



# **VistALink**

VERSION 1.0

## **Installation Guide**

*October 2, 2003*

Department of Veterans Affairs  
VistA Health Systems Design & Development (HSD&D)

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## Revision History

**Table 1**, below, summarizes the *VistALink Installation Guide* revision history.

<b>Date</b>	<b>Revision</b>	<b>Description</b>	<b>Author(s)</b>
April 18, 2003	N/A	Initial draft content	Foundations team
May 23, 2003	.9	Revisions from CPRS-R, VHA Technical Writers and VHA Testing received / implemented	Foundations team / Reviewers
October 2, 2003	1.0	Revisions from VistALink Development Team received / implemented	Foundations team

*Table 1: VistALink Installation Guide Revision History*

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## Using This Guide

This guide offers advice and instructions regarding the use of VistALink and the functionality it provides for Veterans Health Information Systems and Technology Architecture (Vista) as a whole.

To highlight different aspects of its subject matter, this guide uses several methods. Various symbols are used throughout the documentation to alert the reader to special information. **Table 2**, below, gives a description of each of these symbols:

Symbol	Description
	Used to inform the reader of general information including references to additional reading material
	Used to caution the reader to take special notice of critical information

**Table 2: Documentation Symbol Descriptions**

- Descriptive text is presented in a proportional font (as represented by this font).
  - "Snapshots" of computer online displays (i.e., roll-and-scroll screen captures/dialogs) and computer source code are shown in a *non*-proportional font and enclosed within a box. Also included are Graphical User Interface (GUI) Microsoft Windows images (i.e., dialogs or forms).
    - User responses to online prompts will be in boldface type.
    - The word "**Enter**" in snapshots further prompts the user to press the **Enter** or **Return** key on their keyboard.
    - Author comments are displayed in italics or as "callout" boxes.
-  Callout boxes refer to labels or descriptions (usually enclosed within a box) that point to specific areas of a displayed image.

## Common Terms

**Table 3**, below, describes some terms commonly used in this guide. These terms may be helpful as you use the guide to work with VistALink.

Term	Description
<b>Adapter / Connector</b>	Exemplified by the Java 2 Platform, Enterprise Edition (J2EE) Connector Architecture (J2EE Connectors for short), this represents a uniform way to integrate J2EE application servers with Enterprise Information Systems (EIS).
<b>Authentication</b>	Verifying the identity of the end-user.
<b>Authorization</b>	Checking the permissions of a user to allow or disallow the performance of some function.
<b>Client</b>	A single term used interchangeably to refer to the <i>client</i> workstation (i.e., PC) and the <i>client</i> portion of the program that runs on the workstation.
<b>J2SE</b>	Java 2 Standard Edition. The blueprint for building Java applications.
<b>M Server</b>	The computer where MUMPS or M data and Remote Procedure Calls (RPCs) reside.

*Table 3: Common VistALink Terms*

## How to Obtain Technical Information Online



Methods for obtaining specific technical information online will be indicated in this guide (where applicable) under the appropriate topic.

## Assumptions About the Reader

This guide is written with the assumption that readers have experience with the following:

- VistA computing environment
- Kernel Installation and Distribution System [KIDS]
- VA FileMan data structures and terminology
- Microsoft Windows

This guide makes no attempt to explain how the overall VistA programming system is integrated and maintained. Such methods and procedures are documented elsewhere. We suggest you look at the various VA home pages on the World Wide Web (WWW) for a general orientation to VistA. For example, go to the Health System Design & Development (HSD&D) Home Page at the following web address:

<http://vista.med.va.gov/>

## Reference Materials

Readers who wish to learn more about VistALink should consult the following:

- *VistALink Developer / System Manager Manual*, available at <http://www.va.gov/vdl/>.
- *VistALink Technical Manual and Package Security Guide*, also available at <http://www.va.gov/vdl/>.
- <http://vista.med.va.gov/migration/foundations/Foundindex.htm>

The Foundations page (available at the URL above) provides announcements, additional information (e.g., Frequently Asked Questions [FAQs] or advisories), documentation links, archives of older documentation and software downloads.

VistALink documentation is made available online, on paper and in Adobe Acrobat Portable Document Format (.PDF). A .PDF must be read using the Adobe Acrobat Reader (i.e., ACROREAD.EXE), which is freely distributed by Adobe Systems Incorporated at the following URL or Web address:

<http://www.adobe.com/>



For more information on the use of the Adobe Acrobat Reader, please refer to the "Adobe Acrobat Quick Guide," also available at the Adobe URL above.



**DISCLAIMER: The appearance of external hyperlink references in this guide does not constitute endorsement by the Department of Veterans Health Administration (VHA) of this Web site or the information, products or services contained therein. The VHA does not exercise any editorial control over the information you may find at these locations. Such links are provided and are consistent with the stated purpose of this VHA Intranet Service.**

# Introduction

*This guide defines one of the three (3) VistALink v1.0 documentation deliverables:*

1. Installation Guide
2. Developer / System Manager Manual
3. Technical Manual and Package Security Guide

*The **VistALink Installation Guide** details all the steps required for setting up the VistALink M software components. The **VistALink Developer / System Manager Manual** gives nationwide VHA application modernization teams background information and specific instructions focused on VistALink as a tool. For questions concerning the architecture and construction of VistALink, the **VistALink Technical Manual and Package Security Guