Event Capture System (ECS)
Graphical User Interface (GUI)
Software Version 2.0
Patch EC*2.0*145

Deployment, Installation, Back-Out, and Rollback Guide

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Revision History

Date	Version	Description	Author
1/31/2019	2.0	Updated document to reflect FY19 patch changes and added paragraph 5.3 for instructions for single sign on for CPRS users accessing ECS	TeamSMS/Leidos
8/1/2018	1.0	ECS FY18 document	TeamSMS/Leidos

Artifact Rationale

This document describes the Deployment, Installation, Back-out, and Rollback Plan for new products going into the VA Enterprise. The plan includes information about system support, issue tracking, escalation processes, and roles and responsibilities involved in all those activities. Its purpose is to provide clients, stakeholders, and support personnel with a smooth transition to the new product or software, and should be structured appropriately, to reflect particulars of these procedures at a single or at multiple locations.

Per the Veteran-focused Integrated Process (VIP) Guide, the Deployment, Installation, Back-out, and Rollback Plan is required to be completed prior to Critical Decision Point #2 (CD #2), with the expectation that it will be updated throughout the lifecycle of the project for each build, as needed.

Table of Contents

List of Tables

List of Figures

1 Introduction

This document describes how to deploy and install the Event Capture (EC) EC*2.0*145 patch, as well as how to back-out the product and rollback to a previous version or data set. This document is a companion to the project charter and management plan for this effort.

The entry for EC*2.0*145 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 Event Capture System (ECS) Fiscal Year (FY19) Patch (EC*2.0*145) 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 within this document that are being introduced in this version of the ECS application.

1.3 Constraints

ECS FY19 has the following constraints:

- Data is available from other packages

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 and 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: Pre-Production Production	• 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

Team	Phase	Tasks
ESL IT Personnel or Site IRM (with TeamSMS/Leidos assistance)	Back-out	• Perform back-out if needed
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 EC*2.0*145.

3.1 Timeline

Patch EC*2.0*145 is scheduled to be installed and deployed in the IOC site production environments. During this time, the testers will perform production testing and the IRMs will verify the installation to ensure there are no errors.

3.2 Site Readiness Assessment

Per the Veteran-Focused Integration Process (VIP) guidelines, a Critical Decision (CD) 2 event will be conducted to review the patch and its readiness for release into the IOC production environment. Upon approval from ECS leadership, the patch will proceed to IOC production testing. Upon successful production testing, the patch is ready for National Release.

The Patch will be released by VA HPS and the Patch Development Team will upload all relevant patch documentation to the VA Software Documentation Library (VDL).

The Patch Development Team will provide support to VA HPS.

The software product shall conform to the existing VistA conventions. The reports, options, and screen formats shall conform to the conventions using a Graphical User Interface (GUI). Pilot (Pre-Alpha, Alpha, and Beta) sites will test options processing for usability. This will ensure that all new functionality meets the needs of the Veterans Health Administration (VHA) user.

3.2.1 Deployment Topology (Targeted Architecture)

EC*2.0*145, a patch to the EC 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 ECS independence from variations in hardware and operating system.

3.2.2 Site Information (Locations, Deployment Recipients)

ECS FY19 Patch EC*2.0*145 will be deployed enterprise-wide.

3.2.3 Site Preparation

No additional site preparation activities are required. ECS FY19 will run under current site configuration.

3.3 Resources

This section describes the relevant hardware, software, facilities, and documentation for ECS FY19 Patch EC*2.0*145 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 of EC:

Table 2: Software Specifications

Required Software	Make	Version	Configuration	Manufacturer	Other
Current Procedural Terminology (CPT) / Healthcare Common Procedure Coding System (HCPCS) Codes	*	6.0	*	*	*
Diagnosis Related Group (DRG) Grouper	*	18	*	*	*
Kernel	*	8.0	*	*	*
MailMan	*	8.0	*	*	*
Patient Care Encounter (PCE)	*	1.0	*	*	*
Patient Information Management Service (PIMS)	*	5.3	*	*	*
Registration	*	5.2	*	*	*
Remote Procedure Call (RPC) Broker	*	1.1	*	*	*
ToolKit	*	7.3	*	*	*
FileMan	*	22.2	*	*	*

*Information maintained by the VA.

