Health Administration Product Enhancements (HAPE)
FY16 Revenue Enhancement

Accounts Receivable

PRCA*4.5*315

Deployment, Installation, Back-Out, and Rollback Guide

May 2018

Department of Veterans Affairs

Office of Information and Technology (OI&T)

Revision History

Date	Version	Description	Author	Reviewers
05/25/2018	0.8	Updated to use current VIP template and to reflect changes to patches.	REDACTED	REDACTED
06/21/2017	0.7	Updated checksums to current value.	REDACTED	
04/14/2017	0.6	Updated document based on VA feedback. Deleted line items in Section 2 and updated MUMPS in Section 4.7	REDACTED	REDACTED
3/17/2017	0.5	Updated checksums to current value.	REDACTED	REDACTED
2/2/2017	0.4	Added Version to cover page, adjusted footers to 2017. Updated 4.2, 4.3, 4.5, 4.7, 4.8 and 5.2 per VA comments.	REDACTED	REDACTED
12/12/2016	0.3	Reviewed VA responses and made changes per feedback.	REDACTED	REDACTED
11/17/2016	0.2	Initial Draft	REDACTED	REDACTED
10/13/2016	0.1	Initial Document creation	REDACTED	

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

1 Introduction

This document describes how to deploy and install the HAPE FY16 Revenue Enhancements Accounts Receivable patch PRCA*4.5*315 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.

1.1 Purpose

The purpose of this plan is to provide a single, common document that describes how, when, where, and to whom the HAPE FY16 Revenue Enhancements Accounts Receivable patch PRCA*4.5*315 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.

1.2 Dependencies

This product is a VistA patch. Successful deployment and installation of this patch is dependent upon a fully functional and existing VistA system with functional links with FMS and with Central Fee at the Austin Information Technology Center (AITC).

1.3 Constraints

This product is a VistA patch. The only constraints associated with the patch installation are the required patches as mentioned in the patch description and on the Forum National Patch Module (NPM).

2 Roles and Responsibilities

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

Team	Phase / Role	Tasks
Health Product Support	Deployment	Plan and schedule deployment (including orchestration with vendors)
Health Product Support and existing local VAMC and CPAC processes	Deployment	Determine and document the roles and responsibilities of those involved in the deployment.
Health Product Support and VIP Release Agent	Deployment	Test for operational readiness
Health Product Support	Deployment	Execute deployment
Designated VistA patch installer for this package	Installation	Plan and schedule installation
Designated VistA patch installer for this package and VIP Release Agent	Installation	Ensure authority to operate and that certificate authority security documentation is in place

CPAC Revenue Analysts	Installations	Coordinate training
Designated VistA patch installer for this package, and CPAC Revenue Analysts, Health Product Support, and Development Team	Back-out	Confirm availability of back-out instructions and back-out strategy (what are the criteria that trigger a back-out)
Product Development Team during warranty period, afterwards (software only) Tier 1, Tier 2, Tier 3 / VistA Maintenance	Post Deployment	Hardware, Software and System Support

3 Deployment

The deployment is planned as a simultaneous national rollout to all 130 VistA production instances. This section provides the schedule and milestones for the deployment.

3.1 Timeline

The deployment and installation is scheduled to run for 30 days starting with the National Release date and concluding with the National Compliance date by which time all 130 VistA production instances should have the patch installed.

3.2 Site Readiness Assessment

This section discusses the locations that will receive the HAPE FY16 Revenue Enhancements Accounts Receivable patch PRCA*4.5*315 deployment.

3.2.1 Deployment Topology (Targeted Architecture)

N/A for a VistA patch.

3.2.2 Site Information (Locations, Deployment Recipients)

All 130 VistA production instances. The IOC test sites for this project were Durham (558) and Central Alabama HCS (619).

3.2.3 Site Preparation

None required other than prerequisite patch installation as described in the patch description and in the Forum NPM.

3.3 Resources

The HAPE FY16 Revenue Enhancements Accounts Receivable patch PRCA*4.5*315 is a VistA patch and does not require any special or specific resources other than an existing and functional VistA system.

3.3.1 Hardware

There is no specific hardware required other than that which already hosts the VistA system. This is a software enhancement that will not require additional hardware.

