

**Event Capture System (ECS)  
Graphical User Interface**

**Technical Manual**

**Software Version 2.0  
Patch EC\*2.0\*131**



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## Revision History

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# 1 Introduction

The Event Capture System (ECS) is a Veterans Health Information Systems and Technology Architecture (VistA) Class I workload reporting system supporting operations of the Department of Veterans Administration's (VA) Managerial Cost Accounting Office (MCAO). There are several Veterans Health Administration (VHA) national programs mandating utilization of ECS instead of or to augment other workload capture information systems. For example, ECS is used when programs cannot report workload in the form of Current Procedural Terminology (CPT) codes. ECS also allows for more precise workload capture and reporting than otherwise possible through other VistA systems.

## 1.1 Purpose

The Event Capture Technical Manual serves a dual purpose:

- Provides technical information to aid Information Resources Management (IRM) service staff with implementing and maintaining the software.
- Provides security information for Information Security Officers (ISO).

## 1.2 Product Perspective

The Event Capture software provides a mechanism to track and account for procedures and delivered services that other VistA packages do not handle. The procedures and services tracked through Event Capture are associated with the following:

- The patient to whom they were delivered
- The provider requesting the service or procedure
- The DSS Unit responsible for delivering the service

DSS Units typically represent the smallest identifiable work unit in a clinical service at a medical center. Veterans Affairs Medical Centers (VAMC) define the DSS Units. A DSS Unit can represent any of the following:

- An entire service
- A section of a service
- A small section within a section
- A medical equipment item used in patient procedures

The user must define the following items for every DSS Unit:

- Service: The service associated with the DSS Unit
- Cost Center: The fiscal identifier for the service using the particular DSS Unit (Cost Centers are defined in detail in the MP4-Part V Appendix B of the Fiscal Service Cost Manuals)
- Medical Specialty: The specialty section associated with the DSS Unit

## 1.3 Security Keys

Security keys are assigned in VistA using the option **Key Management** main menu and then choosing the submenu **Allocation of Security Keys**.

- ECMGR: Gives a user access to the ECS Management Menu – for the Event Capture Manager(s) only
- ECALLU: Gives a user access to all DSS Units (super user). This should be assigned only to those managing the software (i.e., holders of the ECMGR key)
- ECNORPT: Restricts the user from access to the Event Capture Reports
- ECSPSH: Gives a user access to upload data from a spreadsheet

## 1.4 Functions of the Software

Event Capture with all patches installed provides the following functions:

- Allows each VAMC to utilize the software for its own resource/costing needs
- Implements DSS Units
- Assigns user access
- Allows single and batch data entry for patient procedures
- Generates reports for workload and other statistical tracking
- Provides a Graphical User Interface (GUI) to the ECS application
- Allows user to upload patient encounter data to Event Capture from a spreadsheet
- Allows user to switch between Computerized Patient Record System (CPRS) and ECS without having to log back into the ECS GUI application

## 1.5 Related Documentation

The documentation for Event Capture includes the following related manuals:

- Event Capture User's Manual
- Event Capture Installation Guide
- Event Capture Release Notes

Documentation and additional information for this product—including background, technical and procurement information—can be found on the [ECS VistA Documentation Library \(VDL\)](#) intranet site.

## **2 Implementation and Maintenance**

This section contains general information related to implementation and maintenance of the ECS application in the target VA software environment.

### **2.1 Namespace**

The namespace for Event Capture is EC. The excluded namespaces are ECT, ECW, ECX, and EC1.

### **2.2 Site Configuration**

Event Capture does not require site parameters.

### **2.3 Resource Requirements**

There are approximately 250 Event Capture routines that take up approximately 997KB of disk space (including pre- and post-init routines).

## 3 Routines

This section contains relevant information for ECS GUI application software routines and describes the actions to perform in order to obtain a list of routines supporting ECS that are implemented in the back-end Massachusetts General Hospital Utility Multi-Programming System (MUMPS) environment. Event Capture is comprised of a number of MUMPS routines that enable entering, editing, and deleting of data as well as produce reports. These routines are used to accomplish user-initiated tasks through the Event Capture GUI component.

