Pharmacy Enterprise Customization System (PECS)

PREC*6.2*4

Deployment, Installation, Back-Out, and Rollback Guide (DIBR)

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Revision History

Date	Version	Description	Author
01/04/2024	1.2	Updated patch version numbers	BAH
12/08/2023	1.1	Updated Log4j to be compliant via the Technical Reference Model per the VA Security Standards	BAH
08/14/2023	1.0	PREC*6*2*4: • Addresses an issue that occurs when customizing an interaction in PECS. • Log4j2 libraries have been upgraded to version 2.20.0 to remediate security vulnerabilities and to comply with the Technical Reference Model (TRM).	BAH

Artifact Rationale

This document describes the Deployment, Installation, Back-out, and Rollback Guide for the PECS Java portion of the PECS v6.2.4 release. This is a subdocument of the main PECS Deployment, Installation, Back-Out, and Rollback Guide. It is separate since many of the details of PECS Java application deployment involve a different set of personnel coordinating at just a few critical collaboration points with the VistA/MUMPS portion. Those collaboration points will be highlighted and cross-referenced in the main document as well as in this document.

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1 Introduction

This document describes how to deploy and install the Pharmacy Enterprise Customization System (PECS) Java Application, including the WebLogic, Oracle, and Single Sign-On Internal (SSOi) configurations for PREC*6.2*4.

1.1 Purpose

The purpose of this document is to describe how to deploy and install the PECS Java Application, including the WebLogic, Oracle, and SSOi configurations.

1.2 Dependencies

The following pre-existing PECS v6.2.3 interfacing systems must be available during the deployment.

- SSOi
- Standard Terminology Services/Veterans Enterprise Terminology Services (STS/VETS)

1.3 Constraints

There are no constraints for the PREC*6.2*4 release.

2 Roles and Responsibilities

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

ID	Team	Phase / Role	Tasks	Project Phase (See Schedule)
	Austin Information Technology Center (AITC)	Deployment	Plan and schedule deployment (including orchestration with vendors)	
	AITC	Deployment	Determine and document the roles and responsibilities of those involved in the deployment.	
	AITC	Deployment	Test for operational readiness	
	AITC	Deployment	Execute deployment	
	PECS Sustainment Team	Back-out	Confirm availability of back-out instructions and back-out strategy (what are the criteria that trigger a back-out)	
	Product Support	Post Deployment	Hardware, Software, and System Support	

3 Deployment

This section provides the schedule and milestones for the deployment.

3.1 Timeline

PREC*6.2*4 will be nationally deployed at AITC after User Acceptance Testing (UAT) and National Release approval.

3.2 Site Readiness Assessment

The PECS Java Application is a single, nationally deployed, web application deployed in the AITC.

3.2.1 Deployment Topology (Targeted Architecture)

The PECS Java Application and Database will be installed on the existing PECS v6.2.3 production platform.

3.2.2 Site Information (Locations, Deployment Recipients)

Section 3.3 describes the PECS Java Application and it is deployed in AITC as a national web application.

3.2.3 Site Preparation

The following table describes preparation required by the site prior to deployment.

Table 2: Site Preparation

Site/Other	Problem/Change Needed	Features to Adapt/Modify to New Product	Actions/Steps	Owner
AITC	Ensure Firewall access between PECS and STS/VETS		If connectivity is not open between the PECS web application server and the STS/VETS server, request that the firewall be opened for this connection	

3.3 Resources

The pre-existing PECS v6.2.3 environment resources will be used.

3.3.1 Facility Specifics

The following table lists facility-specific features required for deployment.

Table 3: Facility-Specific Features

Site	Space/Room	Features Needed	Other
N/A			

3.3.2   Hardware

The following table describes hardware specifications required at each site prior to deployment.

Table 4: Hardware Specifications

Required Hardware	Model	Version	Configuration	Manufacturer	Other
N/A					

Please see the Roles and Responsibilities table in <u>Section</u> 2 for details about who is responsible for preparing the site to meet these hardware specifications.

3.3.3   Software

The following table describes software specifications required at each site prior to deployment.

Table 5: Software Specifications

Required Software	Version	Configuration
Oracle WebLogic	12.2.1.4	New
Oracle 11g Enterprise Edition Release	19.10.0.0.0	New
Apache httpd	Apache/2.4.6 (Unix)	New
Red Hat Enterprise Linux Server	7.9 (Santiago)	New
Java SDK	1.8.0_371 or higher	New

Please see the Roles and Responsibilities table in <u>Section</u> 2 above for details about who is responsible for preparing the site to meet these software specifications.

3.3.4   Communications

- Notify business owner of production deployment.
- The Release Manager will schedule activities and identify the required personnel for each activity.
- Meetings will be scheduled for deployment personnel to work through the deployment steps.

