**Patch PSO\*7\*451 – SPMP Enhancement Project – Patch Description**

The State Prescription Monitoring Program (SPMP) Enhancement project was

established to further enhance the VistA SPMP functionality released by patch

PSO\*7\*408 back in September 2014. The SPMP VistA functionality is used to

identify prescriptions for controlled substance drugs, Schedule 2 through 5,

dispensed by the Veterans Health Administration (VHA) Outpatient Pharmacy

facilities and to create and transmit an export file containing this

information to the Prescription Drug Monitoring Program (PDMP) of each state

on a daily basis.

After PSO\*7\*408 was released it was identified during the implementation

phase that some states PDMPs had unique requirements that could not be

fulfilled by the functionality released in PSO\*7\*408 which caused the SPMP

transmissions from sites in such states to be rejected. This patch

(PSO\*7\*451) will enhance the SPMP functionality to allow VHA to fulfill

specific state requirements and successfully transmit data to those states

PDMPs. This patch also enhances the security of SSH Keys management by

streamlining the SSH Key creating and restricting user access to the Private

SSH Key content. In addition, a few smaller miscellaneous issues have also

been addressed, which are described below.

All the changes introduced by this patch were related to the options under

the State Prescription Monitoring Program (SPMP) Menu [PSO SPMP MENU] which

is located under the Supervisor Functions [PSO SUPERVISOR] menu option.

The following functionality enhancements will be delivered by this patch:

1. View/Edit ASAP Definitions [PSO SPMP ASAP DEFINITIONS] option

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Some extensive enhancements have been made to this option to allow full

user customization of the American Society for Automation in Pharmacy

(ASAP) data definition format (protocol) used to report outpatient

controlled substance prescription data to the states.

a) The term '/Edit' has been added to the external name of this option

and the term 'EDIT' was removed from the internal option name.

b) This option has been modified to include full customization capability

for the ASAP definitions 3.0 and later versions, which will allow sites

to fulfill states PDPMs' specific requirements. Moreover, sites will be

able to create new ASAP versions by copying and existing one, which

will hopefully allow them to continue transmissions well into the

future as new ASAP versions are released and adopted by the states

PDMPs.

Below is a list of actions that have been added to this option:

CV Copy ASAP Version CE Customize Element ED Edit Delimiters

CS Customize Segment DC Delete Customization

For more information on these new actions see the Outpatient Pharmacy

User's Manual State Prescription Monitoring Program (SPMP) section.

c) Customized Data Elements and Segments will be identified by an '\*'

(asterisk) displayed to the right of the Data Element or Segment ID.

2. View/Edit SPMP State Parameters [PSO SPMP STATE PARAMETERS] option

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A few modifications have been made to this option to support the new

functionality released by this patch.

a) The parameter WINDOWS/NT LOCAL DIRECTORY was removed from this option

because this module no longer supports this operating system due to

the increase in the complexity for handling SSH Keys and the fact that

VHA does not use WINDOWS/NT operating system for VistA database at any

of its sites.

b) A new parameter called RENAME FILE AFTER UPLOAD was added right after

the 'FILE EXTENSION' parameter. The current transmission creates and

sends the data file with the ".UP" file extension (for "upload"); once

the file is transmitted a command within sFTP (Secure File Transfer

Protocol) is issued to rename the file to ".DAT" (or ".TXT") file

extension. This new parameter will allow the site to control whether

they want to keep the existing functionality by setting this parameter

to 'YES' or if they to create and transmit the file without renaming it

by setting this parameter to 'NO'. The parameter will be initially

exported with a default value of 'YES', which is consistent with the

existing released functionality.

c) The parameters STATE SFTP SERVER IP ADDRESS and STATE SFTP SERVER

USERNAME had their maximum value lengths increased from 30 to 50 and 60

characters respectively to accommodate longer PDMP's DNS (Domain Name

System) names and the usernames they assign to VHA sites.

d) For security reasons the parameters SFTP PRIVATE KEY TEXT and SFTP

PUBLIC KEY TEXT have been removed from this option as the Secure SHell

(SSH) encryption keys content will be handled by a new option called

Manage Secure SHell (SSH) Keys [PSO SPMP SSH KEY MANAGEMENT], which is

described below.

