Kernel 8.0 and Kernel Toolkit 7.3

Technical Manual

March 2023

Department of Veterans Affairs (VA)

Office of Information and Technology (OIT)

Software Product Management (SPM)

Revision History

Date	Revision	Description	Author
03/10/2023	5.8	Updates for Kernel Patch XU*8.0*663, which enhances Kernel to support the Master Veteran Index (MVI) implementation of Enterprise User Identity when adding or editing entries in the NEW PERSON (#200) file in VistA: • Modified Section 2.5, "Kernel System Parameters (#8989.3) File," Table 3: Added the NEW PERSON FIELD MONITOR PURGE (#875) field • Modified Section 3.2, "Production Account Routines;" Table 9: o Added the following new routines: – **XU8P663** – **XUIAMDD1** – **XUIAMNPB** – **XUIAMPR** – **XUIAMPR1** – **XUIAMPRU**—This was a new routine that was initially created/deployed but is no longer needed. Since it exists in some of the patch SQA/PRE-PROD Test accounts, it was included in the Patch XU*8.0*663 build to be deleted at those sites. o Modified the following existing routines: – **XUESSO2** – **XUIAMXML** – **XUMVINPU** – **XUS1** – **XUSEREDT**—This was a new routine that was initially created/deployed but is no longer needed.	• Master Veteran Index (MVI) Development Team • VistA Infrastructure Shared Services (VISS) Development Team

Date	Revision	Description	Author
		Since it exists in some of the patch SQA/PRE-PROD Test accounts, it was included in the Patch XU*8.0*663 build to be deleted at those sites. – **XUSERNEW** • Modified Section 4.1.1, "Globals—VA-FileMan-Compatible Storage" Table 12: Modified the ^XTV global: Added File #8933.1. • Modified Section 4.2.1, "Kernel and Kernel Toolkit Export Files" Table 15: o Added the NEW PERSON FIELD MONITOR (#8933.1) file. o Modified the NEW PERSON (#200)—Added the **AVIAM** new style record cross-reference (x-ref) to various fields in the NEW PERSON (#200) file. • Added Section 4.3.2, "NEW PERSON File—Audit Fields:" Added NEW PERSON (#200) file fields that are now audited. • Modified Section 5.3.1, "Kernel" Table 24: o Added the following new options: – MPI NEW PERSON FIELD MONITOR BATCH UPDATE [XUS IAM NPFM BATCH UPDATE] – MPI NEW PERSON FIELD MONITOR PURGE [XUS IAM NPFM PURGE] o Modified the following existing options: – **Add a New User to the System** [XUSERNEW] – **Edit an Existing User** [XUSEREDIT]	

Date	Revision	Description	Author
		• Modified Section 15.7, "File Security" Figure 21: Added security for File #8933.1. Other Updates: • Updated organizational references (e.g., changed "Enterprise Program Management Office [EPMO]" to "Software Product Management (SPM)") throughout. • Updated references to Kernel and Kernel Toolkit manual file names: from "Kernel 8.0 & Kernel Toolkit 7.3 … " to "Kernel 8.0 and Kernel Toolkit 7.3 … " for all occurrences.	
04/06/2022	5.7	General Updates: • Sorted Table 30 entries alphabetically. • Added **DILOCKTM** and **U** variables to Table 30. **Software Versions:** **Kernel 8.0** **Toolkit 7.3**	VistA Infrastructure Shared Services (VISS) Development Team
12/09/2019	5.6	Tech Edits for Kernel Patches XU*8.0*607 and 608: Kernel Lock Manager Utility: • Added "**XULM**" routines to Table 9. • Added "**XLM**" global to Table 12. • Added "**XULM**" files to Table 15. • Updated XUSITEMGR menu diagram for the Lock Manager options in Figure 11. • Added "**XULM**" protocols to Table 20. • Added "**XULM**" options to and updated options for **Operations Management** [XUSITEMGR] menu in Table 24. • Added "**XULM**" API to Table 27.	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author
		• Added "**XULM**" RPC to Table 29. • Added "**XULM**" security key to Table 36. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
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 29. Tech Edits for Kernel Patch XU*8.0*693: • Updated the **XUSERDEAC** bulletin entry in Table 35. • Added the **XUSERDIS** bulletin entry in Table 35. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	VistA Infrastructure (VI)/VistA Kernel Development Team
10/11/2018	5.4	Tech Edits for Kernel Patch XU*8.0*690: • Updated the "ALERT CRITICAL TEXT" file entry in Table 15. • Updated the "XQAL ALERT LIST FROM DATE," "XQAL CRITICAL ALERT COUNT," and "XQAL USER ALERTS COUNT" option entries in Table 24. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	VistA Infrastructure (VI)/VistA Kernel 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 27 for Kernel Patch XU*8.0*672: Added the LOCK	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author
		and RLOCK tags. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
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** option (Type and Routine columns) and added the **XUSESIG DEG** option in Table 24. • Added the XUSIG security key to Table 36. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	VistA Infrastructure (VI)/VistA Kernel Development Team
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 and 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	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author
		VAX/Alpha Performance Monitor (VPM)." **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
01/23/2018	5.0	Tech Edits: • Changed the **XUS SIGNON SETUP** RPC in Table 29 from "RESTRICTED" to "PUBLIC," as per developer. • Added an "ICR #" column to Table 29 to list any known ICRs associated with RPCs. • Updated the **XUS GET VISITOR** and **XUS SET VISITOR** RPCs in Table 29. • Updated Section 4 and Table 15; and Section 15.7 and Figure 21 for missing Toolkit files: 15.2, 15.3, and 15.4. • 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: o Retitled and updated Section 14.1 to "Globals in Production Accounts." o Removed reference to "VAH and updated Table 34. o Merged content from previous table into Table 34. o 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 from the Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide into this document.	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author

		• 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 29.
		• Kernel Patch XU*8.0*605: Added the IPV tool options (**XLFIPV***) to Figure 11 and Table 24.
		• Added the following parameters to the KERNEL SYSTEM PARAMETERS (#8989.3) File in Table 3:
		  ○ ORGANIZATION (#200.2)
		  ○ ORGANIZATION ID (#200.3)
		  ○ SECURITY TOKEN SERVICE (#200.1)
		• Added the **XUEXISTING USER** parameter to the KERNEL PARAMETERS (#8989.2) File in Table 4.
		• Added the following parameters to the PARAMETER DEFINITION (#8989.51) File in Table 5:
		  ○ **XU522**
		  ○ **XU594**
		  ○ **XU645**
		• Added the following routines to Table 9:
		  ○ **XLFSHAN**
		  ○ **XUCERT**
		  ○ **XUCERT1**
		  ○ **XUESSO1**
		  ○ **XUESSO2**
		  ○ **XUESSO3**
		  ○ **XUESSO4**
		  ○ **XUSAML**
		• Added the REMOTE APPLICATION (#8994.5) file to	

Date	Revision	Description	Author
		Table 15. • Added the **RPC Broker Management Menu** [XWB MENU] to Table 24. • Changed the XUS GET USER INFO RPC in Table 29 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 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	VistA Infrastructure (VI)/VistA Kernel Development Team ManTech Mission Solutions & Services Group

Date	Revision	Description	Author
		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. **Software Versions:** • **Kernel 8.0** • **Toolkit 7.3**	
05/31/2013	4.1	Updates: • Updates for Patch XU*8.0*614 based on feedback from developer: o Added the **Single User Menu Tree Rebuild** [XQBUILDUSER] option to the "XUMAINT" section and menu tree diagram in Figure 10 and in Table 24. It was attached to the Menu Rebuild Menu [XQBUILDMAIN] option. o Added the XQBUILDMAIN option to Table 24. o Added the XQ LIST UNREFERENCED OPTIONS option to Table 24. o Added the XQ MENUMANAGER PROMPT parameter to Table 5. • Updated menu diagrams in Section 5.2.2 for: o XUTIO in Figure 9. o XUMAINT in Figure 10. o XUSITEMGR in Figure 11. o XUPROG in Figure 12. o XU-SPL-MGR in Figure 13. o XUSPY in Figure 14. o XUTM MGR in Figure 15.	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author
		○ XUSER in Figure 16. ○ ZTMQUEUABLE OPTIONS in Figure 17. ○ XUCOMMAND in Figure 18. • 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: ○ Added the new XUEPCS REPORT DEVICE parameter to Table 5. ○ Added the following new **ePCS** routines to Table 9 in the "Routines" section: – **XUEPCSED** – **XUEPCSRT** ○ Added the following new ePCS files to the "Files" section in Table 15: – XUEPCS DATA (#8991.6) file – XUEPCS PSDRPH AUDIT (#8991.7) file ○ Added the new ePCS options to the "Exported Options" section in Table 24. ○ Added the following new and modified ePCS APIs to the "Callable Entry Points" section in Table 27: – $$DEA^XUSER – $$DETOX^XUSE	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author
		– $$SDEA^XUSER – $$VDEA^XUSER ○ Added the following new and modified RPCs to the "Remote Procedure Calls (RPCs)" section in Table 29: – XU EPCS EDIT – XUS PKI SET UPN – XUS PKI GET UPN – XWB GET VARIABLE VALUE ○ Added the XUSSPKI SAN bulletin to the "Bulletins" section in Table 35. ○ Added the XUEPCSEDIT security key to the "Security Keys" section in Table 36. • Reformatted document to follow current style guides and standards. • Replaced references from "*VA FileMan Getting Started Manual*" to "*VA FileMan User Manual*," 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 29. • Added the "Bulletins" section and Table 35. • 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.	

Date	Revision	Description	Author
		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 and 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 and Kernel Toolkit 7.3 Technical Manual*, all of the Kernel Toolkit references for routines, files, options, APIs, Direct Mode Utilities, etc. have been added to the appropriate chapter/section. • Updated Table 24 option descriptions. • Changed Kernel document title references. • *Kernel 8.0 and Kernel Toolkit 7.3 Developer’s Guide* (previously known as the Kernel Programmer Manual). • *Kernel 8.0 and 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.	

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		• Added the "XU USER START-UP" entry in Table 24. • 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 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.	VistA Infrastructure (VI)/VistA Kernel Development Team

Date	Revision	Description	Author
		• Updated files, routines, options, APIs, security keys, etc. **Software Version: 8.0**	
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 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**	VistA Infrastructure (VI)/VistA Kernel Development Team
07/--/1995	1.0	Initial Kernel 8.0 software and documentation release **Software Version: 8.0**	VistA Infrastructure (VI)/VistA Kernel Development Team

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.
- Software Product Management (SPM)—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 and Technology Field Office (OITFO).

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. Table 1 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 and Kernel Toolkit 7.3 Systems Management Guide*
- *Kernel 8.0 and Kernel Toolkit 7.3 Developer's Guide*
- *Kernel 8.0 and 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 defines 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 specifies 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 locks 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 indicates 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 FIELD MONITOR PURGE (#875) field	This field indicates the number of days that transmitted records in the NEW PERSON FIELD MONITOR (#8933.1) file should be maintained before being purged/deleted. The number of days entered can range from **10** to **999**. The XU*8.0*663 post-install routine initialized this field to **365** days. **NOTE:** This field was added with Kernel Patch XU*8.0*663.
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).

Field	Description
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**
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*.

Field	Description
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: **<REDACTED>.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).
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.

Table 4 lists the active parameters that Kernel currently stores in the KERNEL PARAMETERS (#8989.2) file 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 specifies 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 and 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> cities 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 **XUCM TASK NIT** option 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.
%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?

Routine	Description
%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.
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.

Routine	Description
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.

Routine	Description
XDRDEFLG	TBD.
XDRDFPD	Find all potential duplicates for an entry in a file.
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**

Routine	Description
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**
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.

Routine	Description
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.
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.

Routine	Description
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**
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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**.

Routine	Description
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).
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.

Routine	Description
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 OITFO.
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
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.

Routine	Description
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.
XU8P378A	TBD.
XU8P378B	TBD.
XU8P378C	TBD.
XU8P378E	TBD.
XU8P381	TBD.
XU8P386	TBD.
XU8P387	TBD.
XU8P387X	TBD.
XU8P410	TBD.
XU8P413	TBD.
XU8P420	TBD.
XU8P426	TBD.

Routine	Description
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.
XU8P487	TBD.
XU8P497	TBD.
XU8P497A	TBD.
XU8P499	TBD.
XU8P504	TBD.
XU8P509	TBD.
XU8P509A	TBD.
XU8P509B	TBD.
XU8P509C	TBD.
XU8P509D	TBD.
XU8P511	TBD.
XU8P514	TBD.

Routine	Description
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.
XU8P584	TBD.
XU8P585	TBD.
XU8P586	TBD.
XU8P591	TBD.
XU8P598	TBD.
XU8P599	TBD.
XU8P601	TBD.
XU8P601A	TBD.
XU8P601B	TBD.
XU8P604	TBD.
XU8P608	Kernel Lock Manger utility.
XU8P608B	Kernel Lock Manger utility.

Routine	Description
XU8P616	TBD.
XU8P638	TBD.
XU8P663	Kernel Patch XU*8.0*663 post-install routine that initializes the NEW PERSON FIELD MONITOR PURGE (#875) field in the KERNEL SYSTEM PARAMETERS (#8989.3) file with a default value of **365 (days)**.
XU8P672E	Kernel Patch XU*8.0*672 environment check routine.
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 and 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.
XUCIMSM	Swap UCIs: MSM-UNIX.
XUCIMSQ	Swap UCIs: M/SQL.
XUCIONT	TBD.
XUCIVXD	Swap UCIs: VAX/DSM.
XUCMNIT	TBD.
XUCMNIT1	TBD.
XUCMNIT2	TBD.

Routine	Description
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.
XUCSCDG	TBD.
XUCSCDR	TBD.
XUCSCDRB	TBD.
XUCSPRG	TBD.
XUCSRV	TBD.
XUCSTM	TBD.
XUCSTME	TBD.

Routine	Description
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. This utility identifies a VistA user for auditing and Health Insurance Portability and Accountability Act (HIPAA) requirements. The SEX (#4) and DOB (#5) fields in the NEW PERSON (#200) file were updated with Kernel Patch XU*8.0*663.
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.
XUHUI	TBD.
XUHUI236	TBD.
XUHUIHL7	TBD.
XUHUIMSG	TBD.

Routine	Description
XUIAMDD1	This routine contains the "**AVIAM**" cross-reference logic to create entries in the NEW PERSON FIELD MONITOR (#8933.1) file and is executed for the monitored fields in the NEW PERSON (#200) file that have been updated and need transmitted to Person Service Identity Management (PSIM).
XUIAMNPB	This routine runs two options: • XUS IAM NPFM BATCH UPDATE • XUS IAM NPFM PURGE
XUIAMPR	Identity and Access Management (IAM) Provisioning—Add/Update of a NEW PERSON. Kernel Patch XU*8.0*663 updated the Enterprise New Person Search logic to add a user to the NEW PERSON (#200) file.
XUIAMPR1	IAM Provisioning—Add/Update of a NEW PERSON (Continued). Kernel Patch XU*8.0*663 updated the Enterprise New Person Search logic to add a user to the NEW PERSON (#200) file.
XUIAMXML	IAM Enterprise NEW PERSON probabilistic search. Kernel Patch XU*8.0*663 added a new application programming interface (API) to query Person Service Identity Management (PSIM) for person with additional prompted traits (i.e., NAME, SSN, DOB, SEX) when the initial lookup by EMAIL or NETWORK USERNAME fails.
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.

Routine	Description
XUINTSK1	TaskMan: Version 7.1 post-Init.
XUINTSK2	Reschedule tasks in **IO**, **JOB**, **LINK** queues.
XULM	Kernel Lock Manger utility.
XULM1	Kernel Lock Manger utility.
XULMLD	Kernel Lock Manger utility.
XULMLOG	Kernel Lock Manger utility.
XULMOUT	Kernel Lock Manger utility.
XULMP	Kernel Lock Manger utility.
XULMRPC	Kernel Lock Manger utility.
XULMU	Kernel Lock Manger utility.
XULMUI	Kernel Lock Manger utility.
XULMUI1	Kernel Lock Manger utility.
XUMF	TBD.
XUMF0	TBD.
XUMF04	TBD.
XUMF04H	TBD.
XUMF04P	TBD.
XUMF04Q	TBD.
XUMF1H	TBD.
XUMF218	TBD.
XUMF218A	TBD.
XUMF218Z	TBD.
XUMF261P	TBD.
XUMF299	TBD.
XUMF333	TBD.
XUMF382	TBD.
XUMF390	TBD.
XUMF397	TBD.
XUMF4	TBD.
XUMF416	TBD.
XUMF479P	TBD.

Routine	Description
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.
XUMFHPQ	TBD.
XUMFHPR	TBD.
XUMFI	TBD.
XUMFI0	TBD.
XUMFMD5	TBD.
XUMFMFE	TBD.
XUMFMFI	TBD.
XUMFP	TBD.
XUMFP4	TBD.
XUMFP4C	TBD.

Routine	Description
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.
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.
XUMVINPU	This routine was modified with Kernel Patch XU*8.0*663 to validate that the National Provider Identifier (NPI) entry to be deleted is already populated in the EFFECTIVE DATE/TIME (#42) Multiple before attempting to delete it from the record in the NEW PERSON (#200) file.
XUOAAHL7	TBD.
XUOAAUTL	TBD.
XUP	Set up environment for developers.
XUP468	TBD.

Routine	Description
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.
XURTL	TBD.
XURTL1	TBD.
XURTL2	TBD.
XURTL3	TBD.
XURTLC	TBD.
XURTLK	TBD.

Routine	Description
XUS	Signon.
XUS1	Signon. Kernel Patch XU*8.0*663 modified this routine so the LAST SIGN-ON DATE/TIME (#202) field is filed via VA FileMan (instead of hard set), so the cross-references fire.
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.
XUSECBUL	TBD.
XUSER	A common set of user functions.
XUSER1	TBD.
XUSER2	TBD.
XUSERBLK	Bulk user (NEW PERSON) computer access.

Routine	Description
XUSERNEW	Runs the **Add a New User to the System** [XUSERNEW] option. Patch XU*8.0*663 modified the **Add a New User to the System** [XUSERNEW] option to incorporate the Enterprise New Person Search logic to add users.
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.
XUSNPIUT	TBD.
XUSNPIX1	TBD.
XUSNPIX2	TBD.

Routine	Description
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.
XUST20	TBD.
XUST21	TBD.
XUST22	TBD.

Routine	Description
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.
XUTMHR	TBD.
XUTMK	TaskMan: Option: **ZTMCLEAN/ZTMQCLEAN**.
XUTMKA	TBD.

Routine	Description
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.
XUTMTEP	TBD.
XUTMTES	TBD.
XUTMTL	TBD.

Routine	Description
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.
ZISEDIT	Device edit.
ZISPL	Utilities for spooling.
ZISPL1	Utilities for spooling (continued).

Routine	Description
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
^XLM	8993	XULM LOCK DICTIONARY
	8993.1	XULM LOCK MANAGER PARAMETERS
	8993.2	XULM LOCK MANAGER LOG
^XPD	9.6	BUILD
	9.7	INSTALL

Global Name	File Number	File Name
^XT (Toolkit)	8984.1	LOCAL KEYWORD
	8984.2	LOCAL SHORTCUT
	8984.3	LOCAL SYNONYM
	8984.4	LOCAL LOOKUP
^XTV	8933.1	NEW PERSON FIELD MONITOR
	8989.2	KERNEL PARAMETERS
	8989.3	KERNEL SYSTEM PARAMETERS
	8991 (Toolkit)	XTV ROUTINE CHANGES
	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

Global Name	File Number	File Name
	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
^%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 globals listed in Table 13:

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

Table 14 lists the additional global storage 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 maintains 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

File #	File Name	Global Location	Description	Data w/ File	Data Setting
3.076	ERROR MESSAGES	^%ZTER(2,	This file contains a number of the abbreviations used to indicate the type of error encountered. The most important ones are those which are indicated as fatal errors warranting termination of the job after logging of the error.	YES	Merge
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	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			time.		
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	Over-write

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 associates 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 **$I**, one may be given signon system status. This file is cross-referenced by name, **$I**, volume set (CPU), and	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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
3.6	BULLETIN	^XMB(3.6,	Bulletins are "Super"	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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.		
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 modifications to this file will	YES	Over-write

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 links entries in the INSTITUTION (#4) file into associations that are meaningful.	YES	Merge
4.1	FACILITY	^DIC(4.1,	This file is pointed to by	YES	Merge

File #	File Name	Global Location	Description	Data w/ File	Data Setting
	TYPE		the Institution file. It contains a list of facility codes that were previously stored in the VA Type Code field of the Institution file. This file is distributed with data, and the new data should overwrite the old. It is cross-referenced by name and full name.		
4.11	AGENCY	^DIC(4.11,	This file replaces the Set of Codes field AGENCY that had been used in the INSTITUTION (#4) file.	YES	Over-write
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 when new software is	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			installed at a site.		
9.8	ROUTINE	^DIC(9.8,	This file documents 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 MAS. This file should *not*	YES	

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 Table file.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
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). The "from" and "to" records are identified, the match	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 records 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.		
19	OPTION	^DIC(19,	Information in this file drives the menu system.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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.		
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-referenced by option.	NO	N/A
19.1	SECURITY KEY	^DIC(19.1,	This file holds the names of security keys that are	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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.		
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	Over-write
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) • PREFIX (#4) • SUFFIX (#5)	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			• 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 records 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. Kernel Patch XU*8.0*663 added the **AVIAM** new	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			style record cross-reference (x-ref) to various fields in the NEW PERSON (#200) file. The **AVIAM** cross-reference allows the Master Veteran Index (MVI) to capture changes on the following fields in the NEW PERSON (#200) file, which will add/update entries in the NEW PERSON FIELD MONITOR (#8933.1) file to identify those NEW PERSON (#200) fields that have been changed for the user that day and need to be transmitted/broadcasted out to Person Service Identity Management (PSIM): • NAME (#.01) • EMAIL ADDRESS (#.151) • SEX (#4) • DOB (#5) • DISUSER (#7) • SSN (#9) • TERMINATION DATE (#9.2) • NPI (#41.99) • LAST SIGN-ON DATE/TIME (#202) • SECID (#205.1) • SUBJECT ORGANIZATION (#205.2) • SUBJECT ORGANIZATION ID (#205.3) • UNIQUE USER ID (#205.4) • ADUPN (#205.5)		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			• NETWORK USERNAME (#501.1)		
201	USER CLASS	^VA(201,	This file is used for identifying the kinds of all other entries in the NEW PERSON (#200) file that are *not* providers identified with PERSON CLASS.	YES	Over-write
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.	YES	Over-write

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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).		
8932.2	PROGRAM OF STUDY	^USC(8932.2,	This file stores the names and information of programs of study.	YES	Replace
8933.1	NEW PERSON FIELD MONITOR	^XTV(8933.1	This file serves as a container to track the changes to NEW PERSON (#200) fields that need to be broadcast out to the Person Service Identity Management (PSIM) system via Web Services.	NO	N/A
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	^XUSSPKI(89	This file stores the	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
	URLS	80.22,	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.		
8984.1 (Toolkit)	LOCAL KEYWORD	^XT(8984.1,	The lookup entry (or code) can be associated with multiple key words or key 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.	NO	N/A
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.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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.		
8984.4 (Toolkit)	LOCAL LOOKUP	^XT(8984.4,	This file defines other files that have been configured for Multi-term lookups, along with the name of the file's MTLU cross-reference.	NO	N/A
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,	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			auto-menu, and ask device) are defined for use when *not* otherwise specified for a user or device.		
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 records the most current version of a routine, and information about changes that have occurred in that routine in prior versions. Routines 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.	NO	N/A
8991.19 (Toolkit)	XTV VERIFICATION PACKAGE	^XTV(8991.19,	This file indicates 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 determines 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

File #	File Name	Global Location	Description	Data w/ File	Data Setting
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 maintains 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-related fields that have been modified.	NO	N/A
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 keeps 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 field under each user records the: • Date and time an alert was generated. • Unique ID associated with the alert. • Text for display. • (Optional) Routine entry point or option for use in processing the alert. • (Optional) Data string associated with the alert.	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
8992.1	ALERT TRACKING	^XTV(8992.1,	This file tracks the content and interactions with an alert. Every alert that is generated is initially filed within this file. Each entry has the date and time the alert was generated, which user generated the alert, whether the alert was generated in a background task, what action was to be taken, if any (the entry point or option name to be used), and the data string, if any, for use with the alert. There is a multiple field which also identifies each user that the alert was sent to, when the user initially saw the displayed text, when the alert was selected for processing, when the processing was completed, and when the alert was deleted after processing or associated with another user's processing, or when the alert was deleted by a cleanup operation. Unless a longer lifetime is specified for the specific alert, it is deleted from the file after **30** days. If a longer lifetime is specified, it will *not* be deleted until after that period passes.	NO	N/A
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	YES	Over-write

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 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**		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 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**		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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.		
8993	XULM LOCK DICTIONARY	^XLM(8993,	This file contains descriptions and specifications for locks held by various applications. The Lock Manager uses it to provide information and guidance to the user about locks found in the lock table.	YES	Over-write
8993.1	XULM LOCK MANAGER PARAMETERS	^XLM(8993.1,	This is the parameter file for the Kernel Lock Manager. It should contain only one entry.	NO	N/A
8993.2	XULM LOCK MANAGER LOG	^XLM(8993.2,	This file records each instance of the Kernel Lock Manager being used to terminate a process and the locks that the process held.	NO	N/A
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 architecture. By using the Remote Procedure Call (RPC) Broker, applications running on client workstations can invoke (call) the procedures in this	NO	N/A

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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.		
8994.5	REMOTE APPLICATION	^XWB(8994.5,	This file is owned by RPC Broker and used by Kernel security to identify remote applications. Kernel uses		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 CALLBACKTYPE sub-file indicating: • A connection type. • A valid address for the		

File #	File Name	Global Location	Description	Data w/ File	Data Setting
			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 additional files listed in Table 16:

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 names 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

File #	File Name	Global Location	Description	Data w/ File	Data Setting
7	PROVIDER CLASS	^DIC(7,	This file identifies 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
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 fields in Table 17:

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 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

Field #	Field Name	Description
		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, 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.

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)

Field #	Field Name	Description
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 field in Table 18 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. • 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]

4.3.2 NEW PERSON File—Audit Fields

To support the enterprise provisioning of users and allow for monitoring of user profile changes, Kernel Patch XU*8.0*663 made Data Dictionary (DD) changes that enabled auditing for the following fields in the NEW PERSON (#200) file:

- EMAIL ADDRESS (#.151)
- NPI ENTRY STATUS (#41.98)
- NPI (#41.99)
- SECID (#205.1)
- SUBJECT ORGANIZATION (#205.2)
- SUBJECT ORGANIZATION ID (#205.3)
- UNIQUE USER ID (#205.4)
- ADUPN (#205.5)
- NETWORK USERNAME (#501.1)

To verify what fields are audited in the NEW PERSON (#200) file, do the following:

Figure 6: Verifying Audited Fields—NEW PERSON (#200) File

```
>D ^XUP

Setting up programmer environment
This is a TEST account.

Terminal Type set to: C-VT100

Select OPTION NAME: XT-OPTION TEST <Enter>  Test an option not in your menu
Test an option not in your menu
Option entry to test: AUDIT MENU <Enter> DIAUDIT Audit Menu


          Fields Being Audited
          Monitor a User
          Purge Data Audits
          Purge DD Audits
          Turn Data Audit On/Off
          Show Past Changes To Data Dictionaries

Select Audit Menu <TEST ACCOUNT> Option: FIELDS BEING AUDITED
 START WITH What File: NEW PERSON TREATING FACILITY LIST// 200 <Enter> NEW PERSON
  (399 entries)
     GO TO What File: NEW PERSON// <Enter> (399 entries)
DEVICE: 0;80;99999 <Enter> UCX/TELNET

AUDITED FIELDS                                        MAR 25, 2021@15:07   PAGE 1
FILE       NUMBER     LABEL                  TYPE             AUDIT
-------------------------------------------------------------------------------

200        .151       EMAIL ADDRESS          FREE TEXT        YES, ALWAYS
200        9.2        TERMINATION DATE       DATE/TIME        YES, ALWAYS
200        11         VERIFY CODE            FREE TEXT        YES, ALWAYS
200        41.98      NPI ENTRY STATUS       SET              YES, ALWAYS
200        41.99      NPI                    FREE TEXT        YES, ALWAYS
200        205.1      SECID                  FREE TEXT        YES, ALWAYS
200        205.2      SUBJECT ORGANIZATION   FREE TEXT        YES, ALWAYS
200        205.3      SUBJECT ORGANIZATION   FREE TEXT        YES, ALWAYS
200        205.4      UNIQUE USER ID         FREE TEXT        YES, ALWAYS
200        205.5      ADUPN                  FREE TEXT        YES, ALWAYS
200        501.1      NETWORK USERNAME       FREE TEXT        YES, ALWAYS
200        501.2      SUBJECT ALTERNATIVE    FREE TEXT        YES, ALWAYS


          Fields Being Audited
          Monitor a User
          Purge Data Audits
          Purge DD Audits
          Turn Data Audit On/Off
          Show Past Changes To Data Dictionaries

Select Audit Menu <TEST ACCOUNT> Option:
```

Auditing of the fields highlighted in blue were added with Kernel Patch XU*8.0*663.