3.3.2 Software

There is no specific software required other than that which already hosts the VistA system.

3.3.3 Communications

When VistA patches are nationally released from the Forum National Patch Module (NPM) the patch is automatically sent to the targeted VistA systems nationwide. When VistA patches are installed at a site, a notification is sent back to the NPM to track which sites have and have not installed a patch. This is part of the standard VistA patch notifications and communications protocols.

3.3.3.1 Deployment/Installation/Back-Out Checklist

The Release Management team will deploy the patch PRCA*4.5*315, which is tracked in the NPM in Forum, nationally to all VAMCs. Forum automatically tracks the patches as they are installed in the different VAMC production systems as described in the previous section. One can run a report in Forum to identify when the patch was installed in the VistA production at each site, and by whom. A report can also be run, to identify which sites have not installed the patch in their VistA production system as of that moment in time.

Therefore, this information does not need to be manually tracked in the chart below. The table is included below if manual tracking is desired and because it is part of the VIP document template.

Table 2: Deployment/Installation/Back-Out Checklist

Activity	Day	Time	Individual who completed task
Deploy			
Install			
Back-Out			

4 Installation

4.1 Pre-installation and System Requirements

This product is a VistA patch. The only pre-installation and system requirements for deployment and installation of this patch are the prerequisite patches which need to be installed before this patch can be installed.

4.2 Platform Installation and Preparation

This product is a VistA patch. There are three patches for this project and they must be installed in the following order:

1. PRCA*4.5*315
2. IB*2*568
3. PSO*7*463

Sites should install patches into the test/mirror/pre-prod accounts before the production account as is the normal VistA patch installation standard convention.

When installing any VistA patch, sites should utilize the option "Backup a Transport Global" in order to create a backup message of any routines exported with this patch.

Post-installation checksums are found in the patch description and in Forum NPM.

4.3 Download and Extract Files

N/A for this VistA patch.

4.4 Database Creation

N/A for this VistA patch.

4.5 Installation Scripts

N/A for this VistA patch.

4.6 Cron Scripts

N/A for this VistA patch.

4.7 Access Requirements and Skills Needed for the Installation

To install this VistA patch, the patch installer must be an active user on the VistA system and have access to the VistA menu option "Kernel Installation & Distribution System" [XPD MAIN] and have VistA security keys XUPROG and XUPROGMODE. Knowledge on how to install VistA patches using the items on this menu option is also a required skill.

4.8 Installation Procedure

```
Installation Instructions:
--------------------------
This process will install new and updated routines and other
components listed above. There is a post-install routine that will add
entries to a number of files.

The patch will be released in conjunction with an Integrated Billing
patch, IB*2.0*568, and an Outpatient Pharmacy patch, PSO*7.0*463.
```

```
 ********************** NOTE **********************
 IF A USER IS ON THE SYSTEM AND USING THESE PROGRAMS
 AN EDITED ERROR WILL OCCUR.
 **************************************************

Installation will take less than 15 minutes.

Suggested time to install: non-peak requirement hours.


 1. Choose the PackMan message containing this patch.

 2. Choose the INSTALL/CHECK MESSAGE PackMan option.

 3. From the Kernel Installation & Distribution System menu, select
    the Installation menu.

 4. From this menu, you may select to use the following options
    (when prompted for INSTALL NAME, enter PRCA*4.5*315):
        a.  Verify Checksums in Transport Global - This option will
            allow you to ensure the integrity of the routines that are
            in the transport global.
        b.  Print Transport Global - This option will allow you to
            view the components of the KID build.
        c.  Compare Transport Global to Current System - This option
            will allow 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.).
        d.  Backup a Transport Global - This option will create a
            backup message of any routines exported with this patch.
            It will not backup any other changes such as DD's or
            templates.
 5. When prompted "Want KIDS to Rebuild Menu Trees Upon Completion of
    Install? YES//" respond YES

 6. When prompted "Want KID to INHIBIT LOGONs during the install?
    NO//" respond NO.

 7. When prompted "Want to DISABLE Scheduled Options, Menu Options,
    and Protocols? NO//, enter 'NO'
```

4.9 Installation Verification Procedure

Verify completed installation by comparing the post-install routine checksums against the published checksums in the patch description and in Forum NPM.

