Decision Support System (DSS)

Deployment, Installation, Back-Out, and Rollback Guide

Software Version 3.0
Patch ECX*3.0*166

November 2017

Document Version 1.0

Department of Veterans Affairs (VA)
Office of Information and Technology (OI&T)

Revision History

Date	Version	Description	Author
11/01/2017	v1.0	Initial document release	TeamSMS/Leidos

Table of Contents

List of Tables

1 Introduction

The entry ECX*3.0*166 in the National Patch Module (NPM) on FORUM provides detailed instructions for the installation of this patch. A copy of these instructions is distributed to sites in the PackMan e-mail message along with the software. This current document details the criteria for determining if a back-out is necessary, the authority for making that decision, the order in which installed components will be backed out, the risks and criteria for a rollback, and authority for acceptance or rejection of the risks.

1.1 Purpose

The purpose of this plan is to provide a single, common document that describes how, when, where, and to whom the DSS Fiscal Year (FY)18 patch (ECX*3.0*166) will be deployed and installed, as well as how it is to be backed out and rolled back, if necessary. The plan also identifies resources, communications plan, and rollout schedule. Specific instructions for installation, back-out, and rollback are included in this document.

The intended audience includes Technical Services, National Veterans Health Information Systems and Technology Architecture (VistA) Support and Software Quality Assurance (SQA).

1.2 Dependencies

There are no new dependencies beyond those covered under separate topics below that are being introduced in this version of the DSS Extracts application.

1.3 Constraints

DSS FY18 has the following constraints:

- Data is available from other packages
- AITC is ready and available to accept extract documents

2 Roles and Responsibilities

Table 1 identifies, at a high level, the parties responsible for supporting VistA Patches.

Table 1: Deployment, Installation, Back-out, and Rollback Roles/Responsibilities

Team	Phase	Tasks
TeamSMS/Leidos Office of Information and Technology (OI&T)	Initial Operating Capability (IOC) Planning	• Coordinate with Enterprise Service Line (ESL) group to recruit test sites • Coordinate with identified test sites for Memorandum of Understanding (MOU) concurrences
ESL Information Technology (IT) Personnel and/or Site Information Resource Manager (IRM)	Deployment Pre-Installation Initial Site Set up	• Submit site change requests for patch installation • Review Patch Description for installation instructions and any required patches • Backup routines prior to patch installation
TeamSMS/Leidos OI&T	Deployment	• Determine and document the roles and responsibilities of those involved in the deployment
IOC Test Site Personnel	Deployment	• Test for operational readiness
Portfolio Manager Department of Veterans Affairs (VA) Project Manager Health Product Support (HPS)	Deployment Production	• Ensure authority to operate and that certificate authority security documentation is in place
Managerial Cost Accounting Office (MCAO)	Support	• Coordinate training
HPS	Back-out	• Confirm availability of back-out instructions and back-out strategy
TeamSMS/Leidos	Back-out	• Analyze issues related to system functionality impairment
Portfolio Manager MCAO Business Owner HPS	Back-out	• Authorize software back-out
ESL IT Personnel or Site IRM (with TeamSMS/Leidos assistance)	Back-out	• Perform back-out if needed

Team	Phase	Tasks
Portfolio Manager MCAO Business Owner HPS Site/Regional Personnel	Rollback	• Authorize software rollback
ESL IT Personnel or Site IRM	Rollback	• Rollback data to previous backup point, if necessary • Reapply changes to database manually, if necessary
Local Decision Support System (DSS) Site Manager (Tier 0) Local Managerial Cost Accounting (MCA) Veterans Integrated Service Network (VISN) Coordinator (Tier 0) OI&T National Service Desk (Tier 1) HPS (Tier 2) VistA Maintenance Management Systems (Tier 3)	Post Deployment Support	• Restore normal service operation as quickly as possible and minimize any adverse impact on business operations • Ensure best possible level of service quality and availability

3 Deployment

Site deployment is divided into three distinct phases:

1. Pre-Installation/Initial Site Setup
2. Pre-Production/Test Environment Installation
3. Production Environment Installation

Section 4 details the required steps each IOC site must perform in order to successfully install ECX*3.0*166.

3.1 Timeline

The September FY17 extracts are scheduled to run overnight for one night, beginning on October 11, 2017. Patch ECX*3.0*166 is scheduled to be installed and deployed in the IOC site production environments, beginning on October 16, 2017. The patch is scheduled to remain in the IOC production environment for three days. During this time, the IRMs will verify the installation to ensure there are no errors.

