUXREF-2	Show Users with a Selected primary Menu	Run Routine	Routine: **XQ32**	This option generates a listing of those users who have a selected option as their Primary menus option or as a Secondary menu option. It does *not* show all users who might have access to a particular option. It only looks at Primary (signon) menus and top-level secondary menu options.
XUZUSER	User Management	Menu	Entry Action: `W *27,*43,!!!!!,?20,"USER EDIT MENU",!` Exit Action: `W *27,*43,!!!!!

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				PERSON (#200) file statistics.
XUPS ASSESSMENT STATS	XUPS ASSESSMENT STATS	Run Routine	Routine: **STATS^XUPSCLR**	This option lists NEW PERSON (#200) file statistics for the cleanup.

XUPS PREUPDATE NPF REPORTS	XUPS PREUPDATE NPF REPORTS	Run Routine	Routine:
			EN^XUPSPAID
			Entry Action:
			`S XUPSACT="PRINT"`
			Exit Action:
			`K XUPSACT`
				This option reports on all of the NEW PERSON (#200) file entries whose NAME, DOB, and/or SEX is different from their corresponding PAID EMPLOYEE file entries, as well as the NEW PERSON (#200) file entries that will be updated.

XUPS UPDATE NEW PERSON FILE	XUPS UPDATE NEW PERSON FILE DATA	Run Routine	Routine: **EN^XUPSPAID** Entry Action: `S XUPSACT="UPDATE"`	This option updates NEW PERSON (#200) file entries with data from the PAID EMPLOYEE file.
XUPS VISTALINK	XUPS VISTALINK	Broker (Client/ Server)	RPC: **XUPS PERSONQUERY**	This is an RPC Broker Client/Server option.
XUS NPI EXTRACT REPORT	XUS NPI EXTRACT REPORT	Run Routine	Routine: **TASKMAN^XUSNPIX1**	This option compiles the NPI EXTRACT file and emails it to ***XXX*@Q-NPS.VA.GOV**
XUS PROC CNT CLUP	XUS Process count cleanup	Run Routine	Routine: **CLEAR^XUSCNT(0)**	This option is only needed for GT.M sites. For a GT.M site it should be scheduled to run between every **1** to **8** hours. This is the Kernel process count cleanup routine. It checks the entries in **XUTL("XUSYS",$J)** to see if they are still active and if *not* remove the entry.

5.3.2 Toolkit

The following options are distributed with the Kernel Toolkit software "**XT**" namespace; listed alphabetically:

Table 24: Options—Exported Toolkit Options

Option Name	Option Text	Type	Routine	Description
XT-BLD RTN LIST	Routine Summary List	Run Routine	Routine: **BUILD^XTRUTL**	This option creates a list of routines in a build with before and after checksums, and second line data. This list can be used in a cut and paste operation when preparing a patch.
XT-KERMIT EDIT	Edit KERMIT holding file	Edit		This option allows the user to edit their own holding file. They can change the name, Transfer mode, authorized viewers, and the data.

XT-KERMIT MENU	Kermit menu	Menu	Entry Action:
			`D INIT^XTKERM4`
			Exit Action:
			`D CLEAN^XTKERM4`
				This is the top-level menu for Kermit functions. It gives access to the send, receive, and edit options. It includes the following options:
				• **XT-KERMIT RECEIVE** (SYNONYM: R)
				• **XT-KERMIT SEND** (SYNONYM: S)
				• **XT-KERMIT EDIT** (SYNONYM: E)
				• **XT-KERMIT SPOOL DL**

XT-KERMIT RECEIVE	Receive KERMIT file	Run Routine	Routine: **R^XTKERMIT**	This option receives a file over the terminal line from a remote system in the KERMIT protocol.
XT-KERMIT SEND	Send KERMIT file	Run Routine	Routine: **S^XTKERMIT**	This option sends a file from the host via the terminal line to a remote

Option Name	Option Text	Type	Routine	Description
				system in the KERMIT protocol.
XT-KERMIT SPOOL DL	Download a Spool file entry	Run Routine	Routine: **KERMIT^ZISPL**	This option downloads (sends) a spool document from the SPOOL DOCUMENT (#3.51) file to a local PC using the KERMIT protocol.
XT-NUMBER BASE CHANGER	Number base changer	Run Routine	Routine: **XTBASE**	This option runs a number base calculator. It allows input in base **2**, **8**, **10**, **16**, and displays the number in all **4** bases. It is locked with the XUPROGMODE security key.
XT-OPTION TEST	Test an option not in your menu	Action	ENTRY ACTION: `s DIC=19,DIC(0)="AEMQZ",DIC("A")="Option entry to test: ",DIC("S")="I $P(^(0),U)'[""XUPROG"" D ^DIC K DIC I Y>0 S XQY=+Y,XQUR=$P(Y,U,2),XQDIC="U",XQY0=^DIC(19,XQY,0),^("T")=^XUTL("XQ",$J,"T")-1 G M0^XQ`	This option is for in-house testing of options only. It allows the selection of an option from the OPTION (#19) file and then executes it. **CAUTION: No security checks are performed; therefore, this option should only be given to developers.**
XT-PURGE ERRORS	Clean Error Trap	Run Routine	Routine: **XTERPUR**	This option deletes old errors from the Error Trap. This option is locked with the XUPROGMODE security key.
XT-ROUTINE COMPARE	Compare two routines	Run Routine	Routine: **XTRCMP**	This option compares two routines located in the current account and prints a list of differences. It uses the MailMan compare

Option Name	Option Text	Type	Routine	Description
				routine to do the work.
XT-RTN CS EDT	Old Checksum Edit	Edit		This option edits the CHECKSUM field in the ROUTINE (#9.8) file that is used by the Routine Summary List.
XT-RTN CS UPDATE	Old Checksum Update from Build	Run Routine	Routine: **UPDATE^XTRUTL**	This option updates the old checksum of the routine in a build with the routines current checksum value. This option should be run after a patch has been released and before any new editing of the routines takes place.
XT-VARIABLE CHANGER	Variable changer	Run Routine	Routine: **XTVCHG**	This option runs the **XTVCHG** routine that does a fair job of changing all occurrences of a variable to another. It changes **DO**s and **GOTO**s also, but does *not* change the TAG. This option is locked with the XUPROGMODE security key.
XT-VERSION NUMBER	Version Number Update	Run Routine	Routine: **XTVNUM**	This option runs the **XTVNUM** routine that updates or sets the version number into a set of routines.
XTCM MAIN	Capacity Planning	Menu		This menu holds all the currently available capacity management functions. It includes the following options: • **KMPS SAGG MANAGER** • **KMP MAIL GROUP EDIT** (SYNONYM: CMG) • **KMPR RUM**

Option Name	Option Text	Type	Routine	Description
				MANAGER MENU (SYNONYM: RUM) • **KMPD CM TOOLS MANAGER MENU** (SYNONYM: TLS)
XTFCE	Flow Chart from Entry Point	Run Routine	Routine: **XTFCE**	This option produces a flow chart on the terminal screen of the processing performed from the specified entry point to the termination of processing resulting from that entry point. It also permits the user to expand the code in other routines or entry points referenced by **DO** or **GOTO** commands.
XTFCR	Flow Chart Entire Routine	Run Routine	Routine: **XTFCR**	This option produces a flow chart of the processing performed within a routine.
XTLATSET	VAX DSM Device Set-up	Run Routine	Routine: **XTLATSET** Entry Action: `S DIR(0)="Y",DIR("A")="Want to proceed",DIR("A",1)="Do not use unless you are in the startup account",DIR("A",2)="where the correct VMS files are present!",DIR("B")="No",DIR("?")="See option description" D ^DIR K DIR S:Y'=1!$D(DIRUT) XQUIT=""`	**CAUTION: Do *not* run this option without first understanding how it works and what will result. It assumes the existence of a SYSPRINT.COM file, which is a VMS command file originally distributed by the DHCP Cookbook team. The LAT$STARTUP file is also involved in the process.**

Option Name	Option Text	Type	Routine	Description
				This option runs the **XTLATSET** routine. The purpose is to allow system managers to keep the Kernel and VMS device tables synchronized with the least amount of effort. Those who prefer to use the VMS editor to modify the VMS device tables according to changes in the Kernel DEVICE (#3.5) file will *not* want to use this option. This option can be used when first moving Kernel to a VMS environment. It can be used thereafter to rebuild the files if they are *not* in sync. When running this option, it is critical to be in the configuration that has a complete Kernel DEVICE (#3.5) file, one with all the VMS devices used by any other configuration. The VMS files that are built are automatically used at the next VMS startup. This option runs the **XTLATSET** routine to build VMS command files to coordinate the Kernel and VMS device tables. It reads from the Kernel's DEVICE (#3.5) file for_LTA devices and writes three VMS command files: • **LT_LOAD.COM** file sets up printers in LATCP. • The LT_PRT.DAT

Option Name	Option Text	Type	Routine	Description
				file is read by **SYSPRINT.COM** to set VMS parameters for printers and other devices and can optionally set up VMS spooling. • The **TSC_LOAD.COM** file establishes printer parameters to be used in the DEC server's device tables. This option is locked with the XUMGR security key. **CAUTION: This option should be used with care. The process should be reviewed beforehand to be sure that other VMS device settings are *not* altered in an unexpected way. It is assumed that the system has been configured with knowledge of the DHCP Cookbook recommendations.**
XTLKLKUP	Multi-Term Lookup (MTLU)	Run Routine	Routine: **A^XTLKTICD**	This is a test lookup option. It is tests what has been entered and how the package does the lookup.

Option Name	Option Text	Type	Routine	Description
XTLKMODKY	Keywords	Action	Entry Action: `S XTLKOP="Keywords" D KE^XTLKEFOP K XTLKOP`	This is the option that allows the user to enter/edit the LOCAL KEYWORD (#8984.1) file.
XTLKMODPARK	Delete Entries From Look-up	Run Routine	Routine: **DD^XTLKEFOP**	This option is used to delete entries out of the LOCAL LOOKUP (#8984.4) file. There cannot be any Keywords, Shortcuts, or Synonyms associated with the file to be deleted, in order to do this. This option is locked with the XTLKZMGR security key.
XTLKMODPARS	Add Entries To Look-Up File	Run Routine	Routine: **LL^XTLKEFOP**	This option sets entries into the LOCAL LOOKUP (#8984.4) file. This option is locked with the XTLKZMGR security key.
XTLKMODSH	Shortcuts	Action	Entry Action: `S XTLKOP="Shortcuts" D SH^XTLKEFOP K XTLKOP`	This option is to enter/edit Shortcuts in the LOCAL SHORTCUT (#8984.2) file.
XTLKMODSY	Synonyms	Action	Entry Action: `S XTLKOP="Synonyms" D SY^XTLKEFOP K XTLKOP`	This option is to enter/edit Synonyms in the LOCAL SYNONYM (#8984.3) file.
XTLKMODUTL	Add/Modify Utility	Menu		This is a menu for the enter/edit options of the KEYWORD, SHORTCUT, and SYNONYM files. It includes the following options (listed in display order): • **XTLKMODSH** (1; SYNONYM: SH) • **XTLKMODKY** (2; SYNONYM: KE)

Option Name	Option Text	Type	Routine	Description
				• **XTLKMODSY** (3; SYNONYM: SY)
XTLKPRTUTL	Print Utility	Action	Entry Action: `D A^XTLKPRT`	This option is used to print out the Keywords, Shortcuts, and Synonyms.
XTLKUSER2	Multi-Term Lookup Main Menu	Menu		This is the main option for the MTLU package. It includes the following options: • **XTLKPRTUTL** • **XTLKLKUP** • **XTLKUTILITIES**
XTLKUTILITIES	Utilities for MTLU	Menu		This is the utilities menu for MTLU. It includes the following options: • **XTLKMODUTL** • **XTLKMODPARS** (SYNONYM: ST) • **XTLKMODPARK** (SYNONYM: KL) This menu is locked with the XTLKZMGR security key.
XTMENU	Application Utilities	Menu		This menu contains utilities that can be used by an application programmer. It includes the following options: • **XTLKUSER2** • **XDR MAIN MENU**
XTMOVE	Move Routines across Volume Sets	Run Routine	Routine: **%ZTMOVE**	This option runs the **%ZTMOVE** routine. It moves routines from one volume set to another. A specified set of routines can be moved to a specified UCI on a different volume set in one step (automatically) or in two steps. The second step requires use of the **Bring in Sent Routines**

Option Name	Option Text	Type	Routine	Description
				[XTMOVE-IN] option in the destination UCI/Volume Set. This second option brings in the sent routines by running **IN^%ZTMOVE**. This option is locked with the XUPROGMODE security key.
XTMOVE-IN	Bring in Sent Routines	Run Routine	Routine: **IN^%ZTMOVE**	**CAUTION: This option is only to be used after invoking the Move Routines across Volume Sets [XTMOVE] option.** When in the destination UCI/Volume Set, this option installs the routines that were previously sent. This option is locked with the XUPROGMODE security key.
XTOOLS	Programmer tools	Menu		This is a menu to link and document programmer tools that are part of Kernel. Not all of the items will make sense to use from a menu. It includes the following options: • **XT-VERSION NUMBER** • **XT-VARIABLE CHANGER** • **XT-NUMBER BASE CHANGER** • **XT-ROUTINE COMPARE** • **XTFCR**

Option Name	Option Text	Type	Routine	Description
				(SYNONYM: FCR) • **XTFCE** (SYNONYM: FCE) This menu is locked with the XUPROGMODE security key.
XTQUEUABLE OPTIONS	Toolkit Queuable Options	Menu		This menu, which has no parent, collects together all of the parentless Toolkit options that are intended to be scheduled through the TaskMan **Schedule/Unschedule Options** [XUTM SCHEDULE] option.
XTRDEL	Delete Routines	Run Routine	Routine: **%ZTRDEL**	This option runs the **%ZTRDEL** routine to delete one or more routines. This option is locked with the XUPROGMODE security key.
XTRGRPE	Group Routine Edit	Run Routine	Routine: **XTRGRPE**	This option calls the XTRGRPE routine to edit a group of routines. Once several routines are identified, the Kernel **%Z** editor is called. This option is locked with the XUPROGMODE security key.
XTRMONITOR	Monitor Routines for Changes	Run Routine	Routine: **XTRMON**	This option schedules the **XTRMON** routine to Monitor routines for changes. It uses the ROUTINE MONITOR field in the KERNEL SYSTEM PARAMETERS (#8989.3) file to control if all routines or just