### 3.1 Callable Routines

The Event Capture software provides a set of Application Programmer Interfaces (API) to store and retrieve data for PROVIDER MULTIPLE field (#42) in the EVENT CAPTURE PATIENT file (#721) through integration agreement number 4460.

### 3.2 Routines to Map

There are no specific requirements for routine mapping.

### 3.3 Routine List

Take the following steps from the Systems Manager Menu to obtain the MUMPS routines contained in the Event Capture software:

1. Programmer Options
2. Routine Tools
3. First Line Routine Print
4. All Routines? No => **<Enter>**
5. Routine: **EC\***
6. Routine: 'ECT\*
7. Routine: 'ECW\*
8. Routine: 'ECX\*
9. Routine: 'EC1\*
10. Routine: **<Enter>**
11. (A)lpha, (D)ate, (P)atched, OR (S)ize ORDER: A//**<Enter>**
12. Include line (2), Include lines 2&(3), (N)one: None//**<Enter>**
13. DEVICE: HOME// **<Enter>**SSH VIRTUAL TERMINALRight Margin: 80// **<Enter>**

Note: Steps 6-9 above are to exclude those routines from appearing in the list.



## 4 Files

This section contains information related to files used by the ECS application. It identifies files exported and describes the steps necessary to obtain a list of templates, and map the file flow relationships for Event Capture. Event Capture uses a series of FileMan files to store data related to workload entered via the Event Capture GUI interface.

### 4.1 Global Placement

Event Capture with all patches installed creates the following global files: ^EC, ^ECC, ^ECD, ^ECH, ^ECJ, ^ECL, and ^ECR. Global protection and placement should be made on all of them. It is possible that one or more of these global files already exist on your system.

### 4.2 File List

Event Capture with all patches installed exports the following files. [VA Directive 6402 Modifications to Standardized National Software, 8/28/2013](#) governs these files. Use the List File Attributes option in VA FileMan to print the Data Definitions (DD).

**Table 1: File Export**

File Number	File Name
720.1	EVENT CAPTURE LOG
720.3	EC EVENT CODE SCREENS
720.4	EC PROCEDURE REASON
720.5	EC EVENT CODE SCREENS/PROC REASON LINK
721	EVENT CAPTURE PATIENT
723	MEDICAL SPECIALTY
724	DSS UNIT
725	EC NATIONAL PROCEDURE
726	EVENT CAPTURE CATEGORY

### 4.3 Templates and File Flow

Take the following steps from the Systems Manager Menu to obtain the templates and map the file flow relationships for Event Capture with all patches installed.

**Table 2: Mapping File Flow**

Step	Templates	File Flow (Relationships between Files)
1	VA FileMan	VA FileMan
2	Print File Entries	Data Dictionary Utilities
3	OUTPUT FROM WHAT FILE: <b>Print Template</b> or <b>Sort Template</b>	Map Pointer Relations
4	SORT BY: Name// <b>Name</b>	Select PACKAGE NAME: <b>Event Capture</b>
5	START WITH NAME: LAST// <Enter>	Remove FILE: <Enter>

Step	Templates	File Flow (Relationships between Files)
6	GO TO NAME: LAST// <Enter>	Add FILE: ( <b>Enter name or file number for files you want to include in the output. This prompt will repeat until next step.</b> )
7	WITHIN NAME, SORT BY: <Enter>	Add FILE: <Enter>
8	FIRST PRINT FIELD: <b>Name</b>	Enter Name of file group for optional graph header: EVENT CAPTURE// <Enter>
9	THEN PRINT FIELD: <Enter>	DEVICE: HOME// <Enter> HOME (CRT)
10	Heading (S/C): PRINT TEMPLATE LIST// <Enter>	
11	START AT PAGE: 1 <Enter>	
12	DEVICE: <Enter> HOME (CRT) Right Margin: 80// <Enter>	

