Decision Support System (DSS)

Technical Manual

Software Version 3.0

Patch ECX\*3.0\*178



November 2020

Document Version 1.0

Department of Veterans Affairs (VA)

Office of Information and Technology (OI&T)

Revision History

| Date | Version | Description | Author |
| --- | --- | --- | --- |
| 5/28/2020 | 1.0 | Initial Document  | Liberty IT Solutions |

Table of Contents

[1 Introduction 1](#_Toc48914701)

[1.1 Overview 1](#_Toc48914702)

[1.2 Purpose 1](#_Toc48914703)

[1.3 Functions of the Software 2](#_Toc48914704)

[2 Orientation 2](#_Toc48914705)

[2.1 User Responses 2](#_Toc48914706)

[3 General Information 2](#_Toc48914707)

[3.1 Namespace Information 2](#_Toc48914708)

[3.2 Background Job Options 2](#_Toc48914709)

[3.3 Resource Requirements 3](#_Toc48914710)

[3.3.1 Special Note on IVP and UDP Extracts 4](#_Toc48914711)

[3.3.2 Special Note on Pharmacy Extract Files 4](#_Toc48914712)

[3.3.3 Time Estimates for Extracts 5](#_Toc48914713)

[3.4 Secure Data Transmission 5](#_Toc48914714)

[4 Implementation and Maintenance 6](#_Toc48914715)

[5 Routines 7](#_Toc48914716)

[5.1 Routine List 7](#_Toc48914717)

[5.2 Callable Routines/Entry Points/Application Programmer Interfaces 8](#_Toc48914718)

[5.3 Routines to Map 8](#_Toc48914719)

[5.4 External Interfaces 8](#_Toc48914720)

[6 Files 8](#_Toc48914721)

[6.1 Global Placement 8](#_Toc48914722)

[6.2 File List 8](#_Toc48914723)

[6.3 Field List 10](#_Toc48914724)

[6.3.1 Templates and File Flow 11](#_Toc48914725)

[7 Exported Options 12](#_Toc48914726)

[7.1 Menu Online 12](#_Toc48914727)

[7.2 Menu Diagrams 12](#_Toc48914728)

[7.3 Stand-alone Options 12](#_Toc48914729)

[7.4 VA FileMan Access Codes 12](#_Toc48914730)

[7.5 Security Management 14](#_Toc48914731)

[7.6 Security Keys 14](#_Toc48914732)

[7.7 Mail Groups and Alerts 15](#_Toc48914733)

[7.8 Remote Systems 15](#_Toc48914734)

[7.9 Contingency Planning 15](#_Toc48914735)

[7.10 Interfacing 15](#_Toc48914736)

[7.11 Electronic Signatures 15](#_Toc48914737)

[8 Archiving, Deleting or Purging 15](#_Toc48914738)

[8.1 Archiving 15](#_Toc48914739)

[8.2 Deleting or Purging 15](#_Toc48914740)

[8.2.1 Recommendations 16](#_Toc48914741)

[9 External Relations 17](#_Toc48914742)

[9.1 Minimum Software Versions Required 17](#_Toc48914743)

[9.2 Database Integration Agreements (DBIAs) 18](#_Toc48914744)

[10 Internal Relations 18](#_Toc48914745)

[11 Package-wide Variables 18](#_Toc48914746)

[12 How to Generate Online Documentation 18](#_Toc48914747)

[12.1 XINDEX 19](#_Toc48914748)

[12.2 Inquire to Option File 19](#_Toc48914749)

[12.3 Print Options File 19](#_Toc48914750)

[12.4 List File Attributes 19](#_Toc48914751)

[Appendix A Acronyms and Abbreviations A-1](#_Toc48914752)

[Appendix B Glossary B-3](#_Toc48914753)

[Appendix C References and Related Materials C-4](#_Toc48914754)

[Appendix D Index D-5](#_Toc48914755)

List of Tables

[Table 1: Required Queued Background Tasks 3](#_Toc45797167)

[Table 2: Extract Name/Bytes per Record 3](#_Toc45797168)

[Table 3: Steps to Recreate IVP and UDP Holding Files 4](#_Toc45797169)

[Table 4: Audited Fields When Updates Occur 4](#_Toc45797170)

[Table 5: Extract Time Estimates 5](#_Toc45797171)

[Table 6: Management Menu Options & Activities 6](#_Toc45797172)

[Table 7: Steps to List DSS Routines 8](#_Toc45797173)

[Table 8: File List Table 9](#_Toc45797174)

[Table 9: Field Changes in DSS for Current Release 10](#_Toc45797175)

[Table 10: Steps to List DSS Templates & Map Menu Options 11](#_Toc45797176)

[Table 11: Extract Manager’s Options 12](#_Toc45797177)

[Table 12: Steps to Obtain Information on Exported Menus 12](#_Toc45797178)

[Table 13: VA FileMan Access Codes 13](#_Toc45797179)

[Table 14: Steps to Obtain Security Key Information 14](#_Toc45797180)

[Table 15: Recreate IVP & UDP Holding File Options 16](#_Toc45797181)

[Table 16: External Package Minimum Versions Required 17](#_Toc45797182)

[Table 17: Steps to Obtain DBIAs 18](#_Toc45797183)

[Table 18: Acronyms and Abbreviations Table A-1](#_Toc45797184)

[Table 19: Glossary B-3](#_Toc45797185)

[Table 20: Reference & Related Manuals on the VDL C-3](#_Toc45797186)

List of Figures

[Figure 1: Data Transmission Header 5](#_Toc40084477)

# Introduction

The Decision Support System (DSS) is the designated Managerial Cost Accounting (MCA) System of the Department of Veterans Affairs (VA) as mandated in the Veterans Health Administration (VHA) Directive 1750 VHA Managerial Cost Accounting System (Decision Support System (DSS)), March 24, 2015.