Option Name	Option Text	Type	Routine	Description
				selected N-spaces should be monitored. The checksum that is calculated is stored in the routine file along with the date that it changed. It also goes through the ROUTINE (#9.8) file and checks that all of the routines are still in the UCI. This keeps the ROUTINE (#9.8) file current for KIDS. The output of the routine is the **XTRMON** bulletin that is sent to the attached mail group.
XTSUMBLD	Build an 'NTEG' routine for a package	Run Routine	Routine: **XTSUMBLD**	This option gets a package namespace from the PACKAGE (#9.4) file. It then lists routines from the user. It then builds a **<*namespace*>NTEG** routine that has a checksum for each of the routines. This routine can be run to see if there has been any change to a routine since the **NTEG** routine was built.
XTSUMBLD-CHECK	Calculate and Show Checksum Values	Run Routine	Routine: **CHCKSUM^XTSUMBLD**	This option calls **CHCKSUM^XTSUMBLD** to calculate and show the checksum value for one or more routines in the current account. This value is referenced in the Patch Module description for routine patches.
XTV EDIT VERIF PACKAGE	Edit Verification Package File	Edit		This option is used to enter or edit files and namespaces in the PACKAGE (#9.4) file.
XTV MENU	Verifier Tools	Menu		This menu contains

Option Name	Option Text	Type	Routine	Description
	Menu			options that are available as tools for verification during program development. It includes the following options: • **XTVR COMPARE** (DISPLAY ORDER: 20) • **XTVR UPDATE** (DISPLAY ORDER: 5) • **XTVG COMPARE** • **XTVG UPDATE** • **XTV EDIT VERIF PACKAGE** • **XTVR MOST RECENT CHANGE DATE** • **XTVR RESTORE PREV ROUTINE**
XTVG COMPARE	Global Compare for selected package	Run Routine	Routine: **XTVGC2**	This option is used to produce a listing of changes in the global structure, including file protection and templates, and a previously stored version of the package (using the **Accumulate Global** [XTVGC UPDATE] option).
XTVG UPDATE	Accumulate Globals for Package	Run Routine	Routine: **XTVGC1**	This option accumulates the current globals for a package for comparison with subsequent versions. The global data is accumulated for the **^DIC(*fn*,0, the ^DD(*fn*,** nodes where ***fn*** is an included file number), and the Edit, Print, and Sort templates for the files indicated as related to the package in the

Option Name	Option Text	Type	Routine	Description
				PACKAGE (#9.4) file.
XTVR COMPARE	Routine Compare - Current with Previous	Run Routine	Routine: **XTVRC2**	This option compares one or more current routines to previous versions that have been recorded using the Update with current routines option. Differences between the current version and the indicated number of prior versions are noted.
XTVR MENU	Verifier Tools Menu	Menu		This menu contains options that are available as tools for verification during program development. It includes the following options: • **XTVR COMPARE** (DISPLAY ORDER: 20) • **XTVR UPDATE** (DISPLAY ORDER: 5)
XTVR MOST RECENT CHANGE DATE	Last Routine Change Date Recorded	Run Routine	Routine: **XTVRC1A**	This option lists the most recent date on which a change was recorded for the selected routines. The date piece of the first line of the routine and version and patch information are also displayed. The version number can be changed, and the routine recorded after that date, but the last change date recorded is that date involving a change in more than the second (version number) line. **CAUTION: The**

Option Name	Option Text	Type	Routine	Description
				Update Routine option *must* have been used one or more times to record the routine and changes to the routine.
XTVR RESTORE PREV ROUTINE	UNDO Edits (Restore to Older Version of Routine)	Run Routine	Routine: **XTVRCRE**	This option restores a routine back to a previous version that is available in the previous version edits shown by the **Routine Compare** option. The user *must* specify a routine name to be used for the restored routine that is *not* currently used, so that no current routine is destroyed as a result of saving the newly restored routine. After checking that the restored routine is the desired version, the user can rename it as desired.
XTVR UPDATE	Update with current routines	Run Routine	Routine: **XTVRC1**	This option records the text of the routines indicated in the file used to maintain changes in routines. Only the last version entered is kept completely, previous entries reflect only the changes in lines added and/or deleted to make the next version. This option is used to record the current routine structure, so that it can be compared with future versions of the routine using the Routine Compare - Current with Previous option.

6 Archiving and Purging

6.1 Archiving

There are no software-specific archiving procedures or recommendations for Kernel or Kernel Toolkit.

6.2 Purging

Kernel provides a number of options to facilitate the purging of Kernel files and the cleanup of Kernel-produced globals. Table 25 contains a list of the purging options. The recommended scheduling frequency is shown for some options; all such options are queueable. The Clear All Users at Startup option requires special queueing.

REF: The location of a detailed discussion of each option is given in Table 25; unless otherwise noted, the reference given is to a chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*.

Table 25: Options—Kernel Purging Options

Purging Option	Frequency	References for More Information
Audited Options Purge		Menu Manager: System Management" chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide & Security Tools Manual*
Automatic Deactivation of Users	1 day	Signon/Security: System Management chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Clean Error Log over Range of Dates		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Clean Old Job Nodes in ^XUTL	7 days	Menu Management: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Clean Task File		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Clear All Users at Startup		Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*

Purging Option	Frequency	References for More Information
Clean Error Trap		Error Processing Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Deactivate a User		Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Delete Error Log		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Delete Old (>14 d) Alerts	1 day	Alerts Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Failed Access Attempts Log Purge		Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide* & *Security Tools Manual*
Programmer Mode Entry Log Purge		Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide* & *Security Tools Manual*
Purge Error Log of Type of Error		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Purge Inactive Users' Attributes		Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Purge Log of Old Access and Verify Codes	(up to site)	Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide* & *Security Tools Manual*
Purge of ^%ZUA Global	15 days	Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*
Purge Old Spool Documents	7 days	Spooling Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*

Purging Option	Frequency	References for More Information
Purge Sign-on Log	1 day	Signon/Security: System Management Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide & Security Tools Manual*
Queuable Task Log Cleanup	1 day	TaskMan: System Management—Operation Chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*

REF: The "KIDS: System Management—Installations" chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide* contains recommendations for purging the INSTALL (#9.7) and BUILD (#9.6) files.

7 Callable Entry Points

This chapter lists all of the callable entry points (i.e., Application Program Interfaces [APIs]) that are available for general use with Kernel and Kernel Toolkit (i.e., supported or controlled subscription).

NOTE: A set of nodes is created during Kernel's installation that contains operating system-specific code. These nodes are descendent from **^%ZOSF**. Most can be executed in application code.

REF: Each operating system node is described in the "Operating System Interface: Programmer Tools" chapter in the *Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*.

Table 26 lists the Kernel and Kernel Toolkit APIs. It includes the routine name, tag entry point, Integration Control Registration (ICR) number, if any, and a brief description.

REF: Every API and executable node is described in detail in the *Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*. Refer to the appropriate section in that manual for details, including input and output parameters/variables for each API.

Table 26: Kernel and Kernel Toolkit APIs (Callable Entry Points)—Supported and Controlled Subscription

Routine	Entry Point	ICR #	Description
MXMLDOM	$$ATTRIB	3561	XML—Get Attribute Name
	$$CHILD	3561	XML—Get Child Node
	$$CMNT	3561	XML—Extract Comment Text (True/False)
	CMNT	3561	XML—Extract Comment Text (True/False)
	DELETE	3561	XML—Delete Document Instance
	$$EN	3561	XML—Initial Processing, Build In-memory Image
	$$NAME	3561	XML—Get Element Name
	$$PARENT	3561	XML—Get Parent Node
	$$SIBLING	3561	XML—Get Sibling Node
	$$TEXT	3561	XML—Get Text (True/False)
	TEXT	3561	XML—Get Text (True/False)
	$$VALUE	3561	XML—Get Attribute Value
MXMLPRSE	EN	4149	XML—Event Driven API
MXMLUTL	$$SYMENC	4153	XML—Encoded Strings in Messages

Routine	Entry Point	ICR #	Description
	$$XMLHDR	4153	XML—Message Headers
XGF	CHGA	3173	Screen Change Attributes
	CLEAN	3173	Screen/Keyboard Exit and Cleanup
	CLEAR	3173	Screen Clear Region
	FRAME	3173	Screen Frame
	INITKB	3173	Keyboard Setup Only
	IOXY	3173	Screen Cursor Placement
	PREP	3173	Screen/Keyboard Setup
	$$READ	3173	Read Using Escape Processing
	RESETKB	3173	Exit XGF Keyboard
	RESTORE	3173	Screen Restore
	SAVE	3173	Screen Save
	SAY	3173	Screen String
	SAYU	3173	Screen String with Attributes
	SETA	3173	Screen Video Attributes
	WIN	3173	Screen Text Window
XIPUTIL	CCODE	3618	FIPS Code Data
	$$FIPS	3618	FIPS Code for ZIP Code
	$$FIPSCHK	3618	Check for FIPS Code
	POSTAL	3618	ZIP Code Information
	POSTALB	3618	Active ZIP Codes
XLFCRC	$$CRC16	3156	Cyclic Redundancy Code **16**
	$$CRC32	3156	Cyclic Redundancy Code **32**
XLFDT	$$%H	10103	Convert Seconds to **$H**
	$$DOW	10103	Day of Week
	$$DT	10103	Current Date (FM Date Format)
	$$FMADD	10103	VA FileMan Date Add
	$$FMDIFF	10103	VA FileMan Date Difference
	$$FMTE	10103	Convert FM Date to External Format
	$$FMTH	10103	Convert FM Date to **$H**
	$$FMTHL7	10103	Convert FM Date to HL7 Date

Routine	Entry Point	ICR #	Description
	$$HADD	10103	**$H** Add
	$$HDIFF	10103	**$H** Difference
	$$HL7TFM	10103	Convert HL7 Date to FM Date
	$$HTE	10103	Convert **$H** to External Format
	$$HTFM	10103	Convert **$H** to FM Date Format
	$$NOW	10103	Current Date & Time (FM Format)
	$$SCH	10103	Next Scheduled Runtime
	$$SEC	10103	Convert **$H**/FM date to Seconds
	$$TZ	10103	Time Zone Offset (GMT)
	$$WITHIN	NONE	Checks Dates/Times Within Schedule
XLFHYPER	$$ACOSH	10144	Hyperbolic Arc-cosine
	$$ACOTH	10144	Hyperbolic Arc-cotangent
	$$ACSCH	10144	Hyperbolic Arc-cosecant
	$$ASECH	10144	Hyperbolic Arc-secant
	$$ASINH	10144	Hyperbolic Arc-sine
	$$ATANH	10144	Hyperbolic Arc-tangent
	$$COSH	10144	Hyperbolic Cosine
	$$COTH	10144	Hyperbolic Cotangent
	$$CSCH	10144	Hyperbolic Cosecant
	$$SECH	10144	Hyperbolic Secant
	$$SINH	10144	Hyperbolic Sine
	$$TANH	10144	Hyperbolic Tangent
XLFIPV	SSCONVERT	5844	Convert any IP Address to Standardized IP Address
	$$FORCEIP4	5844	Convert any IP Address to IPv4
	$$FORCEIP6	5844	Convert any IP Address to IPv6
	$$VALIDATE	5844	Validate IP Address Format
	$$VERSION	5844	Show System Settings for IPv6
XLFMSMT	$$BSA	3175 & 10143	Body Surface Area
	$$LENGTH	3175 & 10143	Convert Length

Routine	Entry Point	ICR #	Description
	$$TEMP	3175 & 10143	Convert Temperature
	$$VOLUME	3175 & 10143	Convert Volume
	$$WEIGHT	3175 & 10143	Convert Weight
XLFMTH	$$ABS	10105	Absolute Value
	$$ACOS	10105	Arc-cosine (Radians)
	$$ACOSDEG	10105	Arc-cosine (Degrees)
	$$ACOT	10105	Arc-cotangent (Radians)
	$$ACOTDEG	10105	Arc-cotangent (Degrees)
	$$ACSC	10105	Arc-cosecant (Radians)
	$$ACSCDEG	10105	Arc-cosecant (Degrees)
	$$ASEC	10105	Arc-secant (Radians)
	$$ASECDEG	10105	Arc-secant (Degrees)
	$$ASIN	10105	Arc-sine (Radians)
	$$ASINDEG	10105	Arc-sine (Degrees)
	$$ATAN	10105	Arc-tangent (Radians)
	$$ATANDEG	10105	Arc-tangent (Degrees)
	$$COS	10105	Cosine (Radians)
	$$COSDEG	10105	Cosine (Degrees)
	$$COT	10105	Cotangent (Radians)
	$$COTDEG	10105	Cotangent (Degrees)
	$$CSC	10105	Cosecant (Radians)
	$$CSCDEG	10105	Cosecant (Degrees)
	$$DECDMS	10105	Conv. Decimals to Degrees:Minutes:Seconds
	$$DMSDEC	10105	Conv. Degrees:Minutes:Seconds to Decimal
	$$DTR	10105	Convert Degrees to Radians
	$$E	10105	e—Natural Logarithm
	$$EXP	10105	e—Natural Logarithm to the Nth Power
	$$LN	10105	Natural Log (Base **e**)

Routine	Entry Point	ICR #	Description
	$$LOG	10105	Logarithm (Base **10**)
	$$MAX	10105	Maximum of **2** Numbers
	$$MIN	10105	Minimum of **2** Numbers
	$$PI	10105	PI
	$$PWR	10105	**X** to the **Y** Power
	$$RTD	10105	Convert Radians to Degrees
	$$SD	10105	Standard Deviation
	$$SEC	10105	Secant (Radians)
	$$SECDEG	10105	Secant (Degrees)
	$$SIN	10105	Sine (Radians)
	$$SINDEG	10105	Sine (Degrees)
	$$SQRT	10105	Square Root
	$$TAN	10105	Tangent (Radians)
	$$TANDEG	10105	Tangent (Degrees)
XLFNAME	$$BLDNAME	3065	Build Name from Component Parts
	$$CLEANC	3065	Name Component Std. Routine
	$$FMNAME	3065	Convert HL7 Formatted Name to Name
	$$HLNAME	3065	Convert Name to HL7 Formatted Name
	NAMECOMP	3065	Component Parts from Standard Name
	$$NAMEFMT	3065	Formatted Name from Name Components
	STDNAME	3065	Name Standardization Routine
XLFNAME2	DELCOMP	3066	Delete Name Components Entry (Controlled Subscription)
	UPDCOMP	3066	Update Name Components Entry (Controlled Subscription)
XLFNSLK	$$ADDRESS	3056	Conversion (Domain Name to IP Addresses)
	MAIL	3056	Get IP Addresses for a Domain Name
XLFSHAN	$$AND	6157	Bitwise Logical AND
	$$CPUTIME	6157	Return System and User CPU Time
	$$ETIMEMS	6157	Return Elapsed Time in Milliseconds

