

V I S T A

**Patch Module 2.5**  
**Security and Patient Privacy Manual**  
June 2015

prepared for



by



©Copyright 2015 by VISTA Expertise Network. Licensed under Creative Commons Attribution-ShareAlike 4.0 International. Details are available at <http://creativecommons.org/licenses/by-sa/4.0/>

## Revision History

| Date      | Description                      | Language     | Authors                                  |
|-----------|----------------------------------|--------------|--|
| June 2015 | OSEHRA<br>Version 2.5<br>release | English (US) | Kathy Ice and Frederick D.S.<br>Marshall |

# Contents

Orientation.....1

Introduction.....2

Chapter 1: Menus and Security Keys.....3

Chapter 2: Email Considerations.....12

Appendix A: The Lineage of VistA.....13

Glossary.....14

# Orientation

This manual discusses security- and privacy-related features and options in version 2.5 of the Patch Module. For a more complete description of the software, please refer to the Technical Manual. For instructions for using the software, please refer to the appropriate User Manual for your role.

The Patch Module documentation suite:

- Release Notes
- Value Proposition
- Installation Guide
- User Manual: Primary Developers
- User Manual: Secondary Developers
- User Manual: Verifiers
- User Manual: Patch Subscribers
- Technical Manual
- Security and Privacy Manual

# Introduction

The Patch Module, as the name implies, is a software package that allows users and developers to create, revise, distribute, review, and receive software patches and updates for VistA. Options are provided for systematic entry, revision, and review of patches by developers, review and release of patches by verifiers, and display and distribution of the released patches to the users.

But before we get to talking about all the things we can do with patches, it's probably best to take a moment and make sure we're all on the same page about what a patch is, and what it does. Patches began as a way of fixing problems in an active VistA system, and many patches released today are simple bug fixes. However, most patches include more than fixes. Developers found that patches were the easiest way to add the enhancements and new features that their users wanted without taking the system offline or releasing a new version. Today, patches are the primary method for making updates and improvements to VistA.

A patch, then, can include bug fixes, upgrades, enhancements, new features, or all of the above. Its main feature is that it can be installed on an active, running VistA system with minimal disruption.

Patches are created in KIDS (the Kernel Installation and Distribution System), but are packaged and distributed via the Patch Module. Until relatively recently, only the developers at the Department of Veterans Affairs (VA) had access to the Patch Module. With this release, the Patch Module becomes more widely available, and more developers have the opportunity to create and release patches.

# Chapter 1: Menus and Security Keys

## Patch Module Menus

The menu system for the Patch Module is in need of an overhaul, which is planned for a future phase of the current project. In the meantime, managers and system administrators should be aware that the options that some job roles will need are scattered across different menus. In addition, there are “orphan” options listed in the table above that may be worth adding to certain users’ Secondary menu.

### *A1AE DEVELOPER Developer’s Menu*

At present, this is the main menu for primary and secondary development. The main options most developers will use from this menu are: Add a Patch, Edit a Patch, Display a Patch, and Extended (DIQ) Display of a Patch. This menu should also be given to secondary reviewers and verifiers, as those roles do not presently have their own menus.

|    |   |
|----|---|
| DP | Display a Patch                               |
| IN | Routine Inquire                               |
| TS | Scan Patch for Discrepancies and Contents     |
|    | **> Locked with A1AE SCAN MESSAGE             |
|    | Add a Patch                                   |
|    | Completed/NotReleased Patches Report          |
|    | Copy a patch into a new patch                 |
|    | Create a packman message                      |
|    | Delete an NotReleased Patch                   |
|    | Display a Completed/NotReleased Patch         |
|    | Edit a Patch                                  |
|    | Extended (DIQ) Display of a Patch             |
|    | Forward a Completed/NotReleased Patch Message |
|    | Package Management ...                        |
|    | Package Menu ...                              |
|    | Routines that overlap in patches              |
|    | Show a Patch's Relationships                  |
|    | Under Development Patches Report              |

*A1AE IMPORT MENU Patch Import from Filesystem Menu*

This menu should only be assigned to the Patch Module management team for an organization.