3.2 Site Readiness Assessment

Before installing DSS extract updates, please verify with the local DSS Site Manager that extraction and transmission of FY17 data have been completed. Revisions to data dictionaries and routines made during this installation will make it impossible to perform any further FY17 data extracts.

3.2.1 Deployment Topology (Targeted Architecture)

ECX*3.0*166, a patch to the VistA DSS Extracts package, is installable on a fully patched Massachusetts General Hospital Utility Multi-Programming System (MUMPS) VistA system and operates on top of the VistA environment provided by the VistA infrastructure packages. The latter provide utilities which communicate with the underlying operating system and hardware, thereby providing DSS independence from variations in hardware and operating system.

3.2.2 Site Information (Locations, Deployment Recipients)

ECX*3.0*166 will first be installed at six IOC test sites beginning on October 16, 2017. The six IOC test sites include the following:

- Albany Stratton VA Medical Center, Albany, NY
- Central Arkansas Veterans Healthcare System, Little Rock, AR
- VA North Texas Health Care System, Dallas, TX
- VA Boston Healthcare System, Brockton, MA
- VA Pittsburgh Healthcare System, Pittsburgh, PA
- Hunter Holmes McGuire VA Medical Center, Richmond, VA

Upon successful IOC testing and release approval, the patch will be deployed enterprise-wide.

3.2.3 Site Preparation

No additional site preparation activities are required. DSS FY18 will run under current site configuration.

3.3 Resources

This section describes the relevant hardware, software, facilities, and documentation for DSS FY18 Patch ECX*3.0*166 deployment.

3.3.1 Hardware

No new hardware or other resources are required.

3.3.2 Software

Table 2 describes the minimum version for VistA infrastructure software applications for installation and normal operation. The following package versions (or higher) must be installed prior to loading this patch:

Table 2: 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	EC	EC*2.0*134 *Only required if EC is in use.
FileMan	FM	22.2
Health Level Seven	HL7	1.6
Kernel	XU	8.0
Laboratory	LR	5.2
Lab: Blood Bank	LBB	5.2
MailMan	XM	8.0
Mental Health	MH	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	PSJ	5.0
Pharmacy: National Drug File	NDF	4.0
Pharmacy: Outpatient Pharmacy	PSO	7.0
Prosthetics	PRO	3.0
Quality: Audiology and Speech Pathology Audit & Review	QUASAR	3.0
Radiology	RAD	5.0
Registration	DG	5.3
Scheduling	SD	5.3
Surgery	SR	3.0

3.3.3 Communications

Field offices will report any installation errors or problems to the Health Product Support application coordinator. During the installation compliance window, the deployment status will be monitored and reviewed weekly via the VA's enterprise release calendar review.

3.3.3.1 Deployment/Installation/Back-Out Checklist

Table 3 lists the activities for DSS FY18 deployment, installation, and back-out.

Table 3: Deployment/Installation/Back-Out Checklist

Activity	Day	Time	Individual who completes task
Deploy	10/16/17	Site dependent according to local policy	IRM
Install	10/16/17	Site dependent according to local policy	IRM
Back-Out	Only performed as needed	Only performed as needed	ESL IT Personnel or Site IRM (with TeamSMS/Leidos assistance

4 Installation

ECX*3.0*166, a patch to the VistA DSS Extracts package, is installable on a fully patched MUMPS VistA system and operates on top of the VistA environment provided by the VistA infrastructure packages. The latter provide utilities which communicate with the underlying operating system and hardware, thereby providing DSS Extracts independence from variations in hardware and operating system.

4.1 Pre-Installation and System Requirements

Before installing DSS extract updates, please verify with the local DSS Site Manager that extraction and transmission of FY17 data have been completed. Revisions to data dictionaries and routines made during this installation will make it impossible to perform any further FY17 data extracts.

Any extract process that may have been tasked to run should be unscheduled before beginning the installation.

4.2 Platform Installation and Preparation

As best practice, sites must install the software in test/pre-prod accounts prior to installing in production accounts. ECX*3.0*166 is considered an emergency patch. Therefore, compliance date for installing in production environments will be three (3) days after initial release.