3.3.3 Communications

Communications with test sites continues to be through e-mail, Patch Tracking Message in FORUM and Outlook, and one-on-one telephone calls to individuals involved in testing.

3.3.3.1 Deployment/Installation/Back-Out Checklist

Table 3 lists the activities for ECS FY19 deployment, installation, and back-out.

Table 3: Deployment/Installation/Back-Out Checklist

Activity	Day	Time	Individual who completes task
IOC Deploy	o/a 6/4/2019	Site dependent according to local policy	IRM
IOC Install	o/a 6/4/2019	Site dependent according to local policy	IRM
IOC Back-Out	Only performed as needed	Only performed as needed	N/A
Deploy	o/a 6/25/2019	Site dependent according to local policy	IRM
Install	6/26/2019 through 7/25/2019	Site dependent according to local policy	IRM
Back-Out	Only performed as needed	Only performed as needed	N/A

4 Installation

The electronic release package contains a single EXE file and supporting documentation. The executable is generated from a baseline. The electronic production release package media will be labeled with an identification number, descriptive name, and release date.

The ECS GUI application package is delivered through Secure File Transfer Protocol (SFTP) to the site's OI&T office personnel. The application's components are versioned in the Rational Team Concert (RTC) Configuration Management (CM) Tool.

4.1 Pre-Installation and System Requirements

The ECS GUI may run in a test environment before installation, but it is not necessary. EC runs on the standard hardware platforms used by VA Healthcare facilities. These systems consist of Virtual Memory System (VMS)/Cache or Linux/Cache platforms.

To run this Delphi-based application, the following is recommended:

- Intel Core I3 or higher (I5 recommended)
- Microsoft Windows 7
- Memory: 4GB of RAM or higher
- Hard disk space: 50GB
- Extended Graphics Array (XGA) or higher resolution monitor

Software that is wholly a local development effort (such as BA Loader, etc.) may not be compatible with EC. Verify compatibility prior to installation.

4.2 Platform Installation and Preparation

No new hardware or other resources are required.

4.3 Download and Extract Files

EC*2.0*145 is provided to IOC sites as a Kernel Installation and Distribution System (KIDS) build via FORUM. Refer to the EC*2.0*145 patch documentation in the NPM.

4.4 Database Creation

The patch is applied to an existing MUMPS VistA database.

4.5 Installation Scripts

Installation scripts are not needed for software installation. Refer to the EC*2.0*145 patch documentation in the NPM.

4.6 Cron Scripts

There are no Cron scripts associated with ECS 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 GUI 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 steps for installing EC*2.0*145.

4.8.1 Load Transport Global

Choose the PackMan message containing the EC*2.0*145 patch and invoke the INSTALL/CHECK MESSAGE PackMan option.

4.8.2 Server Installation

1. Use the INSTALL/CHECK MESSAGE option on the PackMan menu to unload the KIDS distribution included with this message.
2. From the Kernal Installation and Distribution System (KIDS) Menu, select the Installation menu.
3. The following steps are optional, but are recommended. (When prompted for INSTALL NAME, enter **EC*2.0*145**):
   a) Backup a Transport Global - This option will create a backup message of any routines exported with the patch. It will NOT backup any other changes such as Data Dictionaries (DD) or templates.
   b) Compare Transport Global to Current System - This option allows you to view all changes that will be made when this patch is installed. It compares all components of this patch (routines, DD's, templates, etc.).
   c) Verify Checksums in Transport Global - This option allows you to ensure the integrity of the routines that are in the transport global.
   d) Print Transport Global - This option allows you to view the components of the KIDS build.
4. Use the Install Package(s) option and select the package **EC*2.0*145**.
5. If prompted 'Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//' Answer **NO** unless your system does this in a nightly TaskMan process.
6. When prompted 'Want KIDS to INHIBIT LOGONs during the install? NO//' answer **NO**.