|   |  |
|---|--|
| S | Import Patches in a Single Directory           |
|   | **> Locked with A1AE IMPORT                    |
| M | Import Patches recursive from a Directory Tree |
|   | **> Locked with A1AE IMPORT                    |

*A1AE MGR Patch Module Management*

This menu should only be assigned to the Patch Module management team for an organization.

|   |                                    |
|---|------------------------------------|
| D | Developer's Menu ...               |
|   | **> Locked with A1AE DEVELOPER     |
| U | Patch User Menu ...                |
|   | Add Package to Patch Module        |
|   | **> Locked with A1AE MGR           |
|   | Add/Edit Patch Streams             |
|   | **> Locked with A1AE MGR           |
|   | Key Allocation for Patch Functions |
|   | **> Locked with A1AE XUSEC         |

*A1AE PBPROBLEM Problem Menu*

This menu includes options for functionality that is not currently included in the Patch Module. This functionality may be added in a future version; until that time, these options should not be given to users.

|                                     |                         |
|-------------------------------------|-------------------------|
| NAME: A1AE PBPROBLEM                | MENU TEXT: Problem Menu |
| OUT OF ORDER MESSAGE: NOT AVAILABLE | TYPE: menu              |
| CREATOR: TESTMASTER,USER            | LOCK: OBSOLETE          |
| ITEM: A1AE PBADD                    |                         |
| ITEM: A1AE PBDEL                    |                         |
| ITEM: A1AE PBEDIT                   |                         |
| TIMESTAMP: 63295,3145               | UPPERCASE MENU TEXT:    |
| PROBLEM MENU                        |                         |

### *A1AE PKGMGT Package Management*

This menu should be given to the application or package manager for a particular package.

```
Enter/Edit Authorized Users
Key Allocation for Patch Functions
  **> Locked with A1AE XUSEC
List of Package Users
```

### *A1AE PKMENU Package Menu*

This is the menu for releasing complete new versions of packages.

```
Add a Package Release
Edit a Package Release
Delete a Package Release
Package Release (and/or edit internal comments)
```

### *A1AE SEC REPORTS Secondary Statuses Reports*

This menu should be given to anyone who does secondary development.

```
All Patches for a Package in a Sec Status, Detail
Patches in a single Secondary Status by Date
Summary Report of All Patches for a Package (Sec)
```

### *A1AE SUPPORT Support Menu*

This menu is intended for field support personnel, who track user issues and problems. It is also intended for verifiers and releasers.

```
Completed/NotReleased Patches Report
Problem Menu ...
  **> Locked with OBSOLETE
  **> Out of order: NOT AVAILABLE
Release a Patch (and/or edit internal comments)
  **> Locked with A1AE PHVER
Released Patch Report
Under Development Patches Report for Releasers
  **> Locked with A1AE PHVER
```



*A1AE USER Patch User Menu*

This is the basic standard menu for the Patch Module; it should be given to all users. For Patch Subscribers, it is the only menu they will have. Other roles should also be given other menus and/or keys as needed.

```

AD    All Released Patches for a Package, Detailed
DNNP  Display Number of New Patches
DP    Display a Patch
E     Developer's Menu ...
      **> Locked with A1AE DEVELOPER
FSBD  Full Summary by Date for Every Package
RPDR  Released Patches by Date Detailed Report
RPSR  Released Patch Summary Report by Date
SEC   Secondary Statuses Reports ...
SUMM  Summary Report of All Patches for a Package
VER   Releaser Menu ...
      **> Locked with A1AE PHVER
      Completed/Not Released Listing
      Forward a Released Patch message
      New Patch Report
      Patch Import from Filesystem Menu ...
      **> Locked with A1AE IMPORT
      Patch Module Management ...
      **> Locked with A1AE MGR
      Patch Options Documentation
      Release Summary
      Routine Inquire
      Select Packages for Notification
      Set All patches for selected Packages as Printed
      Under Development Patch Listing