Routine	Entry Point	ICR #	Description
	$$FILE	6157	Returns SHA Hash for Specified FileMan File or Subfile Entry
	$$GLOBAL	6157	Returns SHA Hash for a Global
	$$HOSTFILE	6157	Returns SHA Hash for Specified Host File
	$$LSHAN	6157	Returns SHA Hash for a Long Message
	$$OR	6157	Bitwise Logical OR
	$$ROUTINE	6157	Returns SHA Hash for a VistA Routine
	$$SHAN	6157	Returns SHA Hash for a Message
	$$XOR	6157	Bitwise Logical XOR
XLFSTR	$$CJ	10104	Center Justify String
	$$INVERT	10104	Invert String
	$$LJ	10104	Left Justify String
	$$LOW	10104	Convert String to Lowercase
	$$REPEAT	10104	Repeat String
	$$REPLACE	10104	Replace Strings
	$$RJ	10104	Right Justify String
	$$SENTENCE	10104	Convert String to Sentence Case
	$$STRIP	10104	Strip a String
	$$TITLE	10104	Convert String to Title Case
	$$TRIM	10104	Trim String
	$$UP	10104	Convert String to Uppercase
XLFUTL	$$BASE	2622	Convert Between Two Bases
	$$CCD	2622	Append Check Digit
	$$CNV	2622	Convert Base **10** to Another Base
	$$DEC	2622	Convert Another Base to Base **10**
	$$VCD	2622	Verify Integrity
^XPAR	ADD	2263	Add Parameter Value
	CHG	2263	Change Parameter Value
	DEL	2263	Delete Parameter Value
	EN	2263	Add, Change, Delete Parameters
	ENVAL	2263	Return All Parameter Instances

Routine	Entry Point	ICR #	Description
	$$GET	2263	Return an Instance of a Parameter
	GETLST	2263	Return All Instances of a Parameter
	GETWP	2263	Return Word-Processing Text
	NDEL	2263	Delete All Instances of a Parameter
	PUT	2263	Add/Update Parameter Instance
	REP	2263	Replace Instance Value
XPAREDIT	BLDLST	2336	Return All Entities of a Parameter
	EDIT	2336	Edit Instance and Value of a Parameter
	EDITPAR	2336	Edit Single Parameter
	EN	2336	Parameter Edit Prompt
	GETENT	2336	Prompt for Entity Based on Parameter
	GETPAR	2336	Select Parameter Definition File
	TED	2336	Edit Template Parameters (No Dash Dividers)
	TEDH	2336	Edit Template Parameters (with Dash Dividers)
XPDID	EXIT	2172	Progress Bar Emulator: Restore Screen, Clean Up Variables, and Display Text
	INIT	2172	Progress Bar Emulator: Initialize Device and Draw Box Borders
	TITLE	2172	Progress Bar Emulator: Display Title Text
	UPDATE	2172	Update KIDS Install Progress Bar
XPDIJ	EN	2243	Task Off KIDS Install (Controlled Subscription)
XPDIP	$$PKGPAT	2067	Update Patch History
XPDKEY	DEL	1367	Delete Security Key
	$$LKUP	1367	Look Up Security Key Value
	$$RENAME	1367	Rename Security Key
XPDMENU	$$ADD	1157	Add Option to Menu
	DELETE	1157	Delete Menu Item
	LKOPT	1157	Look Up Option IEN
	LOCK	1157	Set LOCK Field in OPTION File

Routine	Entry Point	ICR #	Description
	OUT	1157	Edit Option's Out of Order Message
	RENAME	1157	Rename Option
	RLOCK	1157	Set REVERSE/NEGATIVE Field in OPTION File
	$$TYPE	1157	Get Option Type
XPDPROT	$$ADD	5567	Add Child Protocol to Parent Protocol
	$$DELETE	5567	Delete Child Protocol from Parent Protocol
	FIND	5567	Find All Parents for a Protocol
	$$LKPROT	5567	Look Up Protocol IEN
	OUT	5567	Edit Protocol's Out of Order Message
	RENAME	5567	Rename Protocol
	$$TYPE	5567	Get Protocol Type
XPDUTL	BMES	10141	Output Message with Blank Line
	$$COMCP	10141	Complete Checkpoint
	$$CURCP	10141	Get Current Checkpoint Name/IEN
	$$INSTALDT	10141	Return All Install Dates/Times
	$$LAST	10141	Last Software Patch
	MES	10141	Output a Message
	$$NEWCP	10141	Create a Checkpoint
	$$OPTDE	10141	Disable/Enable an Option
	$$PARCP	10141	Get Checkpoint Parameter
	$$PATCH	10141	Verify Patch Installation
	$$PKG	10141	Parse Software Name from Build Name
	$$PRODE	10141	Disable/Enable a Protocol
	$$RTNUP	10141	Update Routine Action
	$$UPCP	10141	Update Checkpoint
	$$VER	10141	Parse Version from Build Name
	$$VERCP	10141	Verify Checkpoint
	$$VERSION	10141	PACKAGE File Current Version
XQ92	NEXT	10077	Restricted Times Check

Routine	Entry Point	ICR #	Description
XQALBUTL	AHISTORY	2788	Get Alert Tracking File Information
	ALERTDAT	2788	Get Alert Tracking File Information
	DELSTAT	3197	Get User Information and Status for Recent Alert
	NOTIPURG	3010	Purge Alerts Based on Code
	$$PENDING	2788	Pending Alerts for a User
	$$PKGPEND	2788	Pending Alerts for a User in Specified Software
	PTPURG	3010	Purge Alerts Based on Patient
	RECIPURG	3010	Purge User Alerts
	USERDATA	2788	Get User Information for an Alert
	USERLIST	2788	Get Recipient Information for an Alert
XQALERT	ACTION	10081	Process an Alert
	DELETE	10081	Clear Obsolete Alerts (Single)
	DELETEA	10081	Clear Obsolete Alerts (All)
	GETACT	10081	Return Alert Variables
	PATIENT	10081	Get Alerts for a Patient
	SETUP	10081	Send Alerts
	$$SETUP1	10081	Send Alerts
	USER	10081	Get Alerts for a User
XQALFWD	FORWARD	3009	Forward Alerts
XQALSURO	$$CURRSURO	2790	Get Current Surrogate for Alerts
	$$GETSURO	3213	Get Current Surrogate Information
	REMVSURO	2790	Remove Surrogates for Alerts
	SETSURO1	3213	Establish a Surrogate for Alerts
	SUROFOR	3213	Return a Surrogate's List of Users
	SUROLIST	3213	List Surrogates for a User
XQCHK	$$ACCESS	10078	User Option Access Test
	OP	10078	Current Option Check
XQDATE	^XQDATE	10079	Convert **$H** to VA FileMan Format (Obsolete) (Use $$FMTE^XLFDT or $$HTFM^XLFDT)

Routine	Entry Point	ICR #	Description
XQH	EN	10074	Display Help Frames (Clear Screen)
	EN1	10074	Display Help Frames
XQH4	ACTION	10080	Print Help Frame Tree
XQOR	EN	10101	Navigating Protocols
	EN1	10101	Navigating Protocols (Entry/Exit Actions Not Executed)
	MSG	10101	Enable HL7 Messaging
XQORM	EN	10140	Menu Item Display and Selection
	XREF	10140	Force Menu Recompile
XQORM1	DISP	10102	Display Menu Selections From Help Code
XTHC10	$$GETURL	5553	Return URL Data Using HTTP
XTHCURL	$$ENCODE	5554	Encodes a Query String
	$$MAKEURL	5554	Creates a URL from Components
	$$PARSEURL	5554	Parses a URL
XTHCUTL	$$DECODE	5555	Decodes a String
XTID	GETIREF	4631	Get IREF (Term/Concept)
	$$GETMASTR	4631	Get Master VUID Flag (Term/Concept)
	$$GETSTAT	4631	Get Status Information (Term/Concept)
	$$GETVUID	4631	Get VUID (Term/Concept)
	$$SCREEN	4631	Get Screening Condition (Term/Concept)
	$$SETMASTR	4631	Set Master VUID Flag (Term/Concept)
	$$SETSTAT	4631	Set Status Information (Term/Concept)
	$$SETVUID	4631	Set VUID (Term/Concept)
XTIDTRM	$$GETRPLC	5078	Get Immediate Replacement Term (Term/Concept)
	$$RPLCLST	5078	Get List of Replacement Terms, w/Optional Status Date and History (Term/Concept)
	$$RPLCMNT	5078	Get Final Replacement Term (Term/Concept)
	$$RPLCTRL	5078	Get Replacement Trail for Term, with Replaced "**BY**" and Replacement "**FOR**" Terms (Term/Concept)

Routine	Entry Point	ICR #	Description
	$$RPLCVALS	5078	Get Field Values of Final Replacement Term (Term/Concept)
	$$SETRPLC	5078	Set Replacement Term (Term/Concept)
XTKERM4	RFILE	2075	Add Entries to Kermit Holding File
XTKERMIT	RECEIVE	10095	Load a File into the Host
	SEND	10095	Send Data from Host
XTLKKWL	XTLKKWL	10122	Perform Supported VA FileMan Calls on Files Configured for MTLU
XTLKMGR	DK	10153	Delete Keywords from the Local Keyword File
	DLL	10153	Delete an Entry from the Local Lookup File
	DSH	10153	Delete Shortcuts from the Local Shortcut File
	DSY	10153	Delete Synonyms from the Local Synonym File
	K	10153	Add Keywords to the Local Keyword File
	L	10153	Define a File in the Local Lookup File
	LKUP	10153	General Lookup Facility for MTLU
	SH	10153	Add Shortcuts to the Local Shortcut File
	SY	10153	Add Terms and Synonyms to the Local Synonym File
XUA4A71	$$EN	3178	Convert String to Soundex
XUA4A72	$$CODE2TXT	1625	Get HCFA Text
	$$GET	1625	Get Specialty and Subspecialty for a User
	$$IEN2CODE	1625	Get VA Code
XUAF4	$$ACTIVE	2171	Institution Active Facility (True/False)
	CDSYS	2171	Coding System Name
	CHILDREN	2171	List of Child Institutions for a Parent
	$$CIRN	2171	Institution CIRN-enabled Field Value
	F4	2171	Institution Data for a Station Number
	$$ID	2171	Institution Identifier

Routine	Entry Point	ICR #	Description
	$$IDX	2171	Institution IEN (Using Coding System & ID)
	$$IEN	2171	IEN for Station Number
	$$LEGACY	2171	Institution Realigned/Legacy (True/False)
	$$LKUP	2171	Institution Lookup
	LOOKUP	2171	Look Up Institution Identifier
	$$MADD	2171	Institution Mailing Address
	$$NAME	2171	Institution Official Name
	$$NNT	2171	Institution Station Name, Number, and Type
	$$NS	2171	Institution Name and Station Number
	$$O99	2171	IEN of Merged Station Number
	$$PADD	2171	Institution Physical Address
	PARENT	2171	Parent Institution Lookup
	$$PRNT	2171	Institution Parent Facility
	$$RF	NONE	Realigned From Institution Information
	$$RT	NONE	Realigned To Institution Information
	SIBLING	2171	Sibling Institution Lookup
	$$STA	2171	Station Number for IEN
	$$TF	2171	Treating Facility (**True/False**)
	$$WHAT	2171	Institution Single Field Information
XUDHGUI	DEVICE	3771	GUI Device Lookup
XUDHSET	$$RES	2232	Set Up Resource Device
XUHUI	OPKG	3589	Monitor New Style Cross-referenced Fields
XUMF	$$IEN	3795	Institution IEN (Using IFN, Coding System, & ID)
XUMFI	MAIN	2171	HL7 Master File Message Builder (Controlled Subscription)
XUMFP	MAIN	2171	Master File Parameters (Controlled Subscription)
XUP	$$DTIME	4409	Reset DTIME for USER

Routine	Entry Point	ICR #	Description
XUPARAM	$$GET	2542	Get Parameters
	$$KSP	2541	Return Kernel Site Parameter
	$$LKUP	2542	Look Up Parameters
	SET	2542	Set Parameters
XUPROD	PROD	4440	Production Vs. Test Account
XUPS	$$IEN	4574	Get IEN Using VPID in File #200
	$$VPID	4574	Get VPID Using IEN in File #200
XUPSQRY	EN1	4575	Query New Person File
XUS	H	10044	Programmer Halt
XUS1A	SET	3057	Output Message During Signon
XUS2	AVHLPTXT	4057	Get Help Text (Controlled Subscription)
XUSAP	$$CREATE	4677	Create Application Proxy User
XUSCLEAN	KILL	10052	Clear all but Kernel Variables
	TOUCH	10052	Notify Kernel of Tasks that Run **7** Days or Longer
XUSER	$$ACTIVE	2343	Status Indicator
	$$DEA	2343	Get DEA Number. Modified with Kernel Patch XU*8.0*580 for ePCS.
	$$DETOX	2343	Get Detox/Maintenance ID Number Added with Kernel Patch XU*8.0*580 for ePCS.
	DIV4	2533	Get User Divisions (Controlled Subscription)
	$$LOOKUP	2343	NEW PERSON File Lookup
	$$NAME	2343	Get Name of User
	$$PROVIDER	2343	Providers in NEW PERSON File
	$$SDEA	2343	Check for Prescribing Privileges Added with Kernel Patch XU*8.0*580 for ePCS.
	$$VDEA	2343	Check if User Can Sign Controlled Substance Orders Added with Kernel Patch XU*8.0*580 for ePCS.

