

VistA Audit Solution (VAS) DG*5.3*964

Deployment, Installation, Back-out, and Rollback
Guide



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Revision History

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Table of Contents

1	Introduction	1
1.1	Purpose	1
1.2	Dependencies	1
1.3	Constraints	1
2	Roles and Responsibilities	2
3	Deployment.....	3
3.1	Timeline	3
3.2	Site Readiness Assessment	3
3.2.1	Deployment Topology (Targeted Architecture).....	3
3.2.2	Site Information (Locations, Deployment Recipients)	3
3.2.3	Site Preparation.....	3
3.3	Resources	3
3.3.1	Hardware	4
3.3.2	Software.....	4
3.3.3	Communications.....	4
3.3.3.1	Deployment / Installation / Back-out Checklist.....	4
4	Installation	5
4.1	Pre-installation and System Requirements	5
4.1.1	Patch Dependencies	5
4.2	Platform Installation and Preparation	5
4.3	Download and Extract Files	5
4.4	Database Creation	5
4.5	Installation Scripts.....	5
4.6	Cron Scripts.....	5
4.7	Access Requirements and Skills Needed for the Installation	6
4.8	Installation Procedure.....	6
4.8.1	Pre-Installation Instructions	6
4.8.1.1	Create a Local Patch Backup.....	6
4.8.1.2	Identify Mail Group Organizer.....	6
4.8.2	VistA Patch DG*5.3*964 Installation Instructions	7
4.8.3	Post Installation Instructions.....	8
4.8.3.1	VAS Export Server Configuration	8
4.8.3.2	Verify VAS Server Connectivity.....	8
	REDACTED	8
4.8.3.3	Mail Group Update.....	8
4.8.3.4	Activate the VAS Export.....	9
4.9	Installation Verification Procedure	9
4.10	System Configuration	10
4.10.1	Map the DG VAS QUEUE File (#46.3) to Non-Journaled Directory.....	10
4.10.2	Configure VAS REST API Server.....	10

4.11 Database Tuning	11
5 Back-out Procedure.....	11
5.1 Back-out Strategy	11
5.2 Back-out Considerations.....	11
5.2.1 Load Testing	11
5.2.2 User Acceptance Testing.....	11
5.3 Back-out Criteria	11
5.4 Back-out Risks	12
5.5 Authority for Back-out	12
5.6 Back-out Procedure	12
5.7 Back-out Verification Procedure	19
5.8 Data Dictionaries	19
6 Rollback Procedure.....	19
6.1 Rollback Considerations	19
6.2 Rollback Criteria	19
6.3 Rollback Risks	19
6.4 Authority for Rollback.....	19
6.5 Rollback Procedure	20
6.6 Rollback Verification Procedure	20

List of Tables

Table 1: DIBRG Roles and Responsibilities.....	2
Table 2: Software Specifications	4
Table 3: Deployment/Installation/Back-Out Checklist.....	5
Table 4: Acronym Listing.....	21

1 Introduction

This document describes how to deploy and install the Veterans Health Information Systems Technology Architecture (VistA) Registration patch DG*5.3*964, 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 guide includes information about system support, issue tracking, escalation processes, 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, reflecting the particulars of these procedures at a single or at multiple locations.

1.1 Purpose

The purpose of this plan is to provide a single, common document describing how, when, where, and for whom the DG*5.3*964 patch will be deployed and installed, as well as how the patch is to be backed out and rolled back, if necessary. The plan also identifies resources, offers a communications plan, and contains a rollout schedule. Specific instructions for installation, back-out, and rollback are included in this document.

This enhancement patch implements the VistA Audit Solution (VAS), a real-time web-based interface. VAS provides a nationwide Health Insurance Portability and Accountability Act (HIPAA) compliant Audit Tracking Solution with the ability to track and report on access logs for patient's Personal Identifiable Information (PII)/Protected Health Information (PHI) data across all VistA instances. VAS users are Privacy Officers, Information Systems Security Officers (ISSO), and their authorized representatives who need the ability to view the log of Create, Read, Update and/or Delete (CRUD) operations on patient information to respond to Freedom of Information Act (FOIA), HIPAA, employee and Inspector General (IG) requests. This data originates from VistA and flows through in-memory database servers to be stored in the Veterans Affairs Enterprise Cloud (VAEC) Amazon Web Services (AWS). The VAS web-based User Interface (UI) will access and display the data stored in AWS.

Authorized VAS users may view the patient data that was accessed and modified, as well as the individual that performed the actions.

Patch DG*5.3*964 is being released as a patch (PackMan) message.

1.2 Dependencies

This patch possesses one direct application dependency for the VistA Registration 5.3 package (DG). The released patches DG*5.3*699 and DG*5.3*796 are required to be installed before DG*5.3*964.

1.3 Constraints

This patch should be installed in all VA VistA production sites. This patch is intended for a fully patched VistA system. Its installation will not noticeably impact the production environment.

2 Roles and Responsibilities

Table 1: DIBRG Roles and Responsibilities

ID	Team	Phase/Role	Tasks	Project Phase
1	VA Office of Information and Technology (OIT), VA OIT Health Product Support, and Project Management Office (PMO)	Deployment	Plan and schedule deployment (including orchestration with vendors)	Planning
2	Local individual Veterans Administration Medical Centers (VAMCs)	Deployment	Determine and document the roles and responsibilities of those involved in the deployment	Planning
3	Field Testing (Initial Operating Capability (IOC)), Health Product Support Testing	Deployment	Test for operational readiness	Testing
4	Health Product Support and Field Operations	Deployment	Execute deployment	Deployment
5	VAMCs	Installation	Plan and schedule installation	Deployment
6	VAS ATO Team	Installation	Obtain authority to operate and that certificate authority security documentation is in place	Deployment
7	VAS Team	Installation	Coordinate knowledge transfer with the team responsible for user training	Deployment
8	Health Product Support and the VAS development team	Back-out	Confirm availability of back-out instructions and back-out strategy, e.g., the criteria that trigger a back-out	Deployment
9	VAS Team	Post-Deployment	Hardware, Software, and System Support	Warranty

3 Deployment

Deployment is planned as a concurrent online rollout. During Initial Operating Capability (IOC) testing and after National release, patch DG*5.3*964 will be distributed via the FORUM Patch Module and may be deployed at any site without regard to deployment status at other sites.

3.1 Timeline

The deployment and installation are scheduled to run for a period of thirty (30) days. A detailed schedule will be provided during the build. A warranty period of ninety (90) days will follow the deployment and installation schedule to address any potential issues for the build.

3.2 Site Readiness Assessment

This section discusses the locations that will receive the DG*5.3*964 patch deployment.

The DG*5.3*964 patch must be manually installed or manually queued for installation at each VistA instance at which it is deployed, using the standard Kernel Installation and Distribution System (KIDS). The patch should be installed at all VA VistA instances running the VistA DG v.5.3 application and will update the Massachusetts General Hospital Utility Multi-Programming System (MUMPS) server software in each VistA instance's Registration namespace.

3.2.1 Deployment Topology (Targeted Architecture)

The DG*5.3*964 patch should be installed in all VA VistA production sites.

3.2.2 Site Information (Locations, Deployment Recipients)

During IOC testing, the DG*5.3*964 patch will be deployed at the following sites:

- James A. Haley Veterans' Hospital, Tampa FL (673)
- VA Texas Valley Coastal Bend Health Care System, Harlingen TX (740)
- John L. McClellan Memorial Veterans Hospital, Little Rock AR (598)

Upon National release, the patch will be available for install at all sites running the VistA Registration v5.3 package. The software will be distributed as a PackMan message in FORUM.

3.2.3 Site Preparation

No special preparation is required by the site prior to deployment. The VA sites should follow the standard procedure currently being used for installation of VistA patches.

3.3 Resources

Deployment of the DG*5.3*964 patch requires a fully patched VistA environment running the Registration v.5.3 package. No additional resources are required for patch installation.

3.3.1 Hardware

There are no special requirements regarding new or existing hardware capability. Existing hardware resources will not be impacted by the changes in this project.

3.3.2 Software

Refer to Table 2 (Software Specifications) which describes the software specifications required at each site prior to deployment.

Table 2: Software Specifications

Required Software	Make	Version	Configuration	Manufacturer	Other
Fully patched Registration package within VistA	N/A	5.3	N/A	N/A	N/A
DG*5.3*699	N/A	Nationally released version	N/A	N/A	N/A
DG*5.3*796	N/A	Nationall released version	N/A	N/A	N/A

See Table 1: DIBRG Roles and Responsibilities for details about who is responsible for preparing the site to meet these software specifications.

3.3.3 Communications

Sites participating in IOC field testing will use the “Patch Tracking” message in Outlook to communicate with the VAS team, the developers, and product support personnel.

3.3.3.1 Deployment / Installation / Back-out Checklist

The assigned Health Information Governance (HIG) team will deploy the patch DG*5.3*964, which is tracked nationally for all Veterans Administration Medical Centers (VAMCs) in the National Patch Module (NPM) in FORUM. FORUM automatically tracks the patches as they are installed in the different VAMC production systems. A report in FORUM can be run to identify when the patch was installed in VistA production at each site. A report can also be run to identify which sites have not currently installed the patch in their VistA production system. Therefore, this information does not need to be manually tracked.

Table 3: Deployment/Installation/Back-Out Checklist

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

4 Installation

4.1 Pre-installation and System Requirements

DG*5.3*964, a patch to the existing VistA Registration 5.3 package, is installable on a fully patched MUMPS VistA system and operates on top of the VistA environment provided by the VistA infrastructure packages. The latter provides utilities that communicate with the underlying operating system and hardware, thereby providing Registration independence from variations in hardware and operating system.

4.1.1 Patch Dependencies

Patches DG*5.3*699 and DG*5.3*796 must be installed prior to installing this patch.

4.2 Platform Installation and Preparation

Patch DG*5.3*964 does not require any platform installation or preparation.

4.3 Download and Extract Files

Patch DG*5.3*964 will be distributed via a PackMan message and can be retrieved from the National Patch Module (NPM) on FORUM.

4.4 Database Creation

The patch updates an existing VistA database, this section is not applicable.

4.5 Installation Scripts

The patch does not contain any installation scripts, this section is not applicable.

4.6 Cron Scripts

The patch does not contain any Cron scripts, this section is not applicable.

4.7 Access Requirements and Skills Needed for the Installation

Access to the National VA Network, as well as the local network of each site to receive DG patches, is required to perform the installation, as well as authority to install patches. Knowledge of, and experience with, the Kernel Installation and Distribution System (KIDS) software is required. For more information, see Section V, Kernel Installation and Distribution System, in the Kernel 8.0 & Kernel Toolkit Version 7.3 Systems Management Guide.

4.8 Installation Procedure

This section provides step-by-step instructions for installing DG*5.3*964. Instructions for installation are also detailed in the DG*54.3*964 Patch Description in the NPM in FORUM.

4.8.1 Pre-Installation Instructions

This patch may be installed with users on the system although it is recommended that it be installed during non-peak hours to minimize potential disruption to users. The VAS export defaults to 'Don't generate or send data' during installation, minimizing potential user disruption. This patch should take less than 5 minutes to install. If desired, you may queue this installation.

Prior to installing DG*5.3*964, a backup patch should be created that can be re-installed in the event that a new patch must be backed out (see the [“Create a Local Patch Backup”](#) section). Also, an organizer for the mail group used by the VAS background process to report errors should be identified and recorded in order to complete the post-installation steps (see the [“Identify Mail Group Organizer”](#) section).

4.8.1.1 Create a Local Patch Backup

Perform the following procedure to create a Local Patch Backup:

- 1) From the KIDS Menu, select 'Installation'
- 2) Select 'Backup a Transport Global'
- 3) At the 'INSTALL NAME:' prompt, enter DG*5.3*964
- 4) At the 'Backup Type: B/' prompt, enter B for build
- 5) At the 'Do you wish to secure this message?' prompt, enter NO
- 6) At the 'Send mail to:' prompt, enter a recipient who can install the backup build if necessary
- 7) At the 'And Send to:' prompt(s), optionally enter additional build recipients. Press <Enter> to continue to the next prompt.

4.8.1.2 Identify Mail Group Organizer

Identify the appropriate organizer for the mail group stored in the REDACTED parameter. After patch installation, this name must be added as the organizer of the mail group. The organizer should be a Privacy Officers or Information Systems Security Officers (ISSO) or their authorized

representative at the facility where the patch is being installed. The organizer must have the ability to view the log of Create, Read, Update and/or Delete (CRUD) operations on patient information to respond to Freedom of Information Act (FOIA), HIPAA, employee and Inspector General (IG) requests. See the post-installation step '[Mail Group Update](#)' for more information.

4.8.2 VistA Patch DG*5.3*964 Installation Instructions

1. Choose the PackMan message containing this build.
2. Choose the “INSTALL/CHECK MESSAGE PackMan” option to load the build.
3. From the Kernel Installation and Distribution System Menu, select the “Installation” Menu. From this menu,
 - a. Select the “Verify Checksums in Transport Global” option to confirm the integrity of the routines that are in the transport global. When prompted for the INSTALL NAME enter the patch name, DG*5.3*964.
 - b. Select the “Backup a Transport Global” option to create a backup message. You can specify what to backup, the entire Build or just Routines. The backup message can be used to restore just the routines or everything that will restore your system to pre-patch condition. Subject: Backup of DG*5.3*964 on Jul 16, 2021 Replace. Select one of the following:
 - i. B Build (including Routines)
 - ii. R Routines Only
 - iii. Backup Type: B// Build (including Routines)
 - iv. Send mail to: (Send mail to you the installer)
 - c. You may also elect to use the following options:
 - i. Print Transport Global – This option will allow you to view the components of the KIDS build.
 - ii. 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 of the components of this patch, such as routines, DDs, templates, etc.
4. Select the Install Package(s) option and choose the patch to install DG*5.3*964.
5. If prompted 'Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//', answer YES.
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 NO.

4.8.3 Post Installation Instructions

The web server REDACTED exported with DG*5.3*964 should be automatically pointed to the correct VAS server during installation. However, this must be verified and updated manually if the server was not populated correctly (see Section 4.8.3.1 – VAS Server Update).

The mail group associated with the VAS export must be manually populated with the appropriate local member(s) and remote member (see Section 4.8.3.3 – Mail Group Update).

The VAS export process includes a switch in the VAS STATUS (#.02) field in the DG VAS CONFIG (#46.5) file. The switch is set to “0-Don't generate or send data” by default during installation, and must be set to “1-Generate and send data” manually when the site is scheduled for activation. (see Section 4.8.3.3 – Activating the VAS Export).

4.8.3.1 VAS Export Server Configuration

Verify the VAS Export server configuration is correct by completing section [4.10.2 Configure VAS Server](#).

4.8.3.2 Verify VAS Server Connectivity

After updating the VAS server, verify a successful connection to the VAS server using the Web Server Manager [REDACTED] option.

1. Navigate to the Web Server Manager [X REDACTED] option.
2. At the “Select Action:” prompt, enter “CK” for Check Web Service Availability.
3. At the “Select Web Server:” prompt, select the REDACTED server from the list.
4. The message “REDACTED is available” should display, indicating the web service is connected and available. If an error message is displayed indicating the service is not available, log a Service Now (SNOW) ticket with a comment requesting the ticket be forwarded to VistA Audit Solution Assignment Group.

Example – Check Web Service Connection

REDACTED

4.8.3.3 Mail Group Update

Find the mail group used by the VAS in the Display VAS Parameters [DG VAS DISPLAY] option in the VistA Audit Solution (VAS) options [DG VAS MENU]. The mail group is displayed to the right of the label “DG VAS MONITOR GROUP:”

Example – Identify VAS Mail Group

REDACTED

Once the appropriate mail group is identified, use the Mail Group Edit [REDACTED] option in the Group/Distribution Management [REDACTED] menu in the Manage Mailman [REDACTED] menu to populate the following fields:

- At the “ORGANIZER:” prompt, enter the mail group organizer identified in the pre-installation step.
- At the “MEMBER:” prompt, enter the mail group organizer identified in the pre-installation step.
- At the “REMOTE MEMBER;” prompt, enter REDACTED. This is the VAS Support Outlook mail group.

Example – Update VAS Mail Group

REDACTED

4.8.3.4 Activate the VAS Export

When the site is scheduled for activation by VAS development team, the VAS Export must be turned on to begin sending audit records to the VAS server.

NOTE - Do NOT activate the VAS Export until notified by the Health Information Governance (HIG) office.

A notification will be provided to Regional IT support by the Health Information Governance (HIG) office to update the VAS STATUS Flag when the facility is ready to begin transferring data to the VAS external archive via the VAS REST API. The VAS STATUS may be updated by using

the DG VAS MODIFY option in the DG VAS Menu. See the PIMS Technical manual and release notes for additional information.

Follow the steps below to activate the VAS server.

1. Navigate to the Modify VAS Parameters [REDACTED] option in the VistA Audit Solution (VAS) Options [REDACTED] menu in the Security Officer Menu [REDACTED].
2. At the “VAS STATUS:” prompt, enter the number 1 (one) to select “Generate and send data”.

Example – Activate VAS Export

REDACTED

4.9 Installation Verification Procedure

Following patch installation, the installation may be verified by using the “Install File Print” menu option in the “Utilities” submenu of the Kernel Installation & Distribution System (KIDS) option.

The existence of the VistA Audit Solution (VAS) options [REDACTED] menu in the Security Officer Menu [REDACTED] may also be used to verify successful installation.

4.10 System Configuration

System Configuration required after deployment of the patch is as follows.

4.10.1 Map the DG VAS QUEUE File (#46.3) to Non-Journaled Directory

The global for the DG VAS QUEUE file (#46.3) should be mapped to a non-journaled directory.

Following are examples for IRIS systems and Cache:

For an IRIS system, directory should be in this format.

REDACTED is the unique site code, and REDACTED
REDACTED

A Cache system should be in this format:

REDACTED

4.10.2 Configure VAS REST API Server

During installation, the REDACTED server is automatically populated. After installation, the value of the REDACTED server must be checked and updated if not accurate. The value of the REDACTED server may be checked using the Display VAS Parameters [REDACTED] option in the VistA Audit Solution (VAS) options [REDACTED]. The server value is displayed next to the REDACTED label.

The correct server for a given production environment may be obtained from VAS support by submitting a Service NOW ticket. The ticket description should include the text “REDACTED” and should be assigned to Assignment Group “REDACTED”.

After identifying the correct REDACTED server, the VAS export server may be updated using the Web Server Manager [REDACTED] option using the following steps:

- 1) Select the Web Server Manager [REDACTED] option.
- 2) At the Select Action: prompt, select ES Edit Server.
- 3) At the Select Web Server: prompt, select the ID number displayed next to the REDACTED entry.
- 4) At the NAME: prompt, accept the default REDACTED by pressing Enter.
- 5) At the SERVER: prompt, enter the correct server name.
- 6) At the PORT: prompt, enter caret “^” to exit the action.
- 7) At the Select Action: prompt, enter caret “^” to exit the option.

Example, Configuring the VAS REST API Server

REDACTED

4.11 Database Tuning

No Database Tuning is required before or after deployment of the patch.

5 Back-out Procedure

Within context of this document, the term *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 strategy will follow VA guidelines and best practices as referenced in the Enterprise Operations (EO) National Data Center Hosting Services document. The Back-Out strategy consists of restoring non Data Dictionary components by installing the backup created prior to patch installation, and manually removing each new Data Dictionary introduced by the patch.

5.2 Back-out Considerations

It is necessary to first determine if a wholesale back-out of the patch DG*5.3*964 is needed or if it would be better to correct by means of applying a new version of the patch (if prior to national release) or employing 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 require a subsequent patch after national release. If the back-out is post-release of patch DG*5.3*964, this patch should be assigned the status of “Entered in Error” in Forum’s NPM.

5.2.1 Load Testing

No load testing is required for patch DG*5.3*964.

5.2.2 User Acceptance Testing

Results from the UAT will be available upon completion.

5.3 Back-out Criteria

Back-out criteria will follow VA guidelines and best practices as referenced in the EO National Data Center Hosting Services document.

Back-out criteria may include the following:

- The project is canceled.
- The requested changes implemented by DG*5.3*964 are no longer desired by VA OIT.
- The patch produces catastrophic problems.

5.4 Back-out Risks

There are no known risks related to a back-out.

5.5 Authority for Back-out

The Portfolio Director, VA Project Manager, and Business Owner have the authority to require the back-out and accept the risks. Health Information Governance (HIG) will work to identify the problem and assist with implementation. This should be done in consultation with the development team and project stakeholders.