```

*A1AE VERIFIER Releaser Menu*

This menu should be given to all verifiers and releasers in primary development.

```

CDE   Compliance Date Edit
      **> Locked with A1AE COMPDATE
      Completed Patch Summary for Assigned Packages
      Completed Patch Summary Report by Date
      Completed/NotReleased Patches Report
      Compliance Date Display
      Compliance Date Print

```

```
**> Locked with A1AE COMPDATE
Display a Completed/NotReleased Patch
Export Patch(es) to the Filesystem
Forward a Completed/NotReleased Patch Message
Package Release (and/or edit internal comments)
Release a Patch (and/or edit internal comments)
**> Locked with A1AE PHVER
Routines that overlap in patches
```

## Patch Module Security Keys

### *A1AE COMPDATE*

The NVS Managers will need this key to change a patch compliance date. At the present time, the patch compliance date isn't used outside of VA, though it is available to other organizations should they choose to use it.

This key unlocks the following options:

- A1AE COMPLIANCE EDIT Compliance Date Edit
- A1AE COMPLIANCE COMMENT PRT Compliance Date Print

### *A1AE DEVELOPER*

This key gives the user access to the developer's menu.

This key unlocks the following options:

- A1AE DEVELOPER Developer's Menu

### *A1AE IMPORT*

The patch module checks this key to see if a user is allowed to load an entire patch directly into the patch module automatically. Patches can be loaded from the file system or sent as a mail message from the VA Forum. This key should only be given to the Patch Module manager, and only

temporarily when actual importing needs to be done. It should be removed again once the import is complete, to avoid accidental system corruption.

This key unlocks the following options:

- A1AE IMPORT MENU Patch Import from Filesystem Menu
- A1AE IMPORT SINGLE DIR Import Patches from a Single Directory
- A1AE IMPORT RECURSIVE Import Patches Recursive from a Directory Tree

### ***A1AE MGR***

This key gives the user access to the Patch Module Management option. This key should only be given to the Patch Module manager.

This key unlocks the following options:

- A1AE ADD/EDIT PATCH STREAMS Add/Edit Patch Streams
- A1AE MGR Patch Module Management
- A1AE MGRADD Add Package to Patch Module

### ***A1AE PHVER***

The patch verifier needs this this key in order to have verification options show up on the Support Menu. It also unlocks the Releaser Menu.

This key unlocks the following options:

- A1AE PHVER Release a Patch (and/or edit internal comments)
- A1AE PRTUDVPH VER Under Development Patches Report for Releasers
- A1AE VERIFIER Releaser Menu

### ***A1AE PKGEDIT***

This key is not currently associated with any options. We recommend that

it be used to lock A1AE PKGMGT Package Management Menu and A1AE PKMENU Package Menu. If used in this way, this key should be given only to package managers.

### ***A1AE SCAN MESSAGE***

This key is for those testing the A1AE\*2.2\*7 patch's inventorier and checksum verifier. It is a highly specialized function and should not generally be assigned to any users. If it is ever used, it should only be used by the Patch Module manager.

This key unlocks the following options:

A1AE TEST SCANNER Scan Patch for Discrepancies and Content

### ***A1AE SUPPORT***

This key gives the user access the the support personnel menu.

This key unlocks the following options:

A1AE SUPPORT Support Menu

### ***A1AE XUSEC***

This key should be given to the Patch Module manager, and to any application managers experienced enough to use it.

This key unlocks the following options:

A1AE XUSEC Key Allocation for Patch Functions

## **Patch Module Locked Options**

The following options are locked by default.

| <b>Option Name</b>             | <b>Menu Text</b>                                     | <b>Key</b>           |
|--------------------------------|--|----------------------|
| A1AE ADD/EDIT<br>PATCH STREAMS | Add/Edit Patch<br>Streams                            | A1AE MGR             |
| A1AE COMPLIANCE<br>COMMENT PRT | Compliance Date Print                                | A1AE COMPDATE        |
| A1AE COMPLIANCE<br>EDIT        | Compliance Date Edit                                 | A1AE COMPDATE        |
| A1AE DEVELOPER                 | Developer's Menu                                     | A1AE DEVELOPER       |
| A1AE IMPORT MENU               | Patch Import from<br>Filesystem Menu                 | A1AE IMPORT          |
| A1AE IMPORT<br>RECURSIVE       | Import Patches<br>recursive from a<br>Directory Tree | A1AE IMPORT          |
| A1AE IMPORT<br>SINGLE DIR      | Import Patches in a<br>Single Directory              | A1AE IMPORT          |
| A1AE MGR                       | Patch Module<br>Management                           | A1AE MGR             |
| A1AE MGRADD                    | Add Package to Patch<br>Module                       | A1AE MGR             |
| A1AE PBPROBLEM                 | Problem Menu   | OBSOLETE             |
| A1AE PBRESREV                  | Resolve/Review a<br>Problem                          | A1AE DEVELOPER       |
| A1AE PHVER                     | Release a Patch (and/or<br>edit internal comments)   | A1AE PHVER           |
| A1AE PRTUDVPH VER              | Under Development<br>Patches Report for<br>Releasers | A1AE PHVER           |
| A1AE SUPPORT                   | Support Menu   | A1AE SUPPORT         |
| A1AE TEST SCANNER              | Scan Patch for<br>Discrepancies and<br>Contents      | A1AE SCAN<br>MESSAGE |

| <b>Option Name</b> | <b>Menu Text</b>                      | <b>Key</b> |
|--------------------|---------------------------------------|------------|
| A1AE VERIFIER      | Releaser Menu                         | A1AE PHVER |
| A1AE XUSEC         | Key Allocation for<br>Patch Functions | A1AE XUSEC |

In addition, the following option locks are recommended:

| <b>Option Name</b> | <b>Menu Text</b>           | <b>Key</b>  |
|--------------------|----------------------------|-------------|
| A1AE PKGMGT        | Package Management<br>Menu | A1AEPKGEDIT |
| A1AE PKMENU        | Package Menu               | A1AEPKGEDIT |

## Chapter 2: Email Considerations

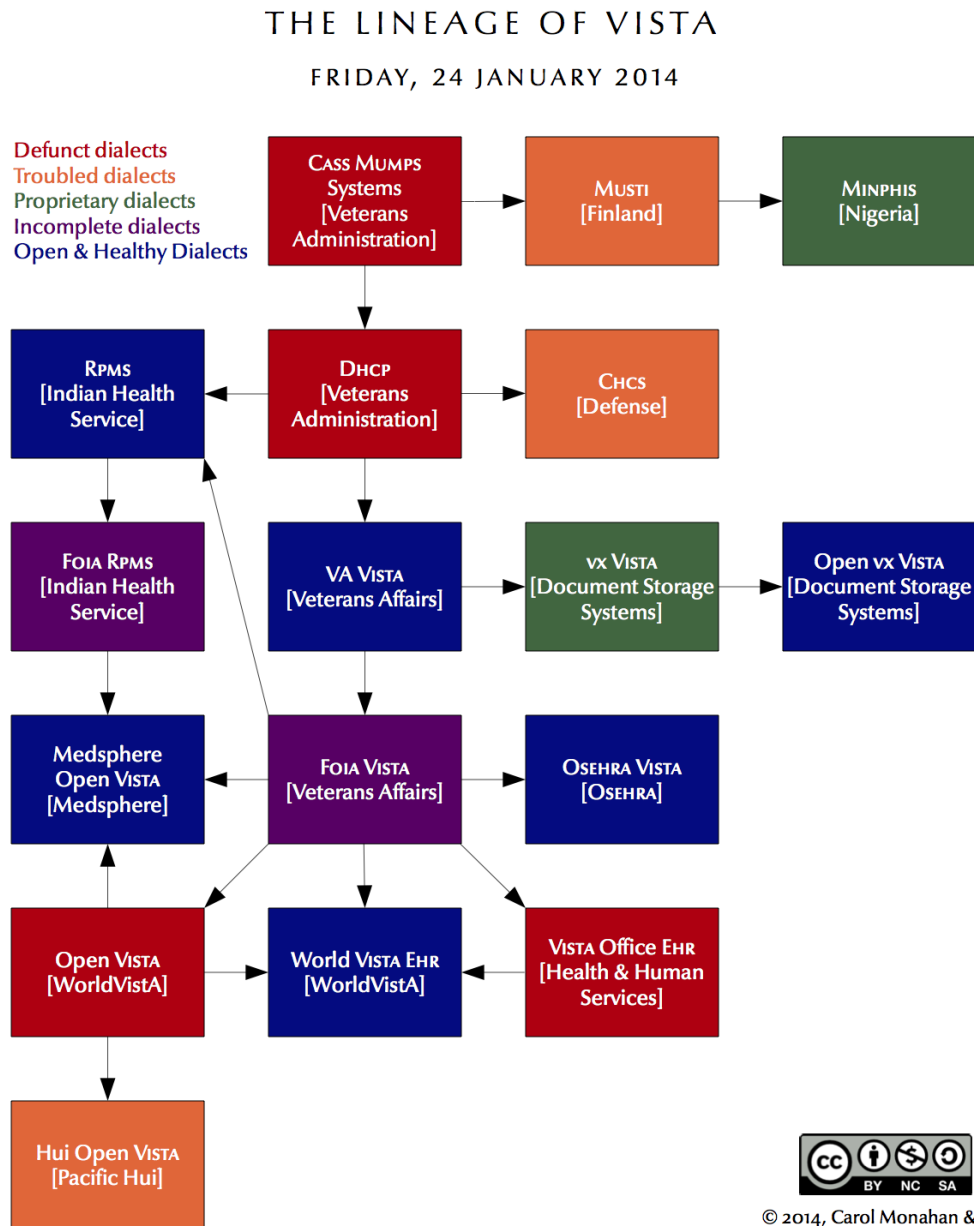
OSEHRA Forum uses a public SMTP server in order to send and receive email. This exposes it to spam. Developers have not yet had time to combat this, but its effects have not been deleterious so far. Implementing Anti-spam measures needs to be done carefully as Primary Developers sending email to Forum may be labeled as spammers.

A user surrogating for the Postmaster must check the Postmaster inbox daily.

There are two types of messages in the postmaster's mailbox that would indicate that spam is being received:

1. A new domain has been added. We need a way to tell VistA to suppress the addition of new domains.
2. A relay attempt has been denied.

# Appendix A: The Lineage of VistA



© 2014, Carol Monahan &  
Frederick D. S. Marshall

VISTA Expertise Network's *The Lineage of VistA* is licensed under the *Creative Commons Attribution-Noncommercial-Share Alike 3.0 United States License* (<http://creativecommons.org/licenses/by-nc-sa/3.0/us/>).



# Glossary

|                     |  |
|---------------------|--|
| Application         | An administrative division of VistA that automates part or all of one hospital or clinical service. Pharmacy and Nursing are examples of applications.   |
| Application Version | A complete new release of an application. Versions are numbered sequentially.  |
| Build               | See KIDS Build   |
| Checksum            | A number unique to any given version of a software element. Even a small change to the software will change the checksum, so checksums are used to detect changes and verify a particular version. |
| Dialect             | See VistA Dialect  |
| Distribution        | See KIDS Distribution  |
| FOIA                | Freedom of Information Act. The term “FOIA” can refer to the Act itself, or to a request sent to the government under the auspices of the Act.   |
| Forum               | A VistA system used as the hub of an organization’s VistA software lifecycle. VA and OSEHRA each have their own Forums.  |
| Gerrit              | A code-review system for use with a repository such as Github.   |
| Git                 | A version-control system.  |