Routine	Entry Point	ICR #	Description
XUSERNEW	$$ADD	10053	Add New User
XUSESIG	^XUSESIG	936	Set Up Electronic Signature Code (Controlled Subscription)
	SIG	10050	Verify Electronic Signature Code
XUSESIG1	$$CHKSUM	1557	Build Checksum for Global Root
	$$CMP	1557	Compare Checksum to **$Name_Value**
	$$DE	1557	Decode String
	$$EN	1557	Encode ESBLOCK
	$$ESBLOCK	1557	Electronic Signature (E-Sig) Fields Required for Hash
XUSHSH	$$AESDECR	6189	Returns Plaintext String Value for AES Encrypted Ciphertext Entry
	$$AESENCR	6189	Returns AES Encrypted Ciphertext for String Entry
	$$B64DECD	6189	Returns Decoded Value for a Base64 String Entry
	$$B64ENCD	6189	Returns Base64 Encoded Value for a String Entry
	$$RSADECR	6189	Returns Plaintext String Value for RSA Encrypted Ciphertext Entry
	$$RSAENCR	6189	Returns RSA Encrypted Ciphertext for String Entry
	$$SHAHASH	6189	Returns SHA Hash for a String Entry
XUSHSHP	DE	10045	Decrypt Data String
	EN	10045	Encrypt Data String
	HASH	10045	Hash Electronic Signature Code
XUSNPI	$$CHKDGT	4532	Validate NPI Format
	$$NPI	4532	Get NPI from Files #200 or #4
	$$QI	4532	Get Provider Entities
XUSRB	$$CHECKAV	2882	Check Access/Verify Codes (Controlled Subscription)
	CVC	4054	VistALink-Change User's Verify Code (Controlled Subscription)
	$$INHIBIT	3277	Check if Logons Inhibited

Routine	Entry Point	ICR #	Description
	INTRO	4054	VistALink-Get Introductory Text (Controlled Subscription)
	$$KCHK	2120	Check If User Holds Security Key (Controlled Subscription)
	LOGOUT	4054	VistALink-Log Out User From M (Controlled Subscription)
	OWNSKEY	3277	Verify Security Keys Assigned to a User
	SETUP	4054	VistALink-Set Up User's Partition in M (Controlled Subscription)
	VALIDAV	4054	VistALink-Validate User Credentials (Controlled Subscription)
XUSRB1	$$DECRYP	2241	Decrypt String
	$$ENCRYP	2240	Encrypt String
XUSRB2	DIVGET	4055	Get Divisions for Current User (Controlled Subscription)
	DIVSET	4055	Set Division for Current User (Controlled Subscription)
	USERINFO	4055	Get Demographics for Current User (Controlled Subscription)
XUSRB4	$$HANDLE	4770	Return Unique Session ID String
XUSTAX	$$TAXIND	4911	Get Taxonomy Code from File #200 (Controlled Subscription)
	$$TAXORG	4911	Get Taxonomy Code from File #4 (Controlled Subscription)
XUTMDEVQ	$$DEV	1519	Force Queueing—Ask for Device
	EN	1519	Run a Task (Directly or Queued)
	$$NODEV	1519	Run a Task (Force Queueing—No Device Selection)
	$$QQ	1519	Double Queue—Direct Queuing in a Single Call
	$$REQQ	1519	Schedule Second Part of a Task
XUTMOPT	DISP	1472	Display Option Schedule
	EDIT	1472	Edit an Option's Scheduling
	OPTSTAT	1472	Obtain Option Schedule
	RESCH	1472	Set Up Option Schedule

Routine	Entry Point	ICR #	Description
XUTMTP	EN	3521	Display HL7 Task Information (Controlled Subscription)
XUVERIFY	^XUVERIFY	10051	Verify Access and Verify Codes
	$$CHECKAV	10051	Check Access/Verify Codes
	WITNESS	1513	Return IEN of Users with A/V Codes & Security Keys (Controlled Subscription)
XUWORKDY	^XUWORKDY	10046	Workday Calculation (Obsolete)
	$$EN	10046	Number of Workdays Calculation
	$$WORKDAY	10046	Workday Validation
	$$WORKPLUS	10046	Workday Offset Calculation
%ZIS	^%ZIS	10086	Standard Device Call
	HLP1	10086	Display Brief Device Help
	HLP2	10086	Display Device Help Frames
	HOME	10086	Reset Home Device **IO** Variables
	$$REWIND	10086	Rewind Devices
%ZISC	^%ZISC	10089	Close Device
%ZISH	CLOSE	2320	Close Host File
	$$DEFDIR	2320	Get Default Host File Directory
	$$DEL	2320	Delete Host File
	$$FTG	2320	Load Host File into Global
	$$GATF	2320	Copy Global to Host File (Append Existing global Nodes)
	$$GTF	2320	Copy Global to Host File
	$$LIST	2320	List Directory
	$$MV	2320	Rename Host File
	OPEN	2320	Open Host File
	$$PWD	2320	Get Current Directory
	$$STATUS	2320	Return End-of-File (EOF) Status
%ZISP	PKILL	3172	Kill Special Printer Variables
	PSET	3172	Set Up Special Printer Variables

Routine	Entry Point	ICR #	Description
ZISPL	DSD	1092	Delete Spool Data File Entry (Controlled Subscription)
	DSDOC	1092	Delete Spool Document File Entry (Controlled Subscription)
%ZISS	ENDR	10088	Set Up Specific Screen Handling Variables
	ENS	10088	Set Up Screen Handling Variables
	GKILL	10088	**KILL** Graphic Variables
	GSET	10088	Set Up Graphics Variables
	KILL	10088	**KILL** Screen Handling Variables
%ZISTCP	CALL	2118	Make TCP/IP Connection (Remote System)
	CLOSE	2118	Close TCP/IP Connection (Remote System)
%ZISUTL	CLOSE	2119	Close Device with Handle
	OPEN	2119	Open Device with Handle
	RMDEV	2119	Delete Data Given a Handle
	SAVDEV	2119	Save Data Given a Handle
	USE	2119	Use Device Given a Handle
%ZOSF	^%ZOSF	NONE	Operating System-dependent Logic Global
%ZOSV	$$ACTJ	10097	Number of Active Jobs
	$$AVJ	10097	Number of Available Jobs
	DOLRO	3883	Display Local Variables (Controlled Subscription)
	$$EC	10097	Get Error Code
	GETENV	10097	Current System Information
	GETPEER	4056	VistALink-Get IP Address for Current Session (Controlled Subscription)
	$$LGR	10097	Last Global Reference
	LOGRSRC	10097	Record Resource Usage (RUM)
	$$OS	10097	Get Operating System Information
	SETENV	10097	Set VMS Process Name (Caché/OpenVMS Systems)

Routine	Entry Point	ICR #	Description
	SETNM	10097	Set VMS Process Name: Parameter Passing (Caché/OpenVMS Systems)
	T0 (Obsolete)	10097	(Obsolete) Start RT Measure
	T1 (Obsolete)	10097	(Obsolete) Stop RT Measure
	$$VERSION	10097	Get OS Version Number or Name
%ZTER	^%ZTER	1621	Kernel Standard Error Recording Routine
	APPERROR	1621	Set Application Error Name in Kernel Error Trap Log
	$$NEWERR	1621	Verify Support of Standard Error Trapping (Obsolete)
	UNWIND	1621	Quit Back to Calling Routine
%ZTLOAD	^%ZTLOAD	10063	Queue a Task
	$$ASKSTOP	10063	Stop TaskMan Task
	DESC	10063	Find Tasks with a Description
	DQ	10063	Unschedule a Task
	ISQED	10063	Return Task Status
	$$JOB	10063	Return a Job Number for a Task
	KILL	10063	Delete a Task
	OPTION	10063	Find Tasks for an Option
	PCLEAR	10063	Clear Persistent Flag for a Task
	$$PSET	10063	Set Task as Persistent
	REQ	10063	Requeue a Task
	RTN	10063	Find Tasks that Call a Routine
	$$S	10063	Check for Task Stop Request
	STAT	10063	Task Status
	$$TM	10063	Check if TaskMan is Running
	ZTSAVE	10063	Build ZTSAVE Array

8 Direct Mode Utilities

This chapter lists all Kernel and Kernel Toolkit direct mode utilities. Direct mode utilities can be used from programmer mode, but developers *cannot* call them from within applications.

REF: Every direct mode utility is described in the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide and Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*. Refer to the indicated section in that manual for details on the use of the utility.

The direct mode utilities in Table 27 are listed in routine order and by tag within each routine:

Table 27: Direct Mode Utilities

Direct Mode Utility	Description	Reference Documentation
`D ^%G`	List Global option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Miscellaneous: Developer Tools
(obsolete) `D ^%INDEX` Use: `D ^XINDEX`	To run **%INDEX**	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Routine Tools and Toolkit: Developer Tools
`D ^%RR`	Input Routines option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
`D ^%RS`	Output Routines option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
`D ^XQ1`	Test an Option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Menu Manager: Programmer Tools
`D ^XTER`	Display Error Trap	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Error Processing: Developer Tools
`D ^XTERPUR`	Purge Error Log	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Error Processing: Developer Tools
`D ^XTFCR`	Flow Chart from Entry Point option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Routine Tools
`D ^XTRCMP`	Compare Two Routines option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
`D TAPE^XTRCMP`	Compare Routines on Tape to Disk option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools

Direct Mode Utility	Description	Reference Documentation
D ^XTRGRPE	Group Routine Edit option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D CHCKSUM^XTSUMBLD	Integrity checking utility	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D ^XTVCHG	Variable Changer option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D ^XTVNUM	Version Number Update option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D ENABLE^XUFILE3	Enable File Access Security System	*Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*; File Access Security
D ^XUINCON	Run File Access Security Conversion	*Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*; File Access Security
D ^XUP	Programmer Sign-On	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Signon/Security: Programmer Tools
D ^XUS	User Sign-On, No Error Trapping	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Signon/Security: Programmer Tools
D H^XUS	Programmer Halt	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Signon/Security: Programmer Tools
D ^XUSCLEAN	Programmer Halt	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Signon/Security: Programmer Tools
X ^%Z	Routine Edit option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Miscellaneous: Developer Tools
D ^%ZTBKC	Global Block Count	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Operating System Interface: Developer Tools
D ^ZTEDIT	Install **^%Z** editor	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Miscellaneous: Developer Tools
D ^%ZTER	Record an error	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools

Direct Mode Utility	Description	Reference Documentation
D ^ZTMB	Start TaskMan	*Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*; TaskMan: System Management—Configuration
D RESTART^ZTMB	Restart TaskMan	*Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*; TaskMan: System Management—Configuration
D ^ZTMCHK	Check TaskMan's Environment	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D ^ZTMGRSET	Update **^%ZOSF** Nodes	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Operating System Interface: Developer Tools
D RUN^ZTMKU	Remove TaskMan from a WAIT state	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; TaskMan Developer Tools
D STOP^ZTMKU	Stop TaskMan	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; TaskMan Developer Tools
D WAIT^ZTMKU	Place TaskMan in a WAIT state	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; TaskMan Developer Tools
D ^ZTMON	Monitor TaskMan	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; TaskMan Developer Tools
D ^%ZTPP	List Routines option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D ^%ZTRDEL	Delete Routines option	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Toolkit: Developer Tools
D ^ZU	User Sign-On	*Kernel 8.0 & Kernel Toolkit 7.3 Developer's Guide*; Signon/Security: Developer Tools

9 Remote Procedure Calls (RPCs)

Table 28 lists the Remote Procedure Calls (RPCs) in the Kernel and Kernel Toolkit namespaces as stored in the REMOTE PROCEDURE (#8994) file (listed alphabetically by RPC name):

NOTE: The Kernel and Kernel Toolkit namespaces include: "**XDR***," "**XI***," "**XPAR***," "**XPD***," "**XQ***," "**XT**," and "**XU***."

Table 28: Remote Procedure Calls (RPCs)—Kernel and Kernel Toolkit

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
XDR ADD POTENTIAL PATIENT DUP Availability: **AGREEMENT**	5271	**ENTRY^XQALGUI**	• **FILE NUMBER:** File number for the file to which the potential duplicate records belong. For example, if the two potential duplicate entries are on the PATIENT file, this value is set to **2**. • **TO_IEN:** Internal Entry Number (IEN) of one of the potential duplicate records. For example, this could be a DFN from the PATIENT (#2) file. • **FROM_IEN:** Internal Entry Number (IEN) of one of the potential duplicate records. For example, this could be a DFN from the PATIENT (#2) file.	Returns: • **Success:** IEN from the DUPLICATE RECORD (#15) file. If no errors occur, and if either an existing record is found, or a new record is added. • **Failure: -1^Error Message—**If any errors occur.	This RPC adds a record to the VistA DUPLICATE RECORD (#15) file, or find an existing record for the pair of potential duplicates passed to the RPC. This was written to allow MPI to add potential duplicate patients to the file when potential duplicates are detected by the Person Service Identity Management (PSIM) probabilistic search.
XDR UPD SUPPR EMAIL	None	**ADD^XDRDADDS**	• **FILE NUMBER:** File	Returns:	This API remotely sets the

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
Availability: **AGREEMENT**			number for the file that is the **.01** field of a record in the DUPLICATE RESOLUTION (#15.1) file. This is the record that is to be updated by this RPC. • **VALUE:** *Must* be set to **1** or **0**. This value will be put into the SUPPRESS NEW DUP. • **EMAIL** field.	• **Success: 0—**If no errors occurred. • **Failure: -1^Error Message—**If errors occurred.	SUPPRESS NEW DUP EMAIL (#99) field in the DUPLICATE RESOLUTION (#15.1) file. SUPPRESS NEW DUP EMAIL is set to **1** (Yes) to suppress the email that is normally sent when a new record is added to the DUPLICATE RECORD file by PSIM (i.e., by a call from routine **XDRDADDS**). If SUPPRESS NEW DUP EMAIL is set to **0** (No) or **NULL**, the email is sent.
XQAL GUI ALERTS Availability: **PUBLIC**	None	**ENTRY^XQALGUI**	**DATA:** Subscripted, and the subscript contains the actual variable name (and can be a global reference), while the value for the variable is the value associated with that **DATA** element.	Array: Contains the return values for the type of call.	This RPC handles the XUAlert component.
XU EPC EDIT Agreement: **RESTRICTED**	None	**ENTRY^XUEPCSED**	**DATA**	Single Value	This RPC stores information on editing changes in the NEW PERSON (#200) file related to the electronic prescribing of controlled substances. **NOTE:** This RPC was released with Kernel Patch XU*8.0*580.
XUPS PERSONQUERY	None	**EN1^XUPSQRY**	• **XUPSLNAM:**	Array: Output data stored in	This RPC performs a person