DSS is a derived database built from standard VHA data sources. The Managerial Cost Accounting Office (MCAO) uses clinical and financial data to provide state-of-the-art activity-based costing and clinical productivity analyses.

This is a design-to-schedule project with a compulsory Patch Release date of no later than November 1 of the new Fiscal Year (FY). This project enables the MCAO to accurately accommodate changes to the primary Clinical Transaction Systems made during the preceding year, ensuring the workload data has been accurately captured and costed to the Product Level.

MCA Cost Data is used at all levels of the VA for functions such as budgeting and resource allocation. Additionally, the system contains a rich repository of clinical information used to promote a proactive approach to the care of high-risk (e.g., diabetes and acute coronary patients) and high-cost patients.

## Overview

The DSS Extracts Version 3.0 software provides a means of exporting data from selected Veterans Health Information Systems and Technology Architecture (VistA) software modules and transmitting it to a DSS database residing at the Austin Information Technology Center (AITC).

This transfer is accomplished through a set of extract routines, intermediate files, and transmission routines. Data from VistA packages is stored by the extract routines in the intermediate files, where it is temporarily available for local use and auditing. The data is then transmitted to the AITC, where it is formatted and uploaded into commercial software. After the data has been successfully uploaded into the commercial software, it is purged from the intermediate files.

## Purpose

The DSS Technical Manual serves the following purposes:

* Provides technical information to aid Automated Data Processing Application Coordinators (ADPACs) and Office of Information and Technology (OI&T) service staff responsible for implementing and maintaining the software.
* Provides technical information to aid Database Administrator (DBA) personnel responsible for maintaining database files.
* Provides security information for Information Security Officer (ISO) and Regional Information Security Officer (RISO) staff.

## Functions of the Software

The DSS Extracts software provides the following functionalities:

* Implements Extracts Processes
* Schedules Extracts
* Verifies Extracts against other VistA Reports
* Transmits Extracts to Commercial Software
* Verifies Transmissions
* Allows Deletion of Extracts
* Allows Purging of Holding Files for the Intravenous (IV) Detail Extract (IVP), the Unit Dose Local Extract (UDP), and the VistA Blood Establishment Computer Software (VBECS) Blood Bank Extract (LBB).

# Orientation

This manual is recommended as a reference document for technical users (e.g., ADPACs or OI&T). Package security information is located in the Security Management and Security Keys sections of this manual.

## User Responses

User responses in the examples presented in this manual are displayed in **bold** type.

# General Information

This section contains general information to aid in the understanding and use of this document.

## Namespace Information

The namespace assigned to the DSS Extracts software is ECX (Event Capture Extract).

## Background Job Options

There are no routine background jobs that must run to maintain normal package operation for DSS Extracts. However, users performing a DSS data extract must execute it as a background task (queued through TaskManager).

Both Statistical Analysis System (SAS) and Extract Audit reports can be displayed on the user’s screen, printed immediately to a print device, or queued to a print device. All other reports can only be printed as queued background jobs and cannot be stopped through the TaskMan User [XUTM USER] option.

Table 1 lists the functions that must be queued as background tasks.

1. Required Queued Background Tasks

| Function | Menu Option | Details |
| --- | --- | --- |
| Transmit extract data | [ECXTRANS] | Transmit Data from Extract Files |
| Stop extract Background Task | [XUTM USER] | TaskMan user option.Users are able to stop the Extract Background Task while it is running by using the *TaskMan user* [XUTM USER] option.If queued as a background task, users can stop the background task while it is running by using the *TaskMan user* [XUTM USER] option. |
| Delete extract data | [ECXDELEF] | Delete Extract Files Data in any resulting incomplete extract should be deleted using the *Delete Extract Files* [ECXDELEF] option. |
| Purge extract holding files | [ECXPURG] | Purge Extract Holding Files.Data in the holding files for the IVP, UDP and VBECS files can be purged using the *Purge Extract Holding Files* [ECXPURG] option. |

## Resource Requirements

Table 2 provides information on extract files. The bytes per record estimates in this table include the file cross-reference.

1. Extract Name/Bytes per Record

| Extract Name | Bytes per Record(Estimated Mean Size) |
| --- | --- |
| ADM - Admission Extract | 350 |
| BCMA – Bar Code Medication Administration Extract | 450 |
| CLI - Clinic Extract | 485 |
| ECS - Event Capture Local Extract | 450 |
| IVP - IV Detail Extract | 500 |
| LAB - Laboratory Extract | 250 |
| LBB - Blood Bank Extract | 200 |
| MOV - Physical Movement Extract | 225 |
| PRE - Prescription Extract | 425 |
| PRO - Prosthetics Extract | 400 |
| RAD - Radiology Extract | 300 |
| SUR - Surgery Extract | 425 |
| TRT - Treating Specialty Change Extract | 275 |
| UDP - Unit Dose Local Extract | 375 |

### Special Note on IVP and UDP Extracts

IV orders will accumulate in the IV EXTRACT DATA file (#728.113); Unit Dose orders will accumulate in the UNIT DOSE EXTRACT DATA file (#728.904). These files are loaded dynamically as Pharmacy orders for IV and unit dose medicines are processed. Each record in these files uses approximately 100 bytes.

Extreme caution must be used when performing maintenance on the IV EXTRACT DATA file (#728.113) and the UNIT DOSE EXTRACT DATA file (#728.904). If data in either file is purged, the IVP or UDP monthly extract may be incomplete. It is strongly recommended that, at a minimum, sites maintain all data from the current fiscal year.

The holding files for IVP and UDP can be purged. Two functions were created to regenerate purged IVP and UDP holding file data. The steps shown in Table 3 must be executed from the Extract Manager’s Options menu to access these options:

1. Steps to Recreate IVP and UDP Holding Files

|  |  |
| --- | --- |
| Step | Action/Menu Option |
| 1 | Extract Manager’s Options |
| 2 | Transmission Management |
| 3 | Recreate Extract Holding Files |

Note: Holding files can become quite large if appropriate purging is not performed. The option, Purge Extract Holding Files [ECXPURG], purges holding files from IVP and UDP by date range.

###  Special Note on Pharmacy Extract Files

The Pharmacy DSS Extract files shown in Table 4 are audited when entries are edited through the menu option Pharmacy Volume Edit [ECX PHA VOL EDIT]. Entries are stored in the AUDIT file (#1.1).

1. Audited Fields When Updates Occur

| File | File # | Audited Fields |
| --- | --- | --- |
| PRESCRIPTION EXTRACT | #727.81 | The QUANTITY and UNIT OF ISSUE fields are audited. |
| UNIT DOSE LOCAL EXTRACT | #727.809 | Only updates to the QUANTITY field are audited. |
| IV DETAIL EXTRACT | #727.819 | Updates to the QUANTITY and TOTAL DOSES PER DAY fields are audited. |
| BCMA EXTRACT | #727.833 | Updates to the COMPONENT DOSE GIVEN and COMPONENT UNITS fields are audited. |

### Time Estimates for Extracts

Extracts generally require approximately two to four minutes per 1000 records extracted and should be queued to run during a non-peak system usage period.

Table 5 contains examples of approximate run times for extracts.

1. Extract Time Estimates

| Extract Name | Approximate Length of Time |
| --- | --- |
| Admission (ADM) | Less than ten minutes |
| Clinic (CLI) | 5 hours for 48,000 records |
| Laboratory (LAB) | 6 hours for 100,000 records |
| Physical Movement (MOV) | Less than ten minutes |
| Prescription (PRE) | 3.5 hours for 49,000 records |
| Treating Specialty Change (TRT) | Less than ten minutes |

## Secure Data Transmission

Data is transmitted to the AITC using VA MailMan mail messages. The first line of each message is a header that identifies the following entities: Site, Extract, Year and Month, and SAS version identifier in the format shown in Figure 1:

1. Data Transmission Header



During the transmission process, its Internal Entry Number (IEN) is entered in the MESSAGE NUMBER field (#301) of the DSS EXTRACT LOG file (#727). There are options that allow the Extract Manager or designee to monitor this file. As confirmation messages are received from the AITC, multiple entries in the MESSAGE NUMBER field (#301) are deleted.

#  Implementation and Maintenance

The Management Menu enables the Extract Manager or designee to perform a variety of functions, listed in Table 6:

1. Management Menu Options & Activities

| Menu Option | Activity |
| --- | --- |
| Maintenance … | * Produce the Community Based Outpatient Clinic (CBOC) Activity Report
* Perform Current Procedural Terminology (CPT) and International Classification of Diseases (ICD) Inquiries
* Perform DSS Ward Management Activities
* Add or Modify Pharmacy IV Room Division Entries
* Print the Pharmacy IV Room Worksheet
* Perform Pharmacy National Drug Code (NDC) Lookup
* Perform Pharmacy Volume Log Maintenance Activities
* Print the Feeder Key Listings
* Print the Feeder Location Listings
* Produce the Prosthetics Reports
* Maintain Prosthetics Extract Quantity Information
* Perform DSS Clinic Setup Activities
* Produce the DSS Clinic Setup Reports
* Perform Inpatient Census Setup Activities
* Produce the Test Patient List
* View Gains and Losses (G&L) Corrections Listings
 |
| Pre-Extract Audit Reports … | * Produce the Event Capture Pre-Extract Unusual Volume Report
* Produce the Laboratory Blood Bank (LBB) Pre-Extract Audit
* Produce the Pharmacy Pre-Extract Incomplete Feeder Key Reports
* Produce the Pharmacy Pre-Extract Unusual Cost Reports
* Produce the Pharmacy Pre-Extract Unusual Volume Reports
* Produce the IVP/UDP Source Audit Reports
* Produce the Prosthetic Pre-Extract Unusual Cost Report
* Produce the Surgery Pre-Extract Volume Report
* Produce the Surgery Pre-Extract Unusual Volume Report
* Produce the Surgery Pre-Extract Observation Report
 |
| Package Extracts … | * Generate the Admissions Extract
* Generate the BCMA Extract
* Generate the Blood Bank Extract
* Generate the Clinic Visit Extract
* Generate the Event Capture Extract
* Generate the IV Extract
* Generate the Lab Extract
* Generate the Prescription Extract
* Generate the Prosthetics Extract
* Generate the Radiology Extract
* Generate the Surgery Extract
* Generate the Transfer and Discharge Extract
* Generate the Treating Specialty Change Extract
* Generate the Unit Dose Extract
 |
| SAS Extract Audit Reports … | * Produce the SAS Prescription Audit Report
* Produce the SAS Radiology Audit Report
* Produce the SAS Surgery Audit Report
 |
| Extract Audit Reports … | * Create Extract Audit Reports
* Produce the Radiology Extract CPT Code Audit Report
* Produce the Extract Stop Code Validity Report
 |
| Transmission Management … | * Review Extracts for Transmission
* Transmit Extract Files
* Produce the Summary Report of Extract Logs
* Delete Extract Files
* Purge Extract Holding Files
* Recreate Extract Holding Files
 |

Refer to the DSS Extracts Installation/Rollback Guide for more information about installing and implementing the software.

# Routines

This section describes relevant technical aspects of DSS Application routines.

## Routine List

From the Systems Manager Menu, perform the steps outlined in Table 7 to obtain a list of routines contained in the DSS package:

1. Steps to List DSS Routines

| Step | Action/Menu Option |
| --- | --- |
| 1 | Programmer Options |
| 2 | Routine Tools |
| 3 | First Line Routine Print |
| 4 | All Routines? No => <**Enter**> |
| 5 | Routine: **ECX**\* |
| 6 | Routine: <**Enter**> |
| 7 | (A)lpha, (D)ate, (P)atched, OR (S)ize ORDER: A// <**Enter**> |
| 8 | Include line (2), Include lines 2&(3), (N)one: None/ <**Enter**> |
| 9 | DEVICE: HOME// <**Enter**> HOME (CRT) Right Margin: 80// <**Enter**> |

## Callable Routines/Entry Points/Application Programmer Interfaces

The DSS Extracts software has no callable Application Programmer Interfaces (APIs).

## Routines to Map

There are no routines in DSS Extracts that are recommended for mapping.

## External Interfaces

There are no external interfaces used by DSS Extracts.

# Files

This section contains information pertaining to the files manipulated by the DSS application software.

## Global Placement

DSS Extracts use one global file for data storage: ^ECX. During first-time installation, use global protection and placement when appropriate.

## File List

The DSS Extracts software, with all patches installed, exports the files that appear in Table 8. Use the Systems Manager Menu > VA FileMan > Data Dictionary Utilities > List File Attributes option to print the Data Dictionary (DD).

Note: VA Directive 6402, Modifications to Standardized National Software, August 28, 2013 prohibits local modification of these files.

Table 8 lists the file names, associated file numbers, and extract abbreviations (where applicable):

1. File List Table

| File Number | Abbreviation | File Name |
| --- | --- | --- |
| 727 | - | DSS EXTRACT LOG |
| 727.1 | - | EXTRACT DEFINITIONS |
| 727.2 | - | DSS LAB TESTS |
| 727.29 | - | DSS LOINC FILE |
| 727.3 | - | DSS DIVISION IDENTIFIER  |
| 727.4 | - | DSS WARD |
| 727.5 | - | DSS MH TESTS |
| 727.7 | - | LAB RESULTS TRANSLATION |
| 727.802 | ADM | ADMISSION EXTRACT |
| 727.804 | - | CLINIC NOSHOW EXTRACT |
| 727.805 | - | NURSING EXTRACT |
| 727.806 | - | DENTAL EXTRACT |
| 727.808 | MOV | PHYSICAL MOVEMENT EXTRACT |
| 727.809 | UDP | UNIT DOSE LOCAL EXTRACT |
| 727.81 | PRE | PRESCRIPTION EXTRACT |
| 727.811 | SUR | SURGERY EXTRACT |
| 727.812 | - | MENTAL HEALTH EXTRACT |
| 727.813 | LAB | LABORATORY EXTRACT |
| 727.814 | RAD | RADIOLOGY EXTRACT |
| 727.815 | ECS | EVENT CAPTURE LOCAL EXTRACT |
| 727.816 | - | CLINIC I EXTRACT |
| 727.817 | TRT | TREATING SPECIALTY CHANGE EXTRACT |
| 727.818 | - | CLINIC II EXTRACT |
| 727.819 | IVP | IV DETAIL EXTRACT |
| 727.82 | - | ADMISSION SETUP EXTRACT |
| 727.821 | - | PHYSICAL MOVEMENT SETUP EXTRACT |
| 727.822 | - | TREATING SPECIALTY CHANGE SETUP EXTRACT |
| 727.823 | - | PAI EXTRACT |
| 727.824 | - | LAB RESULTS EXTRACT |
| 727.825 | - | QUASAR EXTRACT |
| 727.826 | PRO | PROSTHETICS EXTRACT |
| 727.827 | CLI | CLINIC EXTRACT |
| 727.829 | LBB | BLOOD BANK EXTRACT |
| 727.831 | - | DSS TREATING SPECIALTY TRANSLATION |
| 727.832 | - | NUTRITION EXTRACT |
| 727.833 | BCM | BCMA EXTRACT |
| 728 | - | DSS EXTRACTS |
| 728.113 | - | IV EXTRACT DATA |
| 728.44 | - | CLINICS AND STOP CODES |
| 728.441 | - | NATIONAL CLINIC |
| 728.442 | - | MCA LABOR CODE |
| 728.45 | - | DSS NUTRITION PRODUCT WORKSHEET |
| 728.46 | - | DSS NUTRITION DIVISION WORKSHEET |
| 728.506 | - | DSS DRUG PRODUCT CODE |
| 728.904 | - | UNIT DOSE EXTRACT DATA |
| 729 | - | DSS PRODUCTION UNIT |

## Field List

The modifications associated with the release of DSS FY21 Extract Sustainment Patch ECX\*3.0\*178 include the following list (Table 9) of modified field names and numbers by extract.

1. Field Changes in DSS for Current Release

| Field Name | Field Number | File Name | File Number |
| --- | --- | --- | --- |
| PLACEHOLD MEANS TEST | 25 | ADMISSION EXTRACT | 727.802 |
| ERI | 76 | ADMISSION EXTRACT | 727.802 |
| PLACEHOLD MEANS TEST | 50 | BCMA EXTRACT | 727.833 |
| ERI | 76 | BCMA EXTRACT | 727.833 |
| ERI | 22 | BLOOD BANK EXTRACT | 727.829 |
| PLACEHOLD MEANS TEST | 71 | CLINIC EXTRACT | 727.827 |
| ERI | 86 | CLINIC EXTRACT | 727.827 |
| ERI | 83 | EVENT CAPTURE LOCAL EXTRACT | 727.815 |
| PLACEHOLD MEANS TEST | 42 | IV DETAIL EXTRACT | 727.819 |
| ERI | 80 | IV DETAIL EXTRACT | 727.819 |
| ERI | 38 | LABORATORY EXTRACT | 727.813 |
| PLACEHOLD MEANS TEST | 69 | PRESCRIPTION EXTRACT | 727.81 |
| ERI | 84 | PRESCRIPTION EXTRACT | 727.81 |
| REMARKS | 105 | PRESCRIPTION EXTRACT | 727.81 |
| ERI | 75 | PROSTHETICS EXTRACT | 727.826 |
| ERI | 43 | RADIOLOGY EXTRACT | 727.814 |
| ERI | 77 | SURGERY EXTRACT | 727.811 |
| PLACEHOLD MEANS TEST | 29 | UNIT DOSE LOCAL EXTRACT | 727.809 |
| ERI | 75 | UNIT DOSE LOCAL EXTRACT | 727.809 |

### Templates and File Flow

Perform the steps listed in Table 10 from the Systems Manager Menu. These steps are used to obtain information about the templates and mapped file-flow relationships for DSS Extracts when all patches are installed.

1. Steps to List DSS Templates & Map Menu Options

| Step | Actions/Menu Options for Templates | Actions/Menu Options for File Flows (Relationships between Files) |
| --- | --- | --- |
| 1 | VA FileMan | VA FileMan |
| 2 | Print File Entries | Data Dictionary Utilities |
| 3 | Output from what File: **Print Template** or **Sort Template** | Map Pointer Relations |
| 4 | SORT BY: NAME// **Name** | Select PACKAGE NAME: **DSS EXTRACTS** |
| 5 | START WITH NAME: FIRST// **ECX** | Remove FILE: <**Enter**> |
| 6 | GO TO NAME: LAST// **ECXZ** | Add FILE:> Enter name or number for files to include in the output.Note: This prompt will repeat. |
| 7 | WITHIN NAME, SORT BY: <**Enter**> | Add FILE:<**Enter**> |
| 8 | FIRST PRINT FIELD: **Name** | Enter name of file group for optional graph header: DSS EXTRACTS// <**Enter**> |
| 9 | THEN PRINT FIELD: <**Enter**> | DEVICE: <**Enter**> HOME (CRT) <**Enter**> |
| 10 | Heading (S/C): PRINT TEMPLATE LIST// <**Enter**> | Not Applicable (N/A) |
| 11 | START AT PAGE: 1// <**Enter**> | N/A |
| 12 | DEVICE: <**Enter**> HOME (CRT) Right Margin: 80// <**Enter**> | N/A |

# Exported Options

This section provides relevant information on DSS application software exported options.

## Menu Online

The DSS Extracts software contains one primary menu option, Extract Manager's Options [ECXMGR], which contains options for the following six submenus. These options are fixed and are not subject to modification except by the Software Developers. These options are accessed by entering Extract Manager’s Options from the Systems Manager Menu; the menu options are listed in Table 11.

1. Extract Manager’s Options

| Menu Option | Description |
| --- | --- |
| M |  Maintenance |
| R | Pre-Extract Audit Reports |
| P | Package Extracts |
| S | SAS Extract Audit Reports |
| E | Extract Audit Reports |
| T | Transmission Management |

## Menu Diagrams

From the Systems Manager Menu, perform the steps listed in Table 12 to obtain information concerning the menus exported with the DSS Extracts software:

1. Steps to Obtain Information on Exported Menus

| Step | Action/Menu Option |
| --- | --- |
| 1 | Menu Management |
| 2 | Display Menus and Options |
| 3 | Menu Diagrams (with Entry/Exit Actions) |
| 4 | Select USER (U.xxxxx) or OPTION (O.xxxxx) name: **ECXMGR** |
| 5 | DEVICE: HOME// <**Enter**> HOME (CRT) Right Margin: 80// <**Enter**> |

## Stand-alone Options

All of the DSS Extracts options are designed to be stand-alone.

## VA FileMan Access Codes

Table 13 lists the recommended VA FileMan access codes for the DSS Extract Software.

1. VA FileMan Access Codes

| File Name | File # | Data Definition(DD) | Read Access(RD) | Write Access(WR) | Delete Access(DEL) | Learn-As- You-Go(LAYGO) |
| --- | --- | --- | --- | --- | --- | --- |
| DSS EXTRACT LOG | 727 | @ | N/A | @ | @ | @ |
| EXTRACT DEFINITIONS | 727.1 | ^ | N/A | ^ | ^ | ^ |
| DSS LOINC FILE | 727.29 | ^ | N/A | ^ | ^ | ^ |
| DSS DIVISION IDENTIFIER | 727.3 | ^ | N/A | ^ | ^ | ^ |
| DSS WARD | 727.4 | ^ | N/A | ^ | ^ | ^ |
| DSS MH TESTS | 727.5 | ^ | N/A | ^ | ^ | ^ |
| LAB RESULTS TRANSLATION | 727.7 | @ | N/A | N/A | N/A | N/A |
| ADMISSION EXTRACT | 727.802 | @ | @ | @ | @ | @ |
| CLINIC NOSHOW EXTRACT | 727.804 | N/A | N/A | N/A | N/A | N/A |
| NURSING EXTRACT | 727.805 | N/A | N/A | N/A | N/A | N/A |
| DENTAL EXTRACT | 727.806 | N/A | N/A | N/A | N/A | N/A |
| PHYSICAL MOVEMENT EXTRACT | 727.808 | @ | @ | @ | @ | @ |
| UNIT DOSE LOCAL EXTRACT | 727.809 | @ | @ | @ | @ | @ |
| PRESCRIPTION EXTRACT | 727.81 | @ | @ | @ | @ | @ |
| SURGERY EXTRACT | 727.811 | @ | @ | @ | @ | @ |
| LABORATORY EXTRACT | 727.813 | @ | @ | @ | @ | @ |
| RADIOLOGY EXTRACT | 727.814 | @ | @ | @ | @ | @ |
| EVENT CAPTURE LOCAL EXTRACT | 727.815 | @ | @ | @ | @ | @ |
| CLINIC I EXTRACT | 727.816 | @ | @ | @ | @ | @ |
| TREATING SPECIALTY CHANGE EXTRACT | 727.817 | @ | @ | @ | @ | @ |
| CLINIC II EXTRACT | 727.818 | @ | @ | @ | @ | @ |
| IV DETAIL EXTRACT | 727.819 | @ | @ | @ | @ | @ |
| ADMISSION SETUP EXTRACT | 727.82 | @ | @ | @ | @ | @ |
| PHYSICAL MOVEMENT SETUP EXTRACT | 727.821 | @ | @ | @ | @ | @ |
| TREATING SPECIALTY CHANGE SETUP EXTRACT | 727.822 | @ | @ | @ | @ | @ |
| PAI EXTRACT | 727.823 | N/A | N/A | N/A | N/A | N/A |
| LAB RESULTS EXTRACT | 727.824 | @ | @ | @ | @ | @ |
| QUASAR EXTRACT | 727.825 | @ | @ | @ | @ | @ |
| PROSTHETICS EXTRACT | 727.826 | @ | @ | @ | @ | @ |
| CLINIC EXTRACT | 727.827 | @ | @ | @ | @ | @ |
| BLOOD BANK EXTRACT | 727.829 | @ | @ | @ | @ | @ |
| DSS TREATING SPECIALTY TRANSLATION | 727.831 | @ | @ | @ | @ | @ |
| BCMA EXTRACT | 727.833 | @ | @ | @ | @ | @ |
| DSS EXTRACTS | 728 | @ | N/A | @ | @ | @ |
| IV EXTRACT DATA | 728.113 | @ | @ | @ | @ | @ |
| CLINICS AND STOP CODES | 728.44 | @ | N/A | @ | @ | @ |
| NATIONAL CLINIC | 728.441 | @ | N/A | @ | @ | @ |
| DSS DRUG PRODUCT CODE | 728.506 | N/A | N/A | N/A | N/A | N/A |
| UNIT DOSE EXTRACT DATA | 728.904 | @ | @ | @ | @ | @ |
| DSS PRODUCTION UNIT | 729 | ^ | N/A | ^ | ^ | ^ |

## Security Management

There are no additional security management related concerns associated with the DSS application.

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

## Security Keys

From the System Manager’s Menu, perform the steps listed in Table 14 to obtain the security keys information contained in the DSS Extracts Package:

1. Steps to Obtain Security Key Information

| Step | Action/Menu Option |
| --- | --- |
| 1 | VA FileMan |
| 2 | Print File Entries |
| 3 | Output from what File: Audit// **SECURITY KEY** |
| 4 | Sort by: NAME// <**Enter**> |
| 5 | Start with NAME: FIRST// **ECX** |
| 6 | Go to NAME: last// **ECXZ** |
| 7 | Within NAME, Sort by: <**Enter**> |
| 8 | First Print FIELD: **NAME** |
| 9 | Then Print FIELD: **DESCRIPTION** (word-processing) |
| 10 | Then Print FIELD: <**Enter**> |
| 11 | Heading (S/C): SECURITY KEY List// <**Enter**> |
| 12 | START at PAGE: 1// <**Enter**> |
| 13 | DEVICE: HOME (CRT) Right Margin: 80// <**Enter**> |

## Mail Groups and Alerts

DSS Extracts utilize a number of mail groups. The name of each mail group is prefaced with the letters “DSS”. There is a mail group for each type of data extract (e.g., DSS-BCM, DSS-ADM, etc.) for the purpose of receiving messages when extracts are generated and data is transmitted to the AITC. DSS also utilizes mail groups DMS, DMV and DMU for the purpose of receiving confirmation messages from the AITC. DSS Extracts do not utilize alerts.

## Remote Systems

DSS Extracts transmit messages containing extracted data to a specified queue located at the AITC. Data is transmitted via VA MailMan at the site’s discretion. Confirmation messages are received from the AITC indicating the extract messages were successfully transmitted.

## Contingency Planning

Technical users of the DSS software should ensure that a local contingency plan is used in the event of application problems in a live environment. The plan should identify the procedure(s) for maintaining the functionality provided by the DSS Extracts software in the event of a system outage. Field Station ISOs can get assistance from the RISO.

## Interfacing

There is no special interfacing required for the VistA DSS Extracts software.

## Electronic Signatures

The DSS Extracts software does not use electronic signatures.

# Archiving, Deleting or Purging

This section provides information on DSS application software features related to archiving, deleting, and purging of DSS data.

## Archiving

DSS Extracts have no archiving capability. There is an option to delete the local extract files after transmission to the commercial software.

## Deleting or Purging

DSS Extracts export the Delete Extract Files [ECXDELEF] option which can be used to delete individual extracts residing in files #727.802 through #727.833, or a range of extracts.

Data that resides in the holding files for VBECS (VBECS DSS EXTRACT file (#6002.03)), IVP (IV EXTRACT DATA file (#728.113)), and UDP (UNIT DOSE EXTRACT DATA file (#728.904)) extracts can be purged using the Purge Extract Holding Files [ECXPURG].

Extreme caution should be exercised when purging or deleting data for the following reasons:

* Any existing extract may be deleted (including transmitted and un-transmitted), as well as extracts that did not run to completion due to errors or system problems.
* Choosing a range of extracts or holding files sometimes results in an excessively large number of records to be deleted or purged and may be very resource intensive. These tasks should be scheduled for non-peak hours, and the number of deleted or holding files purged should be limited to a single queued session.
* Extreme caution must be used when performing maintenance to the IV EXTRACT DATA file (#728.113) and the UNIT DOSE EXTRACT DATA file (#728.904). If data in either file is purged, the IVP or UDP monthly extract may be incomplete. It is strongly recommended that, at a minimum, sites maintain all data from the *current fiscal year*.
* A user can only delete extracts that are associated with the division assigned in their NEW PERSON file (#200).
* Two functions were created to regenerate IVP and UDP holding file data that has been purged. These functions are located at:

Extract Manager’s Options > Transmission Management > Recreate Extract Holding Files

The functions are listed in Table 15:

1. Recreate IVP & UDP Holding File Options

| Option | Description |
| --- | --- |
| I | Recreate IVP Extract Holding File (#728.113) |
| U | Recreate UDP Extract Holding File (#728.904) |

### Recommendations

Purging of any local VistA extract data or VistA source of extract data (i.e., lab data, etc.) is not recommended until a facility has successfully created extracts, transmitted them to the AITC, audited the counts, loaded the data into DSS, and the validation results are successful.

