

Nationwide Health Information Network (NHIN)

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

NHIN*1.0*25



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**Department of Veterans Affairs (VA)
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Revision History

Date	Version	Description	Author
11/12/2024	1.0	NHIN*1*25 – Initial Release	Data Access Services (DAS) Team

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 the particulars of these procedures at single or 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.

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1. Introduction

This document describes how to deploy and install the patch NHIN*1*25, as well as how to back-out the product and rollback to a previous version or data set.

1.1. Purpose

The purpose of this plan is to provide a single, consolidated document that describes how, when, where, and to whom the NHIN*1*25 will be deployed and installed, as well as how it is to be backed out and rolled back, if necessary. The plan also identifies the accompanying resources, communications plan, and rollout schedule. Specific instructions for installation, back-out, and rollback are included within this document.

1.2. Dependencies

There are no applicable dependencies for NHIN*1*25.

1.3. Constraints

This product is intended for a fully patched Veterans Health Information Systems and Technology Architecture (VistA) System.

2. Roles and Responsibilities

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

ID	Team	Phase / Role	Tasks	Project Phase (See Schedule)
1	Product Development Team	Deployment	Plan and schedule Deployment (including orchestration with vendors).	
2	Product Development Team and existing local VA Medical Center (VAMC) and Consolidated Patient Account Center (CPAC) processes	Deployment	Determine and document the roles and responsibilities of those involved in the Deployment.	
3	Product Development Team and VistA Release Agent	Deployment	Test for Operational Readiness.	
4	Product Development Team	Deployment	Execute Deployment.	
5	Designated VistA patch installer for this Package	Installation	Plan and schedule Installation.	
6	Designated VistA patch installer for this Package and VIP Release Agent	Installation	Ensure that authority to operate and certificate authority security documentation are in place.	
7	Designated VistA patch installer for this Package and Product Development Team	Back-out	Confirm availability of back-out instructions and back-out strategy (including the criteria that trigger a back-out).	
8	Product Development Team	Post Deployment	Hardware, Software, and System Support.	

3. Deployment

The Deployment for NHIN*1*25 is planned as a single national VistA patch rollout to all VistA production instances.

3.1. Timeline

The Deployment and Installation are scheduled to run for 30 days beginning with the National Release date and concluding with the National Compliance date, by which time all VistA production instances should have the patch installed.

3.2. Site Readiness Assessment

This section details the locations that will receive the NHIN*1*25 Deployment.

3.2.1. Deployment Topology (Targeted Architecture)

Deployment Topology (Targeted Architecture) is not applicable for a VistA patch.

3.2.2. Site Information (Locations, Deployment Recipients)

All 130 VistA production instances upon National Release. The Initial Operating Capabilities (IOC) test site was Dayton (552).

3.2.3. Site Preparation

This patch does not require any site preparations other than the prerequisite patch installation as described in the Patch Description and in the National Patch Module (NPM) in Forum.

3.3. Resources

This 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 patches are automatically sent to the targeted VistA systems nationwide. When VistA patches are installed at a site, a notification is sent back to the NPM in order for them to track which sites have and have not installed a patch. This is part of the standard VistA patch notification and communication protocols.

3.3.3.1. Deployment/Installation/Back-Out Checklist

The Release Management Team will deploy the patch NHIN*1*25, which is tracked nationally for all VAMCs in the NPM in Forum. Forum automatically tracks the patches as they are installed in the different VAMC production systems. Forum can also be used to run a report 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 currently installed the patch in their VistA production system. Therefore, this information does not need to be manually tracked in the chart below.

Table 2: Deployment/Installation/Back-Out Checklist

Activity	Day	Time	Individual who completed task
Deploy	Release	Any	Site Support Personnel
Install	Release	Any	Site Support Personnel
Back-Out	Contingent	Any	Site Support Personnel

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 VistA patch can be installed with users on the system however it is recommended that it be installed during non-peak hours to minimize potential disruption to users. This patch should take less than 5 minutes to install.