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.

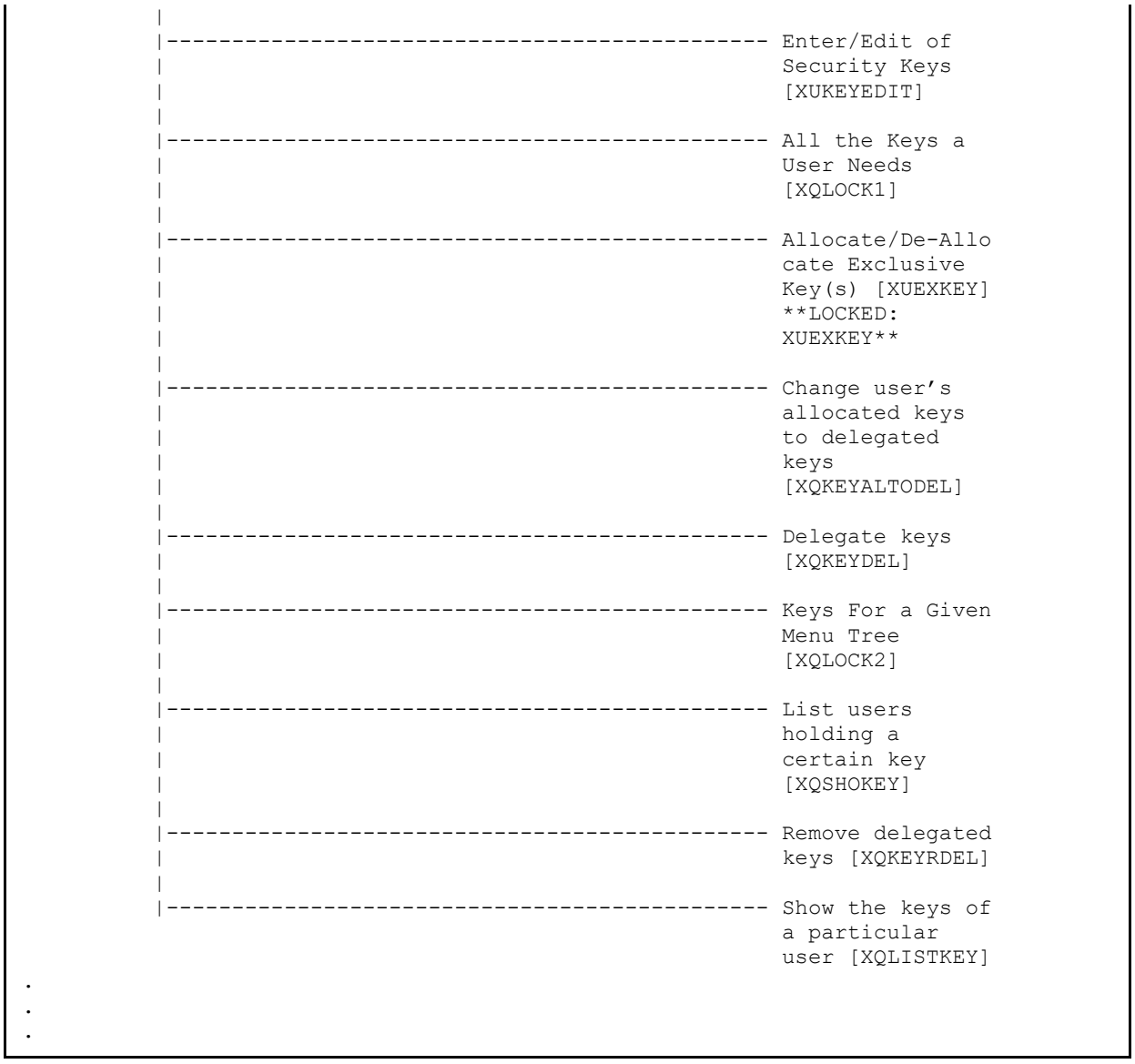
5.2.1 Generating Menu Diagrams

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 7: 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.

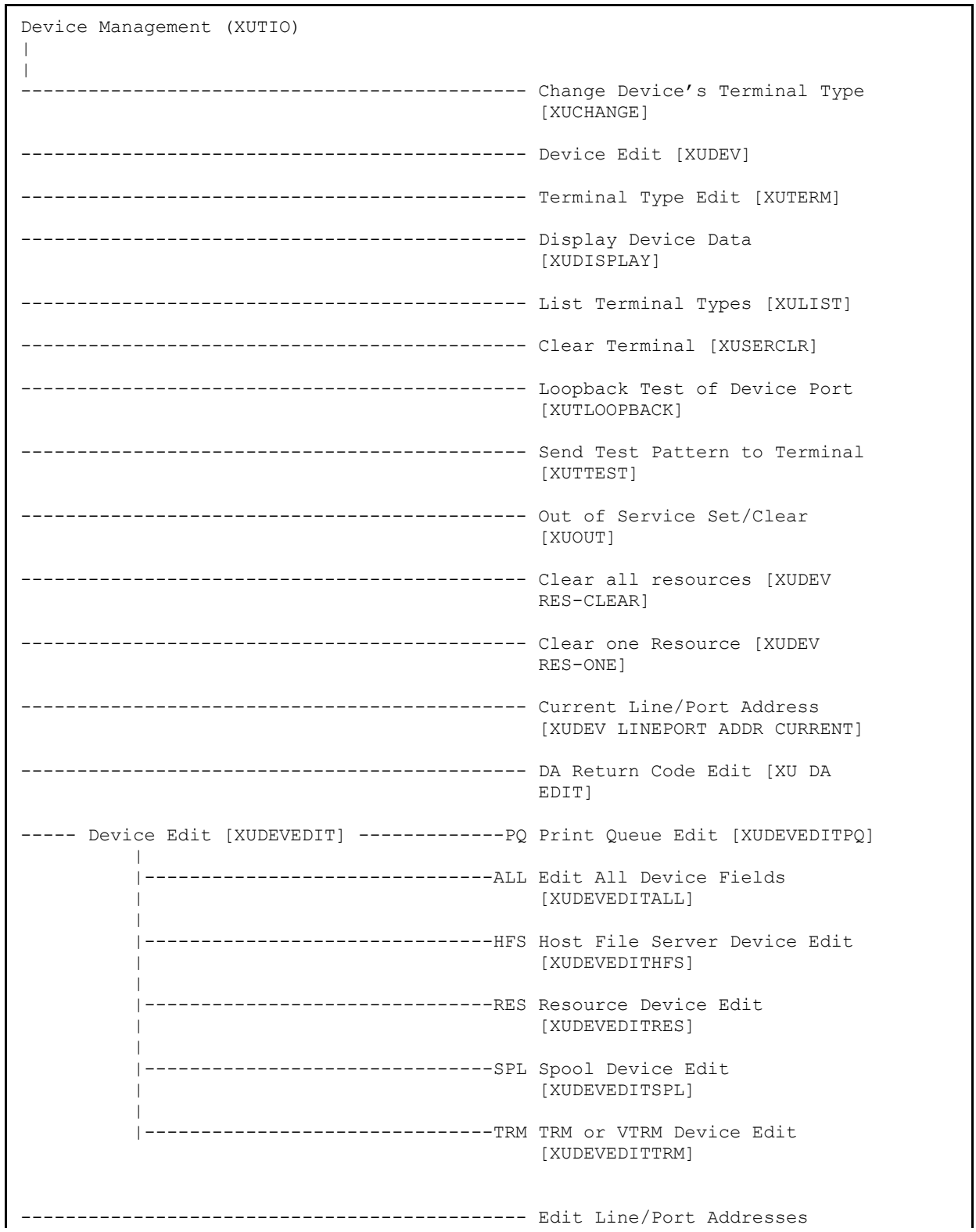
5.2.3 XUCORE

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

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

5.2.4 XUTIO

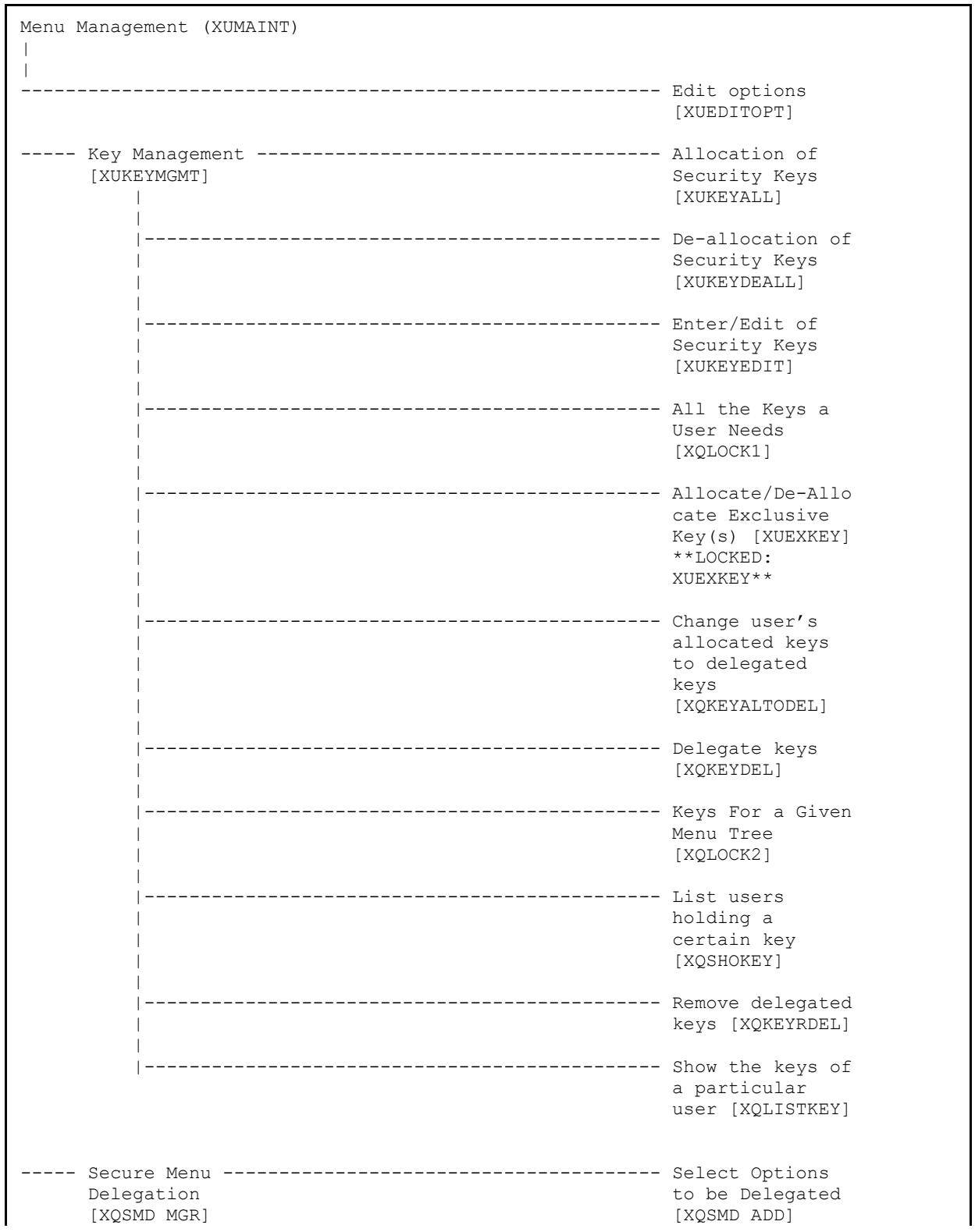
Figure 9: XUTIO—Menu Tree Diagram: Sample from OAKTST "Gold" Account

