# Image Viewer Version 2.0

# Production Operations Manual (POM)

**MAG*3.0*197**

**Department of Veterans Affairs**

## Revision History

| Date | Version | Description | Author |
|---|---|---|---|
| 4/5/2018 | 0.8 | Additional MAG*3.0*197 Updates | Montana Smith |
| 1/19/2018 | 0.7 | Updated for MAG*3.0*197 | Montana Smith |
| 11/14/2017 | 0.6 | Additional MAG*3.0*185 Updates | Montana Smith |
| 10/17/2017 | 0.5 | Updated for MAG*3.0*185 | Montana Smith |
| 5/8/2017 | 0.4 | Date and other minor updates | Montana Smith |
| 3/27/2017 | 0.3 | Updated for MAG*3.0*177 | Montana Smith |
| 2/10/2017 | 0.2 | Initial draft | Development Team |
| 9/23/2016 | 0.1 | Initial draft | Development Team |

Note: The revision history cycle begins once changes or enhancements are requested after the Production Operations Manual has been baselined.

# Artifact Rationale

The Production Operations Manual provides the information needed by the production operations team to maintain and troubleshoot the product. The Production Operations Manual must be provided prior to release of the product.

# Table of Contents

# 1. Introduction

This document explains how to maintain and administer the Veterans Health Information Systems and Technology Architecture (VistA) Imaging Exchange (VIX) service. The VIX is used to facilitate data sharing and exchange across organizational and functional boundaries. Currently the VIX's primary purpose is to support image sharing between the Department of Veterans Affairs (VA) medical facilities as well as between VA and the Department of Defense (DoD) medical facilities. It is anticipated that the VIX's role will be expanded to support data sharing and exchange within a facility as well as between facilities. This document assumes that the VIX is installed and configured. For information about VIX system requirements, installation, and configuration see the *MAG*3.0*197 VIX Installation Guide.*

## 1.1. Intended Audience

This document is intended for VA staff responsible for managing a local VIX. Some parts of this document may also be of interest to VA Imaging Coordinators at non-VIX sites. It describes how remote VIXes log access to locally stored images. This document presumes a working knowledge of the VistA environment; VistA Imaging components and workflow; and Windows server administration.

# 2. Routine Operations

## 2.1. Administrative Procedures

### 2.1.1. System Start-up and Shut Down

See the *VIX Administrator's Guide and the MAG*3.0*197 VIX Installation Guide.*

### 2.1.2. Back-up & Restore

#### 2.1.2.1. Back-Up Procedures

See the *VIX Administrator's Guide*

#### 2.1.2.2. Restore Procedures

No tape restore.

#### 2.1.2.3. Back-Up Testing

N/A.

#### 2.1.2.4. Storage and Rotation

N/A.

## 2.2. Security / Identity Management

See the *VIX Administrator's Guide*

### 2.2.1. Identity Management

See the *VIX Administrator's Guide*

### 2.2.2. Access control

See the *VIX Administrator's Guide*

### 2.2.3. VIX Interfaces

See the *VIX Administrator's Guide*

### 2.2.4. Other VIX Components

See the *VIX Administrator's Guide*

### 2.2.5. VIX Security Certificate

See the *VIX Administrator's Guide*

## 2.3. User Notifications

### 2.3.1. User Notification Points of Contact

| Name | Organization | Phone | Email | Method (email/phone) | Priority | Time |
|---|---|---|---|---|---|---|
| NSD | National Service Desk | 1-855-673-4357 | vhaistnsdtusc@va.gov | Phone | Tier 3 | N/A |

## 2.4. System Monitoring, Reporting & Tools

See the *VIX Administrator's Guide*

### 2.4.1. Dataflow Diagram

See the *VIX Administrator's Guide*

### 2.4.2. Performance/Capacity Monitoring

System performance can be assessed by the response times experienced by the end user. The system resources are self-managed. Cache is sized not to exceed available storage sizes.

### 2.4.3. Critical Metrics

N/A.

## 2.5. Routine Updates, Extracts and Purges

N/A.