Sites should install patches into the test/mirror/pre-production accounts before the production account so as to follow 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

Download and extract files are not applicable for this VistA patch.

Table 3: Associated Patch Files

File	Description
N/A	

4.4. Database Creation

Database creation is not applicable for this VistA patch.

4.5. Installation Scripts

Installation scripts are not applicable for this VistA patch.

4.6. Cron Scripts

Cron scripts are not applicable 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 requirement.

4.8. Installation Procedure

1. Choose the PackMan message containing this build. Then select the **INSTALL/CHECK MESSAGE PackMan** option to load the build.
2. 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: **NHIN*1*25**.
- b. Select the **Backup a Transport Global** option to create a backup message of any routines exported with this patch. For each patch, you can specify what to back up, the entire Build or just Routines. When asked to specify what to back up, select **Build**. It is NOT recommended to use this backup to restore the system, as it will NOT restore your system to pre-patch condition.

When prompted for a response, select **Build**.

Select one of the following:

- B Build
- R Routines

Enter response: **Build**.

Do you wish to secure this message? NO// NO.

- 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 the components of this patch, such as routines, DDs, templates, etc.
- d. Select the Install Package(s) option and choose the patch to install.
 - i. If prompted, **Want KIDS to Rebuild Menu Trees Upon Completion of Install?** YES//, answer NO.
 - ii. When prompted, **Want KIDS to INHIBIT LOGONs during the install?** NO//, answer NO.
 - iii. When prompted, **Want to DISABLE Scheduled Options, Menu Options, and Protocols?** NO//, answer NO.

4.9. Installation Verification Procedure

1. Verify completed Installation by comparing the post-install routine checksums against the published checksums in the Patch Description and in Forum NPM.

Table 4: Routines

Routine	Before Checksum	After Checksum	Patch List
NHINP025	NEW	B11730796	**25**

Note: The Post-install routine **NHINP025** will add “NHIN DAS CC” to the REMOTE APPLICATION file (#8994.5).

2. Verify the build components as listed in the Patch Description have been correctly installed onto the target VistA System.

All the M/VistA side verification for the NHIN package can be done from the FileMan Inquiry option.

- a) Verify that the NHIN DAS CC option exists in the OPTION file (#19).
- b) Verify that the NHIN DAS CC entry in the REMOTE APPLICATION file (#8994.5) was created and the entry has the NHIN DAS CC option assigned as the context option.
- c) Verify that the NHIN DAS CC option has the following remote procedures are attached to this option:

RPC / ICR

PX SAVE DATA / 6023

VPR GET PATIENT DATA / 6022

4.10. System Configuration

System configuration is not applicable for this VistA patch.

4.11. Database Tuning

Database tuning is not applicable 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 the appropriate platform settings.

5.1. Back-Out Strategy

Prior to installing the updated KIDS package, the site/region should have saved a backup of the routines in a mail message using the **Backup a Transport Global** [XPD BACKUP] menu option. The message containing the backed-up routines can be loaded with the **Xtract PackMan** function at the Message Action prompt. The PackMan function INSTALL/CHECK MESSAGE is then used to install the backed-up routines onto the VistA System.

The Product 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, Software Quality Assurance (SQA) review, and multiple testing stages (Unit Testing, Component Integration Testing, User Acceptance 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 the defects to be produced, retested and, upon successfully passing Development Team Testing, would be resubmitted to the site for testing. If the defects were not discovered until after national release but during the 30-day 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.

5.2. Back-Out Considerations

It is necessary to determine if NHIN*1*25 requires a wholesale back-out or if concerns can be resolved through a new version of the patch or a follow up patch addressing concerns caused by NHIN*1*25.

A new version of NHIN*1*25 or a follow up patch will depend on whether the concerns are caught before or after national release of NHIN*1*25.