Another verification method is to ensure that the build components as listed in the patch description have been correctly installed onto the target VistA system.

4.10 Implementation Procedure

N/A for this VistA patch.

4.11 System Configuration

N/A for this VistA patch.

4.12 Database Tuning

N/A for this VistA patch.

5 Back-Out Procedure

Back-Out pertains to a return to the last known good operational state of the software and appropriate platform settings.

5.1 Back-Out Strategy

The back-out plan for VistA applications is complex and is not able to be a "one size fits all" strategy. The general strategy for VistA software back-out is to repair the code with a follow-up patch. The development team recommends that sites log a ticket if it is a nationally released patch; otherwise, the site should contact the Enterprise Program Management Office (EPMO) directly for specific solutions to their unique problems.

Although it is unlikely due to care in collecting approved requirements, SQA/PBM review and multiple testing stages (Primary Developer, Secondary Developer, and Component Integration Testing) a back-out decision due to major issues with this patch could occur during site Mirror Testing, Site Production Testing or after National Release to the Field. The strategy would depend on during which of these stages the decision is made. If during Site Production Testing, unless the patch produces catastrophic problems, the normal VistA response would be for a new version of the test patch correcting defects to be produced, retested and upon successfully passing development team testing would be resubmitted to the site for testing. This project, however, has prepared a set of back-out patch instructions if necessary, as in the case that the project is canceled or the implemented design is found to be so wrong and detrimental to the site's delivery of services to Veterans that the software must be removed. If the defects were not discovered until after national release but during the 30 days support period, a new patch will be entered into the National Patch Module on Forum and go through all the necessary milestone reviews etc. as an emergency patch. After 30 days, the VistA Maintenance Program would produce the new patch, either to correct the defective components or to back-out.

5.2 Back-Out Considerations

It is necessary to determine if a wholesale back-out of the patch PRCA*4.5*315 is needed or if a better course of action is to correct through a new version of the patch (if prior to national release) or through a subsequent patch aimed at specific areas modified or affected by the original patch (after national release). A wholesale back-out of the patch will still require a new version (if prior to national release) or a subsequent patch (after national release). If the back-out is post-release of patch PRCA*4.5*315, this patch should be assigned status of "Entered in Error" in Forum's NPM.

5.2.1 Load Testing

N/A for this VistA patch.

5.2.2 User Acceptance Testing

This is detailed in the User Stories in Rational Tools Management.

5.3 Back-Out Criteria

The decision to back-out this VistA patch will be made by Health Product Support, CPAC Revenue System Management staff, and the Development Team. Criteria to be determined based on separate and unique factors and will be evaluated upon post-patch installation use of the product.

5.4 Back-Out Risks

N/A for this VistA patch.

5.5 Authority for Back-Out

Back-out authorization will be determined by a consensus consisting of the following individuals:

- Health Product Support Management
- Release Managers
- CPAC Revenue System Managers
- Development Team

5.6 Back-Out Procedure

During the VistA Installation Procedure of the KIDS build, the installer can back up the modified routines using the 'Backup a Transport Global' action. The installer can restore the routines using the MailMan message that were saved prior to installing the patch. The back-out procedure for global, data dictionary and other VistA components is more complex and will require issuance of a follow-up patch to ensure all components are properly removed. All software components (routines and other items) must be restored to their previous state at the same time and in conjunction with restoration of the data. This back-out may need to include a database cleanup process.

Please contact the EPMO for assistance if the installed patch that needs to be backed out contains anything at all besides routines before trying to back-out the patch. If the installed patch that needs to be backed out includes a pre or post install routine, please contact the EPMO before attempting the back-out.

```
From the Kernel Installation and Distribution System Menu, select
the Installation Menu. From this menu, you may elect to use the
following option. When prompted for the INSTALL enter the patch #.
```

```
a. Backup a Transport Global - This option will create a backup
   message of any routines exported with this patch. It will not
   backup any other changes such as DD's or templates.
```

Locate the Transport Global Backup message which should have been created as a part of the patch installation and restore the software from that Packman message containing the pre-installation version of the routines. If this message was not created or cannot be found, then contact Health Product Support for help in generating a new Packman message from another source.