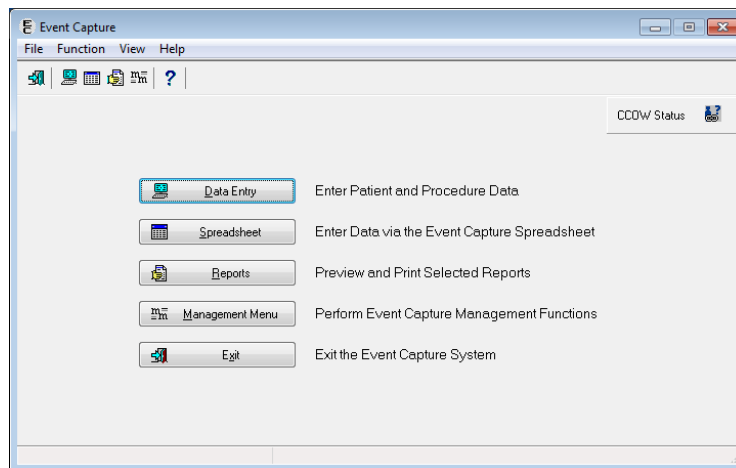
## 5 Exported Options

This section provides an overview of the main and submenus available in the EC GUI application. The user must hold the appropriate security keys in order to access all options.

### 5.1 Menu Outline

The Event Capture software contains the Data Entry, Spreadsheet, Reports, and Management Menu options that are fixed and not subject to modification, except by the software developer(s). Figure 1 shows these major menu options as they appear in the GUI.

**Figure 1: Main Menu for Event Capture**



### 5.2 Menu Diagram

Figure 2 shows the submenu items that are available when the Data Entry option is selected from the Main Menu.

**Figure 2: Data Entry Menu Screen**

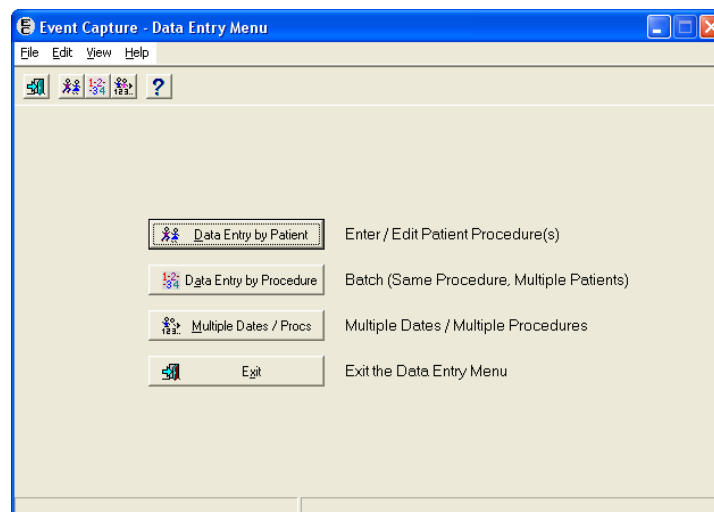


Figure 3 shows the submenu items that are available when the Spreadsheet option is selected from the Main Menu. The user must hold the ECSPSH security key in order to access this screen.