7. When prompted 'Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//' answer **YES**.
8. When prompted 'Enter options you wish to mark as 'Out Of Order':' Enter the following options: EC GUI Context version 2.6.0.0... EC GUI CONTEXT
9. When prompted 'Enter protocols you wish to mark as 'Out Of Order':' press <**Enter**>.
10. If desired, the post-install routine EC2P145 can be deleted after successful installation of the patch.

NOTE: A post-install routine will also run for EC*2.0*145.

4.8.3 KIDS Installation Example

```
Select KIDS OPTION: INSTALL PACKAGE(S)
Select INSTALL NAME: EC*2.0*145      6/1/19@13:03:28
     => EC*2*145

This Distribution was loaded on Jun 1, 2019@13:03:28 with header of
   EC*2*145
   It consisted of the following Install(s):
     EC*2.0*145
Checking Install for Package EC*2.0*145
Will first run the Environment Check Routine, EC2P145

Environment is ready for installation.

Install Questions for EC*2.0*145

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

Want KIDS to INHIBIT LOGONs during the install? NO//
Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES//

Enter options you wish to mark as 'Out Of Order': EC GUI CONTEXT
EC GUI Context version 2.6.0.0

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//

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME//   VIRTUAL TELNET


                              EC*2.0*145
```

```
------------------------------------------------------------------------------
      ------

Deleting 'LOC' cross-reference in file 4...
Done

Rebuilding 'LOC' cross-reference in file 4.................
Done

 Updating Routine file...

 Updating KIDS files...

 EC*2.0*145 Installed.
               Jun 2, 2019@17:28:03

 Not a production UCI

 NO Install Message sent
------------------------------------------------------------------------------
      ------
          +---------------------------------------------------------+
  100%    ¦             25             50             75           ¦
Complete  +---------------------------------------------------------+


Install Completed
```

4.8.4 Select Installation Option

When prompted for the INSTALL NAME, enter **EC*2.0*145**

The following steps are optional, but are recommended:

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 dictionaries 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 dictionaries, 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.

4.8.5 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 **EC*2.0*145** 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:

   ```
   EC GUI CONTEXT VERSION 2.6.0.0    ... EC GUI CONTEXT
   ```

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).

4.9 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 ECS FY19.

Table 4: Release Deployment POC Information

Release Identification	Release Package POC Name	Release Package POC Email
EC*2.0*145 RB5 T1	Theresa Morris HPS Application Coordinator	Theresa.Morris@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.

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 ECS Patch EC*2.0*145.

5 Client Installation

This section provides instructions for the ECS GUI command line parameters, client installation, and accessing ECS GUI via Computerized Patient Record System (CPRS). Screen images have also been included.

5.1 Command Line Parameters

The necessary command line parameters are entered in the "Target" field of the shortcut properties. Table 5 lists the Command Line Parameters. The parameters may be in any order. Parameters S and P are a set, i.e., they must both be present or they will be ignored. In order to take advantage of the Clinical Context Object Workgroup (CCOW) Single Sign-on in Event Capture, add the CCOW parameter to the shortcut. The CCOW parameter should only be added if the Vergence desktop program is installed.

Table 5: Command Line Parameters

Parameter	Example (Default)	Description
S=	S=BrokerServer	The name of the ECS GUI BrokerServer as defined in the Host file. The default is 'BrokerServer'
P=	P=nnnn	The ServerPort used by the ECS GUI BrokerServer. Example P=9200
CCOW	CCOW	Enable EC to utilize CCOW Single Sign-on functionality.