If installed during the normal workday, it is recommended that the Extract Manager's Options [ECXMGR] in the OPTION (#19) file and all of its descendants be disabled to prevent possible conflicts while running the Kernel Installation and Distribution System (KIDS) installation. Other VISTA users will not be affected, and the installation time is estimated to be five minutes.

4.3 Download and Extract Files

ECX*3.0*166 is provided to IOC sites as a KIDS build via FORUM. Refer to the ECX*3.0*166 patch documentation in the NPM.

4.4 Database Creation

The patch is applied to an existing MUMPS VistA database. No other database creation is required.

4.5 Installation Scripts

Installation scripts are not needed to install the software. For detailed steps to install the software refer to Section 4.8 in this document or the ECX*3.0*166 patch description in the NPM.

4.6 Cron Scripts

There are no cron scripts associated with DSS or its installation.

4.7 Access Requirements and Skills Needed for the Installation

Account access requirements for installation:

- Access: Programmer @ sign to ensure all programmer access at the sites
- Mailman access

Skill level requirements for installation:

- Knowledge of roll and scroll navigation and commands to support install
- Knowledge and ability to verify checksums
- Knowledge and ability to back up global
- Knowledge and ability to check error traps
- Knowledge and ability to troubleshoot installation issues

Instructions on how to perform these installation functions are included in this installation guide, as well as in the formal NPM patch description that is sent to site/regional personnel prior to the installation.

4.8 Installation Procedure

The subsections below describe the sequential steps for installing ECX*3.0*166.

4.8.1 Load Transport Global

Choose the PackMan message containing the ECX*3.0*166 patch and invoke the INSTALL/CHECK MESSAGE PackMan option.

4.8.2 Start Up KIDS

Start up the Kernel Installation and Distribution System Menu [XPD MAIN].

The following options will appear:

Edits and Distribution …

Utilities …

Installation …

From the options listed, select **INStallation**

The following options will appear:

Load a Distribution

Print Transport Global

Compare Transport Global to Current System

Verify Checksums in Transport Global

Install Package(s)

Restart Install of Package(s)

Unload a Distribution

Backup a Transport Global

4.8.3 Select Installation Option

The following steps are optional but recommended. When prompted for the INSTALL NAME, enter **ECX*3.0*166**.

1. **Backup a Transport Global**
   This option creates a backup message of any routines exported with this patch. It will not backup any other changes such as data definitions or templates.
2. **Compare Transport Global to Current System**
   This option allows the installer to view all changes that will be made when this patch is installed. It compares all components of this patch (routines, data definitions, templates, etc.).
3. **Verify Checksums in Transport Global**
   This option allows the installer to ensure the integrity of the routines that are in the transport global.

4.8.4 Install Package(s)

The following steps start the installation of the KIDS patch:

1. Choose the Install Package(s) option to start the patch install. Enter **ECX*3.0*166** when prompted for a build name.
2. When prompted 'Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//' respond **NO**.
3. When prompted 'Want KIDS to INHIBIT LOGONs during the install? NO//' respond **NO**.
4. When prompted 'Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//' respond **YES**.
5. When prompted 'Enter options you wish to mark as 'Out Of Order', enter the following option:
   Extract Manager's Options [ECXMGR]
6. When prompted 'Enter protocols you wish to mark as 'Out Of Order' press **<Enter>**.
7. If prompted 'Delay Install (Minutes): (0-60): 0//' answer **"0"** (unless otherwise indicated).