3. Manage Secure SHell (SSH) Keys [PSO SPMP SSH KEY MANAGEMENT] option

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This new option was created to automate the management of SSH encryption

keys and to improve the security regarding their content. This new option

will allow sites to view the public SSH key, create a new SSH key pair and

also to delete an existing SSH key pair. In addition, this new option will

provide an extensive help text on how the SSH keys are used in the

transmission process, which is shown below:

Select one of the following:

V View Public SSH Key

N Create New SSH Key Pair

D Delete SSH Key Pair

H Help with SSH Keys

Action: V// H Help with SSH Keys

Secure SHell (SSH) Encryption Keys are used to automate the data

transmission to the State Prescription Monitoring Programs (SPMPs). Follow

the steps below to successfully setup SPMP transmissions from VistA to the

state/vendor server:

Step 1: Select the 'N' (Create New SSH Key Pair) Action and follow the

prompts to create a new pair of SSH keys. If you already have an

existing SSH Key Pair you can skip this step. You can check

whether you already have an existing SSH Key Pair through the 'V'

(View Public SSH Key) Action.

Encryption Type: DSA or RSA?

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Digital Signature Algorithm (DSA) and Rivest, Shamir & Adleman (RSA)

are two of the most common encryption algorithms used by the IT

industry for securely sharing data. The majority of SPMP servers can

handle either type; however there are vendors that accept only one

specific type. You will need to contact the SPMP vendor support to

determine which type to select.

Step 2: Share the Public SSH Key content with the state/vendor. In order

to successfully establish SPMP transmissions the state/vendor will

have to install/configure the new SSH Key created in step 1 for

the user id they assigned to your site. Use the 'V' (View Public

SSH Key) Action to retrieve the content of the Public SSH key. The

Public SSH Key should not contain line-feed characters, therefore

after you copy & paste it from the terminal emulator into an email

or text editor make sure it contains only one line of text (no

wrapping).

4. View/Export Single Prescription [PSO SPMP SINGLE RX VIEW/EXPORT]

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This option was modified to highlight custom Data Element and Segments

by changing the font color as well as by adding an '\*' (asterisk) to the

right of the Data Element or Segment ID.

5. View/Export Batch [PSO SPMP BATCH VIEW/EXPORT] and Export Batch Processing

[PSO SPMP BATCH PROCESSING] options

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When exporting a batch through one of these two options the users will now

have a choice to run the transmission in the background (via Taskman).

Before, the export was always executed in the foreground which made it

difficult to troubleshoot scheduled transmissions. Below is a screen

capture of the prompt for choosing Background/Foreground transmission:

Select Item(s): Quit// EXP Export Batch

Indicate whether the transmission should be queued to run on the Background

via TaskMan or if it should run on the Foreground while you wait.

Select one of the following:

B Background

F Foreground

Running Mode: F//

6. PSO SPMP NOTIFICATIONS Mail Group

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The existing mail group PSO SPMP NOTIFICATIONS released by PSO\*7\*408 will

be modified from type PRIVATE to PUBLIC.

7. SPMP Transmission Failed MailMan Message

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The Mailman message generated by the SPMP Scheduled Background Job as well

as by the (B)ackground option mentioned above for exporting a batch to the

state was modified to include Operating System sFTP Log Information, as in

this example from an OpenVMS environment:

Subj: NEW YORK Prescription Monitoring Program Transmission Failed [#99999]

02/29/16@12:44 26 lines

From: SPMP TRANSMISSION In 'IN' basket. Page 1

--------------------------------------------------------------------------

There was a problem with the transmission of information about Controlled

Substance prescriptions to the NEW YORK State Prescription Monitoring

Program (SPMP).

Batch #: 41

Period : 02/29/16 thru 02/29/16

Error : Secure FTP Transmission failed.