3.3.4.1 Deployment/Installation/Back-Out Checklist

Table 6: 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

The PECS Java Application and Database will be installed on the existing PECS v6.2.3 production platform.

4.2 Platform Installation and Preparation

The pre-existing PECS v6.2.3 platform will be used.

4.3 Download and Extract Files

See Section 4.5, specific filenames will be detailed in the Request for Change Order (RFC).

4.4 Database Creation

The pre-existing PECS v6.2.3 database will be used.

4.5 Installation Scripts

All scripts and files are provided to AITC Infrastructure Operations team via Outlook/Teams. The installer should follow the instructions in the appropriate RFC.

4.6 Cron Scripts

No Cron job changes are required for this deployment.

4.7 Access Requirements and Skills Needed for the Installation

Linux System Administrators will need:

- Access to the Linux console of the server where PECS's WebLogic is running.
- Access to the WebLogic web-based Console.

Database Administrators will need access to the Linux console of the server where PECS's Oracle database is running.

4.8 Installation Procedure

This section is a high-level overview of the installation procedure steps. Detailed steps are in the RFC for database and application deployment, and they will be sent via Outlook.

Ear File Deployment

1. Stop the Managed Server.
2. Un-deploy the two existing EAR files for the PECS v6.2.3 application.
3. Deploy the two new EAR files for the PECS v6.2.4 application.
4. Start the PECS Application.
5. Perform Smoke Testing on PECS.

Increase The JTA Transaction Timeout Seconds Field in Weblogic Admin Console

- Open WebLogic Server Administration Console.
- Click Lock & Edit button.
- Click on the Domain name on the left-hand side navigation menu.
- Click on the JTA tab to open the JTA page under Domain | Configuration.
- Replace current timeout setting with **14400** in the **Timeout Seconds** field.
- Click on the Save button.
- Click Activate Changes button.

Increase The Stuck Thread Max Time Field in the Weblogic Admin Console

- Open WebLogic Server Administration Console.
- Click Lock & Edit button.
- Expand the Servers node in the left pane to display the servers configured in your domain.
- Click the name of the server instance that you want to modify.
- Select the Configuration —> Tuning tab in the right pane.
- Modify the Stuck Thread Max Time = **2147483647**
- Click on the Save button.
- Click Activate Changes button.

4.9 Installation Verification Procedure

After the deployment is updated, PECS will be smoke tested.

The system administrator will check application logs for the absence of errors.

4.10 System Configuration

4.10.1 Properties Files

No property file changes are required for this deployment. The pre-existing PECS v6.2.3 property files will be used.

4.10.2 Import VA Certificates

No certificate changes are required for this deployment. The pre-existing PECS v6.2.3 VA certificates will be used.

4.11 Database Tuning

After installation, the AITC database administrator should monitor the Oracle Enterprise Manager/Cloud Control to note any performance problems.

5 Back-Out Procedure

5.1 Back-Out Strategy

The back-out strategy for the PECS Java application is to restore the previous PECS v6.2.3 EAR file.

5.2 Back-Out Considerations

5.2.1 Load Testing

Not applicable for PREC*6.2*4.

5.2.2 User Acceptance Testing

User Acceptance Testing is performed by the Business Office.

5.3 Back-Out Criteria

A back-out should only be considered if it is determined that PREC*6.2*4 is the cause of a patient safety issue or catastrophic system failure.

5.4 Back-Out Risks

Risks of backing out include not reconfiguring the application in the same manner it was before the start of the implementation. This can be remediated by taking backups of the appropriate file systems and database before starting the deployment.

5.5 Authority for Back-Out

The PECS Sustainment PM has the authority to determine if a back-out of PREC*6.2*4 is required.

5.6 Back-Out Procedure

Deploy the previous PECS v6.2.3 application EAR file in WebLogic.

1. Stop the Managed Server.
2. Un-deploy the two existing EAR files for the PECS v6.2.4 application.
3. Deploy the two previous EAR files for the PECS v6.2.3 application.

4. Start the PECS Application.
5. Perform Smoke Testing on PECS

Reset the JTA Transaction timeout and Stuck Thread Max timeout to their previous value.

5.7 Back-out Verification Procedure

A smoke test will be performed to determine that the application is working properly.

6 Rollback Procedure

Not applicable for PREC*6.2*4.

6.1 Rollback Considerations

Not applicable for PREC*6.2*4.

6.2 Rollback Criteria

Not applicable for PREC*6.2*4.

6.3 Rollback Risks

Not applicable for PREC*6.2*4.

6.4 Authority for Rollback

Not applicable for PREC*6.2*4.

6.5 Rollback Procedure

Not applicable for PREC*6.2*4.

6.6 Rollback Verification Procedure

Not applicable for PREC*6.2*4.