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 NHIN*1*25, this patch should be assigned the status of “Entered in Error” in Forum’s NPM.

5.2.1. Load Testing

Load Testing is not applicable for this VistA patch.

5.2.2. User Acceptance Testing

This patch does not include any new functionality in VistA and the only purpose is to provide the Data Access Services (DAS) middleware system access to Vista using a VistA service account to support aggregation of immunization data from CCRS. This patch creates a new option, NHIN DAS CC, and a new remote application entry, NHIN DAS CC.

5.3. Back-Out Criteria

The decision to back-out this VistA patch will be made by but not limited to the Health Product Support and DAS Product Teams.

Back-out Criteria will 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

Back-out risks are not applicable for this VistA patch.

5.5. Authority for Back-Out

The release coordinator, portfolio director, and Health Product Support have the authority to initiate a back-out decision. This should be done in consultation with the Development Team.

5.6. Back-Out Procedure

The back-out procedure for VistA applications is complex and not a one-size-fits-all solution. The general strategy for a VistA back-out is to repair the code with a follow-up patch. The Product Team recommends that sites log a ticket if it is a nationally released patch. If not, the site should contact the EPMO Team directly for specific solutions to their unique problems.

The NHIN*1*25 patch contains the following build components:

- Options
 - NHIN DAS CC
- Remote Application (#8994.5)
 - NHIN DAS CC

The NHIN DAS CC Option and the NHIN DAS CC Remote Application can be deleted through the FileMan [ENTER OR EDIT FILE ENTRIES] option. The following will need to be executed from the programmer's prompt (user input depicted in the section below in bold italicized font).

5.6.1. Delete the NHIN DAS CC Option:

```
D P^DI
Select OPTION: ENTER OR EDIT FILE ENTRIES
Input to what File: OPTION// 19 OPTION (11237 entries)
EDIT WHICH FIELD: ALL// ALL
Select OPTION NAME: NHIN DAS CC NHIN DAS CC
NAME: NHIN DAS CC // @
    SURE YOU WANT TO DELETE THE ENTIRE ' NHIN DAS CC' OPTION? Y (Yes)
SINCE THE DELETED ENTRY MAY HAVE BEEN 'POINTED TO'
BY ENTRIES IN THE 'AUDIT' 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 'OPTION' ENTRY
CHOOSE 1) OR 2): 1
```

```
DELETE ALL POINTERS? Yes// Y (Yes)
(DELETION WILL OCCUR WHEN YOU LEAVE 'ENTER/EDIT' OPTION)
```

5.6.2.Delete NHIN DAS CC Remote Application:

```
D P^DI
Select OPTION: ENTER OR EDIT FILE ENTRIES
Input to what File: REMOTE PROCEDURE// 8994.5 REMOTE APPLICATION
                               (57 entries)
EDIT WHICH FIELD: ALL// ALL
Select REMOTE APPLICATION NAME: NHIN DAS CC
NAME: NHIN DAS CC  Replace @
    SURE YOU WANT TO DELETE THE ENTIRE 'NHIN DAS CC' REMOTE APPLICATION
? Y (Yes)
SINCE THE DELETED ENTRY MAY HAVE BEEN 'POINTED TO'
BY ENTRIES IN THE 'OPTION' 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 'REMOTE APPLICATION' ENTRY
CHOOSE 1) OR 2): 1
DELETE ALL POINTERS? Yes// Y (Yes)
(DELETION WILL OCCUR WHEN YOU LEAVE 'ENTER/EDIT' OPTION)
```