## 2.6. Scheduled Maintenance

N/A.

## 2.7. Capacity Planning

N/A.

### 2.7.1. Initial Capacity Plan

The hardware was sized to service the estimated user demand based on an estimated number of requests during peak usage.

# 3. Exception Handling

Site personnel are expected to contact CLIN3 via an NSD ticket to resolve operation errors. Programmatic problems are triaged to developers.

## 3.1. Routine Errors

The system may generate a small set of errors that may be considered routine in the sense that they have minimal impact on the user and do not compromise the operational state of the system. Most of the errors are transient in nature and only require the user to retry an operation. The following subsections describe these errors, their causes, and what, if any, response an operator needs to take.

While the occasional occurrence of these errors may be routine, a large number of errors over a short period of time is an indication of a more serious problem. In that case, the error needs to be treated as an exceptional condition.

### 3.1.1. Security Errors

Since the system is a component of a larger system that is responsible for user-level security, it is expected that all errors related to security are handled by the controlling application. All security failures (e.g., inability to access resources or stored objects) are generally caused by the controlling application either incorrectly passing security tokens or failing user authentication. Other security issues are under the jurisdiction of the site VistA Imaging security that has already established protocols and procedures.

### 3.1.2. Time-outs

See the *VIX Administrator's Guide*

### 3.1.3. Concurrency

N/A.

## 3.2. Significant Errors

Significant errors can be defined as errors or conditions that affect the system stability, availability, performance, or otherwise make the system unavailable to its user base. The

following subsections contain information to aid administrators, operators, and other support personnel in the resolution of significant errors, conditions, or other issues.

### 3.2.1. Application Error Logs

See the *VIX Administrator's Guide*

### 3.2.2. Application Error Codes and Descriptions

See *Section 3.2.1: Application Error Logs*

### 3.2.3. Infrastructure Errors

N/A.

#### 3.2.3.1. Database

The application installs a Structured Query Language (SQL) Server database that is completely self-managed. There are no site interactions required to maintain this database. The purpose of the database is to manage cached objects. The complete loss of this database is not a failure as it gets repopulated with each caching operation. The amount of data stored in the database and the cache is managed by the application based on available storage. No specific database errors are identified.

#### 3.2.3.2. Web Server

Web Services are provided by the VIX using already deployed components. No other Commercial Off-The-Shelf (COTS) components are required. Refer to the *VIX Administrator's Guide* for specific errors.

#### 3.2.3.3. Application Server

N/A.

#### 3.2.3.4. Network

N/A.

#### 3.2.3.5. Authentication & Authorization

Refer to the *VIX Administrator's Guide*. The VIX services use pass through authentication via security tokens. Errors manifest themselves as the inability to load images. Correction of these errors involve the controlling application or altering the site specific settings in VistA Imaging.

#### 3.2.3.6. Logical and Physical Descriptions

N/A.

## 3.3. Dependent System(s)

The VIX Viewer is part of VistA Imaging. The main system dependency is on VistA. Inability to access Vista is logged in the VIX logs, and alerts are sent via email.

## 3.4. Troubleshooting

Errors manifest themselves as the inability to load images. Review of the VIX error logs and transaction logs is the only tool available on the VIX to troubleshoot these conditions. Refer to the *VIX Administrator's Guide* for further details.

## 3.5. System Recovery

The following subsections define the process and procedures necessary to restore the system to a fully operational state after a service interruption. Each of the subsections starts at a specific system state and ends up with a fully operational system.

### 3.5.1. Restart after Non-Scheduled System Interruption

See the Section 2.1.1: System Start-up and Shut Down

### 3.5.2. Restart after Database Restore

N/A.

### 3.5.3. Back-out Procedures

See the *MAG*3.0*197 VIX Installation Guide.*

### 3.5.4. Rollback Procedures

See the *MAG*3.0*197 VIX Installation Guide.*

# 4. Operations and Maintenance Responsibilities/RACI

This responsibility matrix defines the roles and responsibilities for supporting VistA patches as part of a deployed solution. This is a template of the standard support structure required for VistA patches therefore the Project Manager (PM) should note any deviations in responsibility from this standardized Field Operations responsibility matrix in the Operational Acceptance Plan (OAP).