In addition to backing out and restoring the previous versions of the routines, the following software components will also need to be backed-out. The safest thing to do is to work with Health Product Support and the Development Team to create a separate build containing these non-routine software components from an environment in which this patch has not been installed.

- Input Template: PRCAE ADMIN associated with File# 433
- Parent Menu options "Repayment Plan Menu [PRCAC REPAYMENT MENU]" and "Cross-Servicing Menu" [RCTCSP MENU] and all of the child menu items on these parent menus.
- Security key PRCAF LATE CHARGES may be deleted upon a back-out
- List template [RCDP ACCOUNT PROFILE] and associated parent menu protocol [RCDP ACCOUNT PROFILE MENU] and all associated child action protocols should be rolled back to the previous version via a new patch build
- New List templates and associated new menu and action protocols may remain on the system without rolling them back without risk.

5.7 Back-out Verification Procedure

The success of the back-out can be verified by verifying checksums for the routines removed to validate that they reflect the nationally released checksums.

6 Rollback Procedure

Rollback pertains to data associated with this patch.

6.1 Rollback Considerations

It is necessary to determine if a wholesale rollback of the data associated with patch PRCA*4.5*315 is needed or if a better course of action is to correct the data through a new version of the patch (if prior to national release) or through a subsequent patch aimed at specific areas modified or affected by the original patch (after national release). A wholesale rollback of the data associated with this patch will still require a new version (if prior to national release) or a subsequent patch (after national release).

6.2 Rollback Criteria

The decision to rollback the data associated with this VistA patch will be made by Health Product Support, CPAC Revenue System Management staff, and the Development Team. Criteria to be determined based on separate and unique factors and will be evaluated upon post-patch installation use of the product.

6.3 Rollback Risks

Rollback risks include being able to restore the database to what it looked like before this patch was installed without introducing database corruption. For example, new AR categories are being added by this patch into the ACCOUNTS RECEIVABLE CATEGORY file (#430.2) and new revenue source codes are being added by this patch into the REVENUE SOURCE CODE file (#347.3). These are core AR dictionary files. If subsequent AR bills are created for one of the new AR categories and/or revenue source codes, and it is decided that a full rollback of this data is needed, then a decision needs to be made as to what to do with new bills with these new AR categories and/or revenue source codes.

6.4 Authority for Rollback

Rollback of the data associated with this patch will be determined by a consensus consisting of the following individuals:

- Health Product Support Management
- Release Managers
- CPAC Revenue System Managers
- Development Team

6.5 Rollback Procedure

There are several areas to consider for a full and complete rollback of the data associated with this patch. It may be determined that it is acceptable to leave some of this data in place to avoid risk of database corruption while removing other data associated with this patch.

The following list contains data in the VistA database which was altered by the installation of this patch. A full and complete rollback of this data would involve deleting all this data. For every item in this list, care must be taken to recognize if any other data files point to these new entries in these dictionary files. The FileMan delete action will prompt the user as to what should be done in these cases.

- AR category "EMERGENCY/HUMANITARIAN REIMB." in the ACCOUNTS RECEIVABLE CATEGORY file (#430.2)
- AR category "INELIGIBLE HOSP. REIMB." in the ACCOUNTS RECEIVABLE CATEGORY file (#430.2)
- The following Revenue Source Codes in the REVENUE SOURCE CODE file (#347.3):
    - `841Z  INELI 3RD-PARTY INPATIENT`
    - `842Z  INELI 3RD-PARTY OUTPATIENT`

- 8UZZ HUMAN 3RD-PRTY INPATIENT
- 8VZZ HUMAN 3RD-PRTY OUTPATIENT

- A rollback of data would involve removing the new cross-reference file which was created upon installation of this patch. This is the "AN" cross-reference file associated with the RETURNED DATE field (#301) in the ACCOUNTS RECEIVABLE file (#430). The global reference for this cross-reference is ^PRCA (430,"AN",FileMan Returned Date, Internal Bill#)
- Associated with the "AN" cross-reference data is the associated cross-reference entry#1 in the data dictionary for the RETURNED DATE field (#301) in the ACCOUNTS RECEIVABLE file (#430). Remove that too.

6.6 Rollback Verification Procedure

Verify that all of the above data components have been removed from the system as described in the previous section.

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