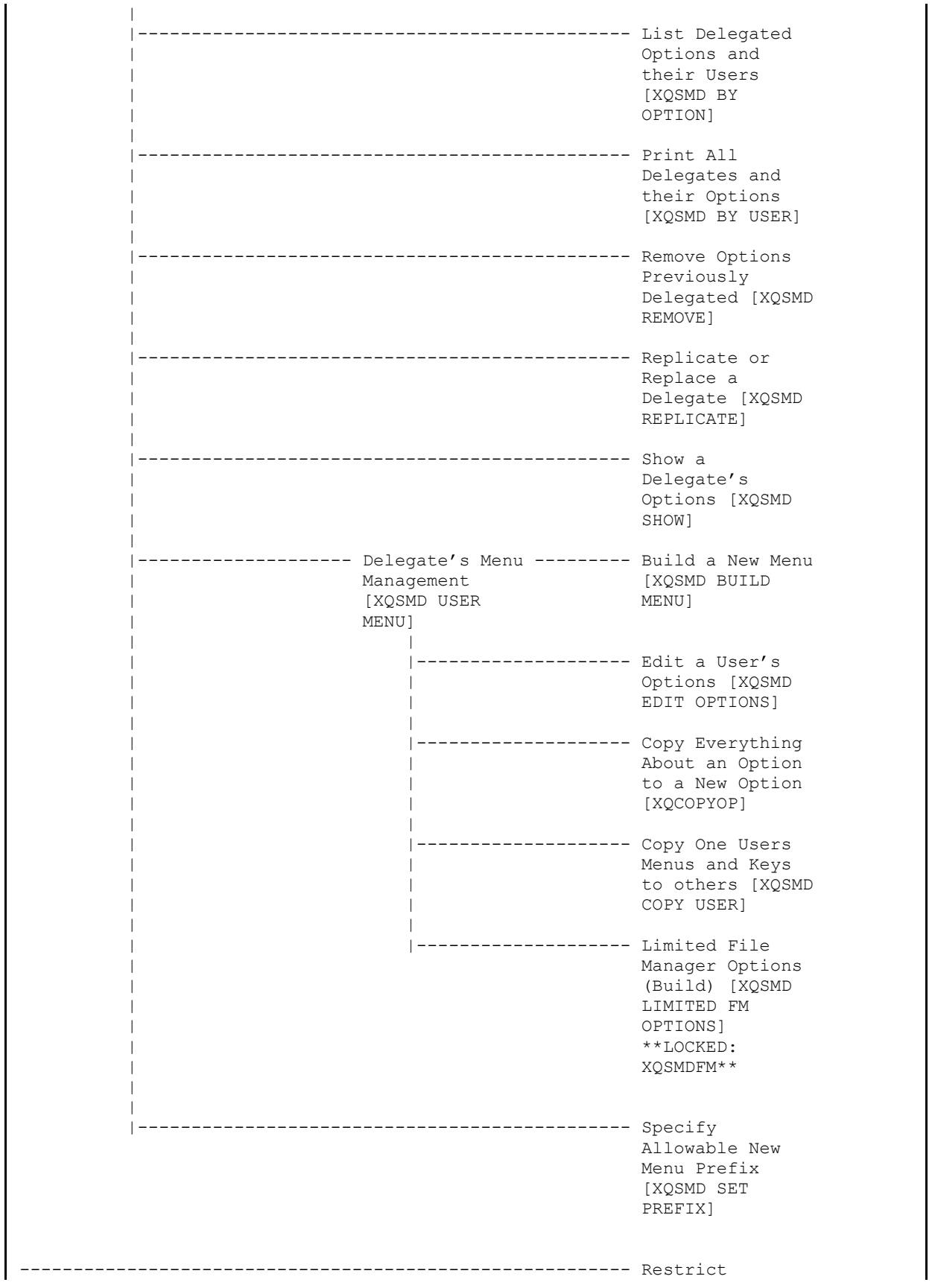


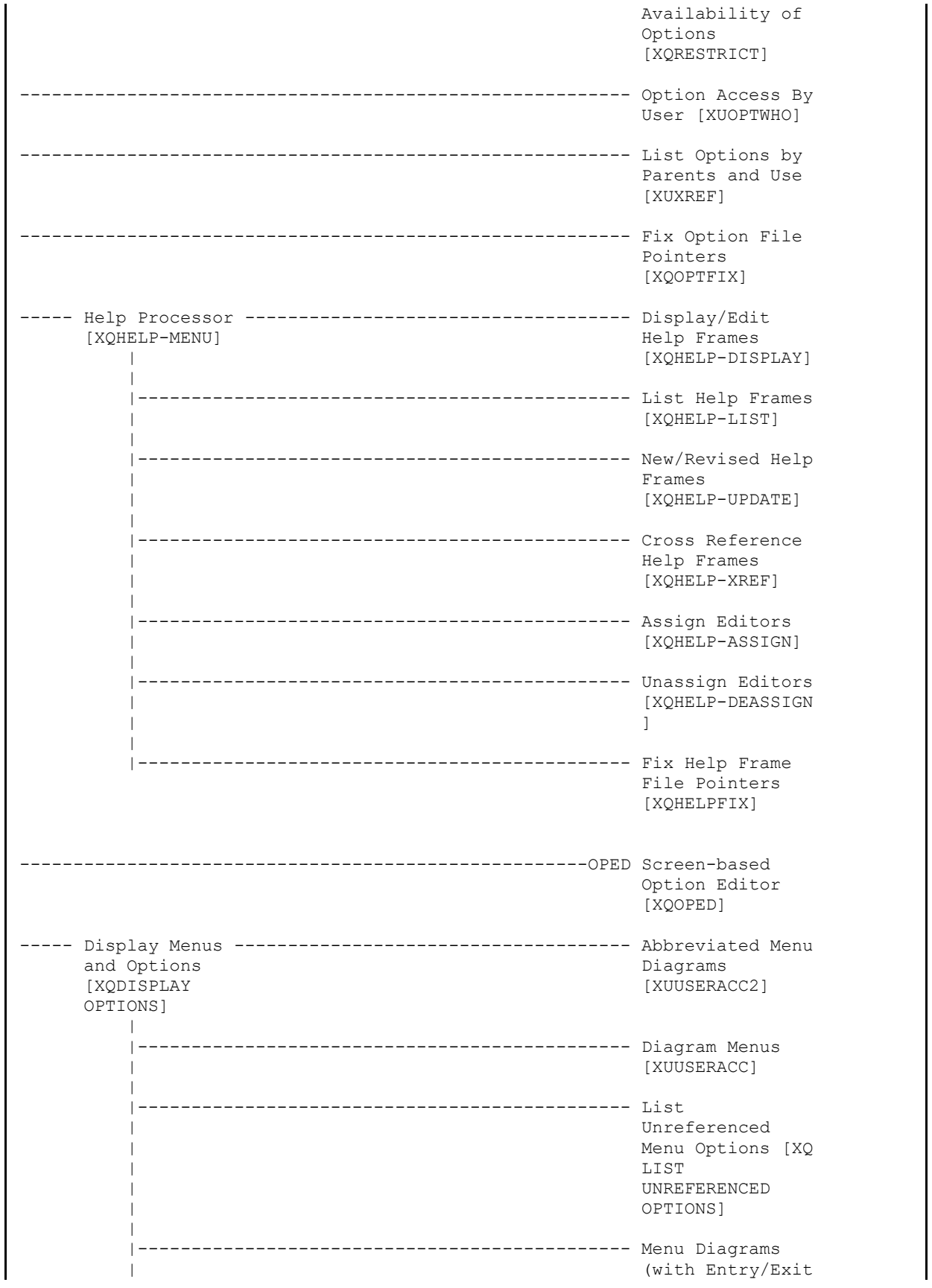
```
                                                [XUDEV LINEPORT ADDR EDIT]

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

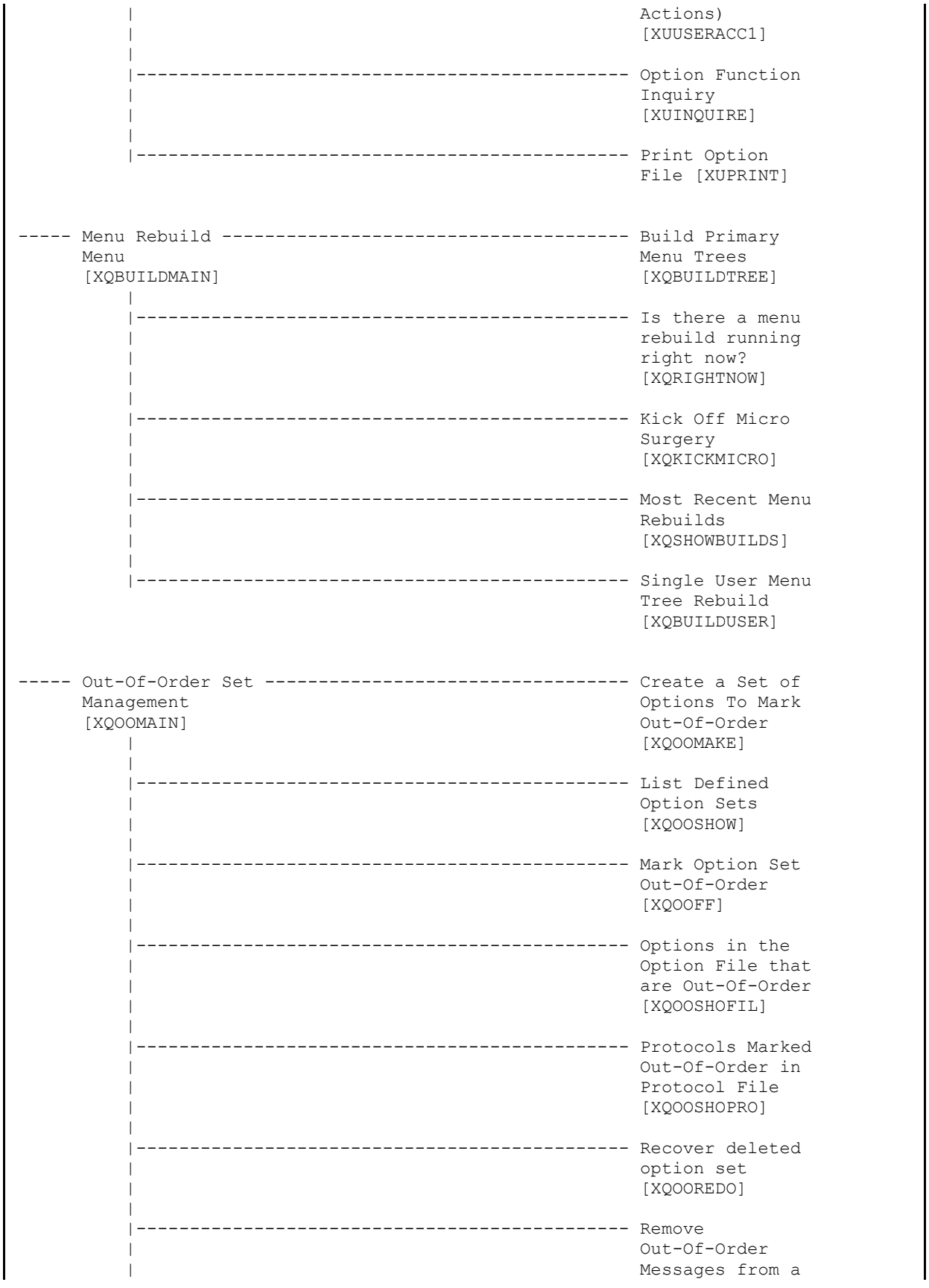
5.2.5 XUMAINT

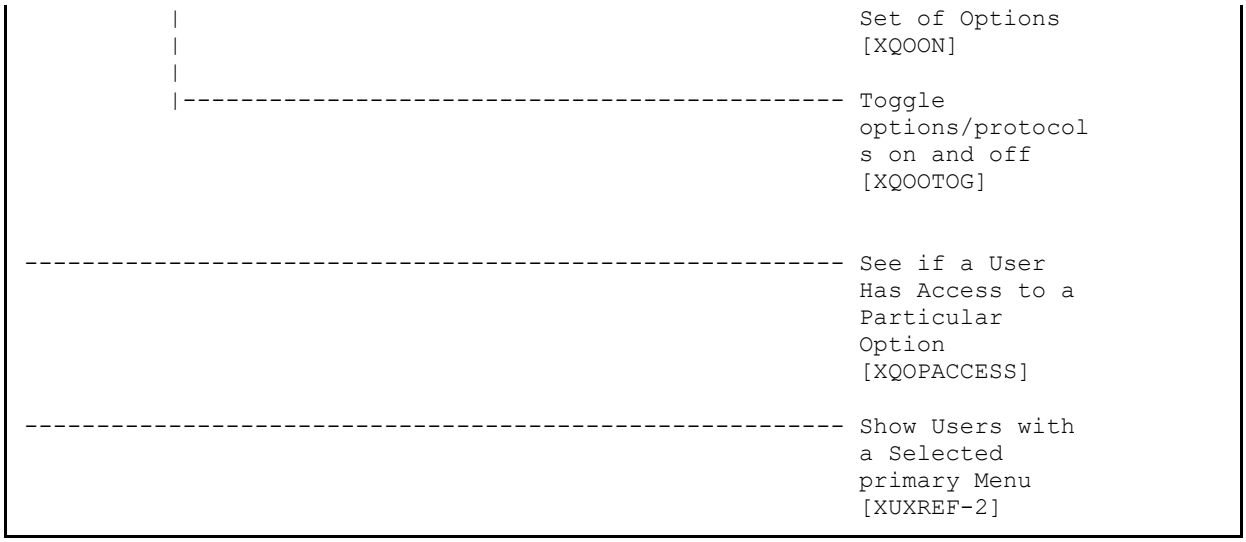
Figure 10: XUMAINT—Menu Tree Diagram: Sample from OAKTST "Gold" Account




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

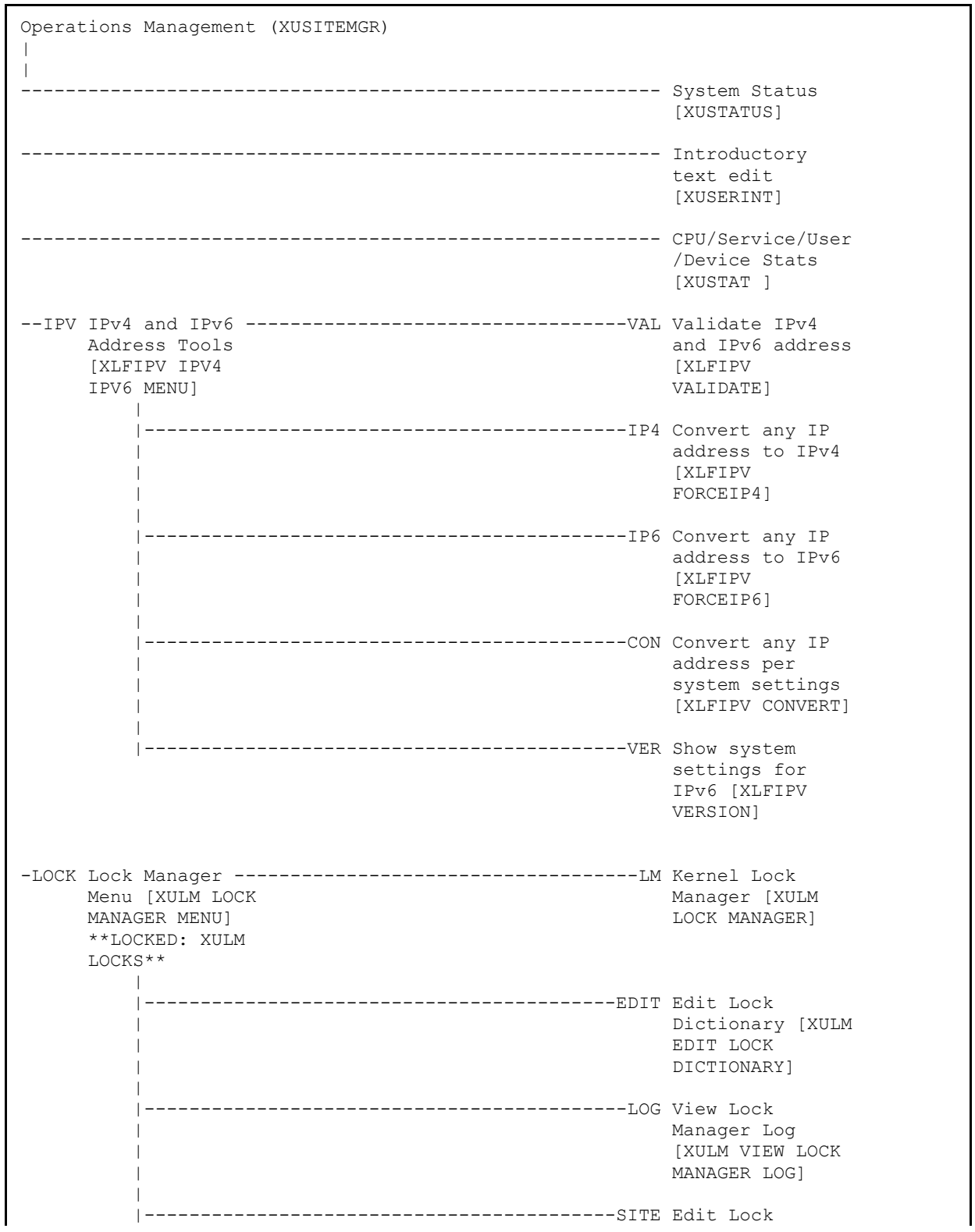

Availability of Options [XQRESTRICT]
Option Access By User [XUOPTWHO]
List Options by Parents and Use [XUXREF]
Fix Option File Pointers [XQOPTFIX]
Help Processor [XQHELP-MENU]
Display/Edit Help Frames [XQHELP-DISPLAY]
List Help Frames [XQHELP-LIST]
New/Revised Help Frames [XQHELP-UPDATE]
Cross Reference 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

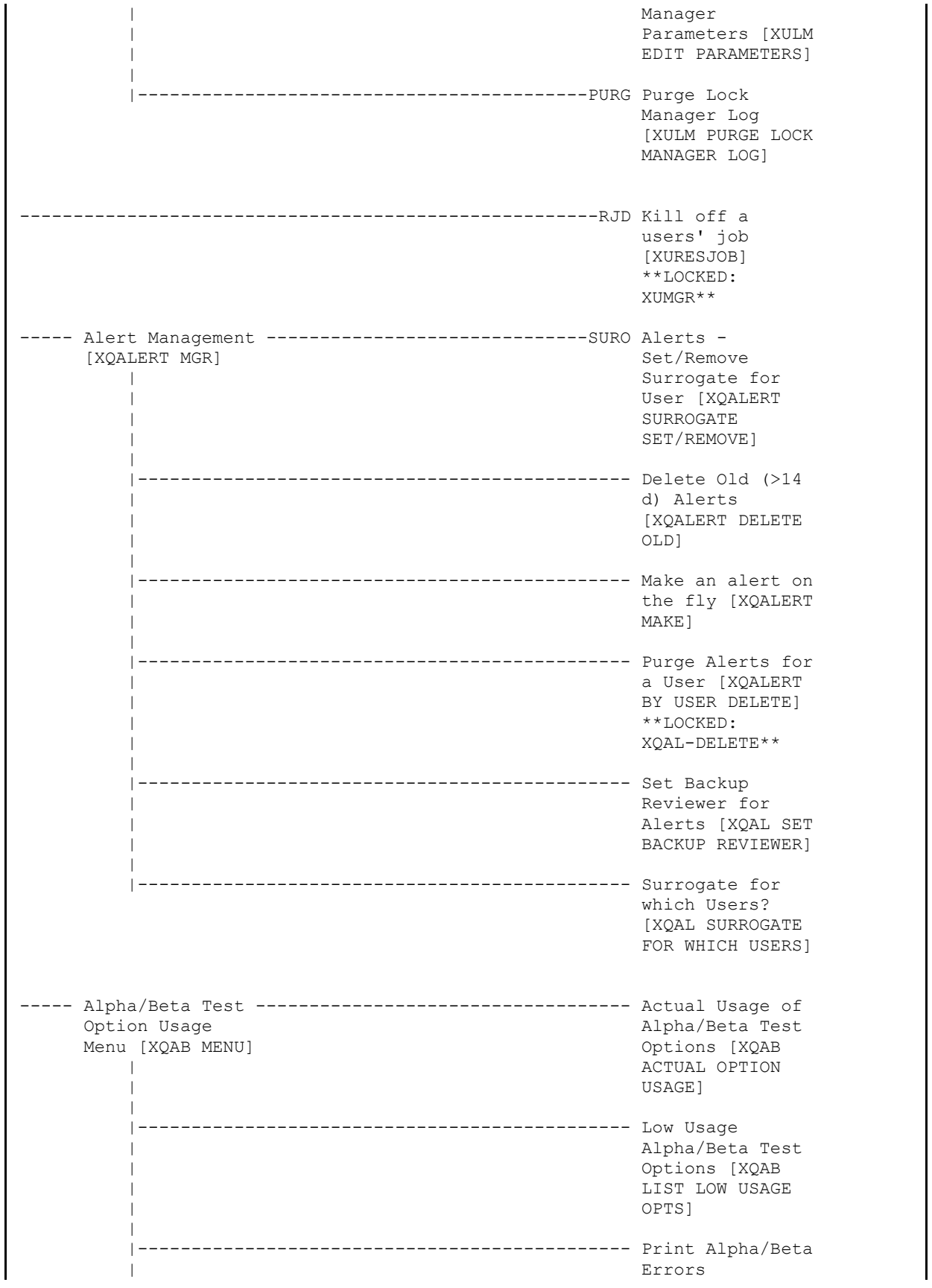

Actions)
[XUUSERACC1]
Option Function Inquiry
[XUINQUIRE]
Print Option File [XUPRINT]
Menu Rebuild
[XQBUILDMAIN]
Build Primary Menu Trees
[XQBUILDTREE]
Is there a menu rebuild running right now?
[XQRIGHTNOW]
Kick Off Micro Surgery
[XQKICKMICRO]
Most Recent Menu Rebuilds
[XQSHOWBUILDS]
Single User Menu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

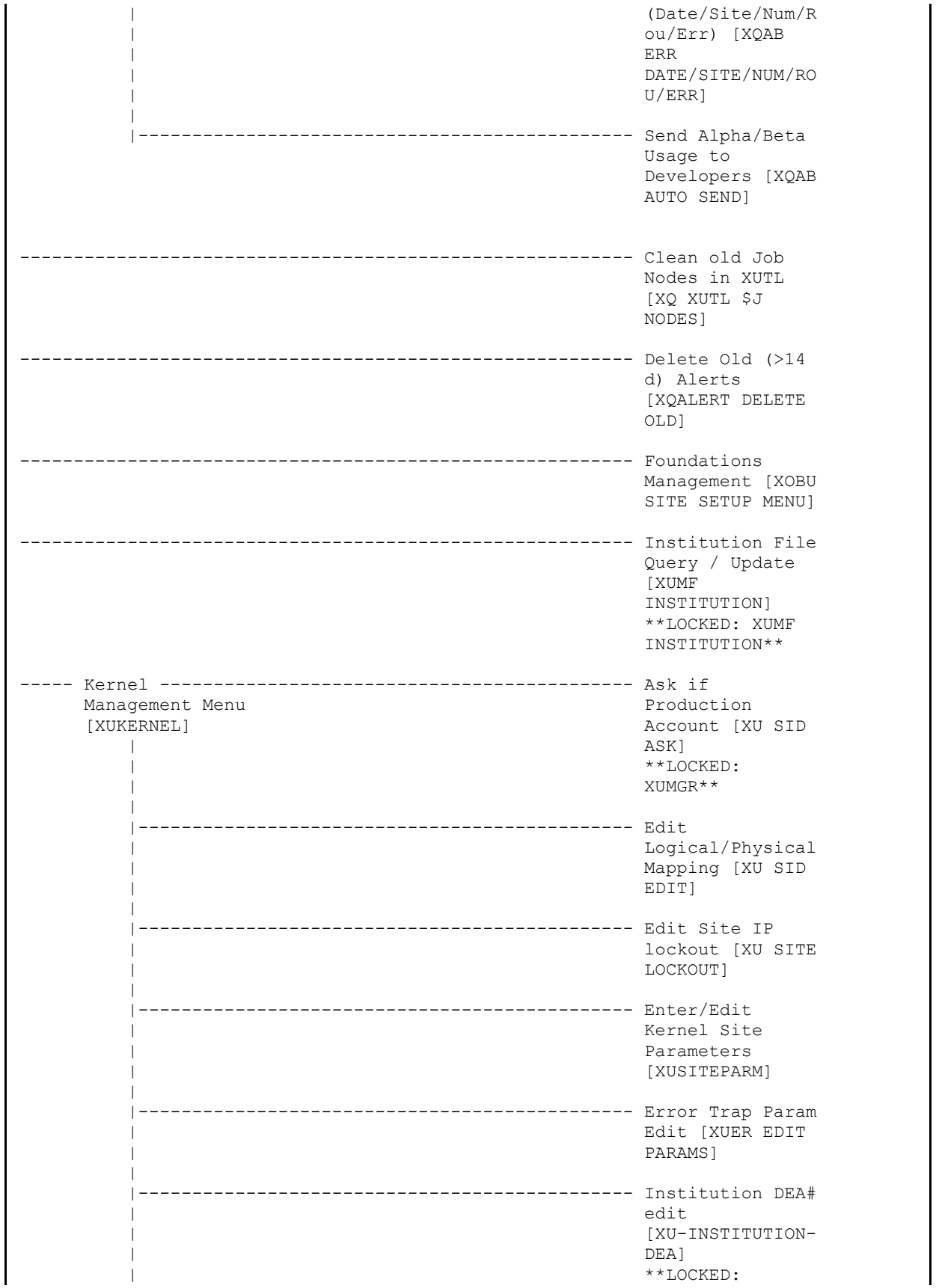

Set of Options
[XQOON]
Toggle
options/protocol
s on and off
[XQOOTOG]
See if a User
Has Access to a
Particular
Option
[XQOPACCESS]
Show Users with
a Selected
primary Menu
[XUXREF-2]

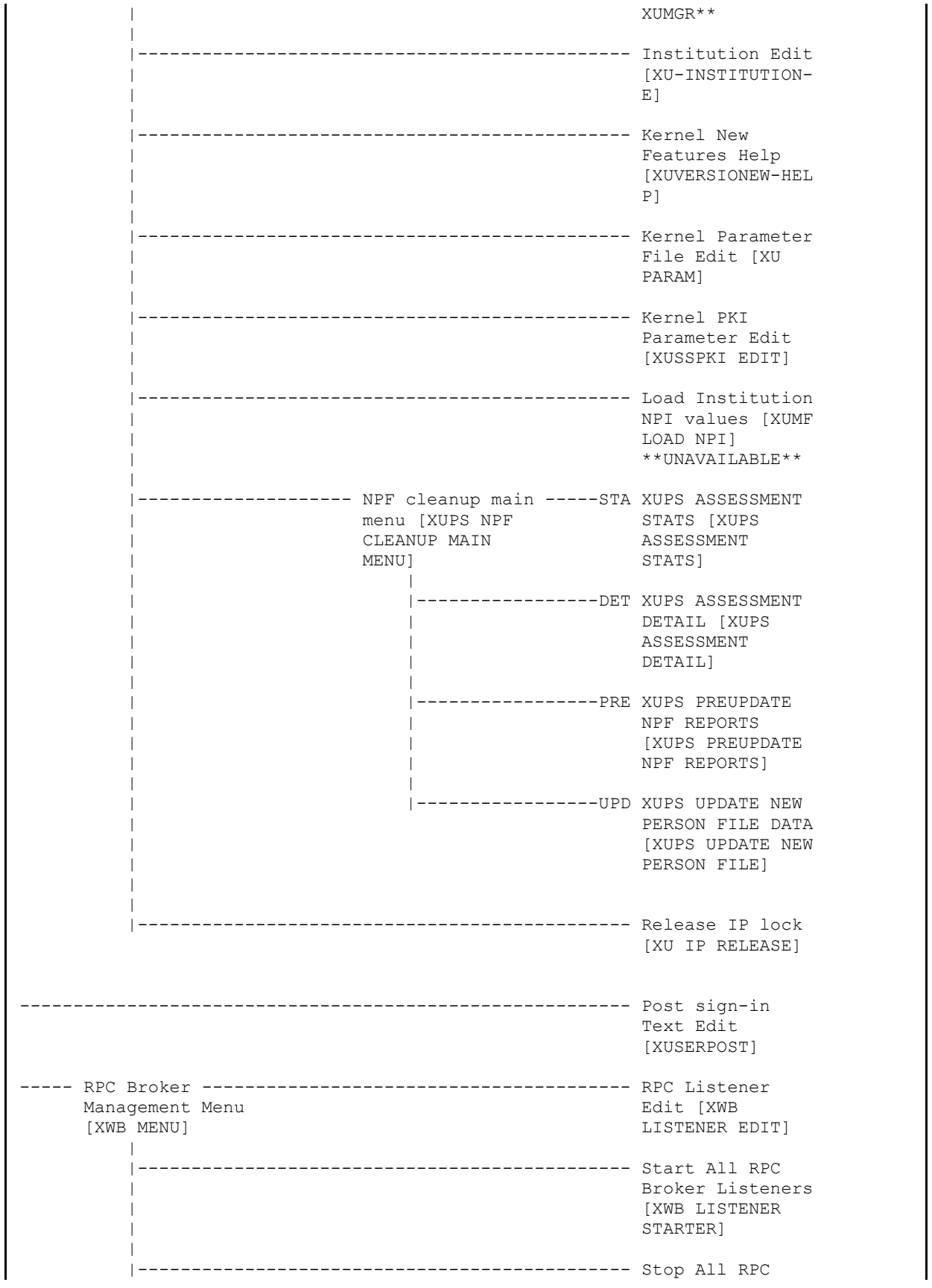
5.2.6 XUSITEMGR

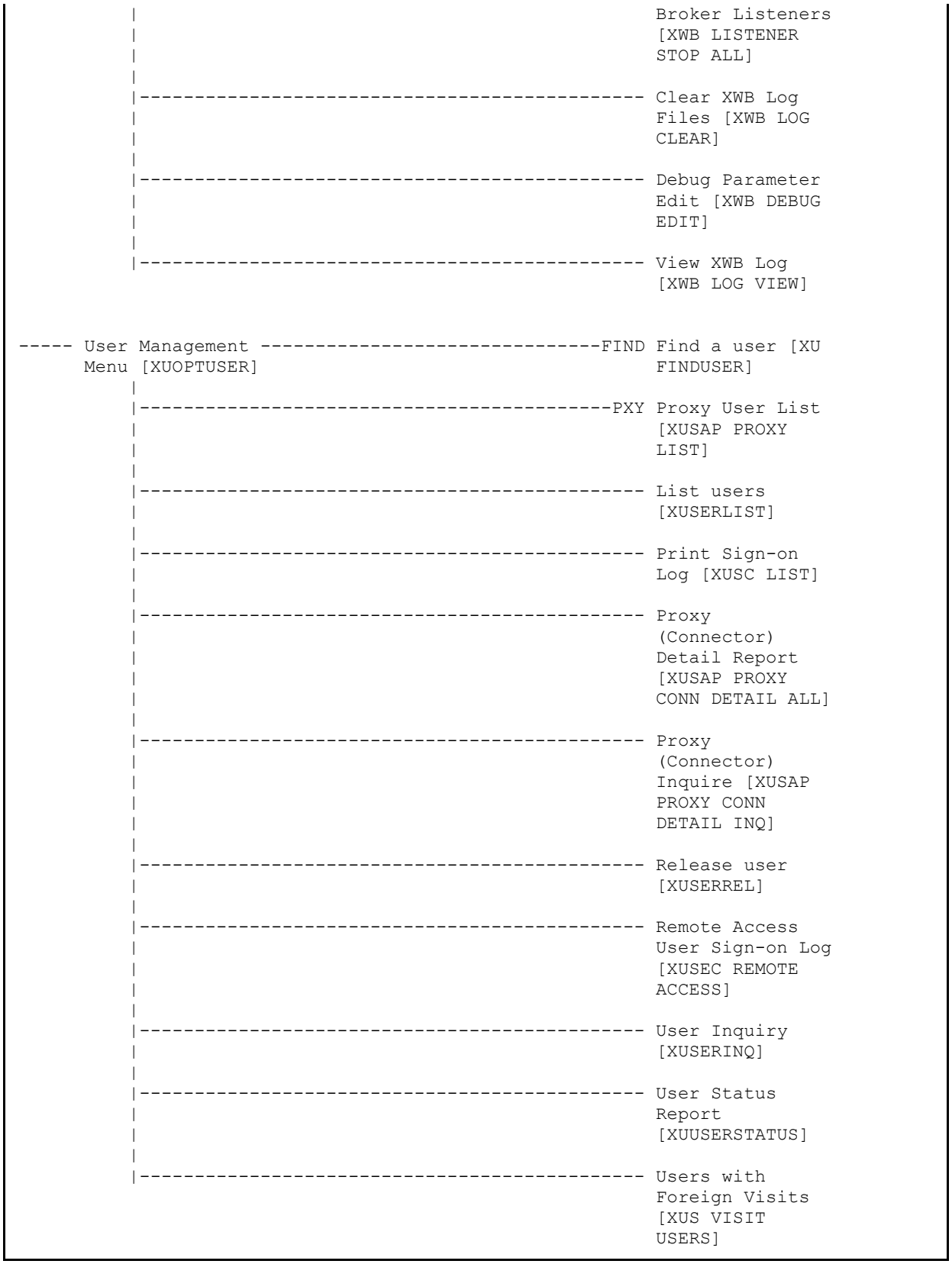
Figure 11: XUSITEMGR—Menu Tree Diagram: Sample from OAKTST "Gold" Account




Manager
Parameters [XULM
EDIT PARAMETERS]
PURG Purge Lock
Manager Log
[XULM PURGE LOCK
MANAGER LOG]
RJD Kill off a
users' job
[XURESJOB]
**LOCKED:
XUMGR**
----- Alert Management -----
[XQALERT MGR]
SURO Alerts -
Set/Remove
Surrogate for
User [XQALERT
SURROGATE
SET/REMOVE]
Delete Old (>14
d) Alerts
[XQALERT DELETE
OLD]
Make an alert on
the fly [XQALERT
MAKE]
Purge Alerts for
a User [XQALERT
BY USER DELETE]
**LOCKED:
XQAL-DELETE**
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

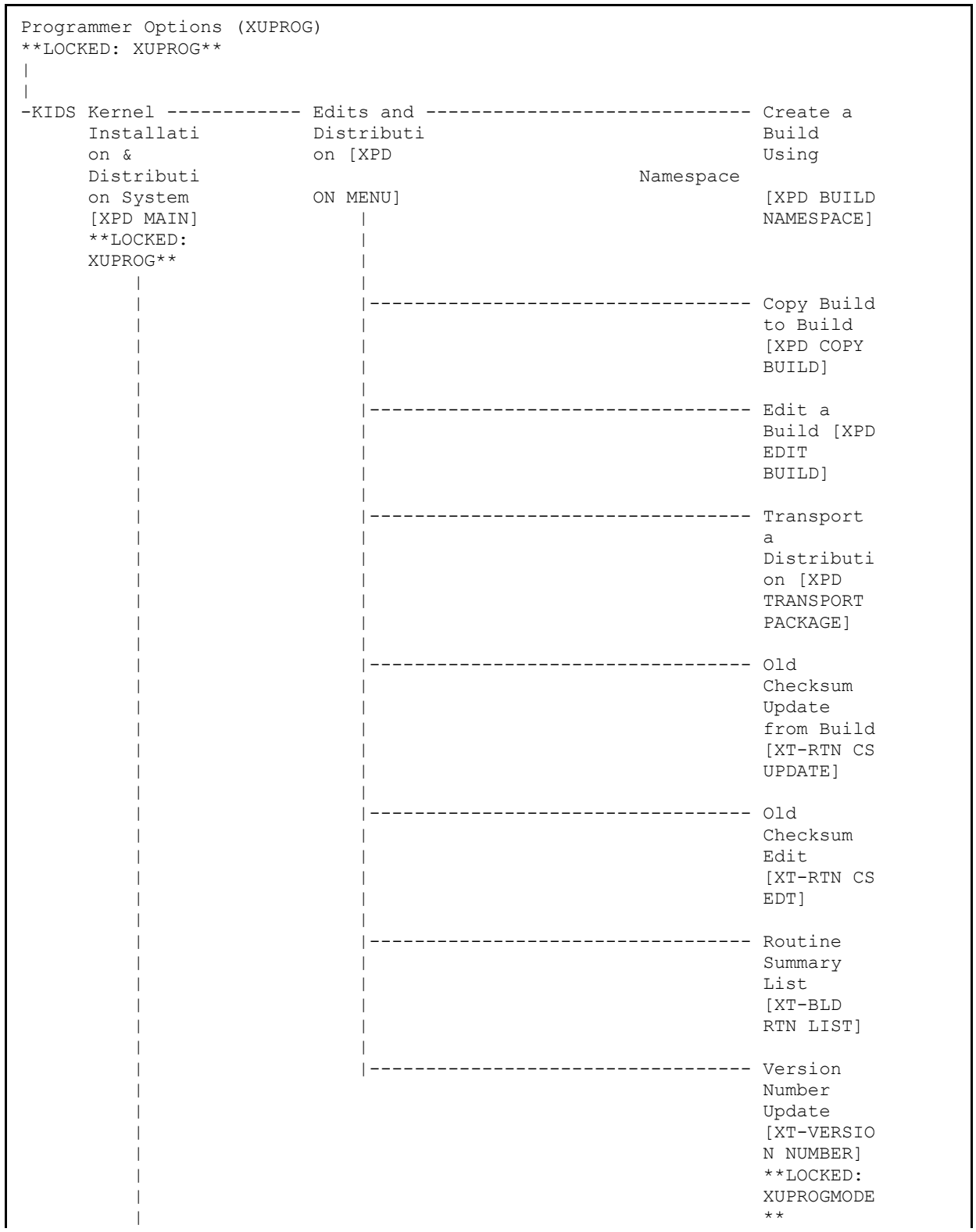

(Date/Site/Num/Rou/Err) [XQAB ERR DATE/SITE/NUM/ROU/ERR]
Send Alpha/Beta Usage to Developers [XQAB AUTO SEND]
Clean old Job Nodes in XUTL [XQ XUTL $J NODES]
Delete Old (>14 d) Alerts [XQALERT DELETE OLD]
Foundations Management [XOBU SITE SETUP MENU]
Institution File Query / Update [XUMF INSTITUTION] **LOCKED: XUMF INSTITUTION**
----- 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]
Institution DEA# edit [XU-INSTITUTION-DEA] **LOCKED:

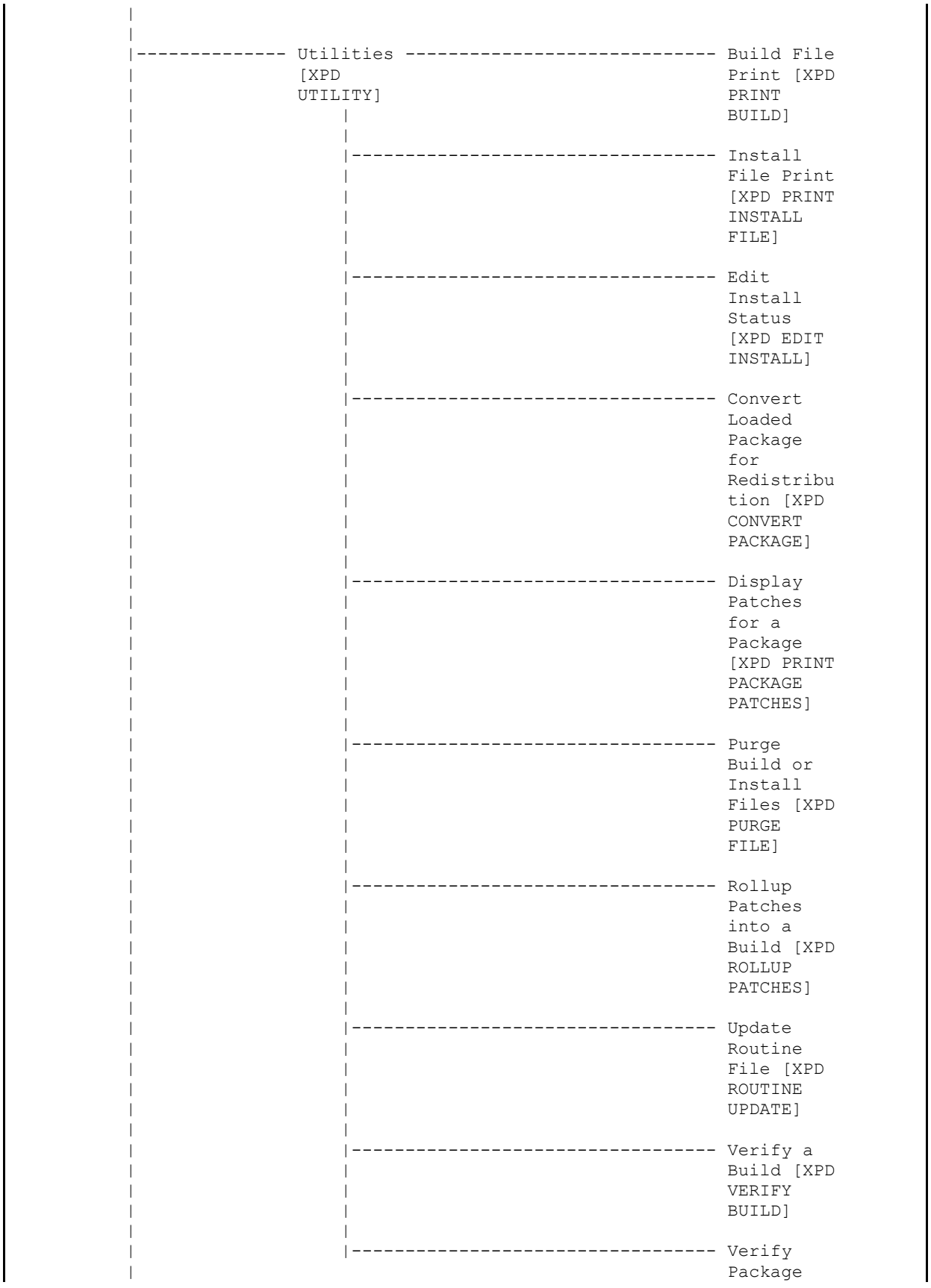

XUMGR**
Institution Edit [XU-INSTITUTION-E]
Kernel New Features Help [XUVERSIONEW-HELP]
Kernel Parameter File Edit [XUPARAM]