Please, use the option Export Batch Processing [PSO SPMP BATCH PROCESSING]

to manually transmit this batch to the state.

sFTP Log:

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$ SET VERIFY=(PROCEDURE,IMAGE)

$ SET DEFAULT USER$:[SPMP]

$ sftp -oIdentityFile="/USER$/SPMP/VMSSSHID." -"B" SPMP\_FTP\_20160223124409

.INP -oUser=VATEST Portal.obn.ok.gov

warning: Converting file /USER$/SPMP/VMSSSHKEY.pub to Stream\_LF.

warning: File /USER$/SPMP/VMSSSHKEY.pub converted successfully to Stream\_LF.

warning: Converting file /USER$/SPMP/VMSSSHKEY to Stream\_LF.

warning: File /USER$/SPMP/VMSSSHKEY converted successfully to Stream\_LF.

sftp> cd TEST

%TCPIP-E-SSH\_FC\_ERR\_DEST, destination is not directory or does not exist

Enter message action (in IN basket): Ignore//

8. PSO SPMP ADMIN Security Key

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A new security key was created to restrict access to the following SPMP

functionalities:

- ASAP Definition Customization updates through the option View/Edit

ASAP Definitions [PSO SPMP ASAP DEFINITIONS]. Visualization of the

current ASAP Definition is not restricted.

- SPMP Parameters value updates through the option View/Edit SPMP State

Parameters [PSO SPMP STATE PARAMETERS]. Visualization of the current

SPMP parameters is not restricted.

- SSH Key generation or replacement through the option Manage Secure

Shell (SSH) Keys [PSO SPMP SSH KEY MANAGEMENT]. Visualization of the

current public key is not restricted.

9. Misleading “File Successfully Transmitted” message for Linux OS

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The previous algorithm used to identify whether the SPMP sFTP data

transmission was successful was not 100% accurate for Linux Operating

Systems. A new algorithm has been created and it should reflect the

transmission status with much greater accuracy when transmitting data

from a Linux based environment.

10.SPMP Files Access Restrictions

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The FILE ACCESS setting for the SPMP files below will be opened up so

users can use FileMan to view and search their content. The files were

unintentionally released in PSO\*7\*408 as restricted.

- SPMP ASAP RECORD DEFINITION (#58.4)

- SPMP EXPORT BATCH (#58.42)

Patch Components

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Files & Fields Associated:

File Name (#) Field Name (#) New/Modified/Deleted

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SPMP ASAP RECORD DEFINITION (#58.4)

VERSION sub-file (#58.4001)

-DATA ELEMENT DELIMITER CHAR (#.02) New

-SEGMENT TERMINATOR CHAR (#.03) New

-END OF LINE ESCAPE CHAR(S) (#.04) New

-SEGMENT sub-file (#58.40011)

--LEVEL (#.06) New

--DATA ELEMENT sub-file (#58.400111)

---ELEMENT VALUE (M EXPRESSION) (#.08) New

SPMP STATE PARAMETERS (#58.41)

ASAP VERSION (#1) Modified

STATE FTP SERVER IP ADDRESS (#7) Modified

STATE FTP SERVER USERNAME (#8) Modified

SFTP TRANSMISSION MODE (#13) Modified

RENAME FILE AFTER UPLOAD (#17) New

SFTP SSH KEY FORMAT (#18) New

SFTP SSH KEY ENCRYPTION (#19) New

SPMP EXPORT BATCH (#58.42)

PRESCRIPTIONS sub-file (#58.42001)

-NDC SENT (#3) New

Mail Groups Associated:

Mail Group Name New/Modified/Deleted

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N/A

Options Associated:

Option Name Type New/Modified/Deleted

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PSO SPMP ASAP DEFINITIONS Action New

PSO SPMP VIEW ASAP DEFINITIONS Action Delete

PSO SPMP SSH KEY MANAGEMENT Action New

PSO SPMP MENU Menu Modified

Protocols Associated:

Protocol Name New/Modified/Deleted

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PSO SPMP3 COPY VERSION New

PSO SPMP3 CUSTOMIZE DATA ELEMENT New

PSO SPMP3 CUSTOMIZE SEGMENT New

PSO SPMP3 DELETE CUSTOMIZATION New

PSO SPMP3 EDIT DELIMETERS New

PSO SPMP3 MENU Modified

PSO SPMP3 SHOW DETAILS Modified

Security Keys Associated:

Security Key Name New/Modified/Deleted

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PSO SPMP ADMIN New

Templates Associated:

Template Name Type File Name (#) New/Modified/Deleted

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PSO SPMP VIEW ASAP DEFINITION List N/A Modified

New Service Requests (NSRs):

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20150701 - State Prescription Monitoring Program Enhancement

Patient Safety Issues (PSIs):

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N/A

Remedy/CA-SDM Ticket(s) & Overviews:

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N/A

TEST Sites:

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TBD

Documentation Retrieval Instructions:

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Updated documentation describing the new functionality introduced by this

patch is available.