5.6 Back-out Procedure

The back-out plan for VistA applications is complex and not a ‘one-size fits all’ solution. After national release, the general strategy is to repair the code with a follow-up patch. The VAS development team recommends sites log a ticket with the Enterprise Service Desk (ESD) if it is a nationally released patch.

Prior to national release, backout may be performed by installing the backup of the build performed prior to installation, as well as manually removing the data dictionaries installed by the patch.

Steps – non-Data Dictionary backout:

- 1) Navigate to the Mailman menu.
- 2) Select the Mailman folder containing the patch backup created prior to install.
- 3) Select the message containing the patch backup created prior to install.
- 4) At the prompt “Enter message action:”, enter “X” for Xtract KIDS.
- 5) At the prompt “Select PackMan function:”, enter 6.
- 6) At the prompt, “OK to continue with Load?” enter “YES”.
- 7) At the prompt, “Want to Continue with Load?”, enter “YES”.
- 8) Navigate to the Kernel Installation & Distribution System [REDACTED] menu.
- 9) Select the Installation menu.
- 10) Select the Install Package(s) option.
- 11) At the prompt “INSTALL NAME:”, enter DG*5.3*964b.
- 12) At the prompt “Want KIDS to Rebuild Menu Trees Upon Completion of Install” enter “NO”.
- 13) At the prompt, “Want KIDS to INHIBIT LOGONs during the install” enter “NO”.
- 14) At the prompt, “Want to DISABLE Scheduled Options, Menu Options, and Protocols” enter “NO”.
- 15) At the “DEVICE” prompt, select a device or accept the default, “HOME”.

Steps – Data Dictionary Backout:

- 1) Navigate to the VA FileMan [REDACTED] menu.
- 2) Select the Edit File option in the Utility Functions menu.
- 3) At the prompt “Modify what File:” enter “DG VAS QUEUE”.

- a. At the prompt “Do you want to use the screen-mode version?”, enter “YES”.
 - b. At the prompt “NAME:”, enter “@”.
 - c. If prompted “DO YOU WANT JUST TO DELETE THE FILE CONTENTS, KEEP THE FILE DEFINITION?”, enter “NO”.
 - d. At the prompt “SURE YOU WANT TO DELETE THE ENTIRE ‘DG VAS QUEUE’ file, enter “Y”.
- 4) At the prompt “Modify what File:” enter “DG VAS EXPORT”.
 - a. At the prompt “Do you want to use the screen-mode version?”, enter “YES”.
 - b. At the prompt “NAME:”, enter “@”.
 - c. If prompted “DO YOU WANT JUST TO DELETE THE FILE CONTENTS, KEEP THE FILE DEFINITION?”, enter “NO”.
 - d. At the prompt “SURE YOU WANT TO DELETE THE ENTIRE ‘DG VAS EXPORT’ file, enter “Y”.
- 5) At the prompt “Modify what File:” enter “DG VAS CONFIG”.
 - a. At the prompt “Do you want to use the screen-mode version?”, enter “YES”.
 - b. At the prompt “NAME:”, enter “@”.
 - c. If prompted “DO YOU WANT JUST TO DELETE THE FILE CONTENTS, KEEP THE FILE DEFINITION?”, enter “NO”.
 - d. At the prompt “SURE YOU WANT TO DELETE THE ENTIRE ‘DG VAS CONFIG’ file, enter “Y”.

Steps – backing out the Mail Group entry:

1. Navigate to the VA FileMan menu [REDACTED].
2. Select the ENTER OR EDIT FILE ENTRIES option.
3. At the prompt “Input to what File”, enter MAIL GROUP.
4. At the prompt “EDIT WHICH FIELD”, enter ALL.
5. At the prompt “MAIL GROUP NAME” enter REDACTED.
6. At the prompt “NAME” enter @.
7. At the prompt “SURE YOU WANT TO DELETE THE ENTIRE ‘REDACTED’ MAIL GROUP” enter YES.
8. At the prompt “DO YOU WANT THOSE POINTERS UPDATED” enter YES.
9. At the prompt “CHOOSE 1) OR 2)” choose 1 to delete all pointers.

Steps – backing out the Web Server entry:

1. Navigate to the VA FileMan menu [REDACTED].
2. Select the ENTER OR EDIT FILE ENTRIES option.
3. At the prompt “Input to what File”, enter WEB SERVER.
4. At the prompt “EDIT WHICH FIELD”, enter ALL.
5. At the prompt “WEB SERVER NAME” enter REDACTED.
6. At the prompt “NAME” enter @.
7. At the prompt “SURE YOU WANT TO DELETE THE ENTIRE ‘REDACTED’ WEB SERVER?” enter YES.
8. At the prompt “DO YOU WANT THOSE POINTERS UPDATED” enter YES.
9. At the prompt “CHOOSE 1) OR 2)” choose 1 to delete all pointers.

Steps – backing out the Web Service entry:

1. Navigate to the VA FileMan menu [REDACTED].
2. Select the ENTER OR EDIT FILE ENTRIES option.
3. At the prompt “Input to what File”, enter WEB SERVICE.
4. At the prompt “EDIT WHICH FIELD”, enter ALL.
5. At the prompt “WEB SERVICE” enter REDACTED.
6. At the prompt “NAME” enter @.
7. At the prompt “SURE YOU WANT TO DELETE THE ENTIRE ‘REDACTED’ WEB SERVICE?” enter YES.
8. At the prompt “DO YOU WANT THOSE POINTERS UPDATED” enter YES.
9. At the prompt “CHOOSE 1) OR 2)” choose 1 to delete all pointers.