Kernel PKI Parameter Edit [XUSSPKI EDIT]
Load Institution NPI values [XUMF LOAD NPI] **UNAVAILABLE**
NPF cleanup main menu [XUPS NPF CLEANUP MAIN MENU]
STA XUPS ASSESSMENT STATS [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

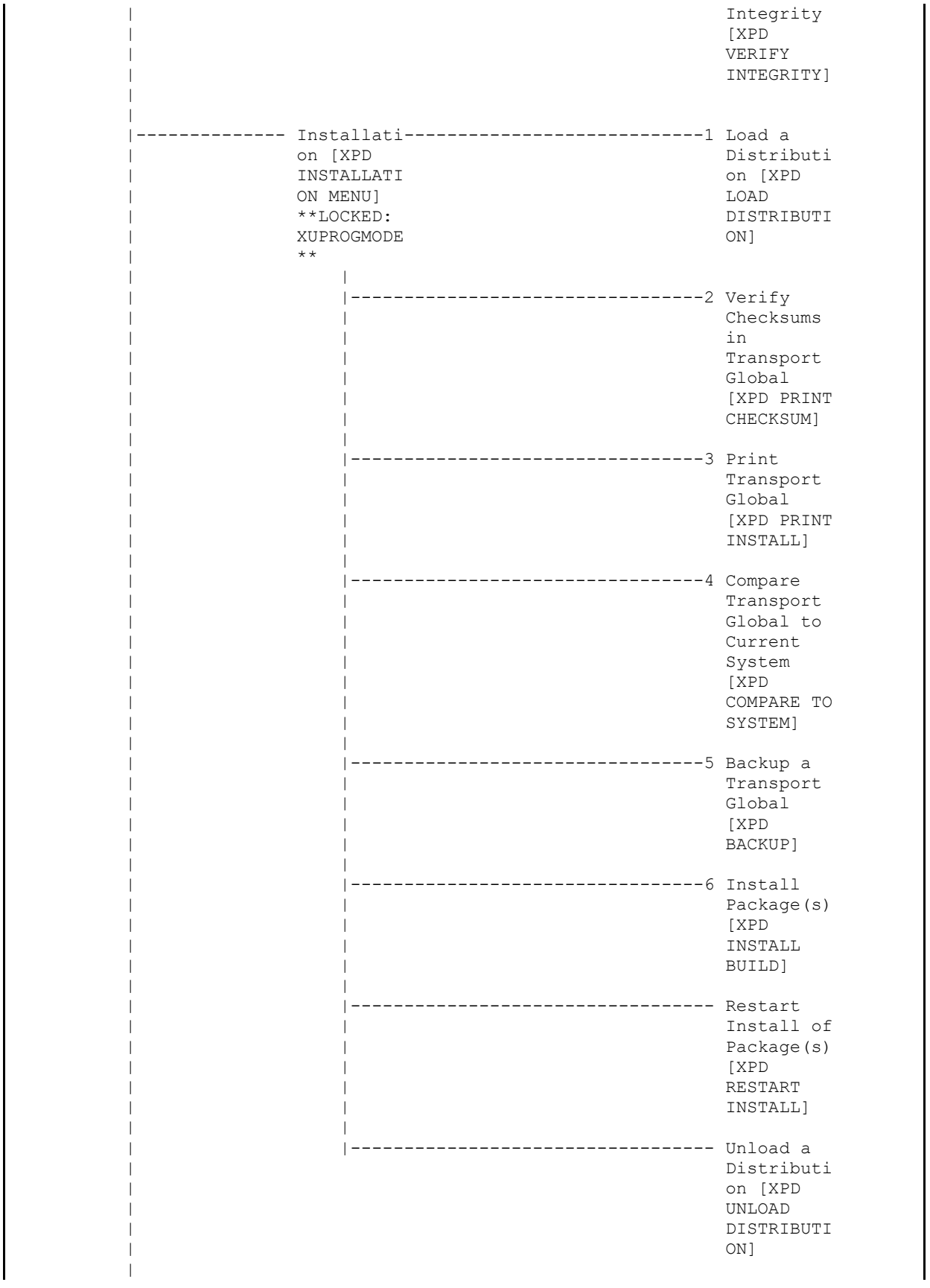

Broker Listeners [XWB LISTENER STOP ALL]
Clear XWB Log Files [XWB LOG CLEAR]
Debug Parameter Edit [XWB DEBUG EDIT]
View XWB Log [XWB LOG VIEW]
----- User Management Menu [XUOPTUSER] ----------
FIND Find a user [XU FINDUSER]
PXY Proxy User List [XUSAP PROXY LIST]
List users [XUSERLIST]
Print Sign-on Log [XUSC LIST]
Proxy (Connector) Detail Report [XUSAP PROXY CONN DETAIL ALL]
Proxy (Connector) Inquire [XUSAP PROXY CONN DETAIL INQ]
Release user [XUSERREL]
Remote Access User Sign-on Log [XUSEC REMOTE ACCESS]
User Inquiry [XUSERINQ]
User Status Report [XUUSERSTATUS]
Users with Foreign Visits [XUS VISIT USERS]

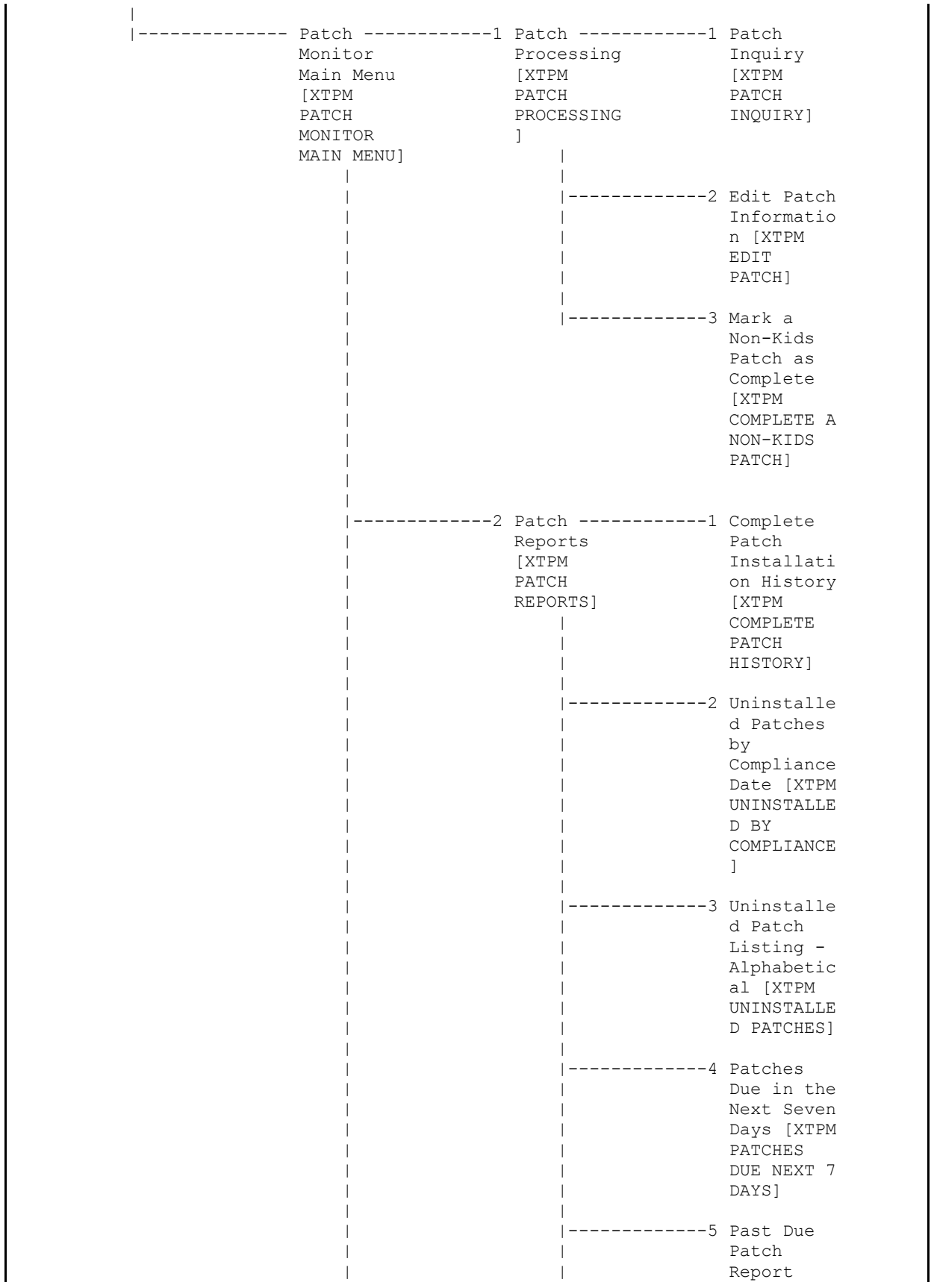
5.2.7 XUPROG

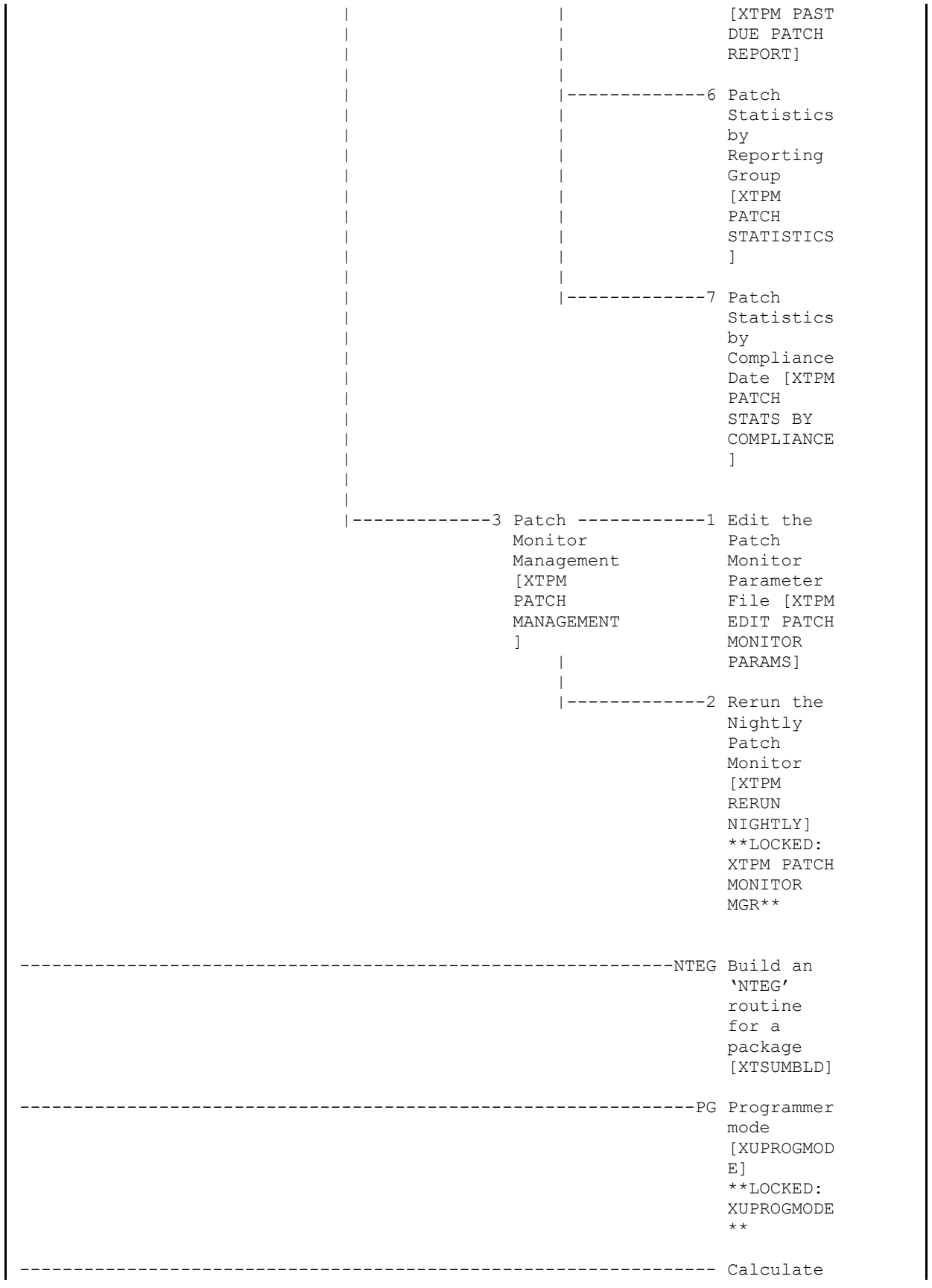
Figure 12: XUPROG—Menu Tree Diagram: Sample from OAKTST "Gold" Account

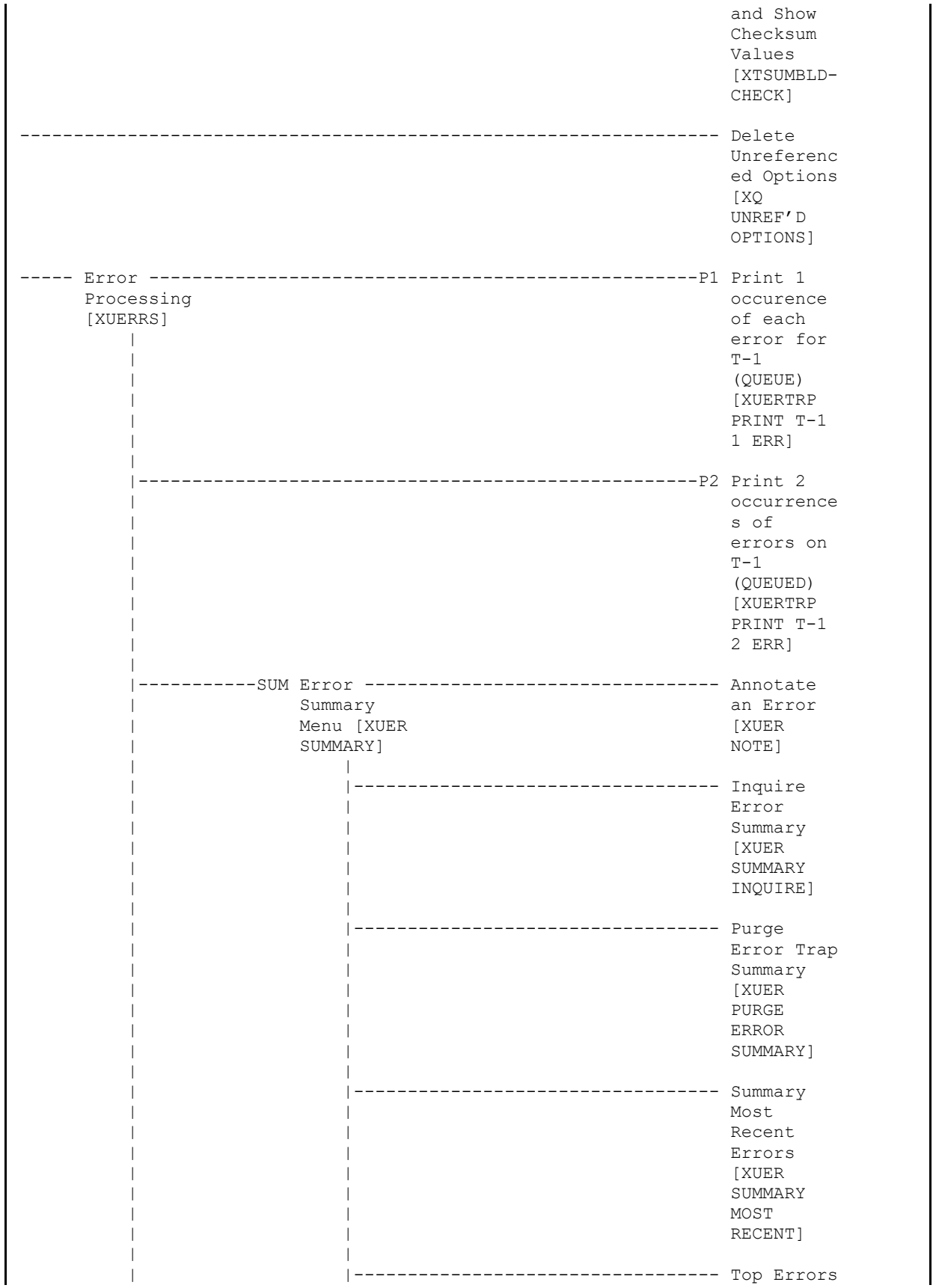


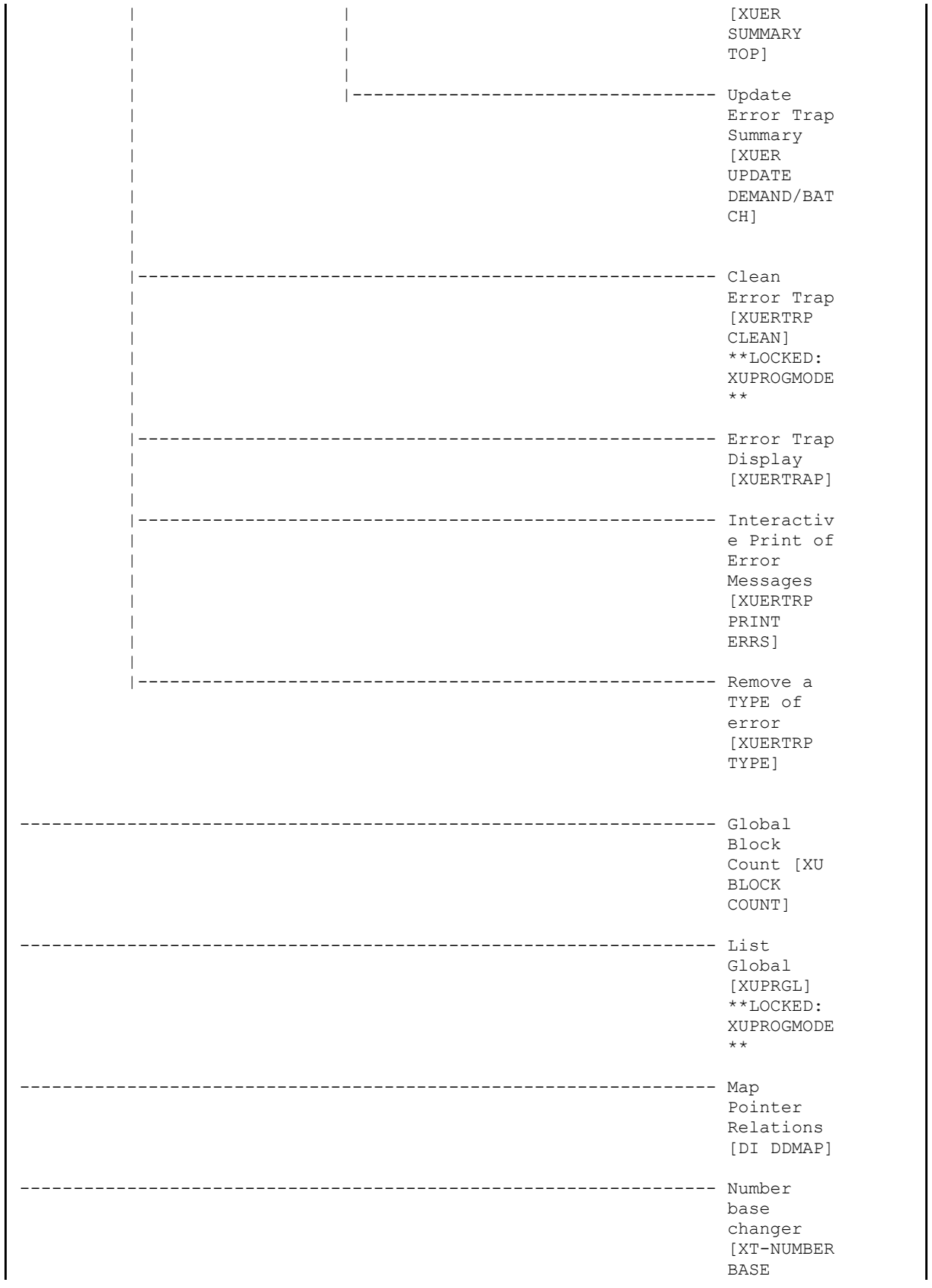

Utilities [XPD UTILITY]
Build File Print [XPD PRINT BUILD]
Install File Print [XPD PRINT INSTALL FILE]
Edit Install Status [XPD EDIT INSTALL]
Convert Loaded Package for Redistribution [XPD CONVERT PACKAGE]
Display Patches for a Package [XPD PRINT PACKAGE PATCHES]
Purge Build or Install Files [XPD PURGE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

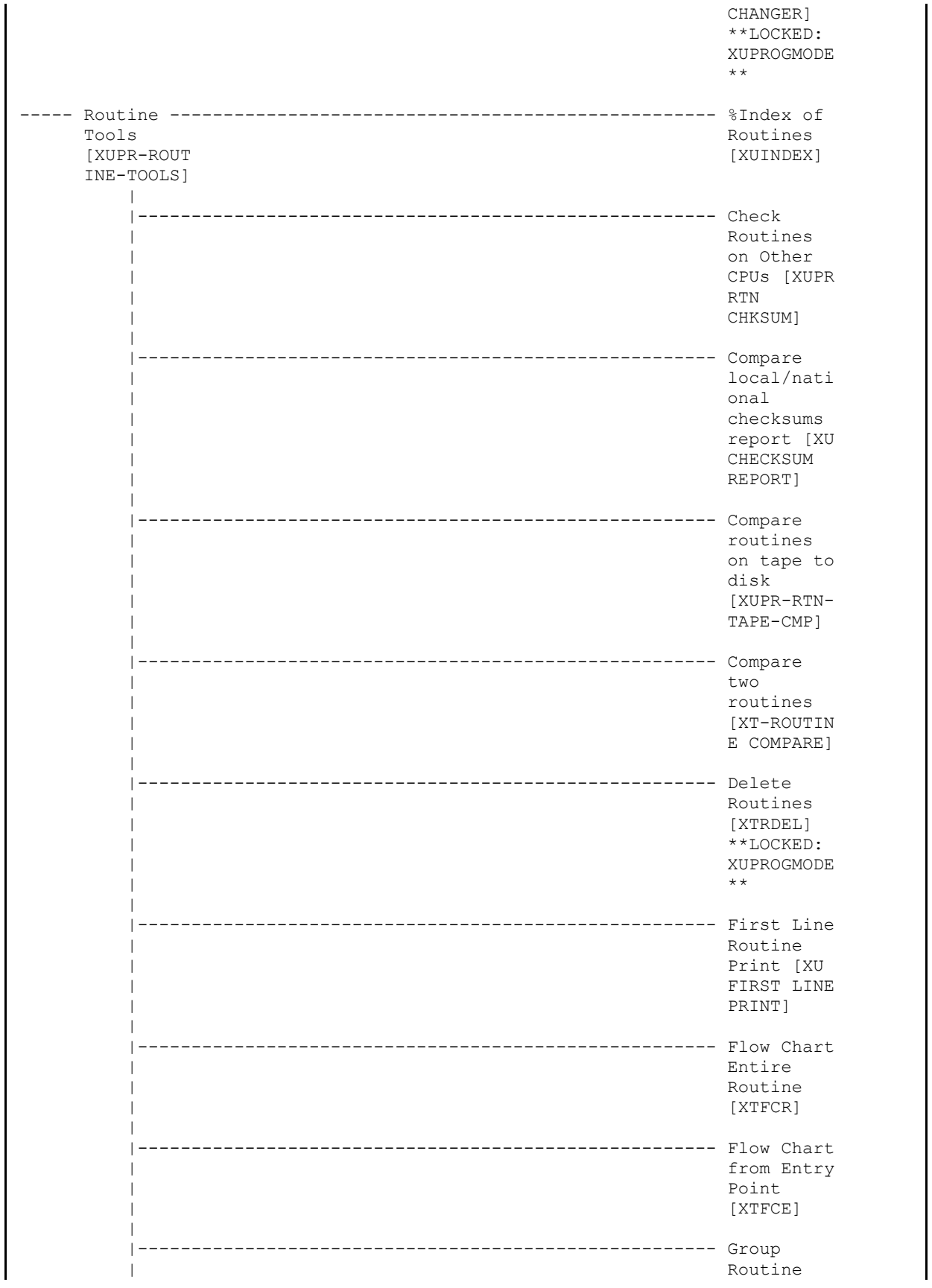

Integrity [XPD VERIFY INTEGRITY]
Installation [XPD INSTALLATION MENU] **LOCKED: XUPROGMODE **
1 Load a Distribution [XPD LOAD DISTRIBUTION]
2 Verify Checksums in Transport Global [XPD PRINT CHECKSUM]
3 Print Transport Global [XPD PRINT INSTALL]
4 Compare Transport Global to Current System [XPD COMPARE 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]

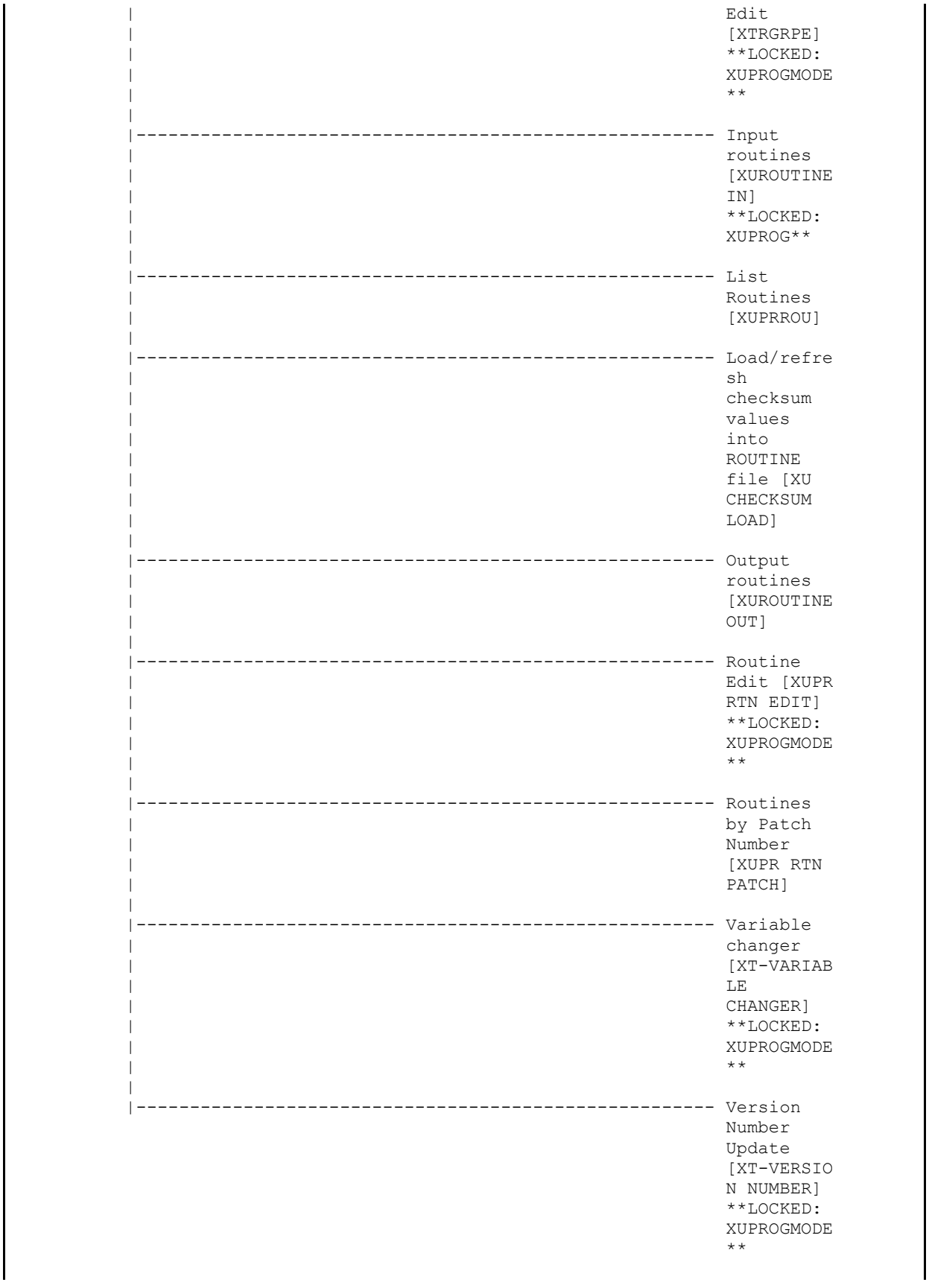

Patch Monitor Main Menu [XTPM PATCH MONITOR MAIN MENU]
1 Patch Processing [XTPM PATCH PROCESSING]
1 Patch Inquiry [XTPM PATCH INQUIRY]
2 Edit Patch Information [XTPM EDIT PATCH]
3 Mark a Non-Kids Patch as Complete [XTPM COMPLETE A NON-KIDS PATCH]
2 Patch Reports [XTPM PATCH REPORTS]
1 Complete Patch 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

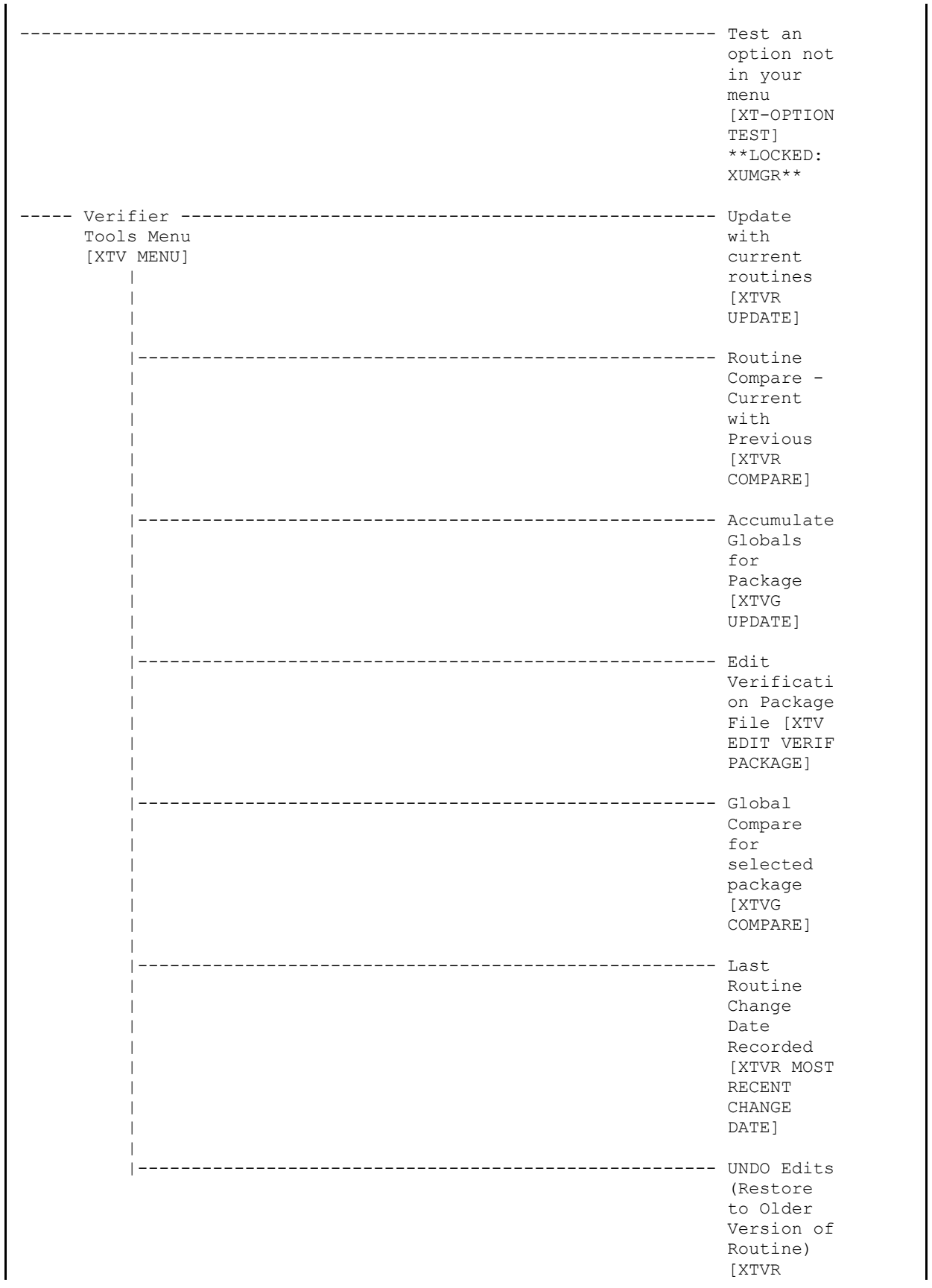

[XTPM PAST DUE PATCH REPORT]
6 Patch Statistics by Reporting Group [XTPM PATCH STATISTICS]
7 Patch Statistics by Compliance Date [XTPM PATCH STATS BY COMPLIANCE]
3 Patch Monitor Management [XTPM PATCH MANAGEMENT]
1 Edit the Patch Monitor Parameter File [XTPM EDIT PATCH MONITOR PARAMS]
2 Rerun the Nightly 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 Verification 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]
```