The IV EXTRACT DATA file (#728.113) and UNIT DOSE EXTRACT DATA file (#728.904) can become quite large if appropriate purging is not performed. The file purge option, Purge Extract Holding Files [ECXPURG], removes the data from these files by date range. It is recommended that records over two fiscal years old should be purged from the IV EXTRACT DATA file (#728.113) and the UNIT DOSE EXTRACT DATA file (#728.904).

VBECS holding files can also be purged. The VBECS holding file cannot be regenerated; therefore, extreme care must be used when purging these files.

# External Relations

This section contains information related to external packages with which the DSS application software interacts.

## Minimum Software Versions Required

The DSS Extract Package relies on the following external packages based upon the minimum software versions depicted in Table 16.

1. External Package Minimum Versions Required

| Software Product Name | Acronym | Minimum Version Required |
| --- | --- | --- |
| Admission Discharge Transfer | ADT | 5.3 |
| Bar Code Medication Administration | BCMA | 3.0 |
| DSS Extracts | DSS | 3.0 |
| Event Capture | - | 2.0 |
| FileMan | - | 22.2 |
| Health Level 7 | HL7 | 1.6 |
| Kernel | - | 8.0 |
| Laboratory | - | 5.2 |
| Lab: Blood Bank | - | 5.2 |
| MailMan | - | 8.0 |
| Mental Health | - | 5.01 |
| Order Entry/Results Reporting | OE/RR | 3.0 |
| Patient Care Encounter | PCE | 1.0 |
| Pharmacy: Data Management | PDM | 1.0 |
| Pharmacy: Inpatient Medications | - | 5.0 |
| Pharmacy: National Drug File | NDF | 4.0 |
| Pharmacy: Outpatient Pharmacy | - | 7.0 |
| Prosthetics | - | 3.0 |
| Radiology | - | 5.0 |
| Registration | - | 5.3 |
| Scheduling | - | 5.3 |
| Surgery | - | 3.0 |

## Database Integration Agreements (DBIAs)

Perform the steps in Table 17 from the FORUM Menu to obtain the DBIAs for DSS Extracts 3.0:

1. Steps to Obtain DBIAs

| Step | Custodial Package | Subscriber Package |
| --- | --- | --- |
| 1 | DBA MENU | DBA MENU |
| 2 | INTEGRATION CONTROL REGISTRATIONS (ICR) | 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: **DSS** | Start with subscribing package: A// **DSS** |
| 6 | DEVICE: HOME// <**Enter**> SSH VIRTUAL TERMINAL <**Enter**>Note: Secure Shell (SSH) | Go to Subscribing package: ZZZ//**DSS** |
| 7 | N/A | DEVICE: <**Enter**> SSH VIRTUAL TERMINAL |

# Internal Relations

All of the DSS Extracts options have been designed to be stand-alone options. Each option may be independently invoked.

# Package-wide Variables

The DSS Extracts software does not contain any package-wide variables that must be defined or are required for the package to run.

# How to Generate Online Documentation

This section describes some of the various methods for users to access DSS Technical documentation. Online DSS technical documentation pertaining to the DSS software, in addition to that which is located in the Help prompts and Online Help screens, are imbedded throughout the DSS package and can be accessed through utilization of several KERNEL options. These include, but are not limited to, *XINDEX, Menu Management Inquire Option File, Print Option File,* and *FileMan List File Attributes*.

Entering question marks at the "Select ... Option:" prompt provides users with valuable technical information. For example:

* A single question mark (?) lists all options accessible from the current option.
* Entering two question marks (??) lists all options accessible from the current option displaying the formal name and lock for each.
* Three question marks (???) displays a brief description for each option in a menu while an option name preceded by a single question mark (?) displays extended Help, if available, for that option.

To obtain a listing of the available options and additional information about other utilities for online technical information, refer to the VA Software Document Library for Kernel documentation.

## XINDEX

This option analyzes the structure of a routine(s) to determine if the routine(s) adhere(s) to VistA Programming Standards. The XINDEX output includes the following components:

* Compiled list of errors and warnings
* Routine listing
* Local variables
* Global variables
* Naked globals
* Label references

External references

When the user executes XINDEX for a specified set of routines, deviations from VistA Programming Standards in the selected routine(s) and routine interactions (including routines called or called by other routines) are displayed.

To run XINDEX for the DSS software, specify the following namespaces at the "routine(s)? >" prompt: **ECX\***.

When XINDEX runs the DSS initialization routines residing in the User Class Identifier (UCI), compiled template routines and local routines found within the ECX namespace should be omitted at the "routine(s) ?>" prompt. To omit routines from selection, prefacing the namespace with a minus sign (-) is required.

## Inquire to Option File

To access information about DSS options, the user must specify the name or namespace of the desired option(s). The Menu Manager option provides the following information about user-specified option(s):

* Option name
* Menu text
* Option description
* Type of option

Lock (if any)

## Print Options File

Use this utility to generate a listing of options from the OPTION file (#19). Users can choose to print all of the entries in this file specifying a single option or a range of options. To obtain a list of DSS options, enter “ECX” when prompted for the namespace.

## List File Attributes

Use the “List Attributes” option in FileMan to generate documentation pertaining to files and file structures. Use the Standard format option to obtain 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, print, and sort templates

In addition, the following information is supplied for each field in the selected file:

* Field name and number
* Global location
* Description
* Help prompt
* Cross-reference(s)
* Input transform
* Date last edited

Notes

Use the Global Map format option to generate an output listing of the following:

* All cross-references for the selected file
* Global location of each field in the file
* Input, print, and sort templates

###### Acronyms and Abbreviations

Abbreviations and acronyms used throughout the DSS Technical Manual appear in Table 18.