**Figure 3: Spreadsheet Menu Screen**

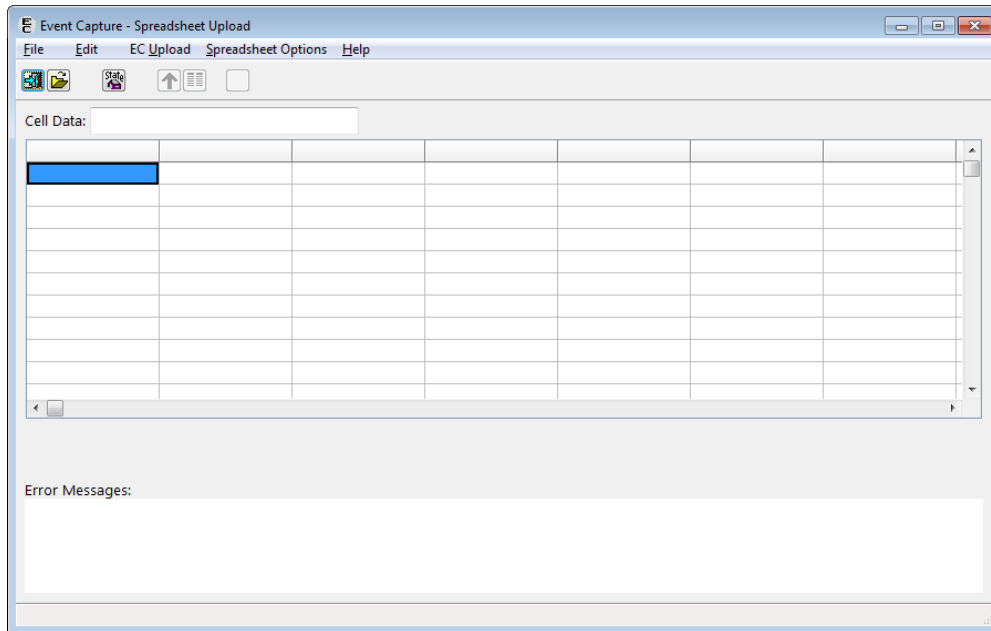


Figure 4 shows the submenu items that are available when the Reports option is selected from the Main Menu and the user does not hold the ECMGR security key.

**Figure 4: Reports Menu Screen without ECMGR Options**

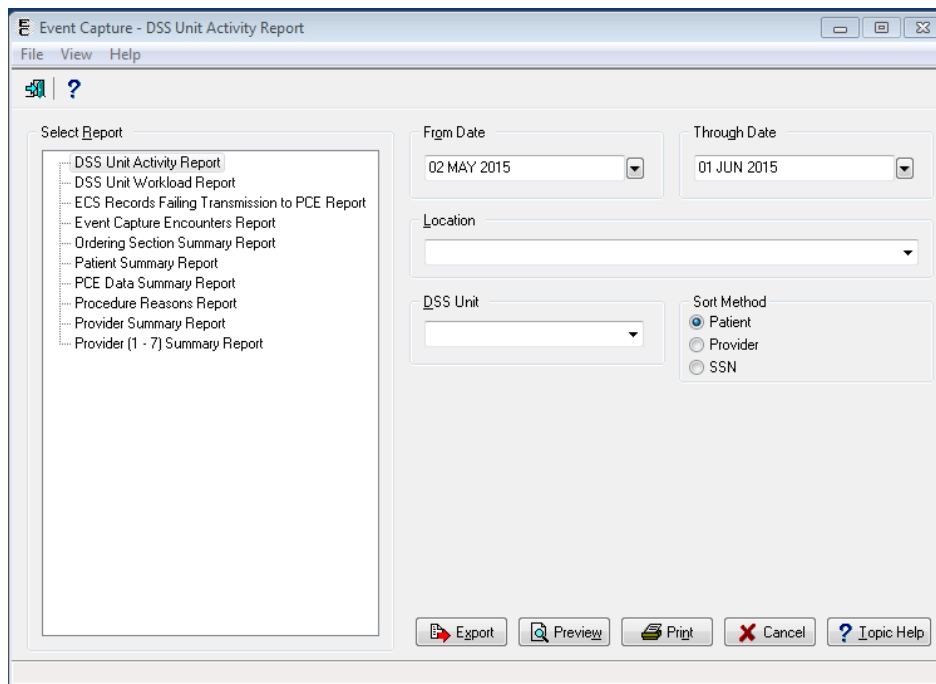


Figure 5 shows the submenu items that are available when the Reports option is selected from the Main Menu and the user holds the ECMGR security key. If the user is assigned the ECNORPT key, the reports option is not available.