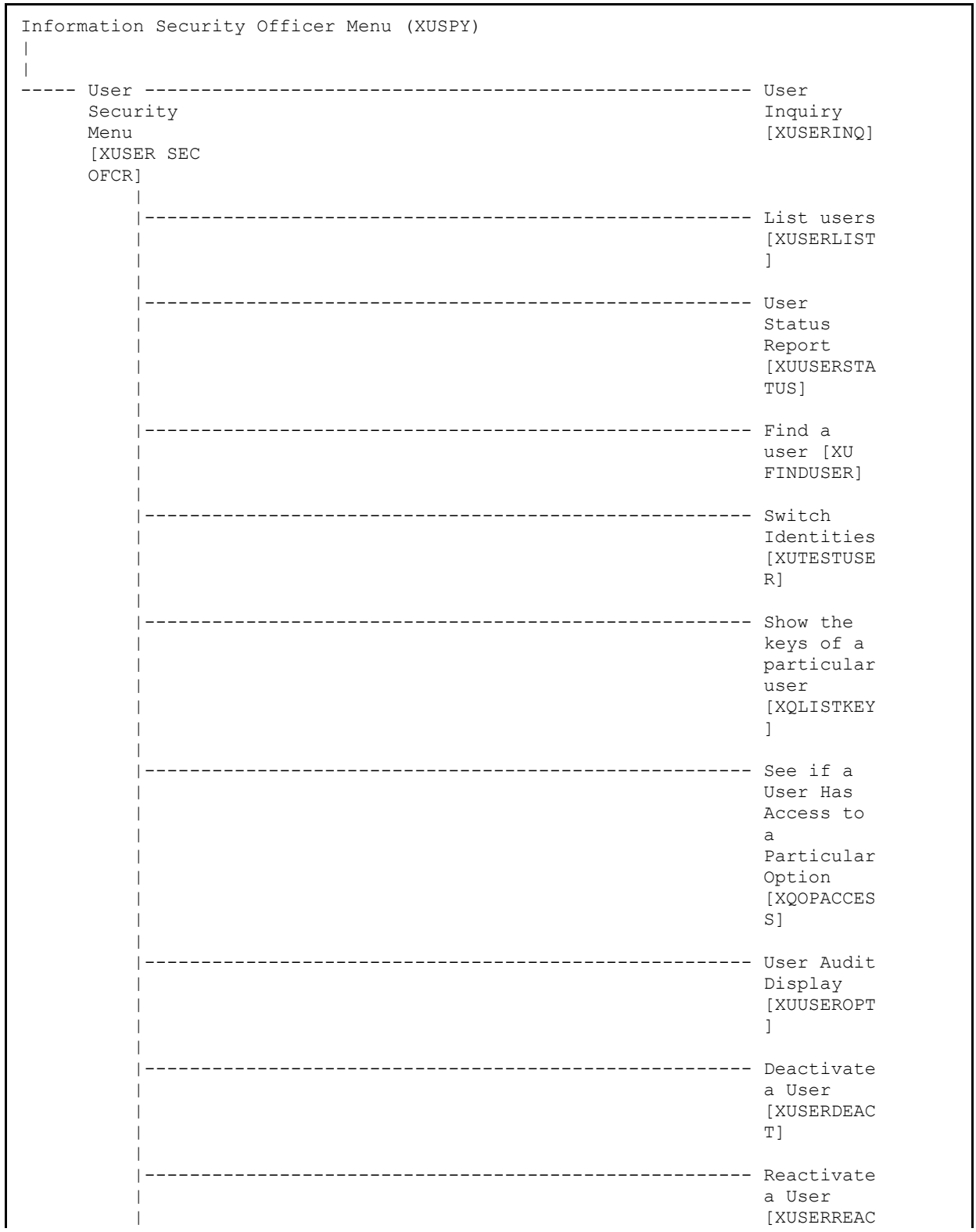
5.2.8 XU-SPL-MGR

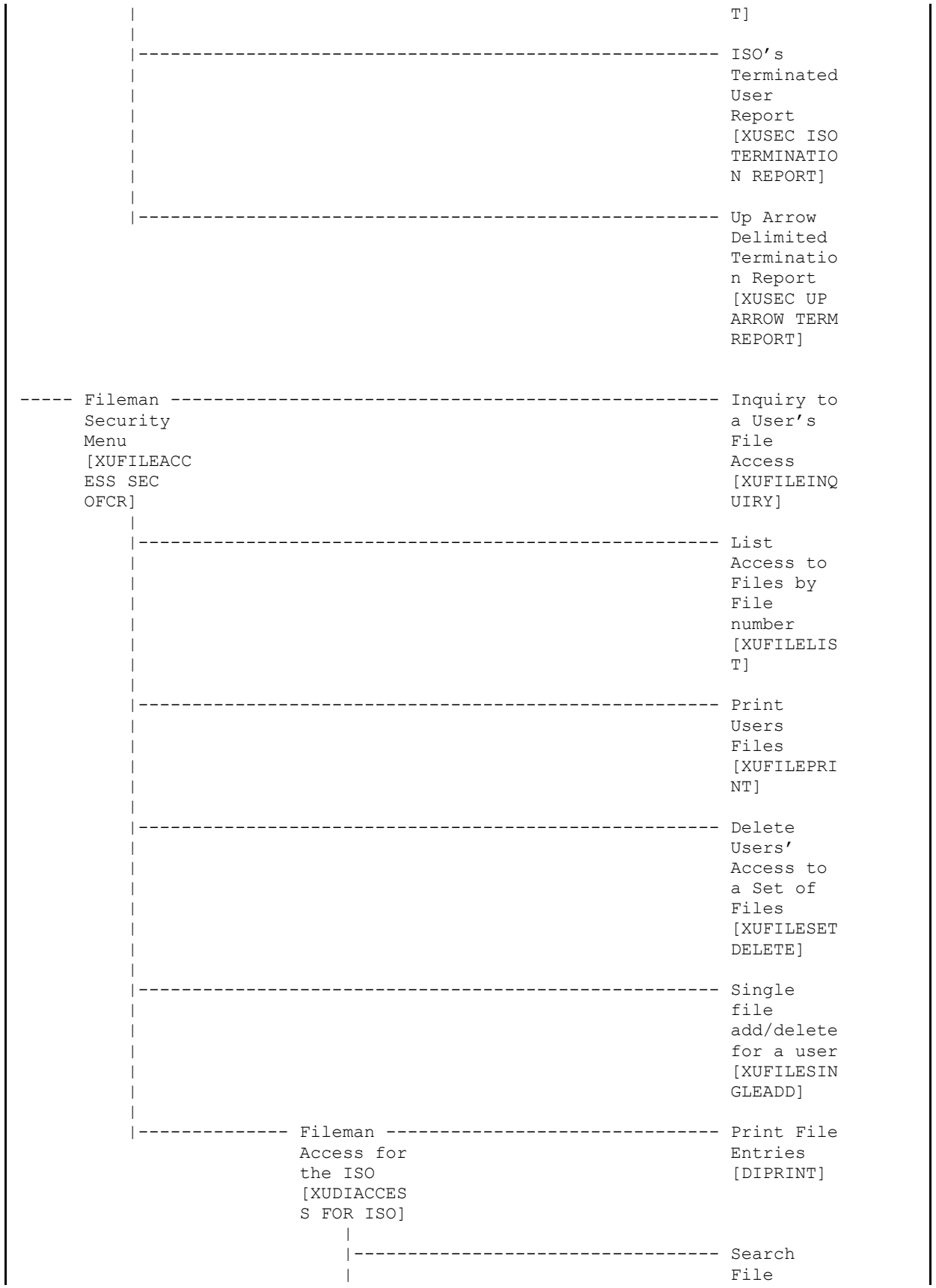
Figure 13: XU-SPL-MGR—Menu Tree Diagram: Sample from OAKTST "Gold" Account

