

# **Pharmacy Product System (PPS)-N Version 3.0**

## **PPS-N Java**

### **Deployment, Installation, Back-Out, and Rollback Guide**



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**Department of Veterans Affairs**

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## Revision History

Date	Version	Description	Author
8/10/2017	1.0	Initial version, adapted from previous Install Guide draft using different template.	Tim Merkt/S.Blair

## Artifact Rationale

This document describes the Deployment, Installation, Back-out, and Rollback Plan for the PPS-N Java portion of the PPS-N v3.0 Release. This is a subdocument of the main *Pharmacy Product System (PPS)-N Version 3.0 Deployment, Installation, Back-Out, and Rollback Guide*. It is separate since many of the details of PPS-N Java application deployment involve a different set of personnel coordinating at just a few critical collaboration points with the VistA/MUMPS portion of the PPS-N v3.0 Release. 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 PPS-N Java Application, including the WebLogic, Oracle, and SSOi configurations for the Pharmacy Product System (PPS) PPS-N3.0, as managed through the Pharmacy Reengineering (PRE) Program Office. This document is a companion to the full Pharmacy Reengineering (PRE) Project Management Plan. The Pharmacy PPS-N3.0 is intended to complete the development that was started in PPS-N v1.1 and builds upon the v2.0 system, developed previously, but not released to production.

## 1.1 Purpose

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

## 1.2 Dependencies

1. The steps in this deployment are dependent on the PPS-N v3.0 VistA/MUMPS deployment being done in coordination with these steps. The critical coordination points are called out in this document and the VistA/MUMPS document with yellow highlights and a coordination step number that starts with a “C” (Ex. C1, C2, etc.). The coordination points are also summarized in the main *Pharmacy Product System (PPS)-N Version 3.0 Deployment, Installation, Back-Out, and Rollback Guide*.
2. The following interfacing systems must be available during the deployment.
  - SSOi
  - ISAAC
  - STS/VETS
3. The “underscore in user name” fix for 1.3 SSOi needs to be implemented either prior to 3.0 deployment or during the 3.0 deployment before the UI migration steps.
4. The user running the UI migration steps must have access via SSOi and must have the Migration Role assigned in PPS-N.
5. All pending messages between PPS-N and NDFMS must be processed. The message queue should be empty and there should be no new or pending item requests in PPS-N.

## 1.3 Constraints

There are no constraints for the PPS-N v3.0 final 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)
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ID	Team	Phase / Role	Tasks	Project Phase (See Schedule)
	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	
	AITC	Installation	Plan and schedule installation	
	PPS-N PM (Robert Longo)	Installation	Ensure authority to operate and that certificate authority security documentation is in place	
	N/A	Installation	Validate through facility POC to ensure that IT equipment has been accepted using asset inventory processes	
	LibertyIT	Installations	Coordinate training	
	PPS-N PM (Robert Longo)	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

See Pharmacy Product System (PPS)-N Version 3.0 Deployment, Installation, Back-Out, and Rollback Guide.

#### 3.2 Site Readiness Assessment

The PPS-N Java Application is a single, nationally deployed web application deployed in the AITC.

### 3.2.1 Deployment Topology (Targeted Architecture)

The PPS-N Java Application and Database will be installed on the existing PPS-N v1.3 production platform.

### 3.2.2 Site Information (Locations, Deployment Recipients)

Section 3.2 describes the PPS-N Java Application, and it is a nationally deployed web application deployed in the AITC.

### 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 PPS-N and ISAAC		If connectivity is not open between the PPS-N web application server and the ISAAC server, request that the firewall be opened for this connection	
AITC	Ensure Firewall access between PPS-N and STS/VETS		If connectivity is not open between the PPS-N web application server and the STS/VETS server, request that the firewall be opened for this connection	

## 3.3 Resources

The pre-existing PPS-N v1.3 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 Section 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	12.1.3	Pre-existing
Oracle 11g Enterprise Edition Release	11.2.0.1.0	Pre-existing
Apache httpd	Apache/2.2.15 (Unix)	Pre-existing
Red Hat Enterprise Linux Server	6.9 (Santiago)	Pre-existing
Java SDK	1.8_112 or higher	Pre-existing

Please see the Roles and Responsibilities table in Section 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.
- LYNC 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			
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## 4 Installation

### 4.1 Pre-installation and System Requirements

The PPS-N Java Application and Database will be installed on the existing PPS-N v1.3 production platform.

PPS-N Application configuration files can be prepared ahead of time and then moved into place during the deployment.