The preferred method is to FTP the files from

ftp://download.domain.extdomain/.

This transmits the files from the first available FTP server. Sites may

also elect to retrieve software directly from a specific server as

follows:

Albany ftp.ftpserver.domain.ext <ftp://ftp.ftpserver.domain.ext>

Hines ftp.ftpserve.domain.ext <ftp://ftp.ftpserve.domain.ext>

Salt Lake City ftp.ftpsrv.domain.ext <ftp://ftp.ftpsrv.domain.ext>

The documentation will be in the form of Adobe Acrobat files.

File Description File Name FTP Mode

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Outpatient Pharmacy V. 7.0 Manager's PSO\_7\_MAN\_UM\_R0816.PDF (binary)

User Manual

Outpatient Pharmacy V. 7.0 Technical PSO\_7\_TM\_R0816.PDF (binary)

Manual/Security Guide

SPMP Release Notes PSO\_7\_P451\_RN.PDF (binary)

SPMP Installation Guide PSO\_7\_P451\_IG.PDF (binary)

Documentation can also be retrieved from the VA Software Documentation

Library (VDL) on the Internet at the following address:

http://domain.ext .

Patch Installation:

Pre-Install Process

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In order to successfully install the newly improved and customizable ASAP

definition that is being distributed by this patch we will first completely

delete the existing content of the SPMP ASAP RECORD DEFINITION file (#58.4)

which is where the ASAP definitions are stored.

Post-Install Process

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The post-install routine in the patch PSO\*7\*451 will perform a few updates

related to the State Prescription Monitoring Program (SPMP) functionality:

- The FILE ACCESS setting for the files below will be opened up so users

can use FileMan to view and search their content. They were unintentionally

released in PSO\*7\*408 as restricted.

SPMP ASAP RECORD DEFINITION (#58.4)

SPMP STATE PARAMETERS (#58.41)

SPMP EXPORT BATCH (#58.42)

- The new field/parameter RENAME FILE AFTER UPLOAD (#17) in the SPMP STATE

PARAMETERS file (#58.41) will automatically be set to 1 (YES).

- The parameter setting workaround for sites transmitting Appriss RxWare will

be automatically corrected the following way:

Before:

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STATE SFTP SERVER IP ADDRESS: prodpmpsftp IP\_redacted

STATE SFTP SERVER USERNAME : -oUser=username

After:

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STATE SFTP SERVER IP ADDRESS: IP\_redacted

STATE SFTP SERVER USERNAME : username@prodpmpsftp

- The mail group PSO SPMP NOTIFICATIONS will be changed to type 'PUBLIC'

because was incorrectly released as 'PRIVATE' by PSO\*7\*408.

Installation Instructions

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Do not install this patch while Controlled Substance users are on the

system. Installation will take no longer than 3 minutes. Also, avoid

scheduling this patch to install around 1:00 AM local time.

1. Use the INSTALL/CHECK MESSAGE option on the PackMan menu.

2. From the Kernel Installation & Distribution System (KIDS) menu,

select the Installation menu.

3. From this menu, you may select to use the following options

(when prompted for INSTALL NAME, enter PSO\*7.0\*451).

a. Backup a Transport Global - This option will create a backup

message of any routines exported with the patch. It will NOT

back up any other changes such as DDs or templates.

b. Compare Transport Global to Current System - This option will

allow you to view all changes that will be made when the patch

is installed. It compares all components of the patch (routines,

DDs, templates, etc.).

c. Verify Checksums in Transport Global - This option will ensure

the integrity of the routines that are in the transport global.

d. Print Transport Global - This option will allow you to view the

components of the KIDS build.

4. Use the Install Package(s) option and select the package PSO\*7.0\*451.

5. When prompted "Want KIDS to Rebuild Menu Trees Upon Completion of

Install? NO//" respond NO.

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

respond NO.

7. When prompted "Want to DISABLE Scheduled Options, Menu Options, and

Protocols? NO//" respond NO.

Post-Installation Instructions

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Once you complete installing this patch refer to the SPMP Installation

Guide Document for detailed instructions on how to configure the

transmissions.

Back-out Instructions

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The SPMP Installation Guide also contains detailed information on how

to back out this patch.