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
Availability: **PUBLIC**			Required if lookup by name. • **XUPSFNAM** • **XUPSSSN** • **XUPSPROV** • **XUPSSTN** • **XUPSMNM** • **XUPSDATE** • **XUPSVPID:** Required if lookup by VPID.	a global array.	lookup.
XUS ALLKEYS Agreement: **PUBLIC**	6287	**ALLKEYS^XUSRB**	• **IEN:** This is the IEN or **DUZ** of the user in question. If *not* passed in, the RPC will use the current **DUZ**. • **FLAG:** Not in use at this time.	Returns: • **Success:** Returns a list of the names of the Security KEYS the user holds. • **Failure:** Returns **-1** if failed for some reason.	This RPC returns all the KEYS that a user holds. If the **FLAG** is set to some value, the list of KEYS will be screened to only be those for J2EE use. For KAAJEE.
XUS AV CODE Agreement: **RESTRICTED**	1630	**VALIDAV^XUSRB**	**AVCODE:** accessCode_";"_verifyCode in unencrypted form.	Array: It returns an array of values.	This RPC checks if an ACCESS/VERIFY code pair is valid.
XUS AV HELP Agreement: **RESTRICTED**	None	**AVHELP^XUSRB**	None	Array: Returns instructions on entering new access/verify codes.	This RPC returns instructions on entering new Access/Verify codes.
XUS CCOW VAULT PARAM Agreement: **RESTRICTED**	None	**CCOWPC^XUSRB4**	None	Returns a value for use with the CCOW vault.	This RPC returns a value for use with the CCOW vault.
XUS CVC Agreement: **RESTRICTED**	6296	**CVC^XUSRB**	None		This RPC allows the user to change their Verify code.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
XUS DIVISION GET Agreement: **RESTRICTED**	5198	**DIVGET^XUSRB2**	**IEN:** If passed, this will be the user to get the division info on.	Returns a list of divisions for a user.	This RPC returns a list of divisions for a user.
XUS DIVISION SET Agreement: **RESTRICTED**	5199	**DIVSET^XUSRB2**	**DIV**	Returns: • **Success: 1** if the value was accepted. • **Failure: 0** if the input was *not* OK.	This RPC sets the user's selected Division in **DUZ(2)** during signon.
XUS GET CCOW TOKEN Agreement: **RESTRICTED**	None	**CCOW^XUSRB4**	None	Array	This RPC gets a token to save in the CCOW context to aid in signon.
XUS GET TOKEN Agreement: **RESTRICTED**	6813	**ASH^XUSRB4**	None	Returns: A handle to a token that signs on a new process.	This RPC returns a handle to a token that signs on a new process.
XUS GET USER INFO Agreement: **RESTRICTED**	2857	**USERINFO^XUSRB2**	None	Array: Returns information about a user after logon.	This RPC returns information about a user after logon.
XUS GET VISITOR Agreement: **SUBSCRIPTION**	5532	**GETVISIT^XUSBSE1**	**TOKEN**	Single Value	This controlled-subscription RPC is used by the Broker Security Enhancement (BSE) to check a user's credentials based on a BSE TOKEN that was passed to identify and authenticate a visiting user. The remote VistA system calls this RPC on the authenticating VistA system to validate if the visiting user is permitted to visit, and if so, obtain the authenticated user's demographics.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
XUS INTRO MSG Agreement: **RESTRICTED**	1631	**INTRO^XUSRB**	None	Returns: Introductory text.	This RPC returns the INTRO message from the KERNEL SYSTEM PARAMETERS (#8989.3) file.
XUS KEY CHECK Agreement: **PUBLIC**	6286	**OWNSKEY^XUSRB**	**KEY:** • If key is a single value, it holds the one key to check. • If key is an array, then the result is an array that matches the key list with values that match the status of the key check for each key.	Array. Returns: • **1—**If the user has the key. • **0—**If the user does *not* have the key.	This RPC checks if the user (**DUZ**) holds a security key or an array of keys. If a single security KEY is sent, the result is returned in **R(0)**. If an array is sent down, then the return array has the same order as the calling array.
XUS MVI ENRICH NEW PERSON	1059	**UPDATE^XUMVIENU**	• **PARAM:** Input array: **PARAM("WHO")**=Station Number of requesting station **PARAM("NPI")**=National Provider Identifier Required elements only when **FLAG** input parameter is **A**: **PARAM("NAME")**=surname|first name|middle name|suffix|full .01 name	Returns: • **Success:** **DUZ of New Person File entry edited or added**. Returned if there were no issues adding or editing the entry. **DUZ^-1^ErrorMessage** Returned if entry was edited, but some data was not valid and could not be filed. • **Failure:** **-1^ErrorMessage**	This controlled subscription RPC is used exclusively by the Master Veteran Index (MVI) software to update enriched data in the NEW PERSON (#200) file. **NOTE:** This RPC was released with Kernel Patch XU*8.0*711.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			Optional elements (only pass those elements you want to update): **PARAM("ADDRESS DATA")**=street address 1|street address 2|street address 3|city|state|zip code|office phone|fax number **PARAM("SubjectOrgan")**=subject organization Default: "**Department Of Veterans Affairs**" **PARAM("SubjectOrganID")**=subject organization id Default: "**urn:oid:2.16.840.1.113883.4.349**" **PARAM("ADUPN")**=adupn **PARAM("AuthWriteMedOrders")**=1 or 0 for YES/NO Default if **WHO** is 200PIEV and a DEA# is sent: **1** (for YES) **PARAM("DEA",<seq#>,"DEA")**=Drug Enforcement Agency (DEA) #	Returned, for example, if required data was *not* passed; entry could not be added when **FLAG="A"**, or entry could *not* be found based on the NPI when **FLAG="U"**.	

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			PARAM("DEA",<seq#>,"Detox")= detox number **PARAM("DEA",<seq#>,"DEAExpire")**=expiration date (can be future) **PARAM("DEA",<seq#>,"SchedIINarc")**=1 or 0 for YES/NO **PARAM("DEA",<seq#>,"SchedIINonNarc")**=1 or 0 for YES/NO **PARAM("DEA",<seq#>,"SchedIIINarc")**=1 or 0 for YES/NO **PARAM("DEA",<seq#>,"SchedIIINonNarc")**=1 or 0 for YES/NO **PARAM("DEA",<seq#>,"SchedIV")**=1 or 0 for YES/NO **PARAM("DEA",<seq#>,"SchedV")**=1 or 0 for YES/NO **PARAM("DEGREE")**=degrees (codes delimited by a space) **PARAM("EMAIL")**=email address **PARAM("GENDER")**=M or F **PARAM("Inactivate")**=inactive date (can be future) **PARAM("NonVAPrescriber")**=1 or 0 for		

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			YES/NO Default if **WHO** is 200PIEV: **1** (for YES) **PARAM("NTUSERNAME")**=network user name **PARAM("PersonClass",<seq#>,"PersonClass")**=X12 code value **PARAM("PersonClass",<seq#>,"PersonClassActive")**=date Default if not currently active: **TODAY** **PARAM("PersonClass",<seq#>,"PersonClassExpire")**=date **PARAM("ProviderClass")**=a value from the PROVIDER CLASS (#7) file **PARAM("ProviderType")**=provider type code|provider type value **PARAM("Remarks")**=remarks Default if **WHO** is 200PIEV: "**NON-VA PROVIDER**" **PARAM("SECID")**=sec id **PARAM("TaxID")**=tax id **PARAM("Termination")**=termination		

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			date (*cannot* be future) **PARAM("Title")**=value from TITLE file (#3.1) Default if **WHO** is 200PIEV: "**NON-VA PROVIDER**" **PARAM("UniqueUserID")**=unique user id • **FLAG:** This flag controls whether the RPC is adding a new entry to the NEW PERSON (#200) file or updating an existing entry. Possible values are: o **U—**Update an existing entry o **A—**Add a new entry		
XUS PKI SET UPN Agreement: **RESTRICTED**	5823	**SETUPN^XUSER2**	**UPN:** This is the SUBJECT ALTERNATIVE NAME from the PIV card.	Single Value	This RPC sets the SUBJECT ALTERNATIVE NAME (#501.2) field in the NEW PERSON (#200) file.
XUS PKI GET UPN Agreement: **PUBLIC**	5816	**GETUPN^XUSER2**	None	Single Value	This RPC gets the SUBJECT ALTERNATIVE NAME (#501.2) field from the NEW PERSON (#200) file. It is used to check that the correct PIV card has been put into the reader.
XUS SEND KEYS	1633	**SENDKEYS^XUSR**	None	Array: strings that are used	This RPC returns an array of

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
Agreement: **RESTRICTED**		**B**		in the hashing algorithm. The strings that are returned are picked up from **Z^XUSRB**.	strings that are used in the hashing algorithm. The strings that are returned are picked up from **Z^XUSRB**.
XUS SET VISITOR Agreement: **PUBLIC**	5501	**SETVISIT^XUSBSE1**	None	Returns: A BSE token string	This RPC is run on the Authenticating VistA M Server. It returns a Kernel Authentication Token that is used to identify the current user. **NOTE:** This RPC was added with the Broker Security Enhancement (BSE) project, which was released with Kernel Patch XU*8.0*404.
XUS SIGNON SETUP **Agreement: PUBLIC**	1632	**SETUP^XUSRB**		Array	This RPC establishes the environment necessary for DHCP signon

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
XWB GET VARIABLE VALUE **Agreement: PUBLIC**	1629	**XWBLIB**		Single Value	This RPC accepts the name of a variable that will be evaluated, and its value returned to the server. For example, this RPC can be called with a parameter like **DUZ**, which will be returned as **123456**. **NOTE:** This is an RPC Broker namespaced RPC but included here as part of Kernel Patch XU*8.0*580.

10 External Relations

10.1 External Relations with Other VistA Software

Kernel establishes external relations with all other VistA software and with the various implementations of ANSI M. Kernel provides a transparent interface between VistA and the host operating system.

All other VistA software depends upon the presence of Kernel, for two main reasons:

- Kernel provides a wealth of application mode entry points that software applications use to solve many common programming problems.
- Kernel provides other VistA applications with portability. In order to achieve independence from any particular vendor's implementation of the M standard, VistA adopted programming standards and conventions that advise software applications to avoid the use of the non-portable features of ANSI M. Though all VistA software depends upon an ANSI M environment, they also depend upon Kernel to replace non-portable features with standard Kernel entry points and services.

10.2 External Relations with M Operating Systems

Kernel itself depends upon the presence of one of the ANSI M environments it supports. Currently, Caché is the centrally procured M operating systems in use at the VA medical centers and the primary ANSI M environment supported by Kernel. As VistA adjusts its strategies for configuring computer sites, the list of ANSI M environments supported by Kernel continues to change.

Operating system interfaces are involved in each aspect of 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 Kernel include:

- **%ZIS4** for spooling.
- **%ZOSV** for system viewing.
- **%XUCI** for UCI swapping.
- **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, TaskMan's **%ZTM**, similarly makes possible the use of a protected M procedure, the **JOB** command, to spawn jobs on a mounted volume set.

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

The Manager account is generally reserved for operating system-specific routines and globals. Part of 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, Kernel uses the local **Z** namespace. Globals in the Manager account include:

- **^%ZTSK** and **^%ZTSCH** for TaskMan
- **^%ZUA** for audit data
- **%Z** as the routine editor

Routines include the **%ZTM*** (TaskMan) and **%ZIS*** (Device Handler).

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

10.3 Required Software

Kernel 8.0 and Kernel Toolkit 7.3 require the following VistA software:

- VA FileMan 22.2
- MailMan 8.0

REF: For more details, see the Kernel Installation Guide and Toolkit Installation Guide.

10.4 DBA Approvals and Integration Control Registration (ICRs)

The Database Administrator (DBA) maintains a list of Integration Control Registrations (IAs) or mutual agreements between software developers allowing the use of internal entry points or other software-specific features that are *not* available to the general programming public.

To communicate with the underlying operating system files, Kernel has the approval of the DBA to reference the following globals:

- **^%ET**
- **^%IS**
- **^%SY**
- **^CPU**
- **^RTH**
- **^SPOOL**
- **^SYS**

10.4.1 ICRs—Current List for Kernel or Kernel Toolkit as Custodian

To obtain a current list of ICR to which the Kernel (XU) or Kernel Toolkit (XT) software is a custodian, perform the following procedure:

1. Sign on to the **FORUM** system.
2. Go to the **DBA** menu [DBA].
3. Select the **Integration Agreements Menu** option [DBA IA ISC].
4. Select the **Custodial Package Menu** option [DBA IA CUSTODIAL MENU].
5. Choose the **ACTIVE by Custodial Package** option [DBA IA CUSTODIAL].
6. When prompted for a package, enter **XU** or **Kernel; XT or Toolkit**.
7. All current IAs to which the Kernel or Kernel Toolkit software is a custodian are listed.

10.4.2 ICRs—Detailed Information

To obtain detailed information on a specific Integration Control Registration, perform the following procedure:

1. Sign on to the **FORUM** system.
2. Go to the **DBA** menu [DBA].
3. Select the **Integration Agreements Menu** option [DBA IA ISC].
4. Select the **Inquire** option [DBA IA INQUIRY].
5. When prompted for "INTEGRATION REFERENCES," enter the specific Integration Control Registration number of the ICR you would like to display.
6. The option then lists the full text of the ICR you requested.

10.4.3 ICRs—Current List for Kernel or Kernel Toolkit as Subscriber

To obtain the current list of IAs, if any, to which the Kernel (XU) or Kernel Toolkit (XT) software is a subscriber, perform the following procedure:

1. Sign on to the **FORUM** system.
2. Go to the **DBA** menu [DBA].
3. Select the **Integration Agreements Menu** option [DBA IA ISC].
4. Select the **Subscriber Package Menu** option [DBA IA SUBSCRIBER MENU].
5. Choose the **Print ACTIVE by Subscribing Package** option [DBA IA SUBSCRIBER].
6. When prompted with "START WITH SUBSCRIBING PACKAGE," enter **XU** or **KERNEL**; **XT** or **TOOLKIT** (uppercase).
7. When prompted with "GO TO SUBSCRIBING PACKAGE," enter **XU** or **KERNEL**; **XT** or **TOOLKIT** (uppercase).

8. All current IAs to which the Kernel (XU) or Kernel Toolkit (XT) software is a subscriber are listed.

11 Internal Relations

11.1 Independence of Options

All of 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 security 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 the XUAUDITING security key)
- **Filegrams** (locked with the XUFILEGRAM security key)
- **KIDS Installation Menu** (locked with the XUPROGMODE security key)
- **KIDS Main Menu** (locked with the XUPROG security key)
- **Programmer Options** (locked with the XUPROG security key)
- **ScreenMan** (locked with the XUSCREENMAN security key)
- **VA FileMan Management** (locked with the XUMGR security key)

12 Software-Wide Variables

Table 29 lists the software-wide key variables that 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)*:

Table 29: Variables—Defined at All Times

Variable	Description
DUZ	Internal entry number (IEN) from the NEW PERSON (#200) 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 (#3.5) 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 (#3.2) 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, Table 30 lists the variables defined by Kernel while a user is in the menu system:

Table 30: Variables—Defined While a User is in the Menu System

Variable	Description
DUZ("AUTO")	Current auto-menu flag.
DUZ("LANG")	Contains a pointer to VA FileMan's LANGUAGE (#.85) file, which VA FileMan uses for language-specific displays of prompts, dates and times, and dialogs (from the DIALOG [#.84] file).
IO(0)	**$I** value of the home device at the time of the call to the Device Handler

Variable	Description
	(**^%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 (#3.5) file.
IOST(0)	The last selected input/output device's subtype from the TERMINAL TYPE (#3.2) file (internal entry number).
IOXY	Value of the **XY** field from the TERMINAL TYPE (#3.2) file for the last selected input/output device.