Example, patch restore from backup:

Example: Load backup patch:

```
Enter message action (in IN basket): Ignore// Xtract KIDS
Select PackMan function: 6  INSTALL/CHECK MESSAGE

Line 8      Message #300223      Unloading KIDS Distribution      DG*5.3*964b
Build DG*5.3*964b has been loaded before, here is when:
      DG*5.3*964b      Install Completed
                        was loaded on Oct 04, 2021@13:25:47
OK to continue with Load? NO// YES

Want to Continue with Load? YES//
Loading Distribution...

      DG*5.3*964b

Select PackMan function:

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

Example: Install backup patch:

```
Select OPTION NAME: XPD MAIN      Kernel Installation & Distribution System

Select Kernel Installation & Distribution System <TEST ACCOUNT> Option:
INstallation

Select Installation <TEST ACCOUNT> Option: INstall Package(s)
Select INSTALL NAME: DG*5.3*964b      10/4/21@13:49:20
      => Backup of DG*5.3*964 on Oct 04, 2021. Build

This Distribution was loaded on Oct 04, 2021@13:49:20 with header of
Backup of DG*5.3*964 on Oct 04, 2021. Build
It consisted of the following Install(s):
      DG*5.3*964b
Checking Install for Package DG*5.3*964b

Install Questions for DG*5.3*964b
```

Incoming Files:

46.3 DG VAS QUEUE

Note: You already have the 'DG VAS QUEUE' File.

46.4 DG VAS EXPORT

Note: You already have the 'DG VAS EXPORT' File.

46.5 DG VAS CONFIG

Note: You already have the 'DG VAS CONFIG' File.

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? NO//

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// Linux Telnet /SSh

DG*5.3*964b

```

////////////////////////////////////
Installing Data Dictionaries:
      Oct 04, 2021@13:49:36
```

Installing PACKAGE COMPONENTS:

Installing OPTION

Installing PARAMETER DEFINITION
 Oct 04, 2021@13:49:36

Updating Routine file...

Updating KIDS files...

DG*5.3*964b Installed.
 Oct 04, 2021@13:49:36

NO Install Message sent

```

100%  R,////////////////////////////////////T
Complete F,////////////////////////////////////G
```

Install Completed

Example: Delete Data Dictionaries:

Select OPTION NAME: DIUSER VA FileMan

VA FileMan Version 22.2

```

Select VA FileMan <TEST ACCOUNT> Option: UTILity Functions

Select Utility Functions <TEST ACCOUNT> Option: EDIT File

Modify what File: DG VAS CONFIG// 46.3  DG VAS QUEUE  (0 entries)
Do you want to use the screen-mode version? YES// NO
NAME: DG VAS QUEUE// @
    SURE YOU WANT TO DELETE THE ENTIRE 'DG VAS QUEUE' FILE? Y  (Yes)

    Deleting the DATA DICTIONARY...
    Deleting the INPUT TEMPLATES...
    Deleting the PRINT TEMPLATES...
    Deleting the SORT TEMPLATES...
    Deleting the FORMS...
    Deleting the BLOCKS...

Select Utility Functions <TEST ACCOUNT> Option: EDIT File

Modify what File: 46.4  DG VAS EXPORT  (12 entries)
Do you want to use the screen-mode version? YES// NO
NAME: DG VAS EXPORT// @
DO YOU WANT JUST TO DELETE THE 12 FILE ENTRIES,
    & KEEP THE FILE DEFINITION? No// NO

NAME: DG VAS EXPORT// @
DO YOU WANT JUST TO DELETE THE FILE CONTENTS,
    & KEEP THE FILE DEFINITION? No// N  (No)
IS IT OK TO DELETE THE '^DGAUDIT1' GLOBAL? Yes// Y  (Yes)
SURE YOU WANT TO DELETE THE ENTIRE 'DG VAS EXPORT' FILE? Y  (Yes)

    Deleting the DATA DICTIONARY...
    Deleting the INPUT TEMPLATES...
    Deleting the PRINT TEMPLATES...
    Deleting the SORT TEMPLATES...
    Deleting the FORMS...
    Deleting the BLOCKS...

Select Utility Functions <TEST ACCOUNT> Option: EDIT File

Modify what File: 46.5  DG VAS CONFIG  (0 entries)
Do you want to use the screen-mode version? YES// NO
NAME: DG VAS CONFIG// @
DO YOU WANT JUST TO DELETE THE FILE CONTENTS,
    & KEEP THE FILE DEFINITION? No// N  (No)
IS IT OK TO DELETE THE '^DGAUDIT2' GLOBAL? Yes// Y  (Yes)
SURE YOU WANT TO DELETE THE ENTIRE 'DG VAS CONFIG' FILE? Y  (Yes)

    Deleting the DATA DICTIONARY...
    Deleting the INPUT TEMPLATES...
    Deleting the PRINT TEMPLATES...
    Deleting the SORT TEMPLATES...
    Deleting the FORMS...
    Deleting the BLOCKS...

```

Example: Delete Mail Group

VA FileMan 22.2