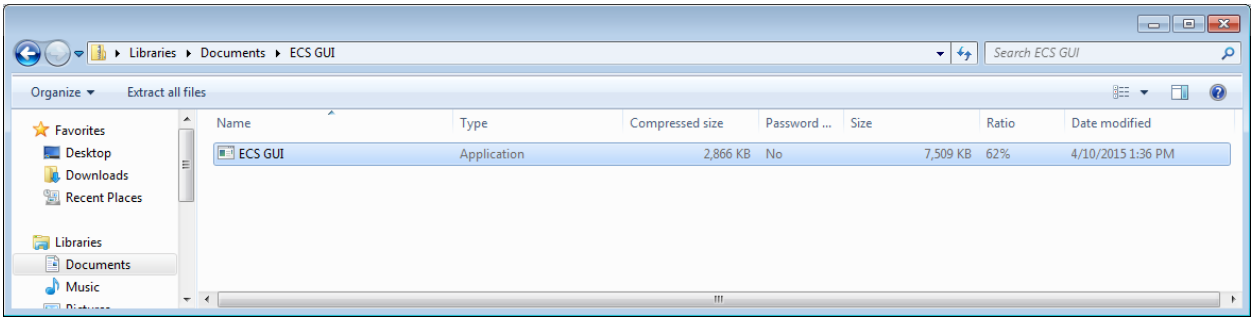
5.2 ECS GUI Client Installation

The ECS GUI application is distributed via a .ZIP file containing the actual application file (ECS GUI.EXE). This application file will need to be unzipped and copied to a directory, and a shortcut to that file can be created to run the application.

Follow these instructions to install the ECS GUI.

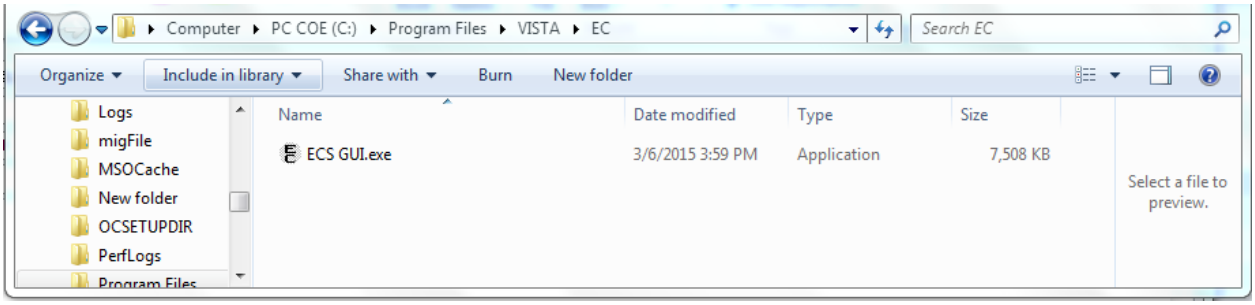
1. Save the EC_2_P145.ZIP file to one of your network or local drives. Do not save it directly to the desktop.
2. Double-click on EC_2_P145.ZIP. The following window will appear (Figure 1).

Figure 1: Example: Opening the .zip File



3. Right-click the ECS GUI application file and select copy.
4. Choose an existing folder to install the program or create a new one. (The previous version's default was C:\Program Files\VISTA\EC). Paste ECS GUI.EXE into the target directory.
5. The application file will open in the explorer window for that directory (Figure 2).