1. Acronyms and Abbreviations Table

| Acronym | Description |
| --- | --- |
| ADM | Admission Extract |
| ADPAC | Automated Data Processing Application Coordinator |
| ADT | Admission Discharge Transfer |
| AITC | Austin Information Technology Center |
| API | Application Programmer Interface |
| BCM | BCMA Extract |
| BCMA | Bar Code Medication Administration |
| CBOC | Community Based Outpatient Clinic |
| CLI | Clinic Extract |
| CPT | Current Procedural Terminology |
| CRT | Cathode Ray Tube |
| DBA | Database Administrator |
| DBIA | Database Integration Agreement |
| DD | Data Dictionary |
| DSS | Decision Support System |
| ECS | Event Capture Extract |
| ECX | DSS Extracts Namespace |
| HL7 | Health Level 7 |
| ICD | International Classification of Diseases |
| ICR | Integration Control Registration |
| IEN | Internal Entry Number |
| ISO | Information Security Officer |
| IV | Intravenous |
| IVP | IV Detail Extract |
| LAB | Laboratory Extract |
| LAYGO | Learn-As-You-Go |
| LBB | Blood Bank Extract |
| LOINC | Logical Observation Identifiers, Names, and Codes |
| MCAO | Managerial Cost Accounting Office |
| MOV | Physical Movement Extract |
| N/A | Not Applicable |
| NDC | National Drug Code |
| NDF | National Drug File |
| OE/RR | Order Entry/Results Reporting |
| OI&T | Office of Information and Technology |
| PCE | Patient Care Encounter |
| PDM | Pharmacy Data Management |
| PRE | Prescription Extract |
| PRO | Prosthetics Extract |
| QUASAR | Quality: Audiology and Speech Pathology Audit & Review |
| RAD | Radiology Extract |
| RD | Read Access |
| RISO | Regional Information Security Officer |
| SAS | Statistical Analysis System |
| SSH | Secure Shell |
| SUR | Surgery Extract |
| TRT | Treating Specialty Change Extract |
| UCI | User Class Identifier |
| UDP | Unit Dose Local Extract |
| VA | Department of Veterans Affairs |
| VBECS | VistA Blood Establishment Computer Software |
| VDL | VA Software Document Library |
| VHA | Veterans Health Administration |
| VistA | Veterans Health Information Systems and Technology Architecture |

###### Glossary

Table 19 lists terms used throughout the Technical Manual.

1. Glossary

| Term | Definition |
| --- | --- |
| FileMan | This system implements the VistA database engine and is the basis for several patient safety controls, as well as fiscal integrity controls. It implements security, confidentiality, and privacy controls, and is a critical component in meeting the requirements of Enterprise Architecture. |
| Kernel | This system implements security, confidentiality, and privacy controls for VistA, including user authentication algorithms. It provides many tools for the safe construction of local software, and it implements many national control files, including, but not limited to, New Person, Institution, State, etc. This system is a critical component in meeting the requirements of Enterprise Architecture. |
| Remote Procedure Call (RPC) | This system supports client and/or server messaging used by CPRS, Bar Code Medication Administration (BCMA), and others, to access the MUMPS database through APIs. It provides a development kit for local development, and it implements security, confidentiality, and privacy controls. This system is a critical component in meeting the requirements of Enterprise Architecture. |

######

###### References and Related Materials

Table 20 lists the manuals related to DSS that are available to view on the VA Software Document Library (VDL) for DSS and the VDL for the Kernel Infrastructure.

1. Reference & Related Manuals on the VDL

| File Name | Manual Name | Description |
| --- | --- | --- |
| ecx\_3\_178\_dibrg | DSS FY21 (ECX\*3\*178) Deployment, Installation, Back-out and Rollback Guide | Provides instructions on the installation of DSS Extracts application software. |
| ecx\_3\_178\_ddd | DSS FY21 (ECX\*3\*178) Data Definitions Document | Provides detailed information that defines the data terminology. |
| ecx\_3\_178\_ug | DSS FY21 (ECX\*3\*178) User's Guide | Provides guidance for users of the DSS application software. |
| ecx\_3\_178\_vdd | DSS FY21 (ECX\*3\*178) Version Description Document | Provides an overview of the new functionality and enhancements on the current release of the DSS application software. |

###### Index

ADPAC 1

AITC 1, 5, 15, 16

Alerts 15

Application Programmer Interfaces 8

Archiving 15

Background Job Options 2

Callable Routines 8

CBOC 6

Contingency Planning 15

CPT 6

Data Transmission 5

Database Integration Agreements 18

DBA 1

DBIA 18

Deleting 15

ECX namespace 19

Electronic Signatures 15

Entry Points 8

Exported Options 12

External Interfaces 8

External Relations 17

Field List 10

File Flow 11

File List 8

FileMan 11

FileMan Access Codes 12

Files 8

Functions of the Software 2

General Information 2

Global Placement 8

Help 18

IEN 5

Implementation 6

Information Security Officers 1

Inquire To Option File 19

Interfacing 15

Internal Relations 18

Introduction 1

Kernel 18

List File Attributes 20

Mail Groups 15

MailMan 5

Maintenance 6

MCA 1

MCAO 1

Menu Diagrams 12

Menu Online 12

Minimum Software Versions Required 17

Namespace 2

Online Documentation 18

Online Help Screens 18

Orientation 2

Overview 1

Package-Wide Variables 18

Print Options File 19

Purging 15

Purpose 1

Remote Systems 15

Resource Requirements 3

RISO 15

Routine List 7

Routines 7

Routines to Map 8

SAS 2, 7

Security Keys 14

Security Management 14

Standalone Options 12

Statistical Analysis System 2

TaskMan 2

TaskManager 2

Templates 11

UCI 19

User Class Identifier 19

User Responses 2

VBECS 2, 3, 16

VistA 1, 2, 15, 16, 19, B-3

XINDEX 19