Figure 5: Reports Menu Screen with ECMGR Options

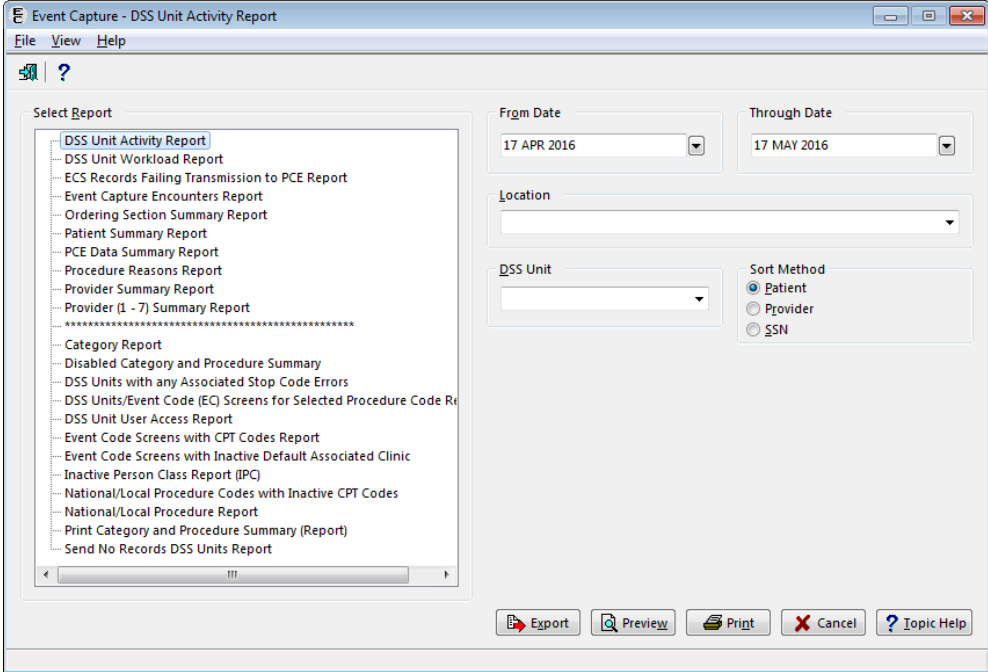
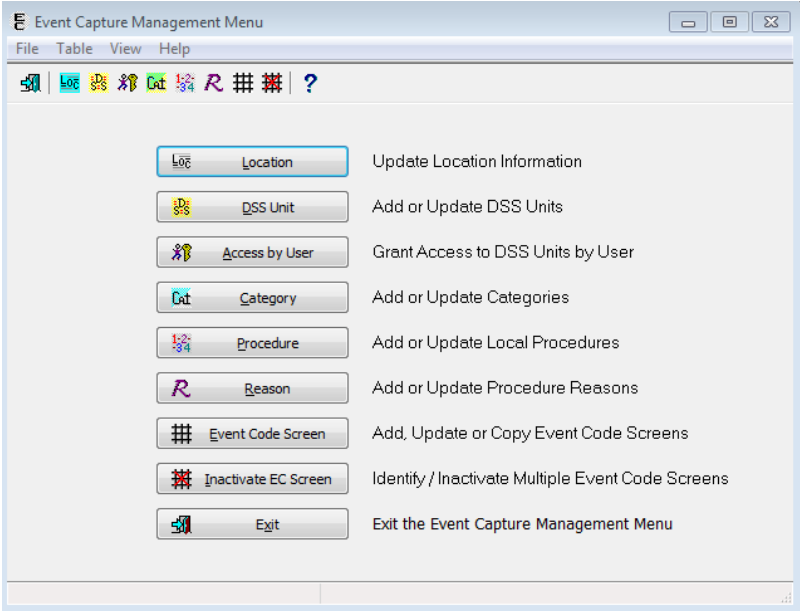


Figure 6 shows the submenu items that are available when the Management Menu option is selected from the Main Menu. The user must hold the ECMGR security key in order to access this menu.

Figure 6: Management Menu Screen



## 6 Archiving and Purging

The Event Capture software does not provide for the archiving or purging of its data.

## 7 Package-wide Variables

There are no package-wide variables in this version of the Event Capture software.

## 8 External / Internal Relations

This section identifies internal and external VistA dependencies of the ECS application. It also identifies the steps necessary to obtain a list of Database Integration Agreements (DBIA) in place for interfacing with required VistA products. Event Capture is part of a larger integrated medical records system and relies on data from other packages to perform its functions.

### 8.1 External Relations

The following VistA software products must be installed before installing Event Capture:

**Table 3: Required VistA Software Products**

Product Name	Minimum Version
Current Procedural Terminology (CPT)/ Healthcare Common Procedure Coding System (HCPCS) Codes	6.0
DRG Grouper	18
Kernel	8.0
MailMan	8.0
Patient Care Encounter (PCE)	1.0
Patient Information Management Service (PIMS)	5.3
Registration	5.2
Remote Procedure Call (RPC) Broker	1.1
ToolKit	7.3
VA FileMan	22.0

### 8.2 Database Integration Agreements

Execute the following steps in FORUM from the Software Services Primary Menu.