### 4.2 Platform Installation and Preparation

The pre-existing PPS-N v1.3 platform will be used.

### 4.3 Download and Extract Files

See Section 4.5, specific filenames will be detailed in the RFC.

### 4.4 Database Creation

The pre-existing PPS-N v1.3 database will be used.

### 4.5 Installation Scripts

All scripts and files are located in the following three locations.

<\\vaauspecdbs801.aac.dva.va.gov\AITC\PPS\RFC>

<\\vaauspecdbs801.aac.dva.va.gov\AITC\PPS\PPS-N v3.0>

<\\vaauspecdbs801.aac.dva.va.gov\AITC\PPS\PPS-N v3.0 DATABASE>

The installer should follow the instructions in the appropriate RFC documents for the target environment.

### 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 Administrator will need:

- Access to the Linux console of the server where PPS-N's WebLogic is running
- Access to the WebLogic web-based Console
- Access to the location indicated in section 4.5 Installation Scripts

Database Administrator will need:

- Access to the Linux console of the server where PPS-N's Oracle Database is running
- Access to the location indicated in section 4.5 Installation Scripts

## 4.8 Installation Procedure

This section is a high level overview of the installation procedure steps. Detailed steps are in the RFCs for the Database and Application deployment, and they will be published at the locations in Section 4.5.

1. Stop the Managed Server
2. Backup the PPS-N Database
3. Perform Part 1 of the PPS-N Database upgrade
4. Backup the PPS-N Database (separate from other backups)
5. Install the two new EAR files for PPS-N v3.0 Application and Online Help
6. Configure the PPS-N Application (copy property/config files)
7. Start the PPS-N Application
- 8. C1 - Receive migration files from NDFMS. This step is dependent on the PPS-N v3.0 Vista deployment.**
9. From the PPS UI, run the migrations that import data from NDFMS.
10. Stop the PPS-N Application
11. Backup the PPS-N Database (separate from other backups)
12. Perform Part 2 of the PPS-N Database upgrade
13. Backup the PPS-N Database (separate from other backups)
14. Start the PPS-N Application
15. Perform Smoke Test on PPS-N

## 4.9 Installation Verification Procedure

After deployment is updated, PPS-N 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

See RFC – the new property files are mostly pre-configured with a few values provided by the sysadmin doing the installation and will need to be copied into place, while other files will be removed.

- Remove KAAJEE deployment, configuration, and classpath.

### 4.10.2 Import VA Certificates

Use the Java keytool to import the following 6 certificates – 2 root and 4 intermediate – into the java keystore on the PPS-N application server:

VA-Internal-Root-CA.cer  
VA-Internal-S2-RCA1-v1.cer  
VA-Internal-S2-ICA1-v1.cer  
VA-Internal-S2-ICA2-v1.cer  
VA-Internal-Subordinate-CA-1.cer  
VA-Internal-Subordinate-CA-2.cer

The keystore is located in the `jr/lib/security/cacerts` subfolder where Java is installed.

Importing these certificates allows communication with external servers that are trusted by the VA without having to import server-specific certifications.

## 4.11 Database Tuning

Tuning is included in the installation scripts provided in Section 4.5. The script will add additional indexes, purges the recycle bin, recompiles the schema, and gathers the schema stats.

After installation, the AITC DBA should monitor 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 PPS-N Java application is to take backups of the database and application filesystems before the installation so that we can restore to those backups if needed.

PPS-N can only be backed out if the VistA portion of PPS-N v3.0 Release is backed out as well.

### 5.2 Back-Out Considerations

#### 5.2.1 Load Testing

N/A

#### 5.2.2 User Acceptance Testing

User Acceptance Testing is performed at test sites during IOC Testing.

### 5.3 Back-Out Criteria

A back-out should only be considered if it is determined that the PPS\_N v3.0 application 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 the start of the deployment.

## **5.5 Authority for Back-Out**

The VA PPS-N PM, Robert Longo, has the authority to determine if a back-out of PPS-N v3.0 is required.

## **5.6 Back-Out Procedure**

1. Restore the PPS-N Database using the backup taken before the upgrade.
2. Deploy the previous PPS-N 1.3 application EAR file in WebLogic.
3. Restore the previous property and config files, including restoring KAAJEE deployment, configuration, and classpath.
4. Coordinate with the VistA/Mumps backout.

## **5.7 Back-out Verification Procedure**

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

## **6 Rollback Procedure**

See Section 5 for rollback procedures.

## 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 <i>“Installation, Back-Out, Rollback Plan”</i> 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