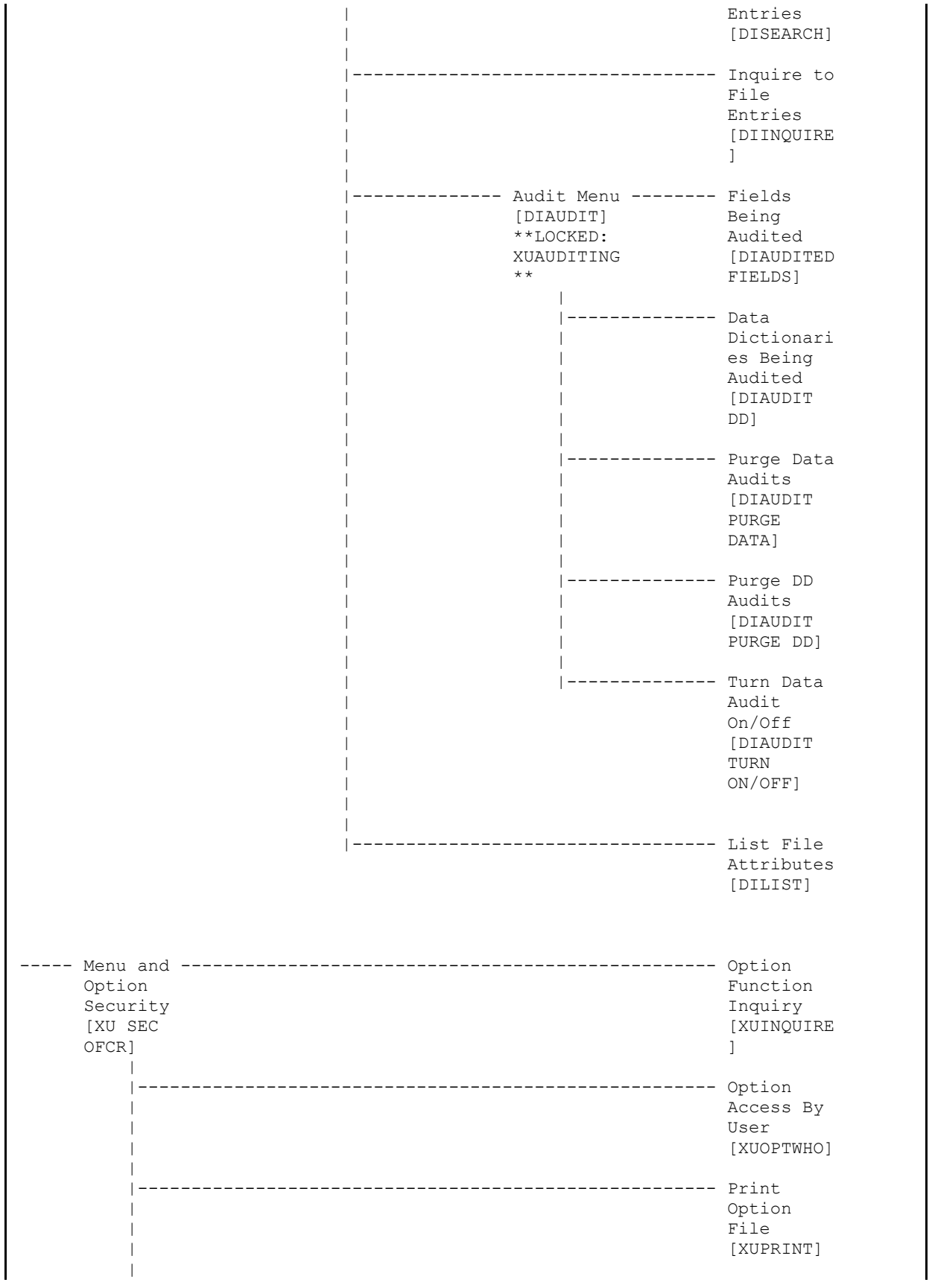
```
Spool Management (XU-SPL-MGR)
|
|
----- Delete A Spool Document
      [XU-SPL-DELETE]

----- 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 14: 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]

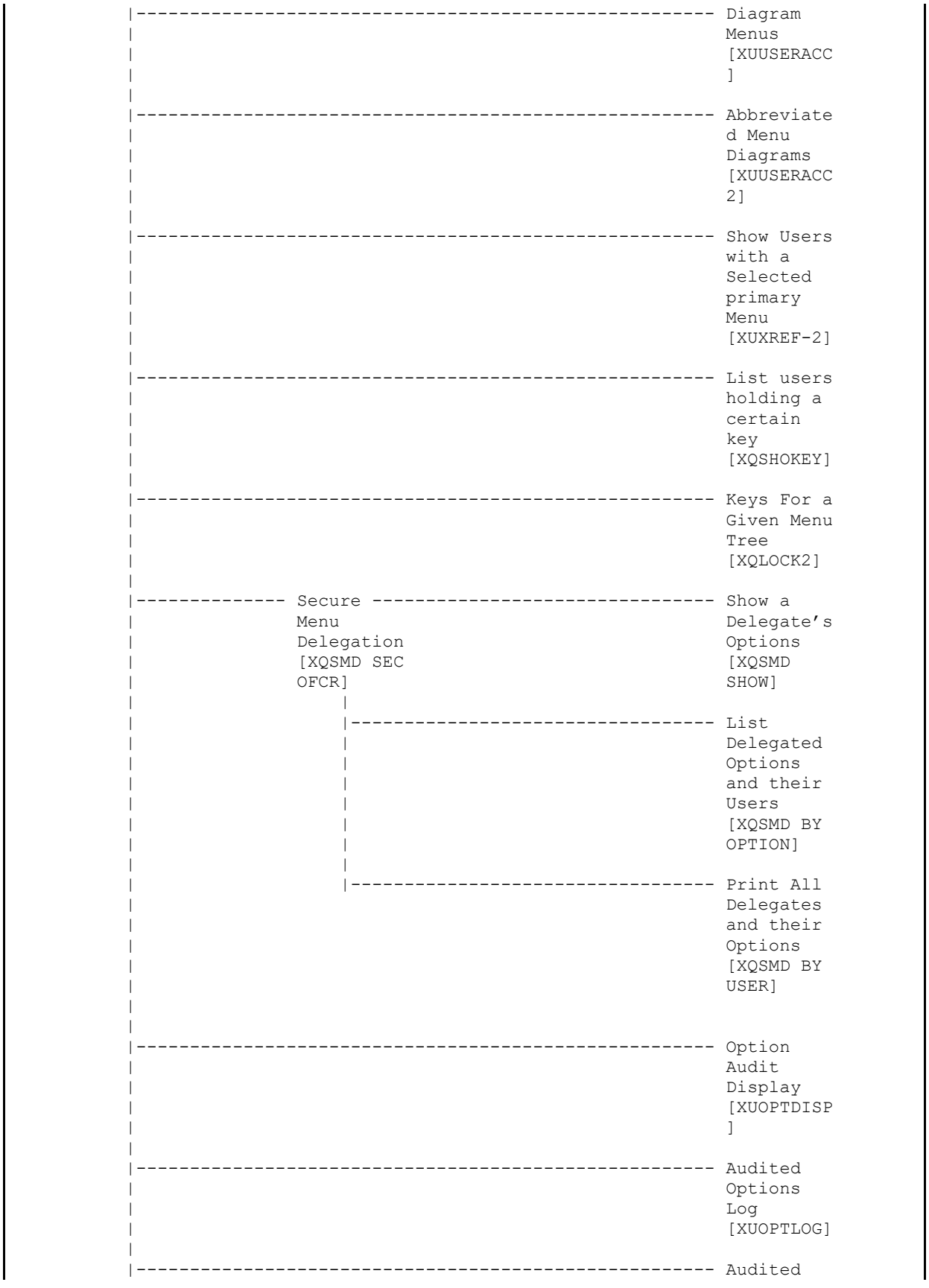
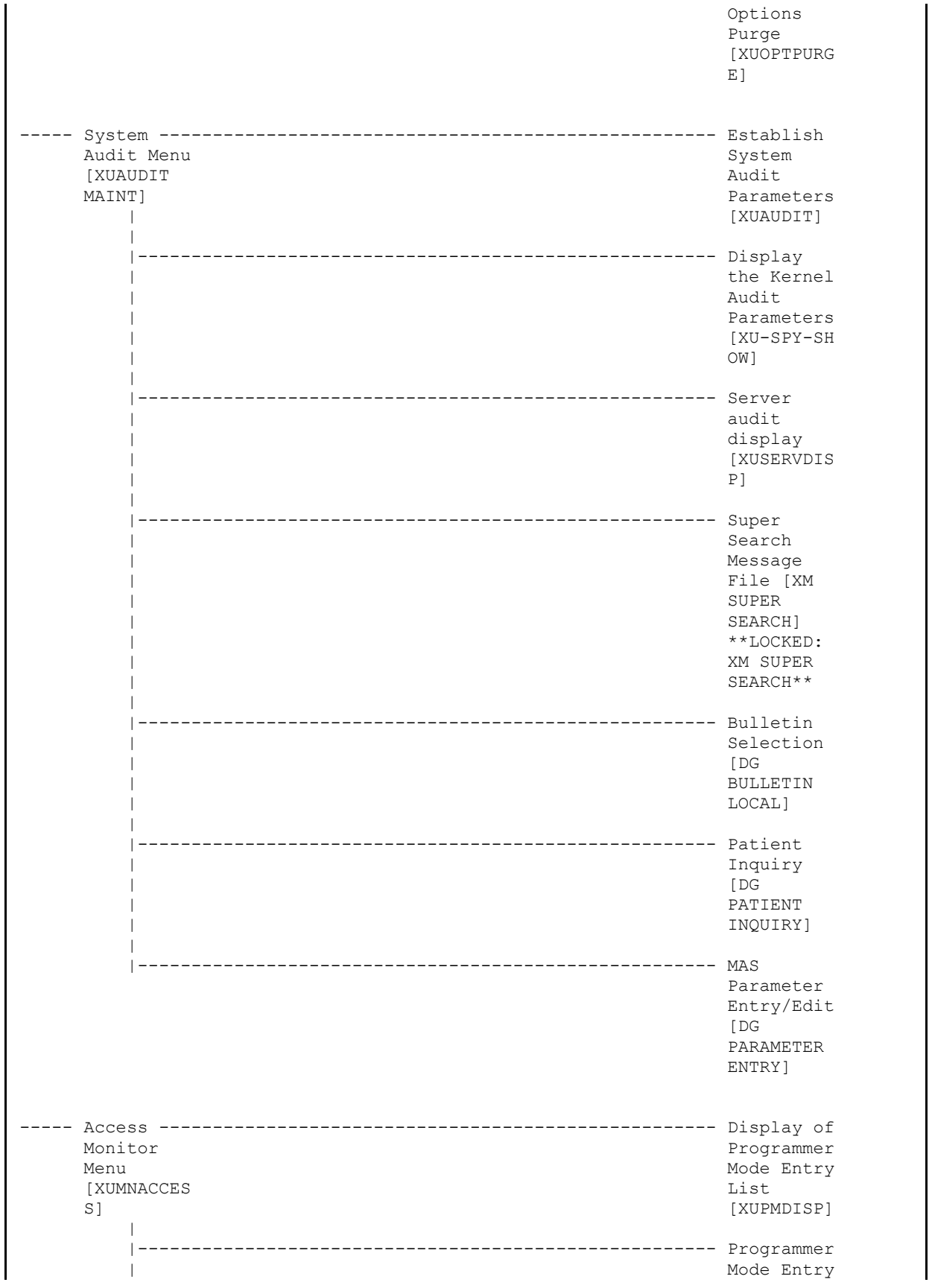
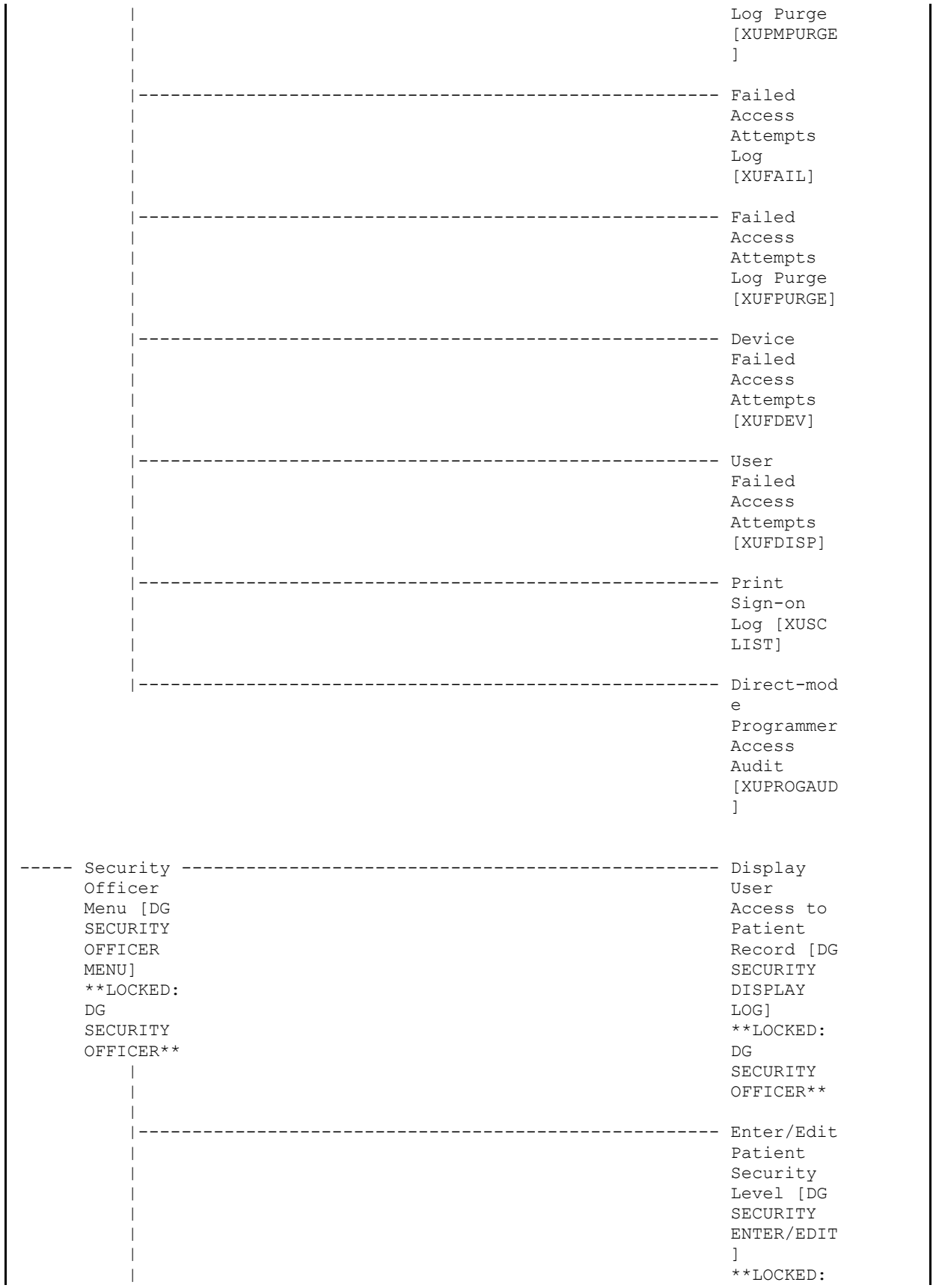


Diagram Menus [XUUSERACC]
Abbreviated Menu Diagrams [XUUSERACC 2]
Show Users with a Selected primary Menu [XUXREF-2]
List users holding a certain key [XQSHOKEY]
Keys For a Given Menu Tree [XQLOCK2]
Secure Menu Delegation [XQSMD SEC OFCR]
Show a Delegate’s Options [XQSMD SHOW]
List Delegated Options and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

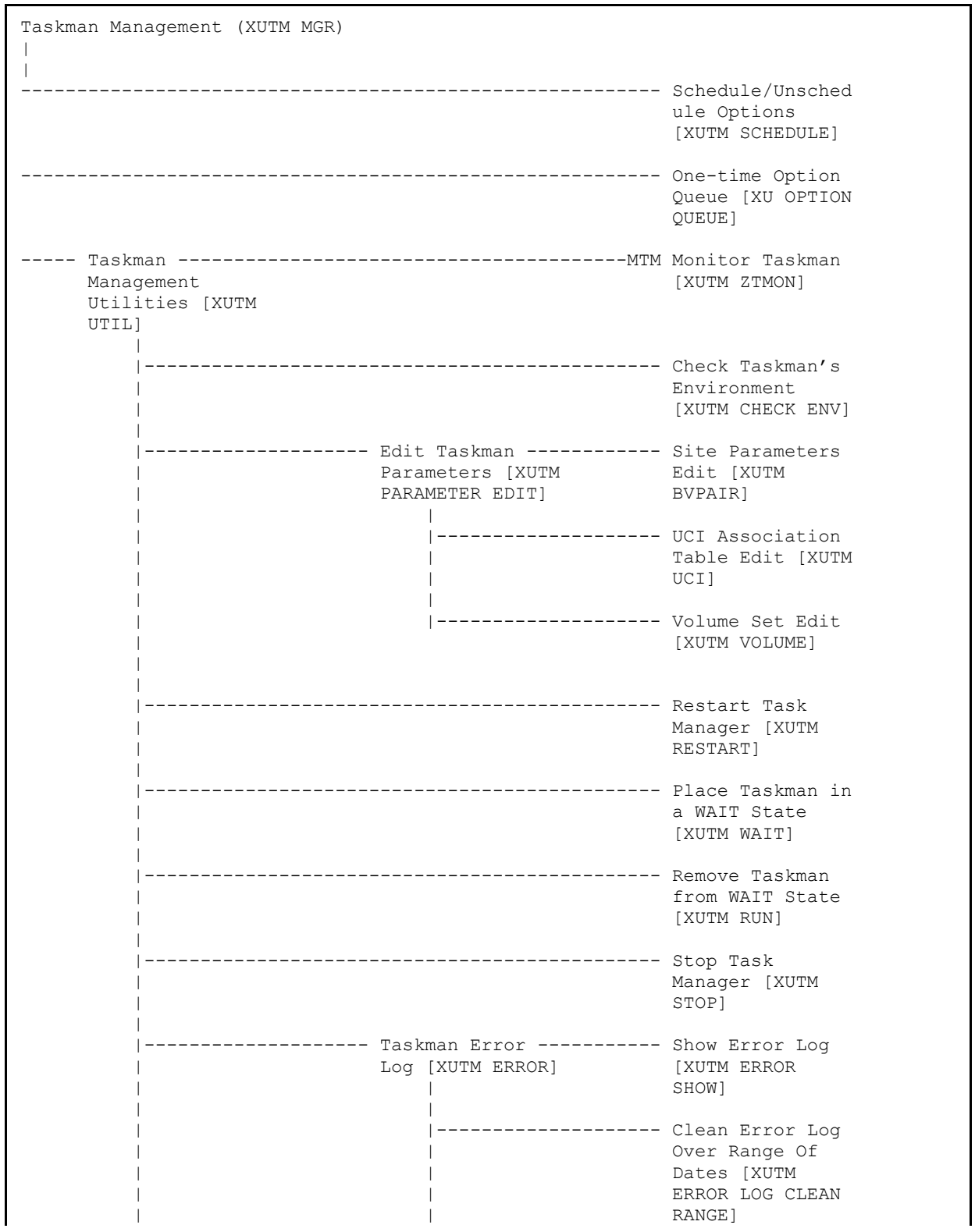

Options
Purge
[XUOPTPURG
E]
----- System Audit Menu [XUAUDIT MAINT] ----- Establish System Audit Parameters [XUAUDIT]
Display the Kernel Audit Parameters [XU-SPY-SH OW]
Server audit display [XUSERVDIS P]
Super Search Message File [XM SUPER SEARCH] **LOCKED: XM SUPER SEARCH**
Bulletin Selection [DG BULLETIN 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

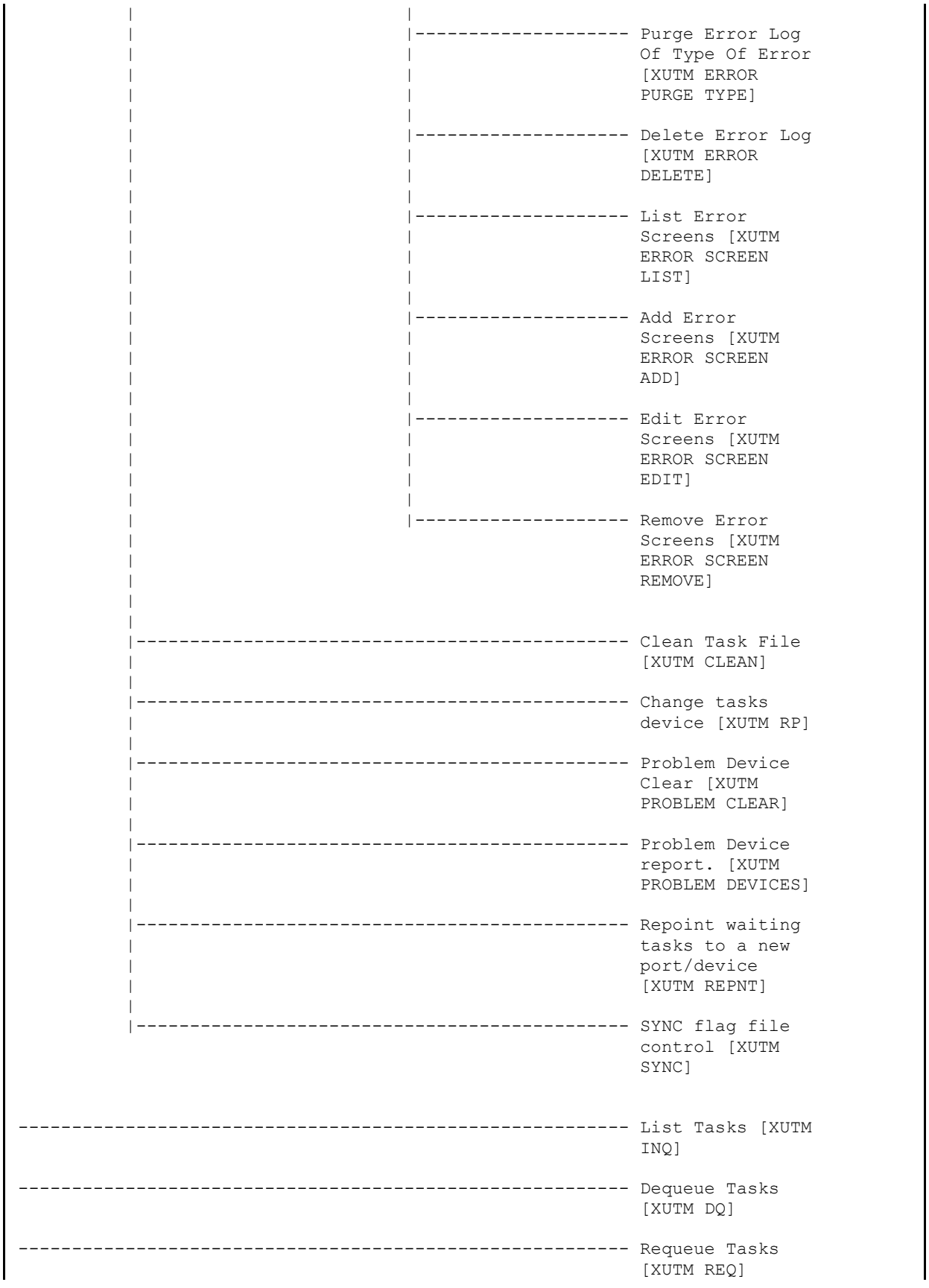

Log Purge [XUPMPURGE]
Failed Access Attempts Log [XUFAIL]
Failed Access Attempts Log Purge [XUFPURGE]
Device Failed Access Attempts [XUFDEV]
User Failed Access Attempts [XUFDISP]
Print Sign-on Log [XUSCLIST]
Direct-mode Programmer Access Audit [XUPROGAUD]
Security Officer Menu [DG SECURITY OFFICER MENU] **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 15: XUTM MGR—Menu Tree Diagram: Sample from OAKTST "Gold" Account

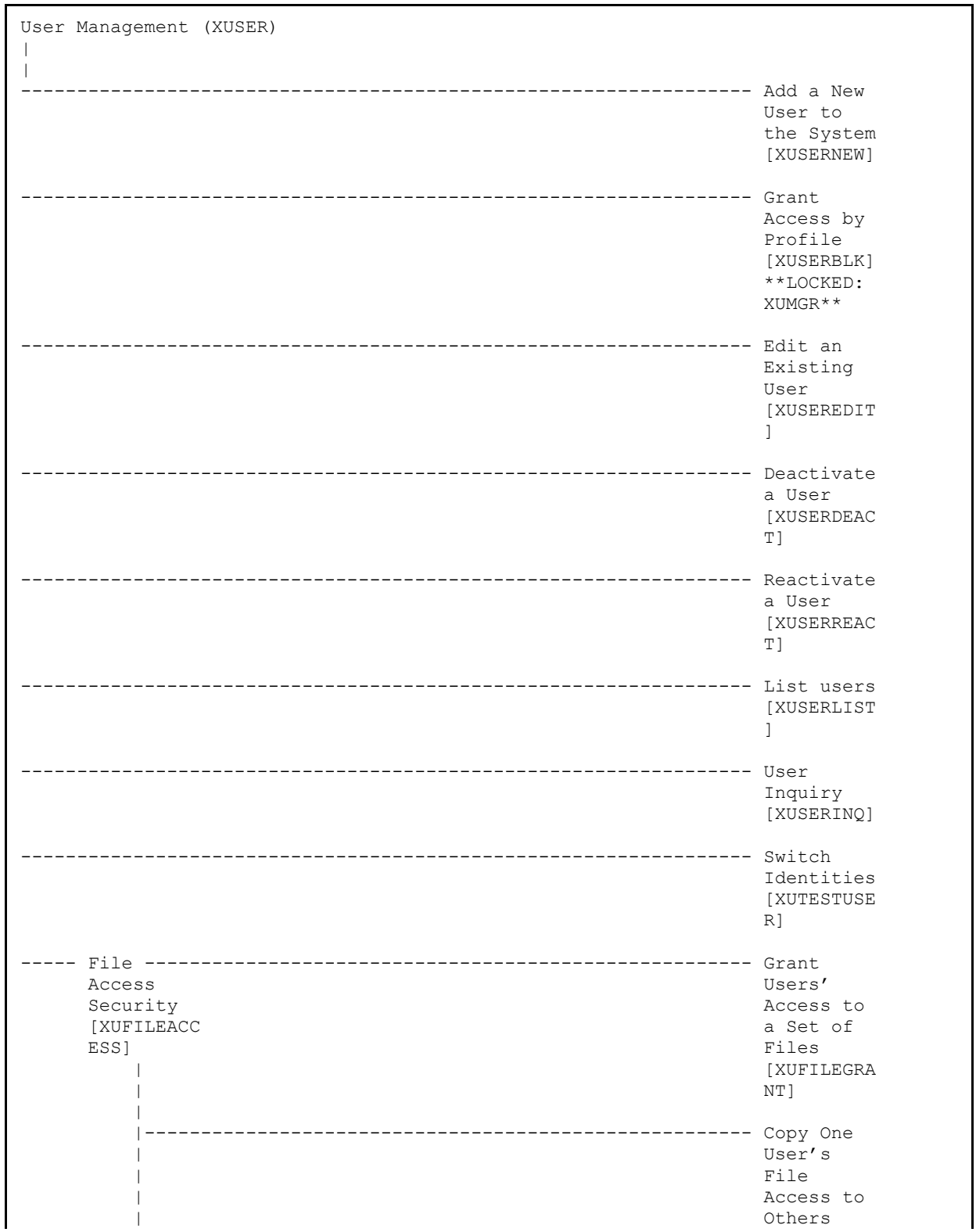


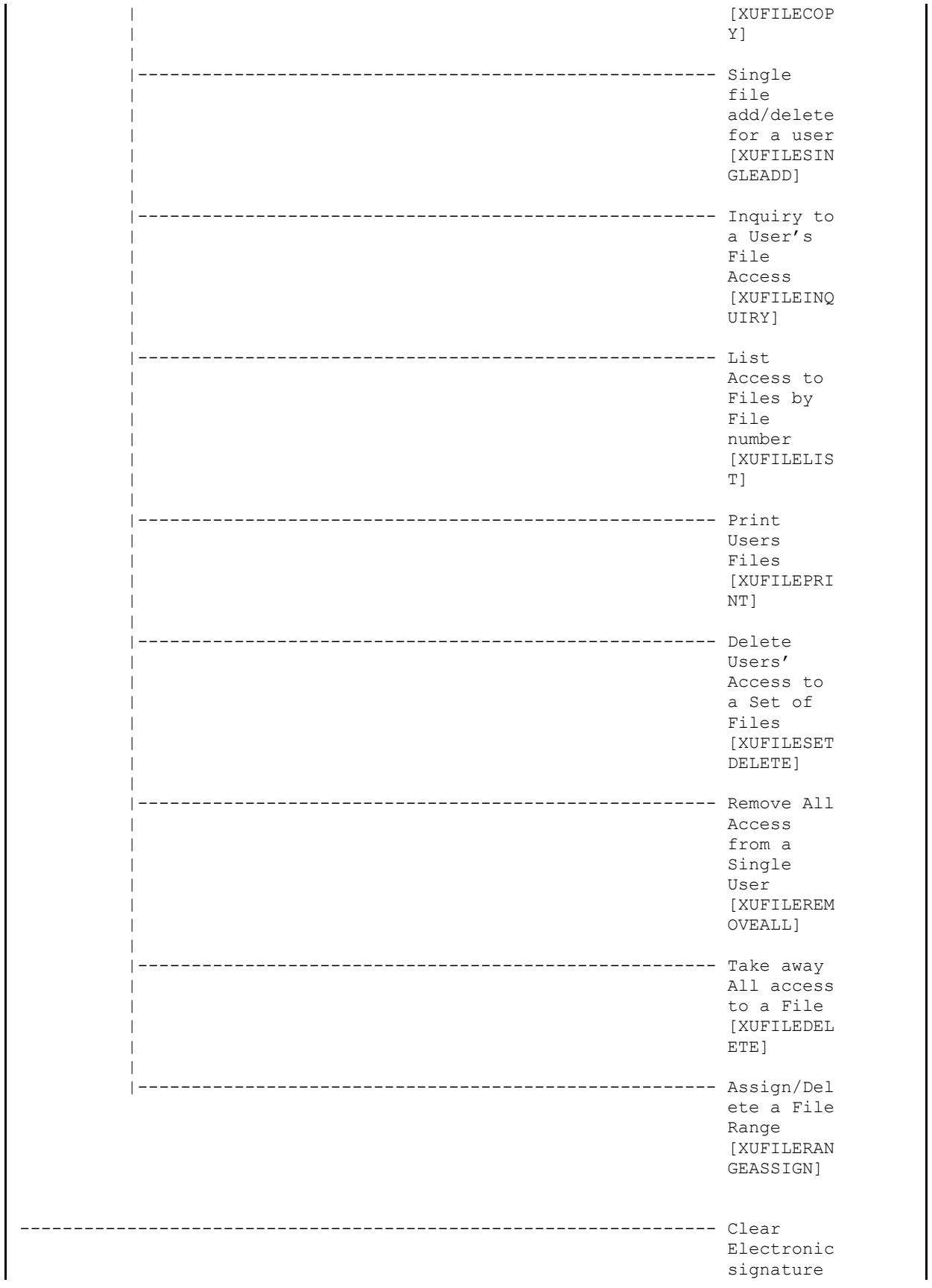

Purge Error Log Of Type Of Error [XUTM ERROR PURGE TYPE]
Delete Error Log [XUTM ERROR DELETE]
List Error Screens [XUTM ERROR SCREEN LIST]
Add Error Screens [XUTM ERROR SCREEN ADD]
Edit Error Screens [XUTM ERROR SCREEN EDIT]
Remove Error Screens [XUTM ERROR SCREEN REMOVE]
Clean Task File [XUTM CLEAN]
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]

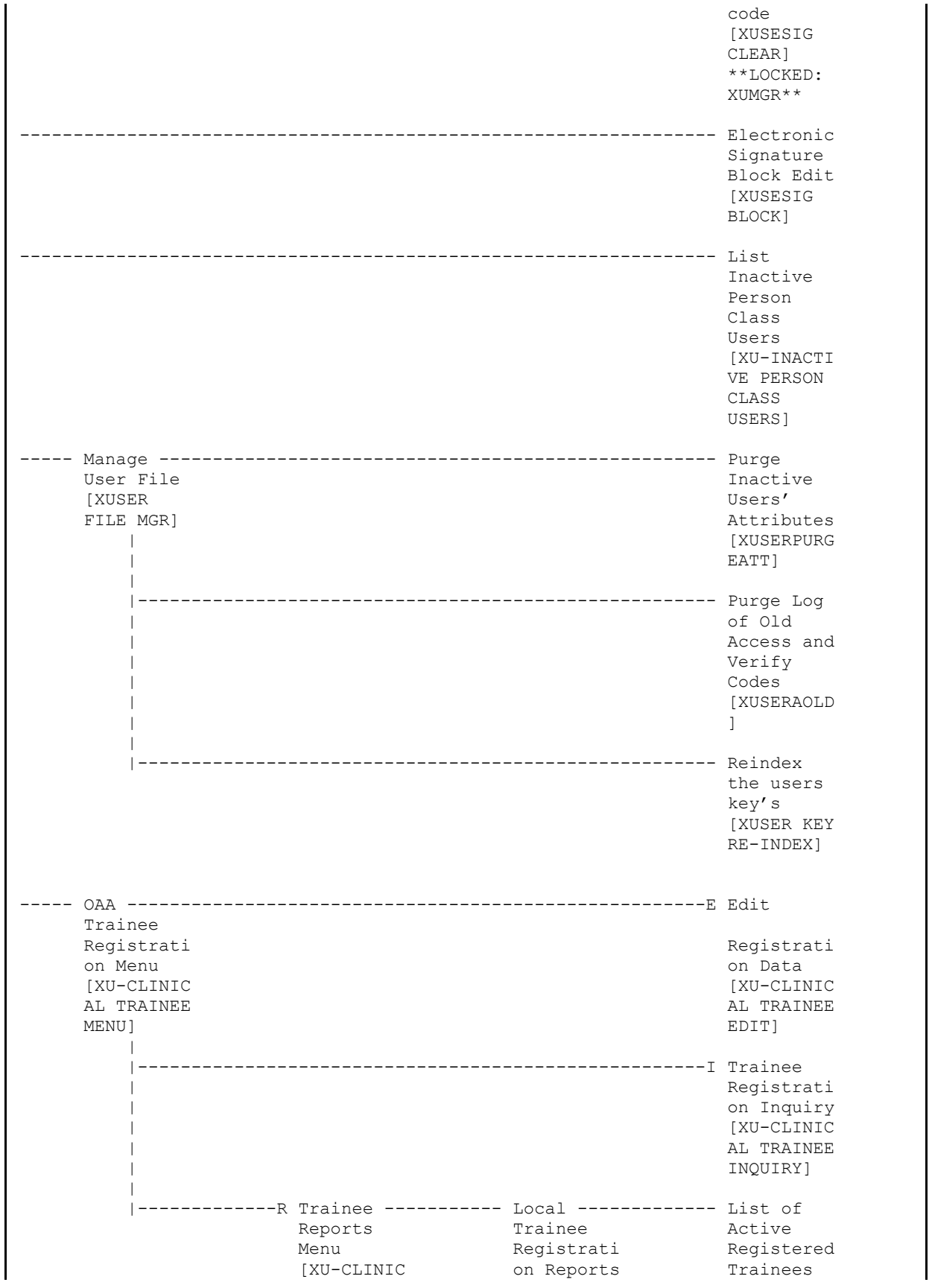
```
---------------------------------------------------------- Delete Tasks
                                                           [XUTM DEL]

