# Decision Support System (DSS)

## Technical Manual

## Software Version 3.0
## Patch ECX*3.0*166



## November 2017

## Document Version 1.0

## Department of Veterans Affairs (VA)
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# 1   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 (i.e. diabetes and acute coronary patients) and high-cost patients.

## 1.1   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.

## 1.2   Purpose

The DSS Technical Manual serves the following purposes:

- Provides technical information to aid Automated Data Processing Application Coordinators (ADPACs) and Information Resource Management (IRM) 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.

## 1.3   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 Intravenous (IV) Detail Extract (IVP), Unit Dose Local Extract (UDP), and VistA Blood Establishment Computer Software (VBECS) Blood Bank Extracts (LBB).

# 2   Orientation

This manual is recommended as a reference document for technical users (e.g. ADPACs or IRMs). Package security information is located in the Security Sections of this manual.

## 2.1   User Responses

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

# 3   General Information

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

## 3.1   Namespace Information

The namespace assigned to the DSS Extracts software is ECX.

## 3.2   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.

**Table 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.<br>• Users are able to stop the Extract Background Task while it is running by using the TaskMan user **[XUTM USER]** option.<br>• Data in any resulting incomplete extract should be deleted using the *Delete Extract Files* **[ECXDELEF]** option.<br>• 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 |
| Purge extract holding files | **[ECXPURG]** | • Purge Extract Holding Files<br>• Data in the holding files for the IVP, UDP, and VBECS files can be purged using the *Purge Extract Holding Files* **[ECXPURG]** option. |

# 3.3   Resource Requirements

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

**Table 2: Extract Name/Bytes per Record**

| Extract Name | Bytes per Record (Estimated Mean Size) |
|---|---|
| ADM - Admission Extract | 350 |
| BCM - Bar Code Medication Administration (BCMA) Extract | 450 |
| CLI - Clinic Extract | 485 |
| ECQ - Quality: Audiology and Speech Pathology Audit & Review (QUASAR) Extract | 450 |
| ECS - Event Capture System Local Extract | 450 |
| IVP - IV Detail Extract | 500 |
| LAB - Laboratory Extract | 250 |
| LAR - Lab Results Extract | 200 |
| LBB - Lab 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 |

## 3.3.1   Special Note on IVP and UDP Extracts

IV orders will accumulate in the IV EXTRACT DATA file (#728.113) and 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 Menu to access these options:

<div align="center">**Table 3: Steps to Regenerate IVP and UDP Holding Files**</div>

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

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.

## 3.3.2   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).

<div align="center">**Table 4: Audited Fields When Updates Occur**</div>

| 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. |

## 3.3.3   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.

<div align="center">**Table 5: Extract Time Estimates**</div>

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

# 3.4   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 following format in Figure 1:

**Figure 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.

# 4   Implementation and Maintenance

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

**Table 6: Management Menu Options & Activities**

| Menu Option | Activity |
|---|---|
| Perform Maintenance Activities | • Produce Community Based Outpatient Clinic (CBOC) Activity Reports<br>• Perform Current Procedural Terminology (CPT)/ International Classification of Diseases (ICD) Inquiries<br>• Perform DSS Ward Management Activities<br>• Perform Laboratory Results Translation Table Maintenance Activities<br>• Generate Lab Results Extract Untranslatable Results Report<br>• Produce Laboratory Results DSS Logical Observation Identifiers, Names, and Codes (LOINC) Code Reports<br>• Add or Modify Pharmacy IV Room Division Entries<br>• Print Pharmacy IV Room Worksheet<br>• Perform Pharmacy National Drug Code (NDC) Lookup<br>• Produce Pharmacy Volume Log Maintenance Activities<br>• Print Feeder Key Listings<br>• Print Feeder Listings<br>• Produce Prosthetics Reports<br>• Maintain Prosthetics Extract Quantity Information<br>• Perform DSS Clinic Setup Activities<br>• Produce DSS Clinic Setup Reports<br>• Perform Inpatient Census Setup Activities<br>• Produce Test Patient List |
| Perform Pre-Extract Audit Activities | • Produce Event Capture Pre-Extract Unusual Volume Report<br>• Produce Laboratory Blood Bank Pre-Extract Audit<br>• Produce Pharmacy Pre-Extract Incomplete Feeder Key Reports<br>• Produce Pharmacy Pre-Extract Unusual Cost Reports<br>• Produce Pharmacy Pre-Extract Unusual Volume Reports<br>• Produce IVP/UDP Source Audit Reports<br>• Produce Prosthetic Pre-Extract Unusual Cost Report<br>• Produce Surgery Pre-Extract Volume Report<br>• Produce Surgery Pre-Extract Unusual Volume Report |