Table 31 lists the software-wide variable is defined within the menu system if alpha-beta tracking is taking place:

Table 31: Variables—Defined While a User is in the Menu System with Alpha-Beta Tracking

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

13 SACC Exemptions

Table 32 lists the Standards and Conventions (SAC) exemptions that currently pertain to Kernel and Kernel Toolkit that were granted by the Programming Standards and Conventions Committee (SACC). The table includes the following data:

- Standards Section Number
- Nature of Exemption
- Date Created (Granted)
- Description

Table 32: SAC Exemptions

#	Standards Section Number	Nature of Exemption	Date Created	Description
1	6D	**FM compatibility**		The **^XUTL** global is exempted from VA FileMan compatibility. It is a *non*-translated, completely re-creatable global used in MenuMan.
2	2D2	*** and # READs**	08/10/1989	The **ZISL*** and **^%Z** editor can use * and **#**-readers.
3	6D	**FM compatibility**	08/10/1989	The following globals are exempt from VA FileMan compatibility: • **^%Z** • **^%ZTSK** • **^%ZTSCH** • **^%ZOSF** • **^%ZIS("C")** and **^%ZIS("H")**
4	1	**ANSI**	05/14/1990	TaskMan routines can use extended global references.
5	2B	**Exclusive & Argumentless KILL**	05/14/1990	The Submanager of TaskMan can use exclusive **KILL** commands in the portion of the Submanager that is responsible for recycling the partition.
6	2A	**H XUS**	05/14/1990	The routine **%ZTM** can use the **HALT** command.
7	2A	**OPEN, CLOSE device**	05/14/1990	TaskMan routines can use direct **OPEN** and **CLOSE** commands.
8	1	**ANSI**	06/18/1990	Kernel can use operating-specific code, which uses many implementation-specific language features.

#	Standards Section Number	Nature of Exemption	Date Created	Description
9	3A	**Namespacing**	06/18/1990	Kernel can export **Z** namespaced routines and **XUCI***, **DIDT***, and **DIRCR** to be renamed as **%** routines when installed.
10	2B	**Exclusive & Argumentless KILL**	06/18/1990	The Kernel login (**XUS**) and the Error Trap restore variable routines (**XTER***) can use exclusive **KILL** statements.
11	4A	**DUZ-array SET & KILL**	06/18/1990	The following Kernel routines can **SET** or **KILL** the **DUZ** variable: • **ZTM*** • **ZTEDIT3** • **XQSMD31** • **XQSRV** • **XQ1** • **XQ12**
12	2A	**OPEN, CLOSE device**	06/18/1990	The Device Handler and Kernel Operating-specific code can issue direct **OPEN** and **CLOSE** commands.
13	2A	**H XUS**	06/18/1990	Kernel (Signon/Security) can issue a **HALT** command in the routines **ZU*** without using the ^XUSCLEAN entry point.
14	9B	**%ZOSF nodes**	06/18/1990	Kernel Operating-specific code can make direct calls to operating system routines rather than using the **^%ZOSF** global.
15	2D2	*** & # READs**	11/29/1990	Kernel can use a **#255** READ in the **ZOSV*** routines.
16	2B	**Exclusive & Argumentless KILL**	02/07/1991	Kernel can use an exclusive **KILL** in the utility to clean up variables when exiting from an option.
17	8A	**Queueing, $I**	07/12/1993	Kernel is granted an exemption for the **XUPR-RTN-TAPE-CMP** option to be *non*-queueable.
18	NA	NA	12/07/1994	Permanent exemption for Kernel 8.0 to use the following M language Features:

#	Standards Section Number	Nature of Exemption	Date Created	Description
				• **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.
19	NA	NA	12/07/1994	Permanent exemption for Kernel Installation and Distribution System (KIDS) to Set **DUZ** and **DUZ(0)**.

14 Global Protection, Translation, and Journaling

An outline of a possible scheme for the management of Kernel globals is presented in this section.

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.

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

14.1 Globals in Production Account

Table 33: Globals in Production Account—Protection, Translation and Journaling Information

Global Name	DSM for OpenVMS Protection	Translate?	Journal? / Comments
^DIC	System: RWP W/G/U: RW	Yes	See *VA FileMan Technical Manual*
^HOLIDAY	System: RWP W/G/U: RW	Yes	
^TMP	System: RWP W/G/U: RW	Separate Copy per CPU	
^USC	N/A	Yes	The PERSON CLASS file is in the **^USC** global. Please be sure to place this global and add it to your translation tables. This is a static file.
^UTILITY	System: RWP W/G/U: RW	Separate Copy per CPU	
^VA	System: RWP W/G/U: RW	Yes	Yes
^XMB	System: RWP W/G/U: RW	Yes	See *MailMan Technical Manual*
^XMBS	System: RWP W/G/U: RW	Yes	See *MailMan Technical Manual*
^XPD	System: RWP W/G/U: RW	Yes	
^XTV	System: RWP W/G/U: RW	Yes	Yes

Global Name	DSM for OpenVMS Protection	Translate?	Journal? / Comments
^XTMP	System: RWP W/G/U: RW	Yes	
^XUSEC	System: RWP W/G/U: RW	Yes	
^XUTL	System: RWP W/G/U: RW	• **^XUTL** = Separate Copy per CPU. • **^XUTL("XGATR")** = Translated. • **^XUTL("XQKB")** = Translated. • **^XUTL("XQO")** = Translated. • **^XUTL("XQORM")** = Translated.	
^%ZIS	System: RWP World: RW Group: RW UCI: RWP	• Yes	
^%ZISL	System: RWP World: RW Group: RW UCI: RWP	• Yes	
^%ZOSF	System: RWP World: R Group: R UCI: RWP	• Separate Copy per CPU	
^%ZTER	System: RWP World: RW Group: RW UCI: RWP	• Yes	
^%ZTSCH	System: RWP World: RW Group: RW UCI: RWP	• Yes*	

Global Name	DSM for OpenVMS Protection	Translate?	Journal? / Comments
^%ZTSK	System: RWP World: RW Group: RW UCI: RWP	• Yes*	
^%ZUA	System: RWP World: R Group: RW UCI: RW	• 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. 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 server to the other nodes.

REF: For more information about TaskMan's reach, see the *Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide*.

15 Security

15.1 Security Management

To protect the security of VistA systems, distribution of this software for use on any other computer system by VistA sites is prohibited. All requests for copies of Kernel for *non*-VistA use should be referred to the VistA site's local Office of Information Field Office (OIFO).

Otherwise, there are no special legal requirements involved in the use of Kernel.

15.2 Mail Groups, Alerts, and Bulletins

15.2.1 Mail Groups

Kernel and Kernel Toolkit do *not* create or use any specific mail group**s,** but it does provide fields, files, options, APIs, and utilities for creating/processing mail groups.

15.2.2 Alerts

Kernel and Kernel Toolkit do *not* make use of alerts itself, but it does provide fields, files, options, APIs, and utilities for creating/processing alerts.

15.2.3 Bulletins

Kernel and Kernel Toolkit distribute the following bulletins:

Table 34: Bulletins—Kernel and Kernel Toolkit

Name	Description	Subject	Message	Parameters
XDR ERROR	This bulletin is sent by the Kernel Duplicate Resolution software when an error that halts the process is encountered by a background task. It is only sent if there is an entry in the Duplicate Manager mail group in the DUPLICATE RESOLUTION (#15.1) file.	ERROR DURING DUPLICATE CHECKING OR MERGE	|NOWRAP| This is to notify you that an error was encountered while trying to either check for duplicates or during the early merge process of the |1| file. From DA/DFN: |2| To DA/DFN: |3| |4| |5| |WRAP| |6|	• **1—**File from which the two records come from. • **2—From** record's DA/DFN. • **3—To** record's DA/DFN. • **4—**Internal value of the **.01** field of the **From** Record. • **5—**Internal value of the **.01** field of the **To** Record. • **6—**Error condition that was encountered.
XDR MERGED	This bulletin is sent by the Kernel Duplicate Resolution software when a Verified Duplicate pair is merged together. This bulletin is sent only if a package merge developer does *not* have a routine that sends its own customized merge message.	NOTIFICATION OF DUPLICATES MERGED	|WRAP| The following records from the |1| file have been merged. |NOWRAP| From record DA/DFN: |2| To record DA/DFN: |3| |4| |5| |WRAP| The FROM Record has now been merged to the TO Record. |NOWRAP| |6|	• **1—**File from which the two records come from. • **2—From** record's DA/DFN. • **3—To** record's DA/DFN. • **4—**Internal value of the **.01** field of the **From** Record. • **5—**Internal value of the **.01** field of the **To** Record. • **6—**Package

Name	Description	Subject	Message	Parameters
				merge error listing header.
XDR VERIFIED	This bulletin is sent by the Kernel Duplicate Resolution software anytime a pair of Potential Duplicates is reviewed, and the operator determines that the pair is indeed Verified Duplicates. This bulletin is sent only if a package merge developer does *not* have a routine that sends its own customized verified message.	NOTIFICATION OF VERIFIED DUPLICATES	|WRAP| The following records have been identified as Verified Duplicates of the |1| file: |NOWRAP| From record DA/DFN: |2| To record DA/DFN: |3| |4| |5| |WRAP| The FROM record will be merged to the TO record. Please resolve any package discrepancies so that the merge may proceed.	• **1—**File from which the two records come from. • **2—From** record's DA/DFN. • **3—To** record's DA/DFN. • **4—**Internal value of the **.01** field of the **From** Record. • **5—**Internal value of the **.01** field of the **To** Record.
XQSERVER	This is the standard, or default, bulletin used by the menu system to notify system administrators and users about server request events.	Server Request Notice	|1| A request for execution of a server option has been received. Sender: |2| Option name: |3| Subject: |4| Message #: |5| Comments: |6|	• **1—**Date and time in human-readable form when the server request was received. • **2—**Name of the sender of the server request. • **3—**Name of the option that was requested by Mailman. • **4—**Subject of the message which requested a

Name	Description	Subject	Message	Parameters
				server. • **5—**Internal number of the message requesting a server. • **6—** Comments appended to the bulleting. These may include errors trapped by the server software and/or the operating system, as well as general purpose messages.
XTRMON	This bulletin is used by the **XTRMON** routine to send mail messages about routines that change in the set of routines being tracked.	Changes to routines	A check of the routines in |3| on |1| showed that |2| routines changed, Here is the list:	
XU-INSTALL-DONE	This bulletin sends a message back to the developers when an install has been done.	Install of package done.	Package '|1|' version |2| was installed at site |4| by |5|. Timing data: INIT started at |6| Pre-INIT started at |7| Pre-INIT finished at |8| Post-INIT started at |9| and finished at |3| For a TOTAL of	

Name	Description	Subject	Message	Parameters
			|10| (hh:mm:ss).	
XUMF ERROR	This bulletin is triggered upon receipt of a Master File Notification message from the Master File Server.	Master File Server - error message	The Master File Server has received a Message Acknowledgement (MSA) segment with an Acknowledgement Code indicating an application error for the following message: HL7 Message ID: |1| Server message: |2| HL7, FM, or other message: |3| |4| This message *must* be investigated, or the master file related to this message will be out of sync with the national standard table.	• **1—**Message Control ID. • **2—**Message from MFS. • **3—**Message from HL7 application, VA FileMan (FM), or other source. • **4—**FM error message.
XUMF INSTITUTION	This bulletin notifies the XUMF INSTITUTION mail group that an unsolicited update message has been received and processed by the Master File Server (MFS) mechanism. An INSTITUTION	Master File Server - update notification - INSTITUTION file	The following Master File Notification (MFN) message was received and processed by the Master File Server: HL7 Message ID: |1| The following INSTITUTION (#4) file entry has been |2|: IEN: |3| STATION	• **1—**Message ID. • **2—**Added or Updated. • **3—**Internal Entry Number. • **4—**STATION NUMBER. • **5—**NAME. • **6—**OFFICIAL VA NAME. • **7—**FACILITY

Name	Description	Subject	Message	Parameters
	(#4) file entry has been added / updated.		NUMBER: |4| UPDATED ENTRY ---------- NAME: |5| OFFICIAL VA NAME: |6| FACILITY TYPE: |7| INACTIVE FACILITY FLAG: |11| VISN: |13| PARENT FACILITY: |14| STREET ADDR. 1: |19| CITY: |20| STATE: |12| ZIP: |22| ST. ADDR. 1 (MAILING): |23| CITY (MAILING): |24| STATE (MAILING): |25| ZIP (MAILING): |26| OLD VALUES ---------- NAME: |8| OFFICIAL VA NAME: |9| FACILITY TYPE: |10| INACTIVE FACILITY FLAG: |15| VISN: |17| PARENT FACILITY: |18| STREET ADDR.	TYPE. • **8—**OLD NAME. • **9—**OLD OFFICIAL VA NAME. • **10—**OLD FACILITY TYPE. • **11—** INACTIVE FACILITY FLAG. • **12—**STATE. • **13—**VISN. • **14—**PARENT FACILITY. • **15—**OLD INACTIVE FACILITY FLAG. • **16—**OLD STATE. • **17—**OLD VISN. • **18—**OLD PARENT FACILITY. • **19—**STREET ADDR. 1. • **20—**CITY. • **22—**ZIP. • **23—**ST. ADDR. 1 (MAILING). • **24—**CITY (MAILING). • **25—**STATE (MAILING). • **26—**ZIP (MAILING). • **27—**OLD STREET

Name	Description	Subject	Message	Parameters
			1: |27| CITY: |28| STATE: |16| ZIP: |29| ST. ADDR. 1 (MAILING): |30| CITY (MAILING): |31| STATE (MAILING): |32| ZIP (MAILING): |33|	ADDR. 1. • **28—**OLD CITY. • **29—**OLD ZIP. • **30—**OLD ST. ADDR. 1 (MAILING). • **31—**OLD CITY (MAILING). • **32—**OLD STATE (MAILING). • **33—**OLD ZIP (MAILING).
XUPROGMODE	User going into progmode message.	DROPPING INTO PROGRAMMER MODE	User # |1| has dropped into programmer mode on device |2|	• **1—**User name. • **2—**Device.
XUS ACCESS CODE VIOLATION	This bulletin is sent by the Syntax check of the ACCESS CODE field of the USER file, whenever someone tries to assign an ACCESS CODE that is already in use for a different user. The bulletin goes to whoever is in the mail group, plus the user who tried to input the code.	A USER HAS SEEN ANOTHER USER'S ACCESS CODE	The user above tried to assign the ACCESS CODE that already belonged to |1|. |1| should change his/her code as soon as possible, since its secrecy has now been compromised.	• **1—**Name of the USER whose ACCESS CODE was discovered.
XUSECURITY	This bulletin is sent by the signon system if a user uses a terminal that has SECURITY	SIGN-ON DISALLOWED ON SECURED TERMINAL	User |1| tried to sign on to device |2|, which has SECURITY code |3|, but |1| has security code '|4|'.	• **1—**Name of User. • **2—**Device. • **3—**Device's security code.