Figure 2: Example: Application File in Folder



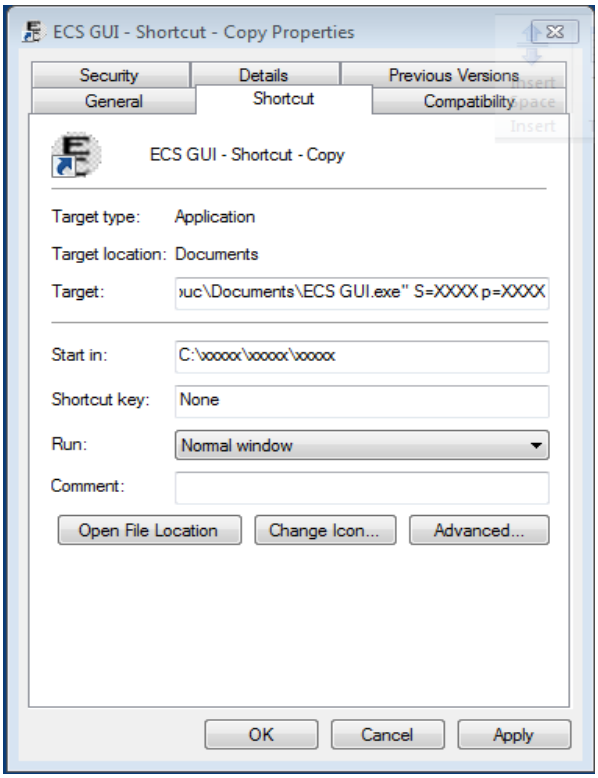
6. Now that the application file is in the directory, right-click on it, and select **Send to → Desktop** (create shortcut).
7. A Shortcut should be created on the desktop with the name ECS GUI – Shortcut (Figure 3).

Figure 3: Example: Desktop Shortcut

8. Right-click on the newly created shortcut and select **Properties** and navigate to the shortcut tab.
9. After the file name (listed in Target), add the server (example: s=XXXX) and port (example: p=XXXX), displayed in Figure 4. Ensure there is a single space before the server and port information.

The server and port can be provided for a particular site. Without this information, EC will not be able to run. In order to enable EC to use CCOW Single Sign-on, add the text “CCOW” after the port information.

Figure 4: Example: Adding Server and Port to the Target Field



10. Click **Apply**.
11. The setup is complete.

5.3 Accessing ECS GUI via CPRS Single Sign-On (SSO)

ECS user authentication can be achieved via SSO through CPRS. This is achieved by selecting the Event Capture Interface in the CPRS Tools Menu which allows the user to enter Event Capture patient procedures. When accessing Event Capture in this way, both user and patient context are maintained. This CPRS feature requires set up by local Information Resource Manager (IRM) and/or the Clinical Application Coordinator.

5.3.1 Instructions for Setting Up the CPRS Menu

Parentheses denote abbreviations that can be entered instead of entering the full name of the option.

1. From the CPRS Configuration Menu for Clinical Coordinators, enter **GUI Parameters (GP)** at the prompt.
2. From the list of options given, enter **GUI Tool Menu Items** (**TM**) at the prompt.
3. From the list of options given, enter **Package** (**9**). Choosing this option gives functionality to all users. Choose **User** (**1**) to assign this functionality to a single user.
4. The user will receive two messages; one regarding the parameters set for 'Package' and the other for the Setting of the CPRS GUI Tools Menu for Package.
5. The user will be asked to select a sequence. Type a question mark (**?**) to get a choice of options.
6. Enter a number higher than the last option to add a new option.
7. When asked if you are adding a new option, enter **YES**.
8. When prompted for a "Name=Command", enter: Event Capture Interface=" plus the full path to the ECS executable. The specific words "Event Capture Interface" are required to maintain this context preserving functionality between CPRS and ECS.
    - Example: &Event Capture Interface="c:\program files\vista\ec\ecs gui.exe".
9. When asked to select a sequence again, press <**Enter**> to get out of the prompt.