**Table 4: FORUM Steps**

Step	Custodial Package	Subscriber Package
1	DBA MENU	DBA MENU
2	INTEGRATION CONTROL REGISTRATIONS	INTEGRATION CONTROL REGISTRATIONS
3	Custodial Package Menu	Subscriber Package Menu
4	ACTIVE ICRs by Custodial Package	Print ACTIVE by Subscribing Package
5	Select PACKAGE NAME: <b>EC</b>	START WITH SUBSCRIBING PACKAGE: RA// <b>EVENT CAPTURE</b>
6	DEVICE HOME// <Enter>	GO TO SUBSCRIBING PACKAGE: LAST// <b>EVENT CAPTURE</b>
7		DEVICE: <Enter>

### 8.3 Internal Relations

All of the Event Capture options are designed to stand alone. Each option can be independently invoked.



## 8.4 External Interfaces

The Event Capture software does not interface with systems outside of VistA. For ECS interfaces to other applications within VistA, please see the External Relations section above.

## 9 Security

This section identifies security measures that must be in place for normal operation of the ECS application. Event Capture security is maintained through the use of security keys, file protection, and option assignment in addition to standard Vista logon security.

### 9.1 Security Management

The Event Capture software does not impose any additional legal requirements on the user, nor does it relieve the user of any legal requirements.

### 9.2 Security Keys

Take the following steps from the Systems Manager Menu to obtain information about the security keys contained in the Event Capture software:

1. VA FileMan
2. Print File Entries
3. OUTPUT FROM WHAT FILE: PRINT TEMPLATE// **Security Key**
4. SORT BY: NAME// <Enter>
5. START WITH NAME: FIRST// **EC**
6. GO TO NAME: LAST// **ECX**
7. WITHIN NAME, SORT BY: <Enter>
8. FIRST PRINT FIELD: **Name**
9. THEN PRINT FIELD: **Description**
10. THEN PRINT FIELD: <Enter>
11. Heading (S/C): SECURITY KEY LIST// <Enter>
12. START AT PAGE: 1// <Enter>
13. DEVICE: <Enter> HOME (CRT) Right Margin: 80// <Enter>

### 9.3 VA FileMan Access Codes

Table 5: VA FileMan Access Codes

File Number	File Name	DD Access	RD Access	WR Access	DEL Access	LAYGO Access
720.1	EVENT CAPTURE LOG					
720.3	EC EVENT CODE SCREENS					
720.4	EC PROCEDURE REASON	@	@	@	@	@
720.5	EC EVENT CODE SCREENS/ PROC REASON LINK	@	@	@	@	@
721	EVENT CAPTURE PATIENT					
723	MEDICAL SPECIALTY	@	@	@	@	@

File Number	File Name	DD Access	RD Access	WR Access	DEL Access	LAYGO Access
724	DSS UNIT					
725	EC NATIONAL PROCEDURE					
726	EVENT CAPTURE CATEGORY					

Entries in the MEDICAL SPECIALTY file (#723) are set by the MCAO or its designee. Any additions, deletions, or modifications will be distributed nationally through the release of the Event Capture software.

Entries in the EC NATIONAL PROCEDURE file (#725) are also set by the MCAO or its designee. The Event Capture Management Menu provides the option to add locally recognized procedures to this file. These local entries will be added by using the Event Capture software at the internal entry number above 90,000.

## 9.4 Mail Groups and Alerts

The Event Capture software does not require any mail groups, nor does it generate any mail alerts.

## 9.5 Remote Systems

Event Capture does not send data to any remote system.

## 9.6 Contingency Planning

Sites should have a backup emergency plan in place in the event that the system goes down.

## 9.7 Interfacing

Event Capture does not require special interfacing.

## 9.8 Electronic Signatures

Event Capture does not use electronic signatures.