Name	Description	Subject	Message	Parameters
	to sign on, and his **DUZ(0)** code is *not* found in the terminal's SECURITY code, as the FILE MANAGER ACCESS CODE attempts to sign on.		Use ^UTIO to edit the device's SECURITY, if necessary.	• **4—**User's security code.
XUSERDEAC	This bulletin is sent to the ISO SECURITY mail group when a user gets deactivated.	XUSER DEACTIVATION	User name : |1| Title: |2| Service: |3| IEN: |4| Station #: |5| was deactivated on |6|.	• **1—**Name of user who gets deactivated. • **2—**Title. • **3—**Service. • **4—**Internal Entry Number (IEN). • **5—**Station Number and Name. • **6—** Deactivation Date.
XUSERDIS	This bulletin is sent to the ISO SECURITY mail group when a user has the DISUSER field set to **YES**.	USER DISUSER	User name : |1| Title: |2| Service: |3| IEN: |4| Station #: |5| was deactivated on |6|.	• **1—**Name of user who gets deactivated. • **2—**Title. • **3—**Service. • **4—**Internal Entry Number (IEN). • **5—**Station Number and Name. • **6—** Deactivation Date.
XUSERTERM	This bulletin is issued whenever a message *cannot* be delivered after the Simple	USER TERMINATION	USER |1| has been terminated as of |2| The error message was '|3|'.	• **1—**Name of the remote site rejecting the message (may be

Name	Description	Subject	Message	Parameters
	Mail Transfer Protocol (SMTP) **DATA** command is issued. It indicates that the "**Mail From:**" and **RCPT** (recipient) commands were successfully issued, but that something in the header of the message was rejected, such as duplicate message ID. The error message returned by the remote receiver is included in the bulletin.			intermediate relay). • **2—**Title and message number of message which was rejected. • **3—**Rejection message issued by the rejecting receiver.
XUSIGNON	This bulletin is triggered whenever someone signs on through **XUS**.	USER SIGNING ON	User |2| has signed on at Device |3|.	• **1—**User number ('**DUZ**') of user signing on. • **2—**Name of user. • **3—**Device at which sign-on occurred.
XUSLOCK	This bulletin is triggered when the number of bad signons causes a terminal device or IP address to be "locked out".	DEVICE LOCKED DUE TO BAD SIGN-ONS	Device |1| has made |2| bad sign-on attempts and has been locked. The device will automatically clear after the Lockout time in the Kernel System Parameters. To make the device	• **1—**Name of device being locked. • **2—**Number of bad signons recorded for the device. • **3—**Name of the device to release.

Name	Description	Subject	Message	Parameters
			or IP address useable before the lockout time is up use the "CLEAR TERMINAL" or "Release IP lock" option to make the device available again. Select |3| as the device to release.	
XUSSPKI CRL SERVER	This bulletin is sent when the CRL UPLOAD TASK has a problem.	CRL UPLOAD MESSAGE	At |2| The CRL Upload task reported the following problem. "|1|" Be sure that the "CRLService" is running on the server. Try stopping and restarting the service. It should be listening on a specific port.	• **1—**Error message. • **2—**Date time of the message.
XUSSPKI SAN	This bulletin is sent when the SUBJECT ALTERNATIVE NAME (#501.2) field in the NEW PERSON (#200) file has been changed or deleted. The bulletin is sent to users holding the PSDMGR security key. **NOTE:** Released with Kernel Patch XU*8.0*58	"Subject Alternative Name" field	The "Subject Alternative Name" field in New Person File (#200) has been changed or deleted for: **|3|** Before: **|1|** After: **|2|**	• **1—**Old value before changed or deleted. • **2—**New value. If **NULL**, value was deleted. • **3—**Name of the user.

Name	Description	Subject	Message	Parameters
	0.			
XUSTIME	This bulletin is triggered by the Signon system if the device being used has a "PROHIBITED SIGN-ON TIMES" value, and somebody has tried to sign on during that prohibited time period; the prohibited time frame.	SIGN-ON TO A TERMINAL DURING PROHIBITED TIME	"|2|" attempted to sign on to device |1| with code "|3|", but the device is locked out during the time period |4|.	• **1—**Device name (**$I**). • **2—**User name. • **3—** Access code used for sign-on. • **4—**Time range during which sign-on is prohibited.
XUTM PROBLEM DEVICES	This bulletin is used by the **XUTMKA** routine to report devices that TaskMan is having problems opening.	Problem Devices	This is the **XUTM PROBLEM DEVICE** bulletin; it reports devices that TaskMan is having problems opening. The list shows the **$I** value for the device.	None
XUVISIT	This is the default **XUESSO** bulletin that is issued at the time a new visitor is entered in the NEW PERSON (#200) file. A "visitor" is a user who has been validated at another VA site and is entered in your data base, so that he or she may look up patient data.	A visitor has been added to your New Person File	|1| A visitor has been added to your New Person File with no Access or Verify Codes. Name: |2| DUZ: |3| This visitor was authenticated at |4|, (|5|). This user has a DUZ of |6| on the authenticating system, and a phone number of |7|. This is the bulletin	• **1—** Title/date of this bulletin. • **2—**Name of the visitor. • **3—DUZ** of this visitor in the New Person File. • **4—**Name of the site where the visitor was authentica

Name	Description	Subject	Message	Parameters
			named XUVISIT.	ted. • **5—** Number of the site where the visitor was authenticated. • **6—** Visitors **DUZ** at the authenticating site. • **7—** Visitor's phone number at the authenticating site.

15.3 Remote Systems

Kernel provides options and utilities for accessing remote (and local) systems.

15.4 Interfaces

Kernel interfaces with the following VA products:

- Kernel Toolkit 7.2 or higher.
- VA FileMan 21.0 or higher.
- MailMan 7.0 or higher.

The Assigning Person Class to Providers software (i.e., Kernel Patches XU*8.0*27, 377, and 531) allows for interfaces with all of the VistA Clinical Software developed in-house. It also allows for interfaces with the QuadraMed Encoder Product Suite, which is a Commercial-Off-The-Shelf (COTS; *non*-VA) software product.

REF: For more information on QuadraMed products, see the QuadraMed website at the following Web address: http://www.quadramed.com

Kernel and Kernel Toolkit do *not* embed or require any special interfaces to any other COTS (*non*-VA) products; other than those provided by the underlying operating systems.

15.5 Electronic Signatures

Kernel and Kernel Toolkit do *not* use any electronic signatures within the software itself; however, it does provide fields, files, options, APIs, and utilities for creating and processing electronic signatures.

15.5.1 Electronic Signature Restrictions

As of Patch XU*8.0*679, the system restricts access to electronic signature fields in the NEW PERSON (#200) file for sites that elect to enable this functionality. Prior to Patch XU*8.0*679, any user could access the following fields in the NEW PERSON (#200) file through the Electronic Signature options on the VistA **User's Toolbox** [XUSERTOOLS] menu:

- DEGREE (#10.6)
- SIGNATURE BLOCK PRINTED NAME (#20.2)
- SIGNATURE BLOCK TITLE (#20.3)

If restrictions are enabled, then access to these fields is allowed only for users who are assigned the XUSIG security key.

To enable restrictions, authorized site personnel *must* set the XU SIG BLOCK DISABLE general parameter to a value of **ON** (**1**). The parameter definition is stored in the PARAMETER DEFINITION (#8989.51) file, and the parameter data is stored in the PARAMETER (#8989.5) file:

- If the XU SIG BLOCK DISABLE parameter is set to **ON** and the user has the XUSIG security key assigned in the NEW PERSON (#200), then access to the restricted fields is allowed.
- If the XU SIG BLOCK DISABLE parameter is set to **ON**, but the user does *not* have the XUSIG security key assigned, then access to the restricted fields is *not* allowed.
- If the site leaves the XU SIG BLOCK DISABLE parameter set to **OFF** (**0**), then access to all electronic signature fields is allowed.

The following two options on the VistA **User's Toolbox** [XUSERTOOLS] menu were affected by Patch XU*8.0*679:

- **Electronic Signature Code Edit** [XUSESIG]
- **Electronic Signature Block Edit** [XUSESIG BLOCK]

If the XU SIG BLOCK DISABLE parameter is set to **ON**, then only supervisors holding the XUSIG security key can update the SIGNATURE BLOCK PRINTED NAME (#20.2) and SIGNATURE BLOCK TITLE (#20.3) fields through the **Electronic Signature Code Edit** [XUSESIG] option, and the SIGNATURE BLOCK PRINTED NAME (#20.2) and DEGREE (#10.6) fields through the **Electronic Signature Block Edit** [XUSESIG BLOCK] option. In addition, the patch enables access to the SIGNATURE BLOCK TITLE (#20.3) field through the **Electronic Signature Block Edit** [XUSESIG BLOCK] option. This allows supervisors holding the XUSIG security key to enter the SIGNATURE BLOCK TITLE (#20.3) for other users after the XU SIG BLOCK DISABLE parameter is set to **ON**.

To maintain valid educational credentials, DEGREE (#10.6) field entries made through the **Electronic Signature Block Edit** [XUSESIG BLOCK] option are restricted to valid degrees stored in the EDUCATION (#20.11) file. To support this functionality, Patch XU*8.0*679 added the **EDUCATION (Degree) File Edit** [XUSESIG DEG] option to the **User Management** [XUSER] menu. The **EDUCATION (Degree) File Edit** [XUSESIG DEG] option, which is locked by the XUSIG security key, enables maintenance of DEGREE field entries in the EDUCATION (#20.11) file. VistA uses these records to validate user entries when appending one or more degrees to an electronic signature. This validation applies even when the XU SIG BLOCK DISABLE parameter is set to **OFF**.

NOTE: Because VistA automatically cross-references DEGREE (#10.6) field entries in the NEW PERSON (#200) with the DEGREE (#6) field in the NAME COMPONENTS (#20) file, any updates made directly to the DEGREE (#6) field in the NAME COMPONENTS (#20) file will also be validated against degrees in the EDUCATION (#20.11) file.

15.6 Security Keys

For a list of security keys exported with Kernel and Kernel Toolkit, use the VA FileMan **Inquire to File Entries** option [DIINQUIRE] as shown in Figure 18.

Figure 18: Security Keys—Obtaining Security Key Information for Kernel

```
Select OPTION: INQUIRE <Enter>  TO FILE ENTRIES

OUTPUT FROM WHAT FILE: OPTION// SECURITY <Enter>  KEY        (119 entries)
Select SECURITY KEY NAME: XU
```

Enter a Kernel or Kernel Toolkit namespace (e.g., XU or XT).

```
     1   XUARCHIVE
     2   XUAUDITING
     3   XUAUTHOR
     4   XUEXKEY
     5   XUFILEGRAM
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: <Enter>
.
.
.
```

Table 35: Security Keys—Kernel and Kernel Toolkit

Security Key	Description
XDR	This security key allows access to the Duplicate Resolution System.
XDRMGR	This security key allows a user access to the Kernel Duplicate Resolution Manager Utilities. **This security key should only be given to the people responsible for management of the various Duplicate Resolution packages (e.g., Patient Registration).**
XQAL-DELETE	This security key permits a user to delete alerts associated with another user. This key *must* be held in order for the user to have this capability.
XQSMDFM	This security key is required for use of the XQSMD LIMITED FM option to permit users to build some options based on VA FileMan templates.
XTLKZMGR	This security key unlocks the option to create/modify entries in the ICD files.
XTLKZUSER	This security key unlocks the **Auto-Coding Utility** [XTLKUSER] menu.
XUARCHIVE	This security key is needed to access the Archiving menu or to run any of the archiving options.
XUAUDITING	This security key is needed to access the Auditing menu or to run any of the Auditing options.
XUAUTHOR	This security key allows the holder to edit all existing help frames, using **^E** when the frame is displayed, as well as allowing the holder to create new frames from within the menu system.
XUEPCSEDIT	This security key is required for individuals who will enter data related to electronic prescribing of controlled substances (eCPS) for providers. **CAUTION: The holder of this key *CANNOT* also hold the XUORES security key. They are exclusive keys, and should *not* both be held by an individual at the same time.**
XUEXKEY	This security key allows access to the XUEXKEY option.
XUFILEGRAM	This security key is needed to access the Filegram menu or to run any of the Filegram options except the View Filegram option.
XUMF INSTITUTION	This security key locks the **XUMF INSTITUTION** option.
XUMGR	This security key is for users who need to act as site management staff. This key gives the user access to see information that is normally only available to the user that created it. This is a partial list of its uses:

Security Key	Description
	• Allows its holders to create “Routine”-type Options in the OPTION file with bracket syntax ([UCI]) for UCI-switching. • Allows its holders to see the list of all spool file entries.
XUORES	This security key is given to Non-VistA persons that are authorized to write orders in the chart. This security key is typically given to licensed Physicians. **CAUTION: DO *NOT* give this security key to anyone who has VistA access. Nor assign it to an individual option or menu.** **Should the person who holds this key become a VistA user then this key should be de-allocated.**
XUPROG	Assign this security key to all users allowed to go into programmer options from the Menu system.
XUPROGMODE	This security key locks the Global List and “Programmer Mode options.
XUSCREENMAN	This security key is needed to access the ScreenMan menu.
XUSHOWSSN	This security key allows the user to enter all **9** digits of a person’s Social Security Number (SSN) for look up in the NEW PERSON (#200) file. Any user who does *not* hold this security key will *not* be allowed to use a **9**-digit SSN lookup on the NEW PERSON (#200) file .
XUSIG	This security key is required to add and edit Electronic Signature fields using the **Electronic Signature code Edit** [XUSESIG] option and **Electronic Signature Block Edit** [XUSESIG BLOCK] options. The following fields in the NEW PERSON (#200) file are affected: • DEGREE (#10.6) • SIGNATURE BLOCK PRINTED NAME (#20.2) • SIGNATURE BLOCK TITLE (#20.3)
XUSNPIMTL	This security key allows users to access the NPI (National Provider ID) Menu option [XUS NPI MENU]. This key is normally assigned to the Local NPI Maintenance Team Leader; the person with authority to assign/edit VA Provider NPIs.
XUSPF200	This security key allows special privileges in the NEW PERSON (#200) file. The first of these is that holders of this key do *not* have to enter a SSN to add a new person to the file.
ZTMQ	This security key allows users to use the advanced features of the TaskMan Dequeue Tasks, Requeue Tasks, and Delete Tasks options.