| Menu Option | Activity |
|---|---|
| Produce Package Extracts | • Produce Admissions Extract<br>• Produce BCMA Extract<br>• Produce Blood Bank Extract<br>• Produce Clinic Visit Extract<br>• Produce Event Capture Extract<br>• Produce IV Extract<br>• Produce Lab Extract<br>• Produce Lab Results Extract<br>• Produce Prescription Extract<br>• Produce Prosthetics Extract<br>• Produce QUASAR Extract<br>• Produce Radiology Extract<br>• Produce Surgery Extract<br>• Produce Transfer and Discharge Extract<br>• Produce Treating Specialty Change Extract<br>• Produce Unit Dose Extract<br>• Produce Extracts Using New Fiscal Year Logic When Performing Extract Testing |
| Produce Extract Audit Reports | • Create the SAS Extract Audit Reports |
| Perform Extract Transmission Management Activities | • Review Extracts for Transmission<br>• Transmit Extract Files<br>• Produce Summary Report of Extract Logs<br>• Delete Extract Files<br>• Purge Extract Holding Files<br>• Recreate Extract Holding Files |

Refer to the DSS Extracts Deployment, Installation, Back-Out, and Rollback Guide for more information about installing and implementing the software.

# 5   Routines

This section describes relevant technical aspects of the DSS Application routines.

## 5.1   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:

**Table 7: 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 Selector:  **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 Carriage Return (CRT)   Right Margin: 80//<**Enter**> |

## 5.2   Callable Routines/Entry Points/Application Programmer Interfaces

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

## 5.3   Routines to Map

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

## 5.4   External Interfaces

There are no external interfaces used by DSS Extracts.

# 6   Files

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

## 6.1   Global Placement

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

## 6.2   File List

With the DSS Extracts software and all patches installed, the files listed in Table 8 will appear on the user's system. Use the **Systems Manager Menu > VA FileMan > Data Dictionary > List File Attributes** option to print the Data Dictionary (DD).

*VA Directive 6402, Standardization of VistA 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):

**Table 8: 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 |
| 727.813 | 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 |

| File Number | Abbreviation | File Name |
|---|---|---|
| 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 | LAR | LAB RESULTS EXTRACT |
| 727.825 | ECQ | QUASAR EXTRACT |
| 727.826 | PRO | PROSTHETICS EXTRACT |
| 727.827 | CLI | CLINIC EXTRACT |
| 727.829 | LBB | BLOOD BANK EXTRACT |
| 727.831 | - | DSS TREATING SPECIALTY TRANSLATION |
| 727.833 | 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 |
| 728.506 | - | DSS DRUG PRODUCT CODE |
| 728.904 | - | UNIT DOSE EXTRACT DATA |
| 729 | - | DSS PRODUCTION UNIT |

# 6.3   Field List

The modifications associated with the release of DSS FY18 Extract Sustainment Patch ECX*3.0*166 include the following list of modified field names and numbers by extract, in Table 9.

**Table 9: Field Changes in DSS for Current Release**

| Field Name | Field Number | File Name | File Number |
|---|---|---|---|
| RADIATION STATUS | #22 | ADMISSION EXTRACT | #727.802 |
| PATIENT DIVISION | #99 | ADMISSION EXTRACT | #727.802 |
| RADIATION STATUS | #63 | BCMA EXTRACT | #727.833 |
| MCA LABOR CODE | #13 | CLINICS AND STOP CODES | #728.44 |
| PLACEHOLD FEEDER KEY | #9 | CLINIC EXTRACT | #727.827 |
| RADIATION STATUS | #38 | CLINIC EXTRACT | #727.827 |
| NEW FEEDER KEY | #131 | CLINIC EXTRACT | #727.827 |
| PATIENT DIVISION | #132 | CLINIC EXTRACT | #727.827 |
| RADIATION EXPOSURE | #35 | EVENT CAPTURE LOCAL EXTRACT | #727.815 |
| PATIENT DIVISION | #129 | EVENT CAPTURE LOCAL EXTRACT | #727.815 |
| COST | #13 | IV DETAIL EXTRACT | #727.819 |