Example: Setting Up EC Option in the Tools Menu of CPRS GUI:

```
AL      Allocate OE/RR Security Keys
KK      Check for Multiple Keys
DC      Edit DC Reasons
GP      GUI Parameters ...
GA      GUI Access - Tabs,RPL
MI      Miscellaneous Parameters
NO      Notification Mgmt Menu ...
OC      Order Checking Mgmt Menu ...
MM      Order Menu Management ...
LI      Patient List Mgmt Menu ...
FP      Print Formats
PR      Print/Report Parameters ...
RE      Release/Cancel Delayed Orders
US      Unsigned orders search
EX      Set Unsigned Orders View on Exit
NA      Search orders by Nature or Status
CA      Care Management Menu ...
```

```
   DO     Event Delayed Orders Menu ...
   LO     Lapsed Order search
   PM     Performance Monitor Report

Select CPRS Configuration (Clin Coord) Option: GP  GUI Parameters
   CS     GUI Cover Sheet Display Parameters ...
   HS     GUI Health Summary Types
   TM     GUI Tool Menu Items
   MP     GUI Parameters - Miscellaneous
   UC     GUI Clear Size & Position Settings for User
   RE     GUI Report Parameters ...
   NV     GUI Non-VA Med Statements/Reasons
   EX     GUI Expired Orders Search Hours
   RM     GUI Remove Button Enabled
   NON    GUI Remove Button Enabled for Non-OR Alerts
   CLOZ   GUI Edit Inpatient Clozapine Message
   COAG   GUI Anticoagulation Parameters ...
             **> Out of order:  On hold
   EIE    GUI Mark Allergy Entered in Error

Select GUI Parameters Option: TM  GUI Tool Menu Items

CPRS GUI Tools Menu may be set for the following:
     1   User          USR    [choose from NEW PERSON]
     2   Location      LOC    [choose from HOSPITAL LOCATION]
     2.5 Service       SRV    [choose from SERVICE/SECTION]
     3   Division      DIV    [choose from INSTITUTION]
     4   System        SYS    [PERF.ISC-BAYPINES.VA.GOV]
     9   Package       PKG    [ORDER ENTRY/RESULTS REPORTING]

Enter selection: 9  Package   ORDER ENTRY/RESULTS REPORTING

Parameters set for 'Package' may be replaced if ORDER ENTRY/RESULTS
      REPORTING is installed in this account.

-- Setting CPRS GUI Tools Menu for Package: ORDER ENTRY/RESULTS REPORTING
      --
Select Sequence: ?
     Sequence                          Value
     --------                          -----
     1                                 &Time=Clock.exe
     2                                 &Calculator=Calc.exe
     3                                 &Windows Introduction=WinHlp32 Wind
     4                                 &Notepad=Notepad.exe

Select Sequence: 5
Are you adding 5 as a new Sequence? Yes// YES

Sequence: 5//    5
```

```
Name=Command: &Event Capture Interface="c:\program files\vista\ec\ecs
      gui.exe"
```

Note: If one desires to launch the full ECS application without maintaining User and Patient context, use a command name other than “Event Capture Interface.” An example of this would be, ‘ECS="c:\program files\vista\ec\ecs gui.exe".’

6 Back-Out Procedure

To revert back to the previous version of Event Capture, EC*2.0*139 RB1, 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.

6.1 Back-Out Strategy

In the event that the EC*2.0*145 package needs to be backed out, the development team will assist the site with removing the VistA routines as needed.

6.2 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

6.2.1 Load Testing

Load Testing is not applicable. The back-out process for patch EC*2.0*145 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.

6.2.2 User Acceptance Testing

It is expected that the restoration of the pre-EC*2.0*145 version of routines could be confirmed by IT Support quickly using utility CHECK1^XTSUMBLD, which returns the checksum or routine comparison utilities from VA Kernel without any need of User Acceptance Testing (UAT).

6.3 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 on the severity of the condition, a determination will be made if a back-out of the software is required.

6.4 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

6.5 Authority for Back-Out

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

- Roger Sigley, Health Portfolio Director
- Mike Leigh, Business Owner/ MCAO
- John Elliot, HPS

6.6 Back-Out Procedure

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.

Prior to installing an updated KIDS package, site IRMs 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). The message containing the backed up routines can be loaded with the "Xtract PackMan" function at the Message Action prompt. The PackMan function INSTALL/CHECK MESSAGE is then used to install the backed up routines onto the VistA system.