15.7 File Security

File number ranges for Kernel and Kernel Toolkit are as follows:

- 3.05 – 3.084
- 3.1 - 3.54
- 4.00 - 4.11
- 5.00 - 5.00
- 7 - 7.1
- 9.2 - 9.8
- 10
- 11
- 13
- 14.4 - 14.8
- 15 – 15.4
- 19.00 – 19.2
- 40.5
- 49
- 101.00
- 200 – 201
- 8932.10 - 8935.91
- 8980 - 8980.22
- 8984.1 – 8984.4
- 8989.2 – 8989.3
- 8991 – 8992.1

To print File Security Access for files for Kernel, go to the programmer prompt, enter **FileMan**, and do the following:

NOTE: You can sort by Number and select a range of file numbers. **;Lnn** gives you control over column width.

Figure 19: File Security—Sample User Dialogue to Obtain File Security

```
Select OPTION: PRINT <Enter> FILE ENTRIES

OUTPUT FROM WHAT FILE: FILE// <Enter>
SORT BY: NAME// NUMBER
```

Enter a file number range within Kernel.

```
START WITH NUMBER: FIRST// 1.0
GO TO NUMBER: LAST// 4.6
  WITHIN NUMBER, SORT BY: <Enter>
```

Here the user selected a print template previously created.

```
FIRST PRINT ATTRIBUTE: [FILE
     1   FILE LIST              (Aug 01, 1990@18:41)          File #1
     2   FILE SECURITY ACCESS
                                (Aug 16, 2006@11:23) User #1529 File #1
     3   FILE SECURITY CODES
                                                              File #1
CHOOSE 1-3: 2 <Enter>                  (Aug 16, 2006@11:23) User #1529 File #1
WANT TO EDIT 'FILE SECURITY ACCESS' TEMPLATE? No// Y <Enter> (Yes)
NAME: FILE SECURITY ACCESS  Replace <Enter>
READ ACCESS: @// <Enter>
WRITE ACCESS: @// <Enter>
FIRST PRINT ATTRIBUTE: NUMBER// NUMBER;L6
THEN PRINT ATTRIBUTE: NAME;L25// NAME;L30
THEN PRINT ATTRIBUTE: DD ACCESS;L3// <Enter>
THEN PRINT ATTRIBUTE: RD ACCESS;L3// <Enter>
THEN PRINT ATTRIBUTE: WR ACCESS;L3// <Enter>
THEN PRINT ATTRIBUTE: DEL ACCESS;L3// <Enter>
THEN PRINT ATTRIBUTE: LAYGO ACCESS;L3// <Enter>
THEN PRINT ATTRIBUTE: AUDIT ACCESS;L3// <Enter>
THEN PRINT ATTRIBUTE: <Enter>
Heading (S/C): FILE SECURITY ACCESS  Replace <Enter>
STORE PRINT LOGIC IN TEMPLATE: FILE
     1   FILE LIST              (Aug 01, 1990@18:41)          File #1
     2   FILE SECURITY ACCESS
                                (Jul 10, 2002@10:25) User #1529 File #1
CHOOSE 1-2: 2 <Enter>                  (Jul 10, 2002@10:25) User #1529 File #1
TEMPLATE ALREADY STORED THERE.... OK TO REPLACE? Y <Enter> (Yes)

START AT PAGE: 1// <Enter>
DEVICE: <Enter> Telnet terminal
```

Figure 20 lists the *recommended* file security settings for access to Kernel and Kernel Toolkit files.

Figure 20: File Security—Recommended Kernel File Security Access

```
FILE SECURITY ACCESS                                May 16,2013  11:32                PAGE 1
                                          DD      RD      WR      DEL     LAYGO    AUDIT
NAME                              NUMBER  ACCESS  ACCESS  ACCESS  ACCESS  ACCESS   ACCESS
-------------------------------------------------------------------------------------------

FAILED ACCESS ATTEMPTS LOG        3.05    @       @       @       @       @
PROGRAMMER MODE LOG               3.07    @       @       @       @       @
ERROR LOG                         3.075
ERROR MESSAGES                    3.076
ERROR TRAP SUMMARY                3.077
SIGN-ON LOG                       3.081   @       @       @       @       @       @
LOCKED IP or DEVICE               3.083   @       @       #       @       @       @
FAILED SIGNON ATTEMPTS            3.084   @       @       #       @       @       @
TITLE                             3.1     #       @       @       #       @       #
TERMINAL TYPE                     3.2     #               #       #       #       #
DA RETURN CODES                   3.22
LINE/PORT ADDRESS                 3.23    @       @       @       @       @       @
DEVICE                            3.5     #       I       #       #       #       #
SPOOL DOCUMENT                    3.51    @       @       @       @       @       @
SPOOL DATA                        3.519
RESOURCE                          3.54
INSTITUTION                       4       @               #       @       #
MASTER FILE PARAMETERS            4.001   @       @       @       @       @       @
MD5 Signature                     4.005
STANDARD TERMINOLOGY VERSION F    4.009   @       @       @       @       @       @
INSTITUTION ASSOCIATION TYPES     4.05    @               @       @       @       @
FACILITY TYPE                     4.1     @               #       @       @       @
AGENCY                            4.11    @               y       @       @       @
STATE                             5       #       @       #       #       #       @
POSTAL CODE                       5.12    @               @       @       @       @
COUNTY CODE                       5.13    @               @       @       @       @
PROVIDER CLASS                    7       #                       #
SPECIALITY                        7.1     #                       #
HELP FRAME                        9.2     #                       #               #
PACKAGE                           9.4     #       I       #       #       #       #
BUILD                             9.6     @       #       #       #       #       #
INSTALL                           9.7     @       #       @       #       @       #
ROUTINE                           9.8     #       I       #       #       #       #
RACE                              10      #               d       d       d
MARITAL STATUS                    11      #               d       d       d
RELIGION                          13      #               d       d       d
TASKS                             14.4    @               ^       @       @       @
VOLUME SET                        14.5
UCI ASSOCIATION                   14.6
TASKMAN SITE PARAMETERS           14.7
TASKMAN SNAPSHOT                  14.71   @               @       @       @       @
TASKMAN SNAPSHOT                  14.72   @                               @       @
TASK SYNC FLAG                    14.8    @       @       @       @       @       @
DUPLICATE RECORD                  15
DUPLICATE RESOLUTION              15.1    @       #       @       @       #
XDR MERGE PROCESS                 15.2    @                                       #
XDR REPOINTED ENTRY               15.3    @                                       #
MERGE IMAGES                      15.4    @       @       @       @       @       @
OPTION                            19      #       #       #       #       #       #
AUDIT LOG FOR OPTIONS             19.081  @       #       #       #       #       #
SECURITY KEY                      19.1    #       #       #       #       #       #
OPTION SCHEDULING                 19.2    @       @       @       @       @       @
MENUMAN QUICK HELP                19.8    @       @       @       @       @       @
NAME COMPONENTS                   20      @       #       #       #       #
HOLIDAY                           40.5    #       #       Dd      Dd      Dd      #
SERVICE/SECTION                   49      #       D       d       d       d
PROTOCOL                          101     @               #       #       #
NEW PERSON                        200     #       #       #       #       #
PERSON CLASS                      8932.1  @               ^       @       ^       @
PROGRAM OF STUDY                  8932.2  @               ^       @       ^       @
```

```
KERMIT HOLDING                  8980            #       #       #
PKI Digital Signatures          8980.2
PKI CRL URLS                    8980.22  #      #       #       #       #       #
LOCAL KEYWORD                   8984.1
LOCAL SHORTCUT                  8984.2   @      #       @       @       @       @
LOCAL SYNONYM                   8984.3   @      #       @       @       @       @
LOCAL LOOKUP                    8984.4   @      #       @       @       @       @
KERNEL PARAMETERS               8989.2   @      @       @       @       @       @
KERNEL SYSTEM PARAMETERS        8989.3   @      @       @       @       @       @
XTV ROUTINE CHANGES             8991     @      @       @       @       @       @
XTV VERIFICATION PACKAGE        8991.19  @      @       @       @       @       @
XTV GLOBAL CHANGES              8991.2   @      @       @       @       @       @
XQAB ERRORS LOGGED              8991.5
ALERT                           8992     @      @       @       @       @       @
ALERT TRACKING                  8992.1
```

NOTE: This report was reformatted to fit the display area (smaller font).

15.8 Contingency Planning

All sites should develop a local contingency plan to be used in the event of software/hardware problems in a production (live) environment. The contingency plan *must* identify the procedure for maintaining functionality provided by this software in the event of system outage.

15.9 Official Policies

To protect the security of VistA systems, distribution of this software for use on any other computer system by VistA sites is prohibited. All requests for copies of Kernel for *non*-VistA use should be referred to the VistA site's local Office of Information Field Office (OIFO).

User should refer to VHA Directive 2012-003, Person Class File Taxonomy, which redefines established policy for assigning Person Class codes to providers in the Veterans Health Information Systems and Technology Architecture (VistA) NEW PERSON (#200) file.

REF: For software and documentation disclaimers, see the "Disclaimers" section.

Glossary

Table 36: Glossary of Terms and Acronyms

Term	Definition
ALPHA TESTING	In VA terminology, Alpha testing is when a VistA test software application is running in a site's account.
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 MenuMan 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.
BETA TESTING	In VA terminology, Beta testing is when a VistA test software application is running in a Production account.
CAPACITY MANAGEMENT	The process of assessing a system's capacity and evaluating its efficiency relative to workload in an attempt to optimize system performance. 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, this symbol is sometimes referred to 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.)
CMS	Centers for Medicare & Medicaid Services (related to assigning users to Person Class).
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.

Term	Definition
COMPUTED FIELD	This field takes data from other fields and performs a predetermined mathematical function (e.g., adding two columns together). You do *not*, however, see the results of the mathematical function on the screen. Only when you are printing or displaying information on the screen do you see the results for this type of field.
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).
DIFROM	VA FileMan utility that gathers all software components and changes them into routines (**namespacel*** routines) so that they can be exported and installed in another VA FileMan environment.
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 **DR** variable 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 developer may specify the fields using a **DR** string rather than an INPUT template.
DUZ(0)	A local variable that holds the FILE MANAGER ACCESS CODE of the signed-on user.
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 and Verify codes).
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 File Manager Access codes (i.e., FILE MANAGER ACCESS CODE field).
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.
GO-HOME JUMP	A menu jump that returns the user to the primary menu presented at signon. It is specified by entering two carets (**^^**) at the menu’s select prompt. It resembles the Rubber-band Jump but without an option specification after the carets.

Term	Definition
HCFA	Health Care Financing Administration (related to assigning users to Person Class).
HELP PROCESSOR	A Kernel module that provides a system for creating and displaying online 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.
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.
INDEX (**%INDEX**)	A Kernel utility used to verify routines and other M code associated with a software application. Checking is done according to current ANSI MUMPS standards and VistA programming standards. This tool can be invoked through an option or from direct mode (>**D ^%INDEX**).
INIT	Initialization of a software application. **INIT*** routines are built by VA FileMan's **DIFROM** and, when run, recreate a set of files and other software components.
JUMP	In VistA applications, the **Jump** command allows you to go from a particular field within an option to another field within that same option. You can also Jump from one menu option to another menu option without having to respond to all the prompts in between. To jump, type a caret (**^**) and then type the name of the field or option you wish to jump to. (See also GO-HOME JUMP, PHANTOM JUMP, RUBBER-BAND JUMP, 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 Kernel and can be set up as an alternate editor.
MANAGER ACCOUNT	A UCI that can be referenced by non-manager accounts (e.g., production accounts). Like a library, the **MGR** UCI holds percent routines and globals (e.g., **^%ZOSF**) for shared use by other UCIs.
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. MenuMan keeps track of information (e.g., the user's place in the menu trees) according to the completion of a cycle through the menu system.

Term	Definition
MENU MANAGER	The Kernel module that controls the presentation of user activities (e.g., 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 MenuMan 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 can define user-specific MENU templates via the corresponding Common option.
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.
PAC	**P**rogrammer **A**ccess **C**ode. An optional user attribute that can function as a second level password into programmer mode.
PART 3 OF THE KERNEL INIT	See FILE ACCESS SECURITY SYSTEM.
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.
PHANTOM JUMP	Menu jumping in the background. Used by the menu system to check menu pathway restrictions.
PRIMARY MENUS	The list of options presented at signon. Each user *must* have a PRIMARY MENU OPTION in order to sign on and reach MenuMan. Users are given primary menus by system administrators. This menu should include most of the computing activities the user will need.
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)=@**.
PROTOCOL	An entry in the PROTOCOL (#101) file. Used by the Order Entry/Results Reporting (OE/RR) software to support the ordering of medical tests and other activities. Kernel includes several protocol-type options for enhanced menu displays within the OE/RR software.
QUEUING	Requesting that a job be processed in the background rather than in the foreground within the current session. Kernel's TaskMan module handles the queuing of tasks.

Term	Definition
QUEUING REQUIRED	An option attribute that specifies that the option *must* be processed by TaskMan (the option can only be queued). The option can be invoked, and the job prepared for processing, but the output can only be generated during the specified time periods.
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 system administrators. The process is controlled via the RESOURCE (#3.54) file.
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 carets (**^^**) followed by an option's menu text or synonym (e.g., **^^Print Option File**). If the two carets are *not* followed by an option specification, the user is returned to the primary menu. (See also: GO-HOME JUMP.)
SCHEDULING OPTIONS	A way of ordering TaskMan to run an option at a designated time with a specified rescheduling frequency (e.g., once per week).
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 MENU OPTIONS	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 system administrators (e.g., application coordinators) who have been so authorized. SMD is a part of MenuMan.
SERVER OPTION	In VistA, an entry in the OPTION (#19) file. An automated mail protocol that is activated by sending a message to the server with the "**S.server**" syntax. A server option's activity is specified in the OPTION (#19) file and can be the running of a routine or the placement of data into a file.
SIGNON/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 signons is maintained.

Term	Definition
SPECIAL QUEUEING	An option attribute indicating that TaskMan should automatically run the option whenever the system reboots.
SPOOLER	An entry in the DEVICE (#3.5) file. It uses the associated operating system's spool facility, whether it's a global, device, or host file. 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. Kernel will subsequently transfer the text to a global for subsequent despooling (printing).
SYNONYM	In VistA, a field in the OPTION (#19) file. Options can be selected by their menu text or synonym.
TASKMAN	The Kernel module that schedules and processes background tasks (aka Task Manager).
TIMED READ	The amount of time Kernel will wait for a user response to an interactive **READ** command before starting to halt the process.
UP-ARROW JUMP	In the menu system, entering a caret (**^**) followed by an option name accomplishes a jump to the target option without needing to take the usual steps through the menu pathway.
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 Kernel to provide an interface between VistA software 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 can be referenced by application developers so that separate versions of the software need *not* be written for each operating system.

REF: For a list of commonly used terms and definitions, see the OIT Master Glossary VA Intranet Website.

For a list of commonly used acronyms, see the VA Acronym Lookup Intranet Website.

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