| Field Name | Field Number | File Name | File Number |
|---|---|---|---|
| RADIATION STATUS | #53 | IV DETAIL EXTRACT | #727.819 |
| PATIENT DIVISION | #94 | IV DETAIL EXTRACT | #727.819 |
| PATIENT DIVISION | #38 | PHYSICAL MOVEMENT EXTRACT | #727.808 |
| RADIATION STATUS | #45 | PRESCRIPTION EXTRACT | #727.81 |
| PATIENT DIVISION | #106 | PRESCRIPTION EXTRACT | #727.81 |
| RADIATION EXPOSURE STATUS | #21 | PROSTHETICS EXTRACT | #727.826 |
| UNIT OF ISSUE | #104 | PROSTHETICS EXTRACT | #727.826 |
| RADIATION EXPOSURE | #35 | QUASAR EXTRACT | #727.825 |
| PATIENT DIVISION | #129 | QUASAR EXTRACT | #727.825 |
| PATIENT DIVISION | #54 | RADIOLOGY EXTRACT | #727.814 |
| PLACEHOLD PRINC POSTOP DX | #85 | SURGERY EXTRACT | #727.811 |
| PLACEHOLD OTHER POSTOP DX_#1 | #86 | SURGERY EXTRACT | #727.811 |
| PLACEHOLD OTHER POSTOP DX_#2 | #87 | SURGERY EXTRACT | #727.811 |
| PLACEHOLD OTHER POSTOP DX_#3 | #88 | SURGERY EXTRACT | #727.811 |
| PLACEHOLD OTHER POSTOP DX_#4 | #89 | SURGERY EXTRACT | #727.811 |
| PLACEHOLD OTHER POSTOP DX_#5 | #90 | SURGERY EXTRACT | #727.811 |
| RADIATION STATUS | #103 | SURGERY EXTRACT | #727.811 |
| MEDICAL SPECIALTY | #134 | SURGERY EXTRACT | #727.811 |
| ORGAN1 | #135 | SURGERY EXTRACT | #727.811 |
| ORGAN2 | #136 | SURGERY EXTRACT | #727.811 |
| ORGAN3 | #137 | SURGERY EXTRACT | #727.811 |
| PATIENT DIVISION | #138 | SURGERY EXTRACT | #727.811 |
| RADIATION STATUS | #40 | UNIT DOSE LOCAL EXTRACT | #727.809 |
| PATIENT DIVISION | #90 | UNIT DOSE LOCAL EXTRACT | #727.809 |

## 6.3.1 Templates and File Flow

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

**Table 10: 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:<br><br>> Enter name or number for files to include in the output.<br><br>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 |

# 7   Exported Options

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

## 7.1   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 using the Extract Manager's Options menu.

Table 11 is a list of the available Extract Manager's options.

**Table 11: Extract Manager's Options**

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

## 7.2   Menu Diagrams

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

**Table 12: Steps to Obtain Information on Exported Menus**

| Step | Action/Menu Option |
|------|--------------------|
| 1 | Menu Management |
| 2 | Display Menus and Options |
| 3 | Menus 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**> |

## 7.3   Stand-alone Options

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

## 7.4   VA FileMan Access Codes

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

**Table 13: 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 | @ | @ | @ | @ | @ |

| File Name | File # | Data Definition (DD) | Read Access (RD) | Write Access (WR) | Delete Access (DEL) | Learn-As-You-Go (LAYGO) |
|---|---|---|---|---|---|---|
| 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 | @ | @ | @ |
| MCA LABOR CODES | 728.442 | @ | 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 | ^ | ^ | ^ |

## 7.5  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.

## 7.6  Security Keys

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

**Table 14: 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**> |

## 7.7   Mail Groups and Alerts

DSS Extracts utilizes 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.