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

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

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

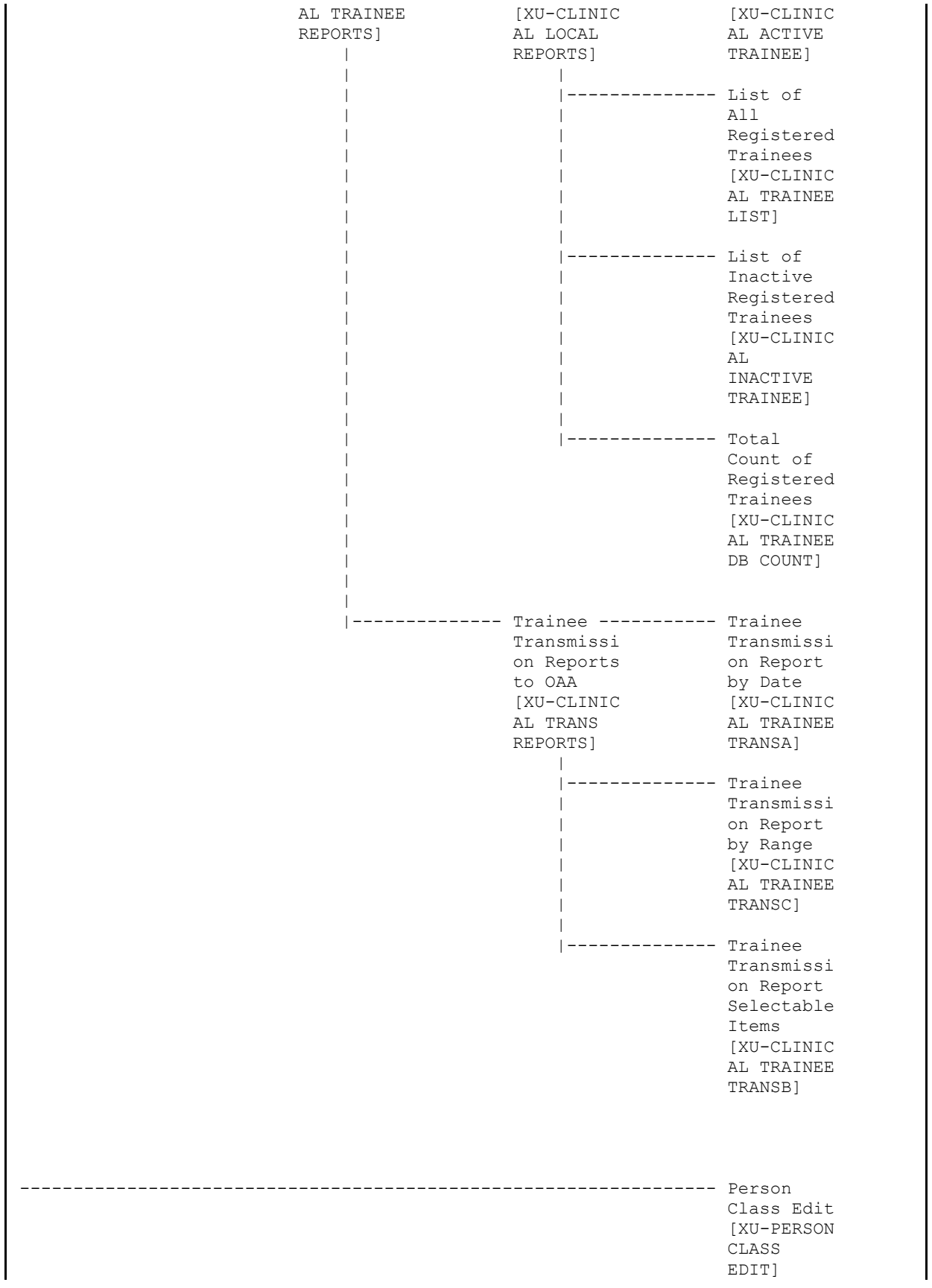
5.2.11 XUSER

Figure 16: 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
E Edit
Trainee
Registrati
on Menu
[XU-CLINIC
AL TRAINEE
MENU]
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]
```

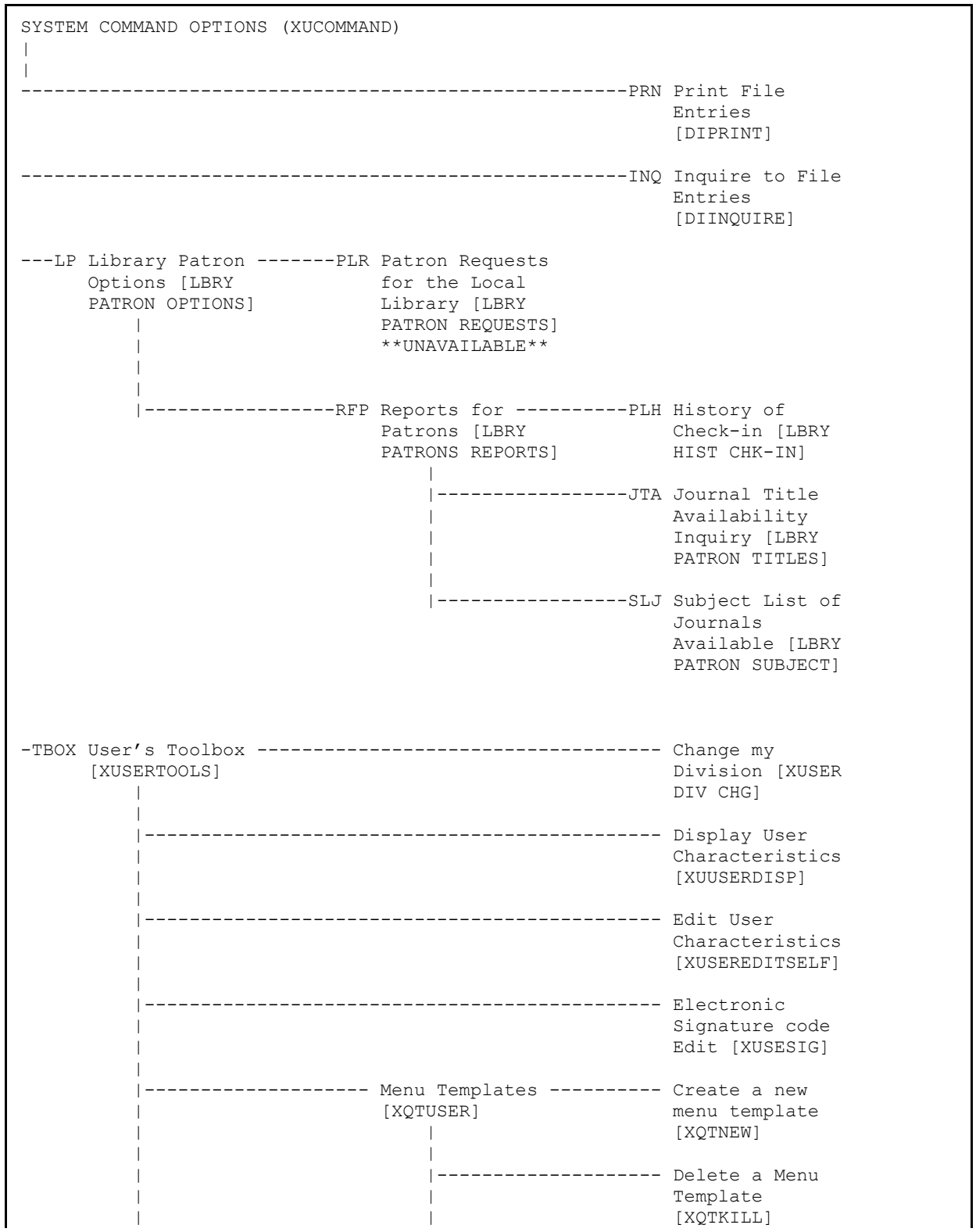
5.2.12 Parent of Queuable Options [ZTMQUEUABLE OPTIONS]

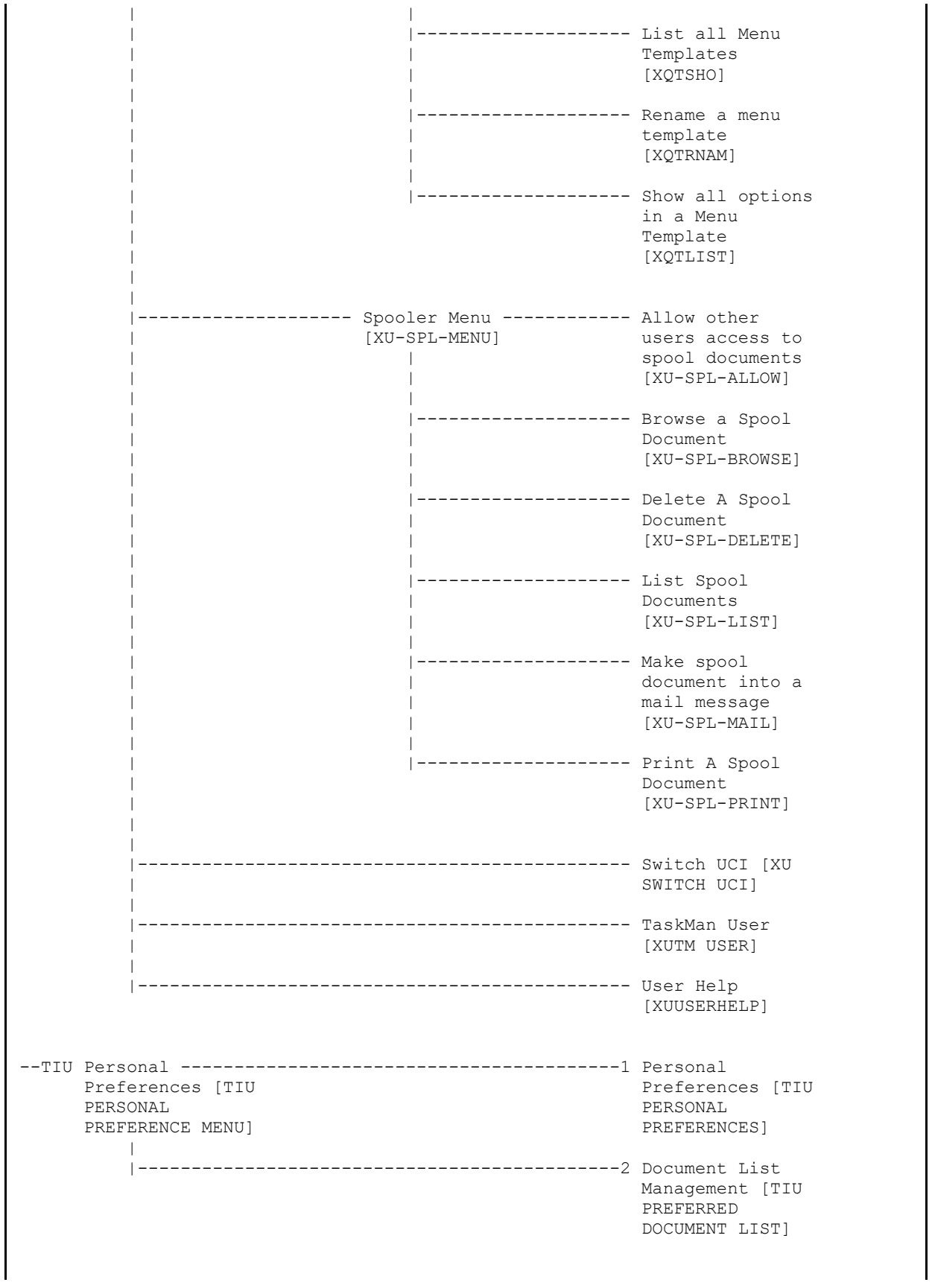
Figure 17: ZTMQUEUABLE OPTIONS—Menu Tree Diagram: Sample from OAKTST "Gold" Account

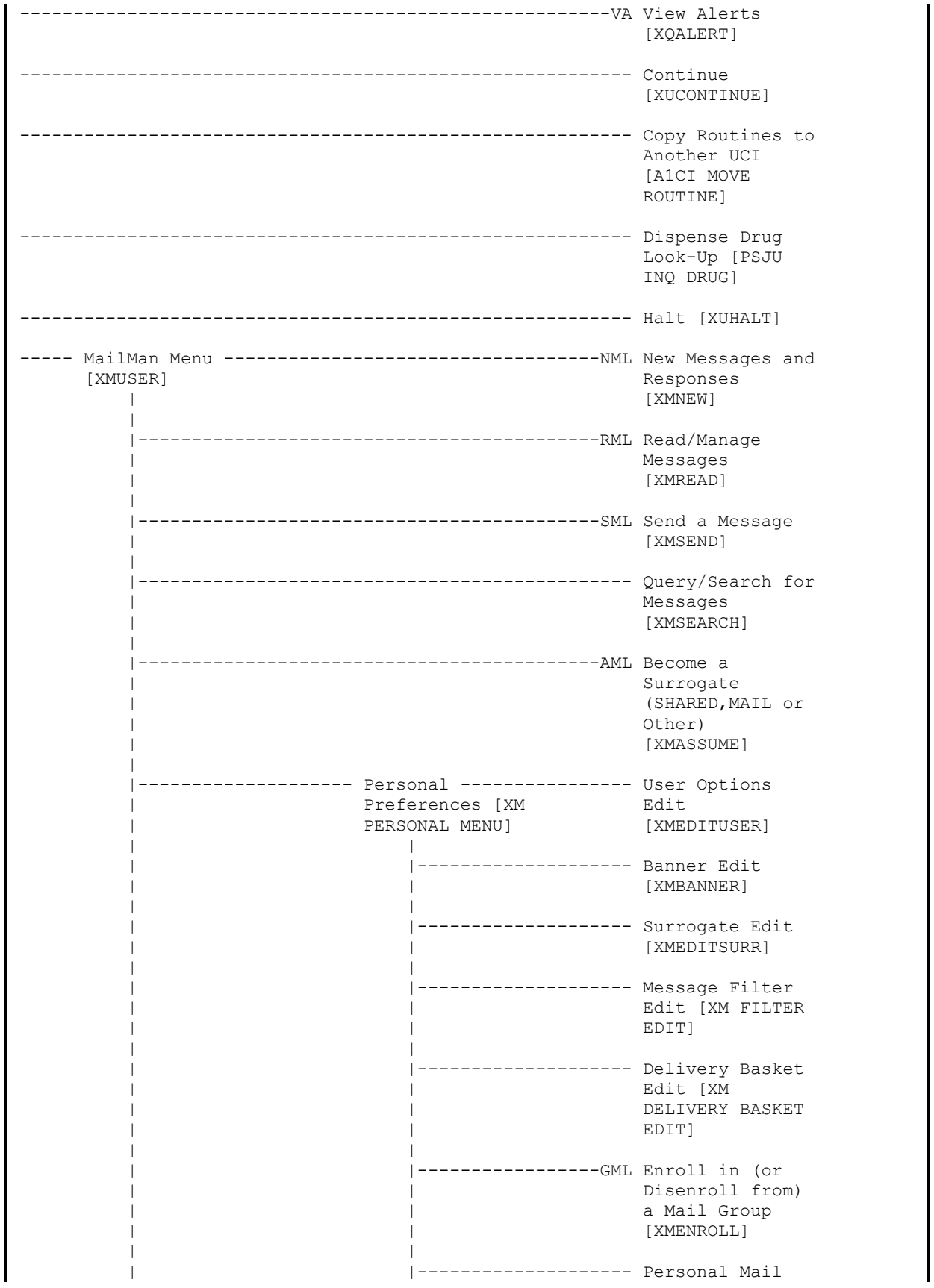
```
Parent of Queuable Options (ZTMQUEUABLE OPTIONS)
|
|
----- Automatic Deactivation of Users
      [XUAUTODEACTIVATE]