4.8.5 KIDS Installation Example

The following is an example of the output when installing the DSS patch.

```
Select KIDS OPTION: INSTALL PACKAGE(S)
Select INSTALL NAME:    ECX*3.0*166    7/25/17@12:48:30
     => ECX*3*166 TEST v1

This Distribution was loaded on Jul 25, 2017@12:48:30 with header of
   ECX*3*166 TEST v1
   It consisted of the following Install(s):
   ECX*3.0*166
Checking Install for Package ECX*3.0*166

Install Questions for ECX*3.0*166

Incoming Files:
   727.802   ADMISSION EXTRACT  (Partial Definition)
Note:  You already have the 'ADMISSION EXTRACT' File.

   727.808   PHYSICAL MOVEMENT EXTRACT  (Partial Definition)
Note:  You already have the 'PHYSICAL MOVEMENT EXTRACT' File.
```

```
   727.809   UNIT DOSE LOCAL EXTRACT  (Partial Definition)
Note:  You already have the 'UNIT DOSE LOCAL EXTRACT' File.

   727.81    PRESCRIPTION EXTRACT  (Partial Definition)
Note:  You already have the 'PRESCRIPTION EXTRACT' File.

   727.811   SURGERY EXTRACT  (Partial Definition)
Note:  You already have the 'SURGERY EXTRACT' File.

   727.814   RADIOLOGY EXTRACT  (Partial Definition)
Note:  You already have the 'RADIOLOGY EXTRACT' File.

   727.815   EVENT CAPTURE LOCAL EXTRACT  (Partial Definition)
Note:  You already have the 'EVENT CAPTURE LOCAL EXTRACT' File.

   727.819   IV DETAIL EXTRACT  (Partial Definition)
Note:  You already have the 'IV DETAIL EXTRACT' File.

   727.825   QUASAR EXTRACT  (Partial Definition)
Note:  You already have the 'QUASAR EXTRACT' File.

   727.826   PROSTHETICS EXTRACT  (Partial Definition)
Note:  You already have the 'PROSTHETICS EXTRACT' File.

   727.827   CLINIC EXTRACT  (Partial Definition)
Note:  You already have the 'CLINIC EXTRACT' File.

   727.833   BCMA EXTRACT  (Partial Definition)
Note:  You already have the 'BCMA EXTRACT' File.

   728.44    CLINICS AND STOP CODES  (Partial Definition)
Note:  You already have the 'CLINICS AND STOP CODES' File.

   728.442   MCA LABOR CODE  (including data)
Note:  You already have the 'MCA LABOR CODE' File.
I will OVERWRITE your data with mine.

Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//

Want KIDS to INHIBIT LOGONs during the install? NO//
Enter options you wish to mark as 'Out Of Order': ECXMGR       Extract
      Manager's Options

Enter options you wish to mark as 'Out Of Order':

Enter protocols you wish to mark as 'Out Of Order':
```

```
Delay Install (Minutes):  (0-60): 0//
                            ECX*3.0*166
     ECX825
     ECX8251
     ECX8252
     ECX826
     ECX8261
     ECX8262
     ECX827
     ECX8271
     ECX8272

 Updating KIDS files...

 ECX*3.0*166 Installed.
               Jul 25, 2017@12:50:07

 Not a production UCI
 NO Install Message sent

  100%                 25            50            75
Complete
Install Completed
```

4.9 Installation Verification Procedure

The Application Coordinator is responsible for coordinating the activities for the national release of the product or patch, representing HPS as a member of the project team for the product or patch release. This includes working with the appropriate Sustainment Manager (SM) to ensure a smooth and successful transition of the product from development to sustainment.

Table 4 lists the release deployment Point of Contact (POC) information for DSS FY18.

Table 4: Release Deployment POC Information

Release Identification	Release Package POC Name	Release Package POC Email
ECX*3.0*166	Stacy Hardy HPS Application Coordinator	Stacy.Hardy@va.gov

The POC for each process will verify that all required inputs are available. Upon completion of each sub-task in the execution, the POC will verify that all required outputs have been generated and all the necessary exit criteria have been met.