```
Select OPTION: ENTER OR EDIT FILE ENTRIES
Input to what File: // MAIL GROUP      (432 entries)
EDIT WHICH FIELD: ALL//
```

Select MAIL GROUP NAME: **REDACTED**

NAME: DG VAS MONITOR// @

```
SURE YOU WANT TO DELETE THE ENTIRE ' REDACTED ' MAIL GROUP? Y   (Yes)
SINCE THE DELETED ENTRY MAY HAVE BEEN 'POINTED TO'
BY ENTRIES IN THE 'BULLETIN' FILE, ETC.,
DO YOU WANT THOSE POINTERS UPDATED (WHICH COULD TAKE QUITE A WHILE)? No// Y
(Yes)
```

WHICH DO YOU WANT TO DO? --

- 1) DELETE ALL SUCH POINTERS
- 2) CHANGE ALL SUCH POINTERS TO POINT TO A DIFFERENT 'MAIL GROUP' ENTRY

CHOOSE 1) OR 2): 1

DELETE ALL POINTERS? Yes// (Yes)

(DELETION WILL OCCUR WHEN YOU LEAVE 'ENTER/EDIT' OPTION)

The DG*5.3*964 patch contains the following build components. After backing out the patch, none of the components listed below should be present except routine DGSEC, which remains but is restored to its pre-patch state.

- A modification to the routine DGSEC to create an “INQUIRY” audit record in the external archive when a patient is selected within a VistA application.
- New DG VAS QUEUE File (#46.3), which temporarily holds records to be sent to the external archive. Records are immediately deleted after being transmitted.
- New DG VAS EXPORT File (#46.4), which keeps track of which VA FileMan AUDIT File (#1.1) records have been exported to the external archive.
- New DG VAS CONFIG File (#46.5), which contains the settings related to the connection to the ElastiCache/Redis server when this patch is installed at each site. Three new fields are added with the #46.5 file.
 - NUMBER (#.01): Represents the single external server defined for the VistA instance. The field is not modifiable.
 - VAS STATUS (#.02): The ON/OFF setting for the transmission of targeted audit records to the Redis server.
 - VAS DEBUGGING FLAG (#2): Provides the user with the ability to request a log file displaying the local variables at the time the process is triggered.
- New OPTION File entry (DG VAS EXPORT), which is used to export audit entries from the new temporary DG VAS QUEUE File (#46.3), stored in the DGAUDIT global, to the external archive. Records in File #46.3 are deleted immediately after being transmitted. This OPTION is automatically added to the OPTION SCHEDULING File (#19.2) as a Startup and Persistent task. The installer may specify the initial launch date/time.
- A new menu (DG VAS MENU) containing the new OPTIONS (DG VAS DISPLAY and DG VAS MODIFY) is added to the DG SECURITY OFFICER MENU.

- Two new Options, DG VAS DISPLAY and DG VAS MODIFY, which are related to the configuration settings and parameter definition values for the VAS.
 - DG VAS DISPLAY Option provides a view of the settings and current status. The option is found in the new DG VAS MENU.
 - DG VAS MODIFY Option provides the user with the ability to view and modify the parameters and settings for the processing and sending of the target audit records to the external archive. The option is provided to the user in the new DG VAS MENU.
- New entries in the PARAMETER DEFINITION File (#8989.51)
 - DG VAS BATCH SIZE Parameter Definition for the default number of entries and the maximum number of entries that are set into a batch of records sent to the VAS REST API. When the number of pending records in the DG VAS QUEUE file is less than the value of the DG VAS BATCH SIZE parameter, one final partial batch is sent containing the remaining entries in the queue.
 - DG VAS DAYS TO KEEP EXCEPTIONS Parameter Definition for the default number of days to keep exceptions in the ^XTMP global. When the number of days has been reached, the exceptions are purged.
 - DG VAS DEBUGGING FLAG Parameter Definition for the flag that triggers a message to members of the mail group in the DG VAS MONITOR GROUP parameter. The mail message contains a log file displaying the local variables at the time of the debugging process. Information related to the status of the VAS VistA background process is included in the message.
 - DG VAS MAX QUEUE ENTRIES Parameter Definition for the maximum number of entries that are allowed to be stored in the ^DGAUDIT global which houses the data for the DG VAS QUEUE File. The default is 60000 and is not modifiable manually. When the maximum number of entries is exceeded the oldest entries in the DG VAS QUEUE file are deleted until the maximum is no longer exceeded.
 - DG VAS MAX WRITE ATTEMPTS Parameter Definition for the maximum number of consecutive attempts to write, or POST, a batch of records to the DG VAS WEB SERVICE without receiving a response. The count of the write errors is incremented until the maximum is met, after which a mail message is generated and sent to the mail group in the REDACTED parameter. Audit records in a batch for which no response is received remain in the queue and will be retried until a response is received from the DG VAS WEB SERVICE.
 - DG VAS MONITOR GROUP Parameter Definition for the VistA Mailman mail group that receives updates from the VAS VistA background process.
- A new option (DG AUDIT TASKMAN), which starts the background processing job if the DGAUDIT background job has been stopped.
- A new Mail Group (REDACTED), which is used for notification of VistA process status for VAS.

5.7 Back-out Verification Procedure

After backing out patch DG*5.3*964 by installing the local patch created during pre-install (see Section 4.1.3), successful back-out is confirmed by verification of BEFORE checksums listed in the patch description on NPM in FORUM. This may be accomplished using the ‘Calculate and Show Checksum Values’ option.

The checksums produced should match the numeric portion of the BEFORE checksums in the DG*5.3*964 patch description. For the routines that were new with DG*5.3*964, the BEFORE Checksums are ‘n/a’. If routine back-out was successful, the checksum will display as “Routine not in this UCI” in place of a checksum.

5.8 Data Dictionaries

After backing out Patch DG*5.3*964, successful back-out of the fields installed by the patch may be verified by running the List File Attributes in the Data Dictionary function in VA FileMan.

Using VA FileMan, Data Dictionary Utility, List File Attributes, enter DG VAS QUEUE (#46.3), DG VAS EXPORT (#46.4), DG VAS CONFIG (#46.5). Nothing should be returned when entering those files to verify those files have been deleted.

6 Rollback Procedure

Rollback pertains to data. This patch contains three files containing data that need to be deleted to completely roll back the data.

6.1 Rollback Considerations

Deleting data requires elevated privileges and should only be performed by experienced technical support staff.

6.2 Rollback Criteria

The data installed and created by patch DG*5.3*964 should only be deleted after all patch software components have been removed.

6.3 Rollback Risks

If data is deleted prior to removing the software components, errors may occur.

6.4 Authority for Rollback

The Portfolio Director, VA Project Manager, and Business Owner have the authority to require the rollback and accept the risks. This should be done only after all patch software components have been backed out, and in consultation with the development team and project stakeholders.

6.5 Rollback Procedure

The rollback procedure consists of using the ^DIK VistA FileMan Application Programmer Interface (API) call from the programmer prompt to delete each of the three data files installed and populated by patch DG*5.3*964. These files are ^DGAUDIT, ^DGAUDIT1, and ^DGAUDIT2.

Steps:

- 1) At the programmer prompt, type the line of code below and press <Return>.
 - a. S X="" F S X=\$O(^DGAUDIT(X)) Q:X="" K ^DGAUDIT(X)
- 2) At the programmer prompt, type the line of code below and press <Return>.
 - a. S X="" F S X=\$O(^DGAUDIT1(X)) Q:X="" K ^DGAUDIT1(X)
- 3) At the programmer prompt, type the line of code below and press <Return>.
 - a. S X="" F S X=\$O(^DGAUDIT2(X)) Q:X="" K ^DGAUDIT2(X)

Example, deleting data using FileMan ^DIK API:

```
VISTA> S X="" F S X=$O(^DGAUDIT(X)) Q:X="" K ^DGAUDIT(X)
```

```
VISTA> S X="" F S X=$O(^DGAUDIT1(X)) Q:X="" K ^DGAUDIT1(X)
```

```
VISTA> S X="" F S X=$O(^DGAUDIT2(X)) Q:X="" K ^DGAUDIT2(X)
```

6.6 Rollback Verification Procedure

The rollback verification may be performed by executing a Global List from the programmer prompt for the three globals installed and populated by patch DG*5.3*964 that may contain data.

Steps:

- 1) At the programmer prompt, type "D ^%G".
- 2) At the prompt "Global ^", enter "DGAUDIT".
 - a. "[Global does not exist]" should display
- 3) At the prompt "Global ^", enter "DGAUDIT1".
 - a. "[Global does not exist]" should display
- 4) At the prompt, "Global ^", enter "DGAUDIT2".
 - a. "[Global does not exist]" should display

Example, global list of deleted globals/rolled back data:

```
VISTA>D ^%G
FOR HELP ON GLOBAL SPECIFICATIONS DO HELP ^%G
GLOBAL ^DGUAUDIT [GLOBAL DOES NOT EXIST]
GLOBAL ^DGUAUDIT1 [GLOBAL DOES NOT EXIST]
GLOBAL ^DGUAUDIT2 [GLOBAL DOES NOT EXIST]
GLOBAL ^
```


Appendix A: Acronyms

Table 4: Acronym Listing

Acronym	Definition
ADT	Admission, Discharge, and Transfer
API	Application Programmer Interfaces
AWS	Amazon Web Services
CRUD	Create, Read/Inquire, Update, and Delete
DG	Registration package
DIBRG	Deployment, Installation, Back-Out, and Rollback Guide
ESD	Enterprise Service Desk
FOIA	Freedom Of Information Act
HIG	Health Information Governance
HCS	Healthcare System
HIPAA	Health Insurance Portability and Accountability Act
IG	Inspector General
IOC	Initial Operating Capability
ISSO	Information System Security Officer
KIDS	Kernel Installation and Distribution System
MUMPS	Massachusetts General Hospital Utility Multi-Programming System
N/A	Not Applicable
NPM	National Patch Module
OIT	Office of Information & Technology
PHI	Protected Health Information
PII	Personal Identifiable Information
PMO	Project Management Office
SQA	Software Quality Assurance
UAT	User Acceptance Testing
UI	User Interface

Acronym	Definition
VA	Department of Veterans Affairs
VAEC	Veterans Affairs Enterprise Cloud
VAMC	Veterans Administration Medical Center
VAS	VistA Audit Solution
VDL	VA Software Document Library
VistA	Veterans Health Information Systems Technology Architecture