----- 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]
```

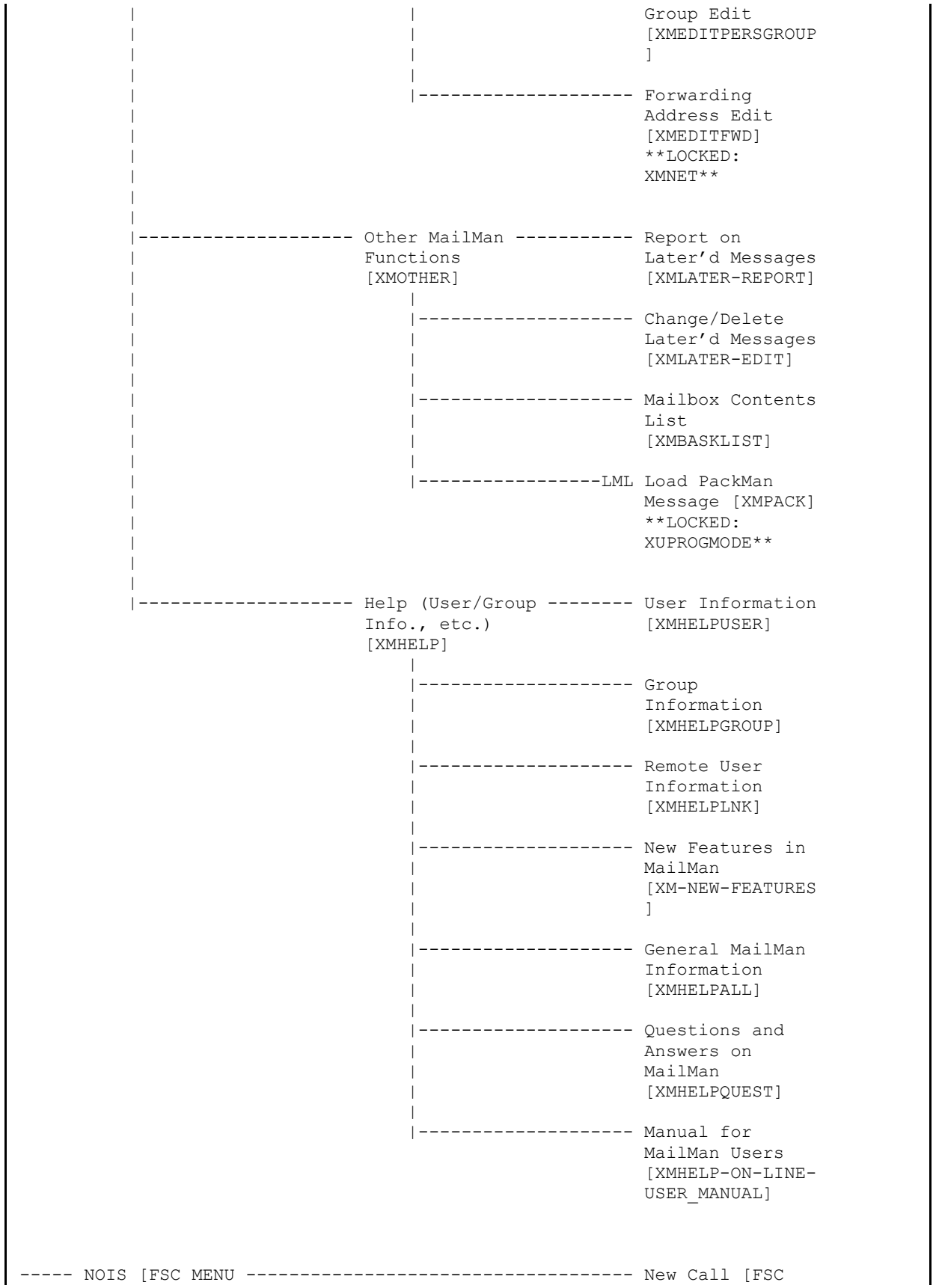
5.2.13 SYSTEM COMMAND OPTIONS [XUCOMMAND]

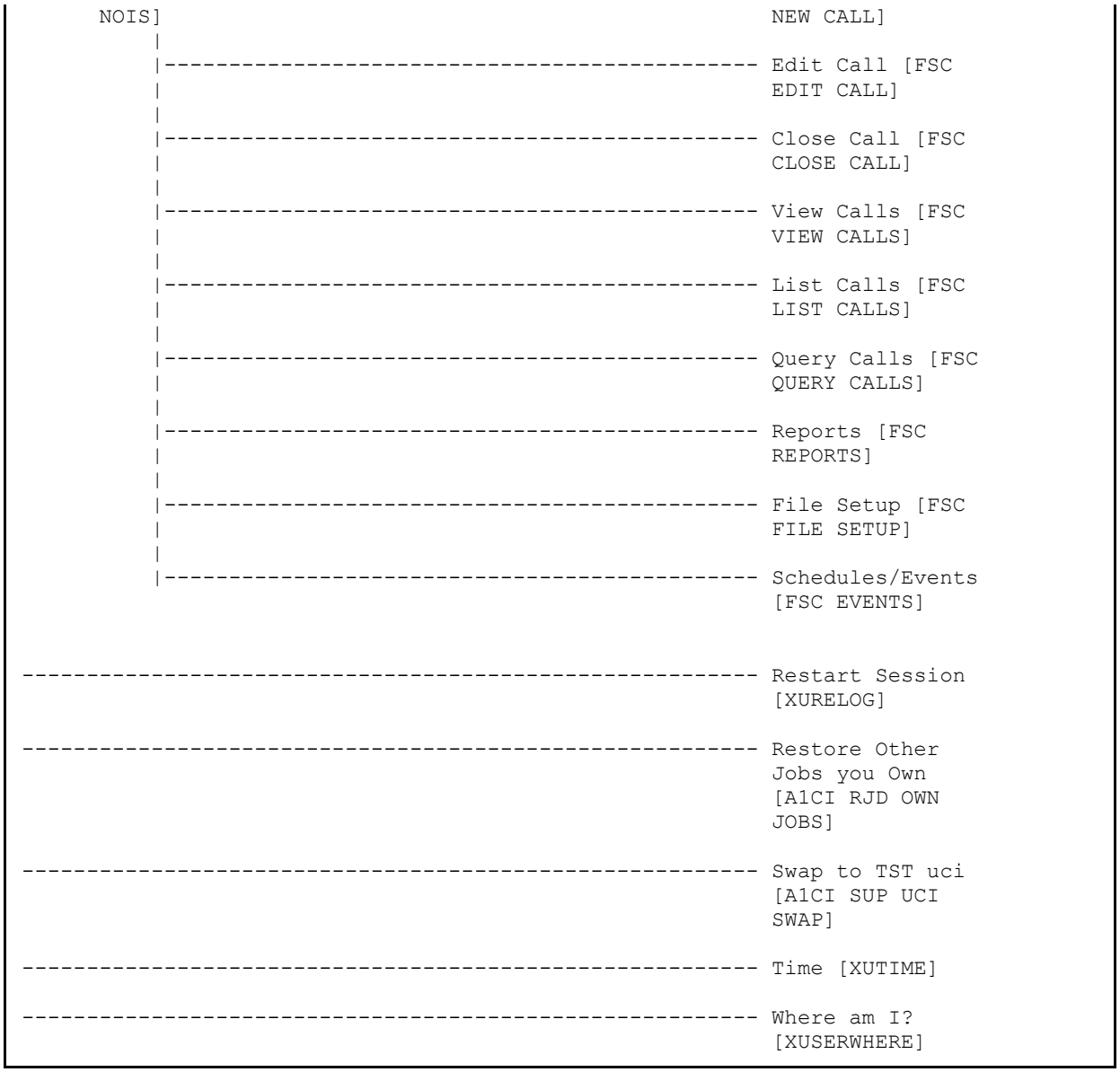
Figure 18: XUCOMMAND—Menu Tree Diagram: Sample from OAKTST "Gold" Account




|
|
|---------- 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 Protocols

Table 20: Protocols—Lock Manager Utility

Option	Description
XULM DISPLAY SYSTEM LOCKS	This List Template action protocol displays a list of the system locks. System locks are generally ignored within the Lock Manager. They are locks held by infrastructure packages, such as the Kernel or HL7 package.
XULM LOCK MANAGER MENU	This is the protocol menu for the Kernel Lock Manager List Manager screen.
XULM REFRESH LOCKS	This List Manager action protocol re-builds the list of locks by reading the lock table.

Option	Description
XULM SELECT LOCK	This action allows a user to select a lock from the list. It then displays a new screen with detailed information about the lock.
XULM GO TO	This List Manager action asks the user where he wants to go to on the list and then shifts the display to that location.
XULM SORT/SCREEN LOCKS	This action provides the user with several options for how the list locks should be displayed. The options include sorting the list by patient name, sorting the list by the user name, sorting the list by the lock string, or screening the entries by lock reference, which means that only locks that relate to a specific file will be included in the display.
XULM SELECT NODE	This action allows the user to select either a single computer node or all the computer nodes. If the user selects a single node then the display of locks will include only locks placed by processes running on that node.
XULM SINGLE LOCK MENU	This is the protocol menu for the **XULM DISPLAY SINGLE LOCK** List Template.
XULM TERMINATE PROCESS	This List Manager action protocol will terminate the process that is currently selected.

5.2.16 Server Options

Table 21: Options—Server Options

Option	Description
XQAB ERROR LOG SERVER	This server option stores data sent by the **Errors Logged in Alpha/Beta Test (QUEUED)** [XQAB ERROR LOG XMIT] option back to the developing site (usually an OITFO). 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 tests other server options by examining the host OPTION (#19) file and returning the data associated with the target

Option	Description
	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.

5.2.17 Options Attached to Menus for Other Software

Table 22: 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.

5.2.18 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 standalone menu and options listed in Table 23:

Table 23: 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

Option Name	Description
	unpopulated DEA# and DEA EXPIRATION DATE. This option 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

Option Name	Description
	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) • 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

Table 24 lists the options that are distributed with Kernel and Kernel Toolkit for these namespaces: "**XDR***," "**XI***," "**XPAR***," "**XPD***," "**XQ***," and "**XU***" (listed alphabetically by option name):

Table 24: 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**	Run	Routine:	This option is used by

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
ANCILLARY REVIEW	**Data Review**	Routine	**XDRRMRG0**	the ancillary services to verify potential duplicates. This option is used when a user is *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 non-interactively merges 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	**Check Pair of Records**	Run	Routine:	This option allows the input of two records,

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
PAIR	**to see if Duplicates**	Routine	**XDRDCOMP**	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 (#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 edits the STATUS (#.03) field of the DUPLICATE RECORD (#15) file entry. It would be used

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 FILE	**Edit Duplicate Resolution File**	ScreenMan		This option edits the values used by the Duplicate Resolution 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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.asp?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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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.
XDR MERGE SELECTED PAIR	**Merge Selected Verified Duplicate Pair**	Run Routine	Routine: **EN2^XDRMAIN**	This option selects 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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 generates 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 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 purges entries in the DUPLICATE RECORD (#15) file; you can purge just the Potential Duplicates, the Verified Non-Duplicates, or both. This option should

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				only be used by the site manager.
XDR PURGE2	**Purge Merge Process File**	Run Routine	Routine: **XDRDPRG2**	This option purges 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 schedules 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 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 stops 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 !,"Duplicate Resolution Utilities Menu",!`
				This menu gives access to various Duplicate Resolution Utilities. It includes the following options:
				• **XDR ADD 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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 marks 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, the merge process will also occur.
XDR VERIFY SELECTED PAIR	**Verify Selected Potential Duplicate Pair**	Run Routine	Routine: **EN3^XDRMAIN**	This option selects 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				occur.
XDR VIEW DUPLICATE RECORD	**View Duplicate Record Entries**	Inquire		This option allows you 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 (#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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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	**Convert any IP address per system settings**			(Released with Patch 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)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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 supply other means of editing parameters.

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ENTITY • **XPAR LIST BY PACKAGE** • **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	**Create a**	Run	Routine:	This option creates a

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
NAMESPACE	**Build Using Namespace**	Routine	**BUILD^XPDE**	new entry in the BUILD (#9.6) file, and populates the entry using a namespace.
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 Redistribution**	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:

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XPD BUILD NAMESPACE** • **XPD COPY BUILD** • **XPD EDIT BUILD** • **XPD TRANSPORT 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.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				It includes the following options: • **XPD LOAD DISTRIBUTION** • **XPD PRINT CHECKSUM** • **XPD PRINT INSTALL** • **XPD COMPARE 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 File**	Run	Routine:	This option prints the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
BUILD	**Print**	Routine	**EN1^XPDDP**	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 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

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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).
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	**Delete**	Run	Routine:	This option can be

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
OPTIONS	**Unreferenced Options**	Routine	**XQ33**	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 $J NODES	**Clean old Job Nodes in XUTL**	Run Routine	Routine: **XQ82**	This option should be scheduled to run once a day after midnight. It can be run from a host system script to get non-global files like **^TMP**. This option cleans up several temporary globals that applications may have left behind or got left because of trapping and error or other abnormal job termination. This option causes old job-related nodes that may remain in the following globals to be removed: • **^XUTL("XQ",$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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				$H** format. If it has a **^XUTL("XQ",$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 **^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**	Run Routine	Routine: **ACTUAL^XQABLIST**	This option is available for listing actual usage of options within a

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Options			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 OITFO 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/NUM/ROU/ERR	**Print Alpha/Beta Errors (Date/Site/Num/Rou/Err)**	Print		This option prints a listing of 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 stores data sent by the XQAB ERROR LOG XMIT option back to the developing site (usually an OITFO). 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 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**	Run Routine	Routine: **XQABERR** Scheduling Recommended:	This option identifies any errors associated with an application package hat is in

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	(QUEUED)		**YES**	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. This option was designed to be tasked. It does *not* require a device and generates a mail message to the developing OITFO. 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-

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

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 users/providers that hold the ORES security key and backup reviewers for alerts.
XQAL PATIENT ALERT LIST	**Patient Alert List for specified**	Run Routine	Routine: **DTPT^XQARPRT2**	This option obtains a list of alerts for a specified patient from the ALERT

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	date			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: • **XQAL USER ALERTS COUNT** • **XQAL CRITICAL ALERT COUNT** • **XQAL ALERT LIST FROM DATE**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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 ALERTS COUNT	**User Alerts Count Report**	Run Routine	Routine: **EN1^XQARPRT1**	This option generates a report on users who have more than a specified number of alerts in the ALERT (#8992) file. This report also includes

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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. • Number of alerts. • Service/Section.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 selects alerts or notifications produced by application packages for viewing or to perform any actions

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				following options: • **XQSHOWBUILDS** • **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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				menus that a user has in the primary and secondary fields of the OPTION (#19) file and 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XUUSERACC2** • **XUUSERACC** • **XQ LIST UNREFERENCED 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.
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.
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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				includes the following options (listed in display order): • **XQHELP-DISPLAY** (1) • **XQHELP-LIST** (2) • **XQHELP-UPDATE** (3) • **XQHELP-XREF** (4) • **XQHELP-ASSIGN** (5) • **XQHELP-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.
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.

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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.
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**	Run	Routine:	This option creates a

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	of Options To Mark Out-Of-Order	Routine	**EN^XQOO**	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 option set**	Run Routine	Routine: **REBLD^XQOO1**	This option recovers an option set that has 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 writes or removes Out-Of-Order messages from individual options or protocols.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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 Editor**	ScreenMan	Entry Action:
			`D EA^XQOPED`
			Exit Action:
			`D XA^XQOPED`
				This option runs the ScreenMan option editor form **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 assigns various sorts of restrictions to options. The following fields can be set, for

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 now?**	Run Routine	Routine: **NOW^XQ84**	This option checks the various flags set in **^DIC(19,"AXQ","P0")** 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 tests 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 delegates the management of a set of options (or remove options already delegated) to a particular user or set of users.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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.
XQSMD COPY USER	**Copy One Users Menus and Keys to others**	Run Routine	Routine: **XQSMDCPY**	This option copies the primary menu and secondary menu options from one user to one or more others. The only options transferred are 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

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

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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 template**	Run Routine	Routine: **XQT2**	This option invokes a routine that walks the 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**

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 Kernel Patch XU*8.0*593 and the *Kernel 8.0 and 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:

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• 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 Date Expires 30 days**	Print		This option prints all DISUSERed 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 UPN**	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.
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 Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 (#8991.6) file. This option should be scheduled to run on a daily basis. **NOTE:** No data is displayed to the screen; the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 and Kernel Toolkit 7.3 Systems Management Guide*.** **NOTE:** This option was released with Kernel Patch XU*8.0*580.
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 Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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) • DATE GIVEN (Date Assigned) **NOTE:** This option was

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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.** **To set the parameter, see the "Set the XUEPCS**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				REPORT DEVICE Parameter" section in the *Kernel 8.0 and 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 UTILITY	**ePCS DEA Utility**	Menu		This is DEA ePCS Utility main menu. It

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				many invalid signon attempts.
XU NOP MENU	**Do nothing menu**	Menu		This menu is just a placeholder for some special access 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 Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				option; it is used internally by XU OPTION QUEUE to make that option work correctly.
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**	Run Routine	Routine:	This option allows the user to claim that the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Account		**ASK^XUPROD**	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 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 Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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. 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

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

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 compiled menus to a UCI named **VAH** on compute servers named **CSA,CSB,…** It uses **%RCR** to copy the data.
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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XUOPTLOG** (2) • **XUSC LIST** (3)
XUAUTODEACTIVATE	**Automatic Deactivation of Users**	Run Routine	Routine: **CHECK^XUSTERM1**	This option goes through the NEW PERSON (#200) file, and searches 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 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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.
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	**Local Trainee**	Menu		This menu option provides various

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
REPORTS	**Registration Reports**			Trainee Registration reports that look at the local database. It includes the following options: • **XU-CLINICAL TRAINEE DB COUNT** • **XU-CLINICAL 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 edits the Registered Trainee data.
XU-CLINICAL	**Trainee**	Inquire		This option displays

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
TRAINEE INQUIRY	**Registration Inquiry**			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 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	**Trainee Transmissio**	Print		This option produces a report of transmitted

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
TRANSA	**n Report by Date**			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.
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**
XUCOMMAND	**SYSTEM COMMAND OPTIONS**	Menu		This is the basic command menu that holds commands executable from anywhere in the menu processor. It includes the following options: • **XUHALT** • **XUTIME** • **XUCONTINUE** • **XURELOG** • **XMUSER** • **XUSERTOOLS**

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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) • **DGZMGR** (SYNONYM: PIMS DISPLAY ORDER: 5) • **FHDMP** (DISPLAY

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 (#3.54) file and removes any slot in use entries. **CAUTION: This option should only be used as a TaskMan**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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.
XUDEVEDITLPD	**LPD/VMS Device Edit**	ScreenMan		This option calls a ScreenMan form to

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XUER SUMMARY 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				T-1 2 ERR (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.

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				Multiple in the SECURITY KEY (#19.1) file. This option is locked with the XUEXKEY security key.
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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ORDER: 1) • **XUFILESETDELETE** (DISPLAY ORDER: 40) • **XUFILEPRINT** (DISPLAY ORDER: 30) • **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) • **XUFILESETDELE**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				TE (4) • **XUFILESINGLEADD** (5) • **XUDIACCESS FOR OIG** (6)
XUFILECOPY	**Copy One User's File Access to Others**	Run Routine	Routine: **COPY^XUFILE**	This option copies the file access that one user holds and give 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`	This option lists, by user, each file the

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			`%ZISI,B,P,DIJ,DISYS`	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 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`	This command terminates processing in MenuMan.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			XPRMP^XQ12	
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.
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 given option.
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.
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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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 takes away a set of security keys from an individual user or a single security key from a set of users. To be eligible, a security 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.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 types known to the system.
XULM EDIT LOCK DICTIONARY	Edit Lock Dictionary	Action		This option allows users to add entries to the lock dictionary or edit existing entries.
XULM EDIT PARAMETERS	**Edit Lock Manager Parameters**	Action		This option edits the site parameters for the Kernel Lock Manager.
XULM LOCK MANAGER	**Kernel Lock Manager**	Action	ENTRY ACTION: `D MAIN^XULM`	This option allows the user to display the lock table and terminate processes that hold problem locks.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XULM LOCK MANAGER MENU	**Lock Manager Menu**	Menu		This menu holds all the options for the Kernel Lock Manager. It is located on **Operations Management** [XUSITEMGR] menu. It includes the following options: • **XULM LOCK MANAGER** SYNONYM: LM DISPLAY ORDER: 1 • **XULM EDIT LOCK DICTIONARY** SYNONYM: EDIT DISPLAY ORDER: 4 • **XULM PURGE LOCK MANAGER LOG** SYNONYM: PURG DISPLAY ORDER: 6 • **XULM VIEW LOCK MANAGER LOG** SYNONYM: LOG DISPLAY ORDER: 5 • **XULM EDIT PARAMETERS** SYNONYM: SITE DISPLAY ORDER: 5
XULM PURGE LOCK MANAGER LOG	**Purge Lock Manager Log**	Action	ENTRY ACTION: `D PURGE^XULMLOG`	This option purges the Lock Manger Log of old entries.
XULM RPC	**KERNEL**	Broker	• RPC: **XULM**	This is the "**B**" type

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
BROKER CONTEXT	**LOCK MANAGER**	(Client /Server)	**GET LOCK TABLE** RPCKEY: **XULM LOCKS** • RPC: **XULM KILL PROCESS** RPCKEY: **XULM LOCKS**	option used by the Kernel Lock Manager.
XULM VIEW LOCK MANAGER LOG	**View Lock Manager Log**	Inquire		This option allows you to view the Kernel Lock Manager Log.
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)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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 queues a background job that: • Queries the Institution Master File (IMF). • Gets the DoD DMIS ID facilities. • Populates 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,**

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 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**	Run Routine	Routine:	This option queries the Institution Master

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Institution file with IMF data		**EN^XUMF04Q**	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 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)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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.
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**	Run Routine	Routine: **XQ55**	This option prompts for a menu option, and then prints a list of

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	User			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.
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 edits Person Class data. This option is located under the **User Management** [XUSER] menu. Give this option 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 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				this server it will send it back to you.
XUPMDISP	**Display of Programmer Mode Entry List**	Print		This option: • Displays which users entered into programmer mode. • Sorts data by user name and then date/time. • Prompts for a print device to generate a hard copy if desired. • Gives a count of entries by user.
XUPMPURGE	**Programmer Mode Entry Log Purge**	Run Routine	Routine: **PMPURGE^XUAPURGE**	This option runs the **XUPMPURG** routine to 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 displays by patch numbers.
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 systems: It 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 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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 XREF^XQORM K XQORM,NAME`
				This option creates or edits a protocol.

XUPRROU	**List Routines**	Run Routine	Routine: **%ZTPP**	This option uses the **%ZTPP** routine to print a listing of the routines.
XUPR-ROUTINE-TOOLS	**Routine Tools**	Menu		This menu includes the group of programmer options that deal with routines. It includes the following options: • **XUINDEX** • **XU FIRST LINE PRINT**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XTFCR** • **XTFCE** • **XUROUTINE IN** • **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.
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	**XUPS ASSESSME**	Run Routine	Routine: **DETAIL^XUPSCL**	This option lists NEW PERSON (#200) file

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
DETAIL	**NT DETAIL**		**R**	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 ASSESSMENT STATS	**XUPS ASSESSMENT STATS**	Run Routine	Routine: **STATS^XUPSCLR**	This option lists 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)
XUPS	**XUPS**	Run	Routine:	This option reports on

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

PREUPDATE NPF REPORTS	**PREUPDATE NPF REPORTS**	Routine	**EN^XUPSPAID**
			Entry Action:
			`S XUPSACT="PRINT"`
			Exit Action:
			`K XUPSACT`
				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 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 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.
XUPS VISTALINK	**XUPS VISTALINK**	Broker (Client/ Server)	RPC: **XUPS PERSONQUERY**	This is an RPC Broker Client/Server option.
XURELOG	**Restart Session**	Action	Entry Action: `S:'$D(XQCH) XQCH="REST" G:$L(XQCH)>2`	This option returns a user to the signon logic, so that a session can be

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			`REST^XQ12 S XQUR="REST" G X PRMP^XQ12`	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.

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				system. It includes the following options: • **XTMOVE** • **XTRDEL** • **XTMOVE-IN** • **XUPRROU** • **XU FIRST LINE PRINT**
XUS IAM NPFM BATCH UPDATE	**MPI NEW PERSON FIELD MONITOR BATCH UPDATE**	Run Routine	Routine: **EN1^XUIAMNPB**	This option calls the **EN1^XUIAMNPB** routine. It monitors the NEW PERSON FIELD MONITOR (#8933.1) file for changes to particular NEW PERSON (#200) fields. The process associated with this option loops through the **AVIAM** cross-reference (x-ref) of the NEW PERSON FIELD MONITOR (#8933.1) file, which is created when a specific list of NEW PERSON (File #200) fields are modified. This modified new person data is transmitted to Person Service Identity Management (PSIM) via the Service Provisioning Markup Language (SPML) using Web Services, and then after transmission the REQUIRES TRANSMISSION (#.03) field is set to **NO** and the LAST TRANSMITTED DATE/TIME (#.04) field is marked as

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				NOW in the NEW PRSON FIELD MONITOR (#8933.1) file. **NOTE:** This new option needs to be scheduled in TaskMan to run every 600 seconds with SPECIAL QUEUEING defined as STARTUP.
XUS IAM NPFM PURGE	**MPI NEW PERSON FIELD MONITOR PURGE**	Run Routine	Routine: **EN2^XUIAMNPB**	This option calls the **EN2^XUIAMNPB** routine. It deletes all entries from the NEW PERSON FIELD MONITOR (#8933.1) file that are older than the number of days specified in the NEW PERSON FIELD MONITOR PURGE (#875) field in the KERNEL SYSTEM PARAMETERS (#8989.3) file when the REQUIRES TRANSMISSION (#.03) field in the NEW PERSON FIELD MONITOR (#8933.1) is *not* equal to **YES**. **NOTE:** If the NEW PERSON FIELD MONITOR PURGE (#875) field in the KERNEL SYSTEM PARAMETERS

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(#8989.3) is *not* defined, then the number of days will automatically default to **365**. **NOTE:** This option needs to be scheduled in TaskMan to run **DAILY** with SPECIAL QUEUEING defined as **STARTUP**.
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** • **XUS KAAJEE GET CCOW TOKEN**	This option is an RPC Broker Client/Server option.
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 Chief Business Office (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.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUS NPI EXEMPT PROVIDER	**Mark/Unmark Provider Exempt from requiring an NPI**	Run Routine	Routine: **CLERXMPT^XUSNPIED**	Support staff use this option 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 REPORT	**XUS NPI EXTRACT REPORT**	Run Routine	Routine: **TASKMAN^XUSNPIX1**	This option compiles the NPI Extract file and emails it to **<REDACTED>.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 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				intended to be attached to the **XU COMMON** menu and checks 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 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.
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 ACTIVE USER EXTRACT	**Special Active User Excel Output**	Print		The Information Security Officer (ISO) uses this option to extract information to Microsoft® Excel for

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				the 2008 SMART Database. **NOTE:** This option was requested by OCIS and released with Kernel Patch XU*8.0*424.
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 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 requires a **132**-column width.
XUSER	**User Management**	Menu		This menu adds, changes, and deletes users from the NEW PERSON (#200) file, as well as clears devices for signon purposes. It includes

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				the following options: • **XUSERNEW** (DISPLAY ORDER: 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**

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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 entering your current division at the "Select DIVISION: default division //" signon prompt. If you only have one division from which to select, **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: • **XUSERPURGEAT T** • **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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				removed when the project is complete. This option prints the following fields: • 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)

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **XQLISTKEY** (6) • **XQOPACCESS** (7) • **XUUSEROPT** (8) • **XUSERDEACT** (9) • **XUSERREACT** (10) • **XUSEC ISO TERMINATION REPORT** (11) • **XUSEC UP ARROW TERM REPORT** (12)
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 **three** (**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** [XQHELP-MENU] 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				service/section and 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.
XUSER-CLEAR-ALL	**Clear all users at startup**	Run Routine	Routine: **XUS6**	This option should be set up in the SPECIAL QUEUING to run whenever TaskMan starts up. It goes through and clears all users signed-on from the multiple signon restriction.
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 is *not* 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 Characterist**	Run Routine	Routine: **EUC^XUS5**	This option edits certain user attributes

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	ics			as defined by the KERNEL SYSTEM PARAMETERS (#8989.3) file. At most, the user can edit the following fields: • VERIFY CODE • AUTO-MENU • TYPE-AHEAD • NICKNAME This can vary at your site. A user can also edit the 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 following: • Job and device numbers. • Signon time. • 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				system.
XUSERNEW	**Add a New User to the System**	Run Routine	Routine: **XUSERNEW**	This option adds a new user to the system. Kernel Patch XU*8.0*663 modified this option to execute an Enterprise User Search, prompting the user for the individual's Veteran Affairs (VA) email address or their network identification (ID) name to use in the lookup. If a match is *not* initially found, then additional traits (i.e., Name, SSN, and optionally, their Date of Birth [DOB], and/or Gender) are then prompted for and an additional Enterprise User Search is performed. However, if a user(s) is ultimately found, then their identifying traits from the Enterprise will be displayed for selection. Upon selection of one of these displayed record(s), then the Enterprise traits will be added to the VistA NEW PERSON (#200) file and any traits from VistA *not* known at the Enterprise (including the Site's Station Number and the user's **DUZ**) will be filed at the Enterprise. If the user is *not* found

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				at the Enterprise, then a ServiceNow (SNOW) ticket should be logged as all new users being added to VistA should already be known at the Enterprise.
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 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 them an Access code (or if they still have 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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 does *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**
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 allows users to edit the following fields: • INITIALS • SIGNATURE

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				BLOCK TITLE • ELECTRONIC SIGNATURE CODE • 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 can enter a new one.
XUSESIG DEG	**EDUCATION (Degree) File Edit**	Edit	**DIC(20.11,**	This option edits degree entries in the EDUCATION (#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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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, sign-on log, introductory text, etc. It includes the following options: • **XUSERINT** (DISPLAY ORDER: 5) • **XUSTATUS** (DISPLAY ORDER: 1) • **XUSTAT** (DISPLAY

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ORDER: 6) • **XQ XUTL $J NODES** • **XQAB MENU** • **XURESJOB** (SYNONYM: RJD) • **XUOPTUSER** • **XUKERNEL** • **XQALERT DELETE OLD** • **XUSERPOST** • **XQALERT MGR** • **XWB MENU** • **XOBU SITE SETUP MENU** • **XLFIPV IPV4 IPV6 MENU** (SYNONYM: IPV) • **XULM LOCK MANAGER MENU** (SYNONYM: LOCK)

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.

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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		Edit the site parameters for the 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.
XUSPY	**Information Security Officer Menu**	Menu	Entry Action: **D ^ASTR2**	This menu is for the person serving as the Information Security Officer (ISO). It includes the following options: • **XUSER SEC OFCR**

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
XUSSPKI UPN SET	**ePCS Set SAN from PIV Card**	Broker (Client/ Server	RPCs: • **XUS PKI GET UPN** • **XUS PKI SET UPN**	This is a Broker-type context option that sets the SUBJECT 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**	Run	Routine:	This option simulates

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	Identities	Routine	**TESTM^XUS91**	signing on as another user, and thus, tests out a user's menus. It assigns all security keys but does *not* allow for the execution of any options.
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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				ORDER: 7) • **XU DA EDIT** • **XUDEVEDIT** • **XUDEV LINEPORT ADDR CURRENT** • **XUDEV LINEPORT 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 RECOMMENDE	**Print Options Recommen**	Print		This option prints a list of options that have been recommended

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
D	**ded for Queueing**			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 ENV	**Check Taskman's Environment**	Run Routine	Routine: **ZTMCHK**	This option checks TaskMan's 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.

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 **$ZE** value of every error it traps. TaskMan only logs those trapped errors whose **$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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				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 **$ZE** string contains a screen as a substring, then that error is *not* logged. Some error screens count the number of errors that they prevent from being logged.
XUTM ERROR SCREEN REMOVE	**Remove Error Screens**	Run Routine	Routine: **SCREM^XUTMKE1**	This option removes error screens. Error screens provide the system manager with a way to prevent certain errors from being logged. TaskMan traps every error caused by its own code or by the code of the tasks it runs, but the only errors logged in the system error log and in TaskMan's error log are those errors whose **$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.

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				• **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.
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**	Run Routine	Routines: **TASK^XUTMKA**	This option is for the queueable version of **XUTM PROBLEM**

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

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

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

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
				(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**
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`	This option prints a selected number of nonsense lines on a terminal to test data

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
			`! Q:'X F I=1:1:IOM W $C(I+X#96+32)" X ^%ZIS("C")`	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 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.

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
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 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**	Run	Routine:	This option generates

Option Name	Option Text	Type	Routine / Action / RPC / Other (Based on Type)	Description
	with a Selected primary Menu	Routine	**XQ32**	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,!!!!!

5.3.2 Toolkit

Table 25 lists the options that are distributed with the Kernel Toolkit software "**XT**" namespace; listed alphabetically:

Table 25: 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.
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 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.

Option Name	Option Text	Type	Routine	Description
XTFCR	**Flow Chart Entire Routine**	Run Routine	Routine: **XTFCR**	This option produces a flow chart of the processing performed within a routine.
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 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.

Option Name	Option Text	Type	Routine	Description
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.** 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

Option Name	Option Text	Type	Routine	Description
				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 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 Name	Option Text	Type	Routine	Description
				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.
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 deletes entries out of the LOCAL LOOKUP (#8984.4) file. In order to do this, there *cannot* be any Keywords, Shortcuts, or Synonyms associated with the file to be deleted. This option is locked with the XTLKZMGR security key.
XTLKMODPARS	**Add Entries To Look-Up**	Run Routine	Routine: **LL^XTLKEFOP**	This option sets entries into the LOCAL

Option Name	Option Text	Type	Routine	Description
	File			LOOKUP (#8984.4) file. This option is locked with the XTLKZMGR security key.
XTLKMODSH	**Shortcuts**	Action	Entry Action: `S XTLKOP="Shortcuts" D SH^XTLKEFOPK 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^XTLKEFOPK 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) • **XTLKMODSY** (3; SYNONYM: SY)
XTLKPRTUTL	**Print Utility**	Action	Entry Action: `D A^XTLKPRT`	This option prints 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**

Option Name	Option Text	Type	Routine	Description
				(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** [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 Name	Option Text	Type	Routine	Description
				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.
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.
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** (SYNONYM: FCR) • **XTFCE** (SYNONYM: FCE) This menu is locked with the XUPROGMODE security key.

Option Name	Option Text	Type	Routine	Description
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.
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

Option Name	Option Text	Type	Routine	Description
				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 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.
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 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	**Old Checksum**	Run	Routine:	This option updates the old checksum of the

Option Name	Option Text	Type	Routine	Description
UPDATE	**Update from Build**	Routine	**UPDATE^XTRUTL**	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.
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 enters or edits files and namespaces in the PACKAGE (#9.4) file.
XTV 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:

Option Name	Option Text	Type	Routine	Description
				20) • **XTVR UPDATE** (DISPLAY ORDER: 5) • **XTVG COMPARE** • **XTVG UPDATE** • **XTV EDIT VERIF PACKAGE** • **XTVR MOST RECENT CHANGE DATE** • **XTVR RESTORE PREV ROUTINE**
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.
XTVG COMPARE	**Global Compare for selected package**	Run Routine	Routine: **XTVGC2**	This option produces 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

Option Name	Option Text	Type	Routine	Description
				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 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

Option Name	Option Text	Type	Routine	Description
				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 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

Option Name	Option Text	Type	Routine	Description
				and/or deleted to make the next version. This option records the current routine structure, so that it can be compared with future versions of the routine using the **Routine Compare - Current with Previous** [XTVR COMPARE] 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 26 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 26; unless otherwise noted, the reference given is to a chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*.

Table 26: Options—Kernel Purging Options

Purging Option	Frequency	References for More Information
Audited Options Purge		Menu Manager: System Management" chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide* and *Security Tools Manual*
Automatic Deactivation of Users	**1 day**	Signon/Security: System Management chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*

Purging Option	Frequency	References for More Information
Clean Error Log over Range of Dates		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 and 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 and Kernel Toolkit 7.3 Systems Management Guide*
Clean Task File		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Clear All Users at Startup		Signon/Security: System Management Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Clean Error Trap		Error Processing Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Deactivate a User		Signon/Security: System Management Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Delete Error Log		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Delete Old (>14 d) Alerts	**1 day**	Alerts Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Failed Access Attempts Log Purge		Signon/Security: System Management Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide* and *Security Tools Manual*
Programmer Mode Entry Log Purge		Signon/Security: System Management Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide* and *Security Tools Manual*
Purge Error Log of Type of Error		TaskMan: System Management—Operation Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*

Purging Option	Frequency	References for More Information
Purge Inactive Users' Attributes		Signon/Security: System Management Chapter in the *Kernel 8.0 and 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 and Kernel Toolkit 7.3 Systems Management Guide* and *Security Tools Manual*
Purge of ^%ZUA Global	**15 days**	Signon/Security: System Management Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Purge Old Spool Documents	**7 days**	Spooling Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*
Purge Sign-on Log	**1 day**	Signon/Security: System Management Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide* and *Security Tools Manual*
Queuable Task Log Cleanup	**1 day**	TaskMan: System Management—Operation Chapter in the *Kernel 8.0 and Kernel Toolkit 7.3 Systems Management Guide*

REF: The "KIDS: System Management—Installations" chapter in the *Kernel 8.0 and 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 and Kernel Toolkit 7.3 Developer's Guide*.

Table 27 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 and 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 27: 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

Routine	Entry Point	ICR #	Description
MXMLPRSE	EN	4149	XML—Event Driven API
MXMLUTL	$$SYMENC	4153	XML—Encoded Strings in Messages
	$$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

Routine	Entry Point	ICR #	Description
	$$FMTH	10103	Convert FM Date to **$H**
	$$FMTHL7	10103	Convert FM Date to HL7 Date
	$$HADD	10103	**$H** Add
	$$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

Routine	Entry Point	ICR #	Description
XLFMSMT	$$BSA	3175 & 10143	Body Surface Area
	$$LENGTH	3175 & 10143	Convert Length
	$$TEMP	3175 & 10143	Convert Temperature
	$$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

Routine	Entry Point	ICR #	Description
	$$E	10105	e—Natural Logarithm
	$$EXP	10105	e—Natural Logarithm to the Nth Power
	$$LN	10105	Natural Log (Base **e**)
	$$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

Routine	Entry Point	ICR #	Description
XLFSHAN	$$AND	6157	Bitwise Logical AND
	$$CPUTIME	6157	Return System and User CPU Time
	$$ETIMEMS	6157	Return Elapsed Time in Milliseconds
	$$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

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

Routine	Entry Point	ICR #	Description
XPDMENU	$$ADD	1157	Add Option to Menu
	DELETE	1157	Delete Menu Item
	LKOPT	1157	Look Up Option IEN
	LOCK	1157	Set LOCK Field in OPTION File
	OUT	1157	Edit Option's Out of Order Message
	RENAME	1157	Rename Option
	RLOCK	1157	Set REVERSE/NEGATIVE Field in OPTION File
	$$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

Routine	Entry Point	ICR #	Description
	$$VERCP	10141	Verify Checkpoint
	$$VERSION	10141	PACKAGE File Current Version
XQ92	NEXT	10077	Restricted Times Check
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

Routine	Entry Point	ICR #	Description
XQDATE	^XQDATE	10079	Convert **$H** to VA FileMan Format (Obsolete) (Use $$FMTE^XLFDT or $$HTFM^XLFDT)
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)

Routine	Entry Point	ICR #	Description
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)
	$$RPLCVALS	5078	Get Field Values of Final Replacement Term (Term/Concept)
	$$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

Routine	Entry Point	ICR #	Description
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
	$$IDX	2171	Institution IEN (Using Coding System & ID)
	$$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

Routine	Entry Point	ICR #	Description
XUDHSET	$$RES	2232	Set Up Resource Device
XUHUI	OPKG	3589	Monitor New Style Cross-referenced Fields
XULMU	CLEANUP	5832	Lock Manager: Execute the Housecleaning Stack
	SETCLEAN	5832	Lock Manager: Register a Cleanup Routine
	UNCLEAN	5832	Lock Manager: Remove Entries from the Housecleaning Stack
	ADDPAT	5832	Lock Manager: Add Patient Identifiers for a Computable File Reference
	PAT	5832	Lock Manager: Get a Standard Set of Patient Identifiers
XUMF	$$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	$$DTIME	4409	Reset DTIME for USER
XUPARAM	$$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

Routine	Entry Point	ICR #	Description
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.
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

Routine	Entry Point	ICR #	Description
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
	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)

Routine	Entry Point	ICR #	Description
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
	$$REQQ	1519	Schedule Second Part of a Task
XUTMOPT	DISP	1472	Display Option Schedule
	EDIT	1472	Edit an Option's Scheduling
	OPTSTAT	1472	Obtain Option Schedule
	RESCH	1472	Set Up Option Schedule
XUTMTP	EN	3521	Display HL7 Task Information (Controlled Subscription)
XUVERIFY	^XUVERIFY	10051	Verify Access and Verify Codes
	$$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

Routine	Entry Point	ICR #	Description
%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
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)

Routine	Entry Point	ICR #	Description
%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)
	$$OS	10097	Get Operating System Information
	SETENV	10097	Set VMS Process Name (Caché/OpenVMS Systems)
	SETNM	10097	Set VMS Process Name: Parameter Passing (Caché/OpenVMS Systems)
	T0 (Obsolete)	10097	(Obsolete) Start RT Measure
	T1 (Obsolete)	10097	(Obsolete) Stop RT Measure
	$$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

Routine	Entry Point	ICR #	Description
%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 and Kernel Toolkit 7.3 Systems Management Guide and Kernel 8.0 and 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 28 are listed in routine order and by tag within each routine:

Table 28: Direct Mode Utilities

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

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

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

9 Remote Procedure Calls (RPCs)

Table 29 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 29: 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.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
XDR UPD SUPPR EMAIL Availability: **AGREEMENT**	None	**ADD^XDRDADDS**	• **FILE NUMBER:** File 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.	Returns: • **Success: 0—**If no errors occurred. • **Failure: -1^Error Message—**If errors occurred.	This API remotely sets the 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.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
XULM GET LOCK TABLE	5832	**LOCKS^XULMRPC**	• **LOCKGBL:** This is the global reference of the location where the lock table should be returned. Maximum data length: **245**. • **RESULT:** Global location to place the result. Maximum data length: **200**.	Returns: • **0** on failure. • **1** on success.	The Lock Manager uses this RPC to obtain the lock table on a specific node. The lock table is returned in a global.
XULM KILL PROCESS	5832	**KILLPROC^XULMRPC**	• **PID:** This is the PID of the process to be **KILL**ed. Maximum data length: **250**. • **RETURN:** This is the global location to return the result. The result should be returned in **^XTMP**, since it is translated between nodes. Maximum data length: **200**.		The Lock Manager uses this RPC to terminate a process.
XUPS PERSONQUERY Availability: **PUBLIC**	None	**EN1^XUPSQRY**	• **XUPSLNAM:** Required if lookup by name. • **XUPSFNAM** • **XUPSSSN** • **XUPSPROV** • **XUPSSTN** • **XUPSMNM**	Array: Output data stored in a global array.	This RPC performs a person lookup.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			• **XUPSDATE** • **XUPSVPID:** Required if lookup by VPID.		
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.
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.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
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.
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	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

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			the result is an array that matches the key list with values that match the status of the key check for each key.		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 Optional elements (only pass those elements you want to update): **PARAM("ADDRESS DATA")**=street address 1|street address 2|street address	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** 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"**.	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
			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) # **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")**		

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			=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 YES/NO Default if **WHO** is 200PIEV: **1** (for YES) **PARAM("NTUSERNAME")**=network user name **PARAM("PersonClass",<seq#>,"PersonClass")**=X12 code value **PARAM("PersonClass**		

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			",<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")**=secid **PARAM("TaxID")**=taxid **PARAM("Termination")**=termination 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		

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
			controls whether the RPC is adding a new entry to the NEW PERSON (#200) file or updating an existing entry. Possible values are: ○ **U—**Update an existing entry ○ **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 checks that the correct PIV card has been put into the reader.
XUS SEND KEYS Agreement: **RESTRICTED**	1633	**SENDKEYS^XUSRB**	None	Array: strings that are used in the hashing algorithm. The strings that are returned are picked up from **Z^XUSRB**.	This RPC returns an array of 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 identifies the current user.

RPC	ICR #	Tag^Routine	Input Parameters	Output/ Return Parameters	Description
					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
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 30 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 30: Software-Wide Variables—Defined at All Times (listed alphabetically)

Variable	Description
DILOCKTM	VA FileMan's LOCK time out value. This variable is defined and set to **5 seconds** when ^XUP is executed and it is part of the standard VistA Symbol table. All incremental LOCKS *must* have a timeout, the timeout *must not* be less than the value of **DILOCKTM**. The developer is *not* responsible for defining nor killing **DILOCKTM**.
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. The developer is *not* responsible for defining nor killing **DTIME**.
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.
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.
U	This variable is defined at all times. It is set to the "**^**" character, which is used as the field separator for data stored in VA FileMan files.

In addition to the variables described in Appendix 10-B of the M-11 manual, Table 31 lists the variables defined by Kernel while a user is in the menu system:

Table 31: 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 (**^%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 32 lists the software-wide variable is defined within the menu system if alpha-beta tracking is taking place:

Table 32: 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 33 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). Table 33 includes the following data:

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

Table 33: 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 34: 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 and 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 and Technology Field Office (OITFO).

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

Table 35 lists the bulletins distributed with Kernel and Kernel Toolkit:

Table 35: 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	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|	• **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

Name	Description	Subject	Message	Parameters
	message.		|6|	**To** Record. • **6—**Package 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

Name	Description	Subject	Message	Parameters
				the message which requested a 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	

Name	Description	Subject	Message	Parameters
			at |9| and finished at |3| For a TOTAL of |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	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	• **1—**Message ID. • **2—**Added or Updated. • **3—**Internal Entry Number. • **4—**STATION NUMBER. • **5—**NAME.

Name	Description	Subject	Message	Parameters
	(MFS) mechanism. An INSTITUTION (#4) file entry has been added / updated.		INSTITUTION (#4) file entry has been |2|: IEN: |3| STATION 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|	• **6—**OFFICIAL VA NAME. • **7—**FACILITY 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

Name	Description	Subject	Message	Parameters
			VISN: |17| PARENT FACILITY: |18| STREET ADDR. 1: |27| CITY: |28| STATE: |16| ZIP: |29| ST. ADDR. 1 (MAILING): |30| CITY (MAILING): |31| STATE (MAILING): |32| ZIP (MAILING): |33|	(MAILING). • **27—**OLD STREET 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	SIGN-ON DISALLOWED	User |1| tried to sign on to device	• **1—**Name of User.

Name	Description	Subject	Message	Parameters
	signon system if a user uses a terminal that has SECURITY 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.	ON SECURED TERMINAL	|2|, which has SECURITY code |3|, but |1| has security code '|4|'. Use ^UTIO to edit the device's SECURITY, if necessary.	• **2—**Device. • **3—**Device's security code. • **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	USER	USER |1| has	• **1—**Name of

Name	Description	Subject	Message	Parameters
	issued whenever a message *cannot* be delivered after the Simple 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.	TERMINATION	been terminated as of |2| The error message was '|3|'.	the remote site rejecting the message (may be 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	DEVICE LOCKED DUE TO BAD SIGN-ONS	Device |1| has made |2| bad sign-on attempts and has been locked. The device will automatically	• **1—**Name of device being locked. • **2—**Number of bad signons recorded for the device.

Name	Description	Subject	Message	Parameters
	be “locked out”.		clear after the Lockout time in the Kernel System Parameters. To make the device 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.	• **3—**Name of 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:**	“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
	Released with Kernel Patch XU*8.0*580.			
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	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	• **1—** Title/date of this bulletin. • **2—**Name of the visitor. • **3—DUZ** of this visitor in the New Person File.

Name	Description	Subject	Message	Parameters
	and is entered in your data base, so that he or she may look up patient data.		authenticating system, and a phone number of |7|. This is the bulletin named XUVISIT.	• **4—**Name of the site where the visitor was authenticated. • **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 7.3 or higher.
- VA FileMan 22.2 or higher.
- MailMan 8.0 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 19.

Figure 19: 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

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

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

Table 36: 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.

Security Key	Description
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.
XULM LOCKS	Controls access to the Kernel Lock Manager.
XULM SYSTEM LOCKS	Controls access to the system-level locks.
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: • Allows its holders to create “Routine”-type options in the OPTION (#19) 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.**

Security Key	Description
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 is *not* 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 [XUS NPI MENU] option. 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 an 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 follow the prompts in Figure 20:

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

Figure 20: 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 21 lists the *recommended* file security settings for access to Kernel and Kernel Toolkit files:

Figure 21: 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   @              ^       @       ^       @
NEW PERSON FIELD MONITOR        8933.1   @       @      @       @       @       @
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 and Technology Field Office (OITFO).

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 37: 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 displays 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	The **Help Processor** [XQHELP-MENU] menu is 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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