The master process is not considered complete until all related sub-tasks for the perceived entry criteria have been completed. Verification and validation are performed to ensure that the processes executed meet the needs of the development effort and the execution of this process satisfies the certification requirements of the organization requesting the activity.

```
The second line of each of these routines now looks like:
;;3.0;DSS EXTRACTS;**[Patch List]**;Dec 22, 1997;Build 19

The checksums below are new checksums, and
can be checked with CHECK1^XTSUMBLD.

Routine Name: ECX3P166
    Before:       n/a   After: B16238297  **166**
Routine Name: ECXADM
    Before: B61277683   After: B64025705  **1,4,11,8,13,24,33,39,46,71,
                                          84,92,107,105,120,127,132,136,
                                          144,149,154,161,166**
Routine Name: ECXAPHA
    Before: B64411651   After: B65543417  **40,49,66,104,109,113,136,144,
                                          154,166**
Routine Name: ECXAPHAP
    Before: B37750813   After:
      B38676741  **40,49,66,104,109,113,136,144,166**
Routine Name: ECXBCM
    Before: B97386412   After: B98825317  **107,127,132,136,143,144,148,
                                          149,154,160,161,166**
Routine Name: ECXDRUG1
    Before: B44065149   After: B44949205  **40,68,144,166**
Routine Name: ECXEC
    Before: B87611184   After:B107392045  **11,8,13,24,27,33,39,46,49,
                                          71,89,92,105,120,127,132,136,
                                          144,149,154,161,166**
Routine Name: ECXFEKEY
    Before: B67121757   After: B68411696  **10,11,8,40,84,92,123,132,136,
                                          149,166**
Routine Name: ECXKILL
    Before:  B9656369   After:  B9725902  **9,8,21,24,31,39,49,84,89,105,
                                          112,127,132,136,144,166**
Routine Name: ECXKILL1
    Before: B14886200   After: B14912238  **39,46,89,120,127,132,136,144,
                                          149,166**
Routine Name: ECXMOV
    Before: B30514137   After: B32577532  **8,24,33,39,41,42,46,65,84,
                                          107,105,128,127,161,166**
Routine Name: ECXOPRX
    Before: B67328800   After: B71187589  **10,11,8,13,24,30,33,38,39,
                                          46,49,71,81,84,92,105,112,120,
                                          127,136,144,149,154,166**
Routine Name: ECXOPRX1
    Before: B10575789   After: B11017197  **92,107,105,120,127,144,149,
                                          154,161,166**
Routine Name: ECXPHAA
    Before: B55266587   After: B55813214  **92,142,149,161,166**
```

```
Routine Name: ECXPIVD2
    Before:  B9904800   After: B10281971  **105,120,127,144,149,161,166**
Routine Name: ECXPIVDN
    Before: B60249423   After: B64028016  **10,11,8,13,24,33,39,46,49,
                                           71,84,96,92,107,105,112,120,
                                           127,136,143,144,149,166**
Routine Name: ECXPLBB
    Before: B27165081   After:
      B28567925  **78,92,105,136,143,149,153,156,166**
Routine Name: ECXPRO
    Before: B48529101   After: B51138960  **9,13,15,21,24,33,39,46,71,
                                           92,105,120,127,132,136,144,149,
                                           154,161,166**
Routine Name: ECXPROMR
    Before:       n/a   After: B12318192  **166**
Routine Name: ECXPROUI
    Before:       n/a   After:  B6191319  **166**
Routine Name: ECXQSR
    Before: B69811253   After: B74604579  **11,8,13,26,24,34,33,35,39,
                                           43,46,49,64,71,84,92,106,105,
                                           120,124,127,132,136,144,154,
                                           161,166**
Routine Name: ECXQSR1
    Before: B18769480   After: B19300892  **105,120,127,132,136,144,149,
                                           154,161,166**
Routine Name: ECXRAD
    Before: B48026824   After: B53944595  **11,8,13,16,24,33,39,46,71,
                                           84,92,105,120,127,136,144,149,
                                           153,154,161,166**
Routine Name: ECXSCLD
    Before:B174524393   After:B185736155  **2,8,24,30,71,80,105,112,120,
                                           126,132,136,142,144,149,154,
                                           161,166**
Routine Name: ECXSCLD1
    Before: B70146278   After: B73913458  **132,136,144,149,154,161,166**
Routine Name: ECXSCX1
    Before: B95411432   After: B98733981  **8,28,24,27,29,30,31,33,84,
                                           92,105,127,132,144,149,154,166*
      *
Routine Name: ECXSCXN
    Before: B88294315   After: B94558917  **24,27,29,30,31,32,33,39,46,
                                           49,52,71,84,92,107,105,120,124,
                                           127,132,136,144,149,156,154,
                                           161,166**
Routine Name: ECXSCXN1
    Before: B17063992   After: B16963323  **71,105,127,132,136,144,166**
Routine Name: ECXSETUP
    Before: B26676278   After: B26817153  **11,8,24,166**
```

```
Routine Name: ECXSURG
    Before:B100852388   After:B116822691  **1,11,8,13,25,24,33,39,41,42,
                                           46,50,71,84,92,99,105,112,128,
                                           127,132,144,149,154,161,166**
Routine Name: ECXSURG1
    Before: B22422974   After: B24564494  **105,112,120,127,132,144,149,
                                           161,166**
Routine Name: ECXTPR
    Before:       n/a   After:  B6794216  **166**
Routine Name: ECXTRANS
    Before: B61276543   After: B68592872  **2,9,12,8,13,14,23,24,33,49,
                                           54,75,71,144,149,166**
Routine Name: ECXTREX
    Before: B28561003   After: B26277217  **49,71,84,92,105,112,120,166**
Routine Name: ECXTRT
    Before: B58738441   After: B60887481  **1,8,17,24,33,35,39,46,49,84,
                                           107,105,127,161,166**
Routine Name: ECXTRT2
    Before:  B4576670   After:  B5409621  **105,127,161,166**
Routine Name: ECXTRYIT
    Before: B15901060   After: B16351571  **166**
Routine Name: ECXUCBOC
    Before: B98139250   After:B101125382  **49,148,149,160,166**
Routine Name: ECXUD
    Before: B91677386   After: B94404858  **10,8,24,33,39,46,49,71,84,
                                           92,107,105,120,127,144,149,154,
                                           161,166**
Routine Name: ECXUEC
    Before: B59479609   After: B60205050  **120,127,148,149,161,166**
Routine Name: ECXUPRO
    Before: B34904169   After:
      B35779039  **49,111,144,148,149,154,161,166**
Routine Name: ECXUPRO1
    Before: B12140173   After: B12140173  **49,111,132,137,144,149,154,
                                           161,166**
Routine Name: ECXUSUR
    Before: B37839317   After:
      B39951506  **49,71,84,93,105,148,149,161,166**
Routine Name: ECXUSUR1
    Before: B15980382   After:
      B16355511  **49,71,105,111,128,148,161,166**
Routine Name: ECXUTL2
    Before: B74410083   After: B78280589  **8,13,23,24,33,35,39,46,71,
                                           84,92,105,112,120,127,144,149,
                                           154,166**
Routine Name: ECXUTL3
    Before:B101960628   After:B103285245  **11,24,32,33,35,37,39,42,46,
                                           92,105,120,144,149,154,166**
Routine Name: ECXUTL5
```

```
    Before: B37238715   After: B38455893  **71,84,92,103,105,120,136,166**
Routine Name: ECXWRD
    Before: B18961469   After: B18988653  **2,8,127,146,166**

Routine list of preceding patches: 146, 161
```