|                    |  |
|--------------------|--|
| Github             | A platform that hosts repositories using the Git system.   |
| Host-File Format   | A file-based format for a KIDS distribution. It consists of two parts: the KIDS file and the text file.  |
| KIDS               | The Kernel Installation and Distribution System. KIDS is the primary method for preparing a patch for the Patch Module, as well as the mechanism for installing patches.                   |
| KIDS Build         | The “manifest” of a KIDS distribution, which lists all the components included in the distribution.  |
| KIDS Distribution  | A host file or Packman message containing a software update and associated tools and conversions for applying it.  |
| KIDS File          | In a host-file format, the portion of the file containing the software.  |
| KIDS Install       | A record describing what happened during each installation of a KIDS distribution at a specific site.  |
| Local Modification | A change to VistA made for a specific facility or organization. Local modifications are necessary in VistA, but result in changes to checksums that make version control more challenging. |
| Mailman            | VistA’s native email system. Patches can be distributed using Mailman’s Packman module.  |
| Namespace          | A convention for naming VistA package elements. Each developer or organization is assigned a   |

|                 |  |
|-----------------|--|
|                 | namespace, which is a unique character string, to be used use in naming routines, options, and other package elements. Namespacing helps keep similar elements from different developers distinct and easily identifiable. |
| Numberspace     | Similar to a namespace, a numberspace is a unique numeric string assigned to a developer or organization. Numberspaces are used for VistA elements that have numbers rather than names.                                    |
| Package         | A distribution of a new version of an application.   |
| Packman         | A module of Mailman used to ship patches and other software.   |
| Packman Format  | A format for a KIDS distribution designed for use with Packman.  |
| Packman Message | Any email message that contains a KIDS distribution in Packman format.   |
| Patch           | Any small change or update intended for installation in an active VistA system. Most patches can be installed with minimal disruption to the system or its users.  |
| Patch Completer | The developer who reviews the patch developer's work, then updates the status of the patch in the Patch Module to "completed."   |
| Patch Developer | Person who initially entered the information on the patch into the Patch Module. That person will be listed as the "developer" in the Patch Module, whether they did any actual development work or not.                   |

|                     |  |
|---------------------|--|
| Patch ID            | A multi-part identification number for a patch, which includes the application namespace, the application version number, and the patch number.  |
| Patch Message       | An email message that contains a patch description and a Packman-format KIDS distribution. This is the default method for the Patch Module to distribute patches.                          |
| Patch Number        | Unique number given to a patch, as it relates to the specific application and version. Patch numbers are numberspaced, so patches from different sources can be immediately distinguished. |
| Patch Reviewer      | In secondary development, the developer who reviews the released patch to determine what kind of secondary development might be needed.  |
| Patch Stream        | The series of patches developed and released for a specific application or dialect.  |
| Patch Subscriber    | A person or organization who has signed up to receive a particular patch stream.   |
| Patch Verifier      | Specialist who confirms that the patch is functionally complete, and meets all standards. Verifiers make the decision to release the patch.  |
| Primary Developer   | The person or team who initiates the patching process and releases a new patch.  |
| Primary Development | The actions involved in creating and distributing a new patch.   |

|                       |   |
|-----------------------|---|
| Repository            | Online electronic storage which houses reference versions of a specific software. Generally, one version is designated as the “official” version. OSEHRA provides repositories for OSEHRA VistA and FOIA VistA.   |
| Required Patch        | A prerequisite patch. All patches should list their required patches—that is, their prerequisites—for installation.   |
| Secondary Developer   | The person or team who re-purposes a released patch for their VistA dialect.  |
| Secondary Development | The actions involved in re-purposing a patch for a different VistA dialect.   |
| Sequence Number       | Unique number assigned when a patch is verified. It determines the default order in which patches should be installed.  |
| Text File             | In host-file format, the portion of the file that contains the patch description.   |
| Version               | See Application Version   |
| Version Control       | A system or methodology for ensuring that all software within a given organization is the same version.   |
| Version Number        | The sequential number of the current application version. Each VistA application has its own version number. For example, the current version of Laboratory is 5.2, while the current version of Fileman is 22.2. |
| VistA Dialect         | A unique, stable version of VistA supported by a  |

specific vendor. Popular VistA dialects include OSEHRA VistA, vxVistA (Document Storage Systems), Medsphere Open VistA and WorldVistA EHR.

**VistA Service Pack**

A bundle of VistA packages and patches, which can be used to upgrade an existing VistA system.

**VistA Snapshot**

A copy of an existing VistA system. A VistA snapshot is most commonly used to clone a new VistA instance.