Coordinate with the ECS development team to receive a copy of the previous EC*2.0*139 RB1 GUI executable and installation instructions.

6.7 Back-Out Verification Procedure

It is expected that the restoration of the pre-EC*2.0*145 version of routines could be confirmed by IT Support quickly using utility CHECK1^XTSUMBLD, which returns the checksum or routine comparison utilities from VA Kernel. Manually check database changes to verify that files are in their previous state.

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7 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.

7.1 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).

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

7.2 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.

Depending on the severity of the error condition, a determination will be made on whether or not 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.

7.3 Rollback Risks

Risks for a rollback include:

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

7.4 Authority for Rollback

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

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

7.5 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.

Prior to installing an updated KIDS package, site IRMs 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). The message containing the backed up routines can be loaded with the "Xtract PackMan" function at the Message Action prompt. The PackMan function INSTALL/CHECK MESSAGE is then used to install the backed up routines onto the VistA system.

Coordinate with the ECS development team to receive a copy of the previous EC*2.0*139 RB1 GUI executable and installation instructions.

7.6 Rollback Verification Procedure

It is expected that the restoration of the pre-EC*2.0*145 version of routines could be confirmed by IT Support quickly using utility CHECK1^XTSUMBLD, which returns the checksum or routine comparison utilities from VA Kernel. Manually check database changes to verify that files are in their previous state.

Ensure Event Capture executable launches properly. Verify version for GUI is EC*2.0*139.

Appendix A Acronyms

Table 6 lists the acronyms utilized throughout the ECS FY19 Deployment, Installation, Back-Out and Rollback Guide.

Table 6: Acronym Table

Acronym	Description
CCOW	Clinical Context Object Workgroup
CD	Critical Decision
CM	Configuration Management
CPRS	Computerized Patient Record System
CPT	Current Procedural Terminology
DD	Data Dictionary
DRG	Diagnosis Related Group
DSS	Decision Support System
EC	Event Capture
ECS	Event Capture System
ESL	Enterprise Service Line
FY	Fiscal Year
GP	GUI Parameter
GUI	Graphical User Interface
HCPCS	Healthcare Common Procedure Coding System
HPS	Health Product Support
IOC	Initial Operating Capability
IRM	Information Resource Manager
IT	Information Technology
KIDS	Kernel Installation and Distribution System
MCA	Managerial Cost Accounting
MCAO	Managerial Cost Accounting Office
MOU	Memorandum of Understanding
MUMPS	Massachusetts General Hospital Utility Multi-Programming System
N/A	Not Applicable
NPM	National Patch Module
OI&T	Office of Information and Technology
PCE	Patient Care Encounter
POC	Point of Contact
RC	Release Coordinator
RPC	Remote Procedure Call
RTC	Rational Team Concert
SFTP	Secure File Transfer Protocol

Acronym	Description
SM	Sustainment Manager
SQA	Software Quality Assurance
TM	Tool Menu
UAT	User Acceptance Testing
VA	Department of Veterans Affairs
VDL	VA Software Documentation Library
VHA	Veterans Health Administration
VIP	Veteran-Focused Integration Process
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture
VMS	Virtual Memory System
XGA	Extended Graphics Array

Template Revision History

Date	Version	Description	Author
March 2016	2.2	Changed the title from Installation, Back-Out, and Rollback Guide to Deployment and Installation Guide, with the understanding that Back-Out and Rollback belong with Installation.	VIP Team
February 2016	2.1	Changed title from Installation, Back-Out, and Rollback Plan to Installation, Back-Out, and Rollback Guide as recommended by OI&T Documentation Standards Committee	OI&T Documentation Standards Committee
December 2015	2.0	The OI&T Documentation Standards Committee merged the existing *"Installation, Back-Out, Rollback Plan"* template with the content requirements in the OI&T End-user Documentation Standards for a more comprehensive Installation Plan.	OI&T Documentation Standards Committee
February 2015	1.0	Initial Draft	Lifecycle and Release Management