4.10 System Configuration

No system configuration changes are required.

4.11 Database Tuning

No reconfiguration of the VistA database, memory allocation, or other resources is necessary for DSS ECX*3.0*166.

5 Back-Out Procedure

Site IRMs perform backups on routines prior to patch installation. If for any reason a need arises, IRMs will back out the patch and revert to the previous backup point to restore their respective environments. Any changes that need to be reapplied to the database will be manually applied. It may be necessary for the developer to be given access to the site to assist with these procedures.

5.1 Back-Out Strategy

In the event that the ECX*3.0*166 patch needs to be backed out, the development team will assist the site with removing the VistA routines as needed.

5.2 Back-Out Considerations

Back-out considerations would include the following:

- Health of site systems
- Ability to recover to a stable environment
- Minimal disruption to a site
- Minimize issues within the VistA host

5.2.1 Load Testing

Load Testing is not applicable. The back-out process for patch ECX*3.0*166 would be executed at a normal rather than raised job priority and expected to have minimal effect on total system performance. To minimize potential impact on users, implementation of a back-out can be queued to run during hours of reduced user activity. Subsequent to the reversion, the performance demands on the system would be unchanged.

5.2.2 User Acceptance Testing

It is expected that the restoration of the pre-ECX*3.0*166 version of routines could be confirmed by IT Support quickly by using utility CHECK1^XTSUMBLD. This utility returns the checksum or routine comparison utilities from VA Kernel without any need of User Acceptance Testing (UAT).

5.3 Back-Out Criteria

A back-out of the software should only be performed in response to severe system impairment and there is no other option available. TeamSMS/Leidos will analyze the issue and related system functionality impairment. Based upon the severity of the condition, a determination will be made if a back-out of the software is required.

5.4 Back-Out Risks

Risks for a back-out include:

- Further corruption of system
- Inability to completely remove all software code from system
- Loss of system functionality while back-out is in progress
- Loss of data; some records may never be recovered

5.5 Authority for Back-Out

With input from the project team and/or field site personnel, authority for DSS software back-out would be a joint decision from the following people:

- Chris Minardi, Health Portfolio Director
- Mike Leigh, Business Owner/ MCAO
- Mary Caulfield, HPS

5.6 Back-Out Verification Procedure

IT support personnel can verify the restoration of the pre-ECX*3.0*166 version of routines by using utility CHECK1^XTSUMBLD. This utility returns the checksum or routine comparison utilities from VA Kernel. The Database changes should be manually inspected to verify that files are in their previous state.