VistA Patching is generally relegated to sustainment of existing solutions but may also include emergency "hot fix" patches designed to remediate a noted deficiency within the solution. This Responsibility Matrix (Responsible, Accountable, Consulted, Informed, or RACI) is related to VistA patches released and supported at the national level (known as "Class I" patches) which are distributed to the entire Enterprise after testing and release management has been completed. VistA Patches are released via the FORUM, KERNEL or via Secure File Transfer Protocol (SFTP) directly to the Field.

**Entities involved with VistA Patching:**

**NSD =** OI&T National Service Desk
**FCIO =** Facility Chief Information Officer
**SL =** OI&T Service Lines
Application Service Line (**SL-ASL**)
Core Systems Service Line (**SL-Core**)
**PS =** OI&T Product Support **VHA =** Local Facility medical staff (customer)
**FO =** Field Operations
**PD =** OI&T Product Developer
**DSO =** VHA Decision Support Office
**HPS =** Health Product Support

**Support:**

Tier 1: NSD
Tier 2: (local OI&T – FCIO/SL-ASL)
Tier 3: HPS
Tier 4: PD/Maintenance

| FO VistA Patching Responsibility Matrix | Production Environments |
|---|---|
| Application development | PD |
| Release Management | HPS |
| Rollback Plan | PD |
| Application installation | FCIO/SL-ASL |
| Application support | NSD, FCIO, SL, HPS, Vendor |
| Client/Server Update (where applicable) | SL-Core |
| OS Patching (where applicable) | SL-Core |
| Change Management | SL-ASL |
| Application Administration (Operations and Maintenance) | SL-ASL |
| Local Training for Front Line Staff | VHA |
| National Training (where applicable) | DSO |

# 5. Approval Signatures

*Indicate the approval of the Production Operations Manual below or by recording approval in the appropriate Work Item or CD#2 decision in the Rational tool set.*

REVIEW DATE: *<date>*

SCRIBE: *<name>*

Signed: TORI E. BODWIN 334339 Digitally signed by TORI E. BODWIN 334339 Date: 2018.05.03 12:53:50 -05'00'

Portfolio Manager Date

Signed: MICHAEL S. ICARDI 255065 Digitally signed by MICHAEL S. ICARDI 255065 Date: 2018.05.04 12:12:51 -05'00'

Product Owner Date

Signed: Kathleen L. Linville 450633 Digitally signed by Kathleen L. Linville 450633 Date: 2018.05.08 10:03:12 -05'00'

Receiving Organization (Operations Support) Date

Signed: Michael J. Streff 196925 Digitally signed by Michael J. Streff 196925 Date: 2018.05.03 13:39:07 -06'00'

Product Support Date

Signed: Larry E. Carlson 382018 Digitally signed by Larry E. Carlson 382018 Date: 2018.05.03 07:09:37 -07'00'

Project Manager Date

# A. References

- *MAG*3.0*197 Deployment, Installation, Back-Out, and Rollback Plan*
- *VIX Administrator's Guide*

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# B. Acronyms

| | |
|---|---|
| ACL | Access Control List |
| BSE | Broker Security Enhancement |
| COTS | Commercial Off-The-Shelf |
| CRUD | Create, Read, Update and Delete |
| CVIX | Central VistA Imaging Exchange |
| DCF | DICOM® Connectivity Framework |
| DICOM | Digital Imaging and Communications in Medicine |
| DoD | Department of Defense |
| JLV | Joint Legacy Viewer |
| JPEG | Joint Photographic Experts Group |
| JRE | Java Runtime Environment |
| PACS | Picture Archiving and Communication System |
| POM | Production Operations Manual |
| SQL | Structured Query Language |
| VA | Department of Veterans Affairs |
| VistA | Veterans Health Information Systems and Technology Architecture |
| VIX | VistA Imaging Exchange |