## 10 How to Generate On-line Documentation

This section describes some of the various methods by which users may secure Event Capture technical documentation. Online technical documentation pertaining to the Event Capture software, in addition to documentation which is located in the help prompts, may be generated through utilization of several Kernel options. These include XINDEX and VA FileMan List File Attributes. Further information about other utilities that supply online technical documentation may be found in the Kernel Reference Manual.

### XINDEX

This option analyzes the structure of a routine(s) to determine in part if the routine(s) adheres to VistA Programming Standards. The XINDEX output may include the following components: compiling list of errors and warnings, routine listing, local variables, global variables, naked global references, label references, and external references. By running XINDEX for a specified set of routines, the user is afforded the opportunity to discover any deviations from VistA Programming Standards that exist in the selected routine(s) and to see how routines interact with one another. That is, which routines call or are called by other routines.

To run XINDEX for the Event Capture software, specify the following namespace at the "routine(s) ?>" prompt: EC\*. Event Capture initialization routines that reside in the User Class Identifier (UCI) in which XINDEX is being run, as well as compiled template routines found within the Event Capture namespace, should be omitted at the "routine(s)?>" prompt. To omit routines from selection, preface the namespace with a minus sign (-).

### List File Attributes

This VA FileMan option allows the user to generate documentation pertaining to files and file structure. Utilization of this option via the "Standard" format will yield the following data dictionary information for a specified file(s): file name and description, identifiers, cross-references, files pointed to by the file specified, files which point to the file specified, input templates, print templates, and sort templates. In addition, the following applicable data is supplied for each field in the file: field name, number, title, global location, description, help prompt, cross-reference(s), input transform, date last edited, and notes.

Using the "Global Map" format of this option generates an output which lists all cross-references for the file selected, global location of each field in the file, input templates, print templates, and sort templates. For a comprehensive listing of Event Capture files, please refer to the Files section of this manual.

## 10.1 On-Line Help

Throughout the ECS GUI application, press the question mark button located at the toolbar or on the bottom right corner of the screen to obtain online information for any screen. To obtain online information for a field, select that field and press <F1>.

## Appendix A Acronyms

Acronym	Description
API	Application Programming Interface
CPRS	Computerized Patient Record System
CPT	Current Procedural Terminology
DBIA	Database Integration Agreement
DCM	Department Cost Manager
DD	Data Definitions
DRG	Diagnosis Related Group
DSS	Decision Support System
ECS	Event Capture System
GUI	Graphical User Interface
HCPCS	Healthcare Common Procedure Coding System
IRM	Information Resources Management
ISO	Information Security Officers
MCAO	Managerial Cost Accounting Office
MUMPS	Massachusetts General Hospital Utility Multi-Programming System
PCE	Patient Care Encounter
PIMS	Patient Information Management Service
RPC	Remote Procedure Call
UCI	User Class Identifier
VA	Department of Veterans Affairs
VAMC	Veterans Affairs Medical Center
VDL	Vista Documentation Library
VHA	Veterans Health Administration
VistA	Veterans Health Information Systems and Technology Architecture

# 11 Glossary

Term	Definition
Category	Provides a common level to group associated procedures. Multiple procedures can be defined for each category.
Cost Center	Reveals which service is using the specified DSS Unit. Cost centers are defined in MP-4, Part V, and Appendix B of the Fiscal Service cost manuals.
DSS Unit	Defines the lowest level segment used for tracking hospital resources. These units can be a small work unit within a service or a large division within a service. Management at each facility is responsible for tailoring the DSS Units to fit its resource/cost reporting needs.
DSS Unit Number	Four- to seven-character Department Cost Manager (DCM) department code. DSS will be providing guidance to VAMCs regarding what they should enter.
Event Capture	Software designed to provide management tools necessary to track procedures not tracked by other VistA software.
Event Code Screen	Unique combinations of location, DSS Unit, category, and procedure that define patient procedures.
Location	Facility or division name as it appears in the INSTITUTION file (#4).
Medical Specialty Unit	Specialty section associated with the DSS
Ordering Section	Medical section actually ordering the patient's procedure.
Parent Service	The controlling service for a DSS Unit.
Procedure	A specific function performed on, or service provided to, a patient.
Provider	The person performing the procedure.
Volume	Associated with the number of procedures performed. This field can also be used to track time actually spent performing the procedures.