6 Rollback Procedure

Site IRMs perform backups on routines prior to patch installation. If for any reason a need arises, IRMs will back out the patch and revert to the previous backup point to restore their respective environments. Any changes that need to be reapplied to the database will be manually applied. It may be necessary for the developer to be given access to the site to assist with these procedures.

6.1 Rollback Considerations

The rollback of software to a previous version would be required in the event of a severe loss of functionality and the inability to resolve the issue.

The strategy is to:

- Limit access and contain the issue
- Troubleshoot the issue thoroughly
- Discuss available options
- If no other options are available, make the joint decision to back-out/rollback the software version to a previous known good working version
- Execute back-out/rollback procedures
- Test thoroughly to ensure correct functionality of system and software
- Turn the system over to the customer

Prior to installing an updated KIDS package, the site/region should have saved a backup of the routines in a mail message using the Backup a Transport Global [XPD BACKUP] menu option (this is done at the time of install). Please refer to Section 4.8.3.

Rollback will be done only with the concurrence and participation of TeamSMS/Leidos and appropriate VA site/regional personnel.

6.2 Rollback Criteria

The following remediation steps address situations in which the application has become non-functional during the normal course of operation.

When issues are reported to HPS, MCAO, or directly to TeamSMS/Leidos, TeamSMS/Leidos will identify the source of the issue and the component that is affected.

Issues that may cause an impairment of functionality include:

- Errors found in the VistA error trap. These errors can occur due to any number of potential issues at a site.
- Insufficient disk space for data storage. These types of issues generally require the allocation of additional disk space in order to return the application to full health.
- Insufficient disk space for the application components. These issues are related to log files filling up the available space. The remedy is to archive the log files and remove them from the server. A key monitoring activity for the application is ensuring that log files do not fill up the available space.

Based upon the severity of the error condition, a determination will be made on whether the issue is temporary and can be resolved within the runtime environment or if a rollback to a previous version of the system is required.

6.3 Rollback Risks

Risks for a rollback include:

- Loss of system functionality while rollback is in progress
- Loss of data
- Loss of DSS functionality with rollback to previous version

6.4 Authority for Rollback

Authority for a DSS software rollback would be a joint decision from the following:

- DSS Leadership (including OI&T, MCAO, HPS and Veterans Health Administration (VHA)
- TeamSMS/Leidos (Release Team and Project Management)
- Site/Region personnel

6.5 Rollback Verification Procedure

IT support personnel can verify the restoration of the pre-ECX*3.0*166 version of routines by using utility CHECK1^XTSUMBLD. This utility returns the checksum or routine comparison utilities from VA Kernel. The database changes should be manually inspected to verify that files are in their previous state.

Database changes will need to be manually checked.

Appendix A Acronyms

Table 5 lists the acronyms utilized throughout the DSS FY18 Deployment, Installation, Back-Out and Rollback Guide.

Table 5: Acronym Table

Acronym	Description
ADT	Admission Discharge Transfer
BCMA	Bar Code Medication Administration
DD	Data Definitions
DG	Registration
DSS	Decision Support System
EC	Event Capture
ECS	Event Capture System
ESL	Enterprise Service Line
FM	FileMan
FY	Fiscal Year
HL7	Health Level Seven
HPS	Health Product Support
IOC	Initial Operating Capability
IRM	Information Resource Manager
IT	Information Technology
KIDS	Kernel Installation and Distribution System
LBB	Lab: Blood Bank
LR	Laboratory
MCA	Managerial Cost Accounting
MCAO	Managerial Cost Accounting Office
MH	Mental Health
MOU	Memorandum of Understanding
MUMPS	Massachusetts General Hospital Utility Multi-Programming System
NDF	National Drug File
NPM	National Patch Module
OE/RR	Order Entry/Results Reporting
OI&T	Office of Information and Technology
PCE	Patient Care Encounter
PDM	Pharmacy: Data Management
POC	Point of Contact
PRO	Prosthetics
PSJ	Pharmacy: Inpatient Medications
PSO	Pharmacy: Outpatient Pharmacy

Acronym	Description
QUASAR	Quality: Audiology and Speech Pathology Audit & Review
RAD	Radiology
SD	Scheduling
SM	Sustainment Manager
SQA	Software Quality Assurance
SR	Surgery
UAT	User Acceptance Testing
VA	Department of Veterans Affairs
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture
XM	MailMan
XU	Kernel