5.6.3.Delete the NHINP025 Routine

The RPC Routine is NHINP025 and this routine has no dependencies and can be safely deleted using the Delete Routines option under Routine Tools menu.

```
D ^XUP
Select OPTION NAME: EVE
    1  EVE           Systems Manager Menu
    2  EVET BLOCK/UNBLOCK DOWNLOAD      Block/unblock Vet Download
    3  EVET CHECK INCOMING              Check for incoming responses from Health eVet
    4  EVET DAILY DOWNLOAD ACTIVITY     Daily download activity for date
    5  EVET EMAIL DOWNLOAD REPORT       Email weekly download report
Press <Enter> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1  EVE           Systems Manager Menu
    Core Applications ...
    Device Management ...
FM  VA FileMan ...
    Menu Management ...
    Programmer Options ...
    Operations Management ...
    Spool Management ...
```

```

    Information Security Officer Menu ...
    Taskman Management ...
    User Management ...
    Application Utilities ...
    Capacity Planning ...
    Manage Mailman ...
<CPM> Select Systems Manager Menu <TEST ACCOUNT> Option: Programmer Options
    KIDS  Kernel Installation & Distribution System ...
    NTEG  Build an 'NTEG' routine for a package
    PG    Programmer mode
          Calculate and Show Checksum Values
          Delete Unreferenced Options
          Error Processing ...
          Global Block Count
          List Global
          Map Pointer Relations
          Number base changer
          Routine Tools ...
          Test an option not in your menu
          Verifier Tools Menu ...
<CPM> Select Programmer Options <TEST ACCOUNT> Option: Routine Tools
    %Index of Routines
    Check Routines on Other CPUs
    Compare local/national checksums report
    Compare routines on tape to disk
    Compare two routines
    Delete Routines
    First Line Routine Print
    Flow Chart Entire Routine
    Flow Chart from Entry Point
    Group Routine Edit
    Input routines
    List Routines
    Load/refresh checksum values into ROUTINE file
    Output routines
    Routine Edit
    Routines by Patch Number
    Variable changer
    Version Number Update
<CPM> Select Routine Tools <TEST ACCOUNT> Option: Delete Routines
ROUTINE DELETE
All Routines? No => No

```

```
Routine: NHINP025
Routine:
1 routine
1 routines to DELETE, OK: NO// Yes
NHINP025
Done.
```

5.7. KIDS Back-Out

While the VistA Installation procedure of the Kernel Installation and Distribution System (KIDS) build allows the installer to back up the modified routines using the Backup a Transport Global action, the back-out procedure for global, data dictionary, and other VistA components is more complex and requires issuance of a follow-up patch to ensure all components are properly removed and/or restored. All software components, routines, and other items must be restored to their previous state at the same time and in conjunction with the restoration of the data.

Administrators will need to use the PackMan function INSTALL/CHECK MESSAGE. Check MailMan messages for the backup message sent by the Backup a Transport Global function executed prior to the patch install. (See section [5.8](#), Step 2B; this must be done before the patch is installed).

1. In VistA MailMan, select the message shown below:
 - A. Backup of NHIN*1*25 install on <mm, dd, yyyy> <user name>
2. Select the Xtract PackMan option.
3. Select the Install/Check Message option.
4. Enter 'Yes' at the prompt.
5. Enter 'No' at the backup prompt. There is no need to back up the backup.

5.8. Back-Out Verification Procedure

Successful back-out is confirmed upon completion of the steps outlined in section [6.6](#). Each step will provide confirmation of success; however, visual confirmation can be performed using the FileMan [INQUIRE TO FILE ENTRIES] Option for verification of the file entries.

6. Rollback Procedure

Rollback pertains to data. The only data changes in this patch are specific to the operational software and platform settings. These data changes are covered in section 6.

6.1. Rollback Considerations

Not applicable for NHIN*1*25.

6.2. Rollback Criteria

Not applicable for NHIN*1*25.

6.3. Rollback Risks

Not applicable for NHIN*1*25.

6.4. Authority for Rollback

Not applicable for NHIN*1*25.

6.5. Rollback Procedure

Not applicable for NHIN*1*25.

6.6. Rollback Verification Procedure

Not applicable for NHIN*1*25.