## 7.8   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.

## 7.9   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.

## 7.10 Interfacing

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

## 7.11 Electronic Signatures

The DSS Extracts software does not use electronic signatures.

# 8   Archiving, Deleting or Purging

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

## 8.1   Archiving

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

## 8.2   Deleting or Purging

DSS Extracts exports 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. This includes both transmitted and un-transmitted extracts, as well as extracts that did not run to completion.

- 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:

  o   Extract Manager's Options
  o   Transmission Management Menu
  o   Recreate Extract Holding Files

The functions are listed in Table 15:

**Table 15: Regenerate IVP & UDP Holding File Options**

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

## 8.2.1   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.

# 9   External Relations

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

## 9.1   Minimum Software Versions Required

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

**Table 16: 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 |
| Quality: Audiology and Speech Pathology Audit & Review | QUASAR | 3.0 |
| Radiology | - | 5.0 |
| Registration | - | 5.3 |
| Scheduling | - | 5.3 |
| Surgery | - | 3.0 |

## 9.2   Database Integration Agreements (DBIAs)

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

**Table 17: 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**><br>Secure Shell (SSH) | GO TO SUBSCRIBING PACKAGE: ZZZ//**DSS** |
| 7 | N/A | DEVICE:   <**Enter**> SSH VIRTUAL TERMINAL |

# 10 Internal Relations

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

# 11 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.

# 12 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 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 VistA Kernel Technical Manual.

## 12.1 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

XINDEX can be used to review selected routines or the selected routines and all of the routines called by those routines.

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 single quote mark (') is required.

## 12.2 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)

# 12.3 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.

# 12.4 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

# Appendix A    Acronyms and Abbreviations

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

**Table 18: 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 | Carriage Return |
| DBA | Database Administrator |
| DBIA | Database Integration Agreement |
| DCM | Department Cost Manager |
| DD | Data Dictionary |
| DEC | Digital Equipment Corporation |
| DEL Access | Delete Access |
| DSS | Decision Support System |
| ECS | Event Capture Extract |
| ECQ | QUASAR Extract |
| HL7 | Health Level 7 |
| ICD | International Classification of Diseases |
| ICR | Integration Control Registration |
| IEN | Internal Entry Number |
| IRM | Information Resource Management |
| ISO | Information Security Officer |
| IV | Intravenous |
| IVP | IV Detail Extract |
| LAB | Laboratory Extract |
| LAR | Lab Results Extract |
| LAYGO | Learn-As-You-Go |
| LBB | Blood Bank Extract |
| LOINC | Logical Observation Identifiers, Names, and Codes |
| MCAO | Managerial Cost Accounting Office |

| Acronym | Description |
|---|---|
| MOV | Physical Movement Extract |
| N/A | Not Applicable |
| NDC | National Drug Code |
| NDF | National Drug File |
| OE/RR | Order Entry/Results Reporting |
| 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 |
| RISC | Reduced Instruction Set Computer/Computing |
| 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 |
| VAMC | Veterans Affairs Medical Center |
| VBECS | VistA Blood Establishment Computer Software |
| VDL | VA Software Document Library |
| VHA | Veterans Health Administration |
| VistA | Veterans Health Information Systems and Technology Architecture |
| WR Access | Write Access |

# Appendix B    Glossary

Table 19 lists terms used throughout the Technical Manual.

**Table 19: 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. |

# Appendix C    References and Related Materials

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

**Table 20: Reference & Related Manuals on the VDL**

| File Name | Manual Name | Description |
|---|---|---|
| DSS_3_FY2018_DD | Data Definitions | Provides detailed information that defines the data terminology. |
| DSS_3_FY2018_DIBR | Deployment, Installation, Back-Out, and Rollback Guide | Provides instructions on the installation of DSS Extracts application software. |
| DSS_3_FY2018_TM | Technical Manual | Provide users with technical information. |
| DSS_3_FY2018_UG | User's Guide | Provides guidance for users of the DSS application software. |
| DSS_3_FY2018_VDD | Version Description Document | Provides an overview of the new functionality and enhancements on the current release of the DSS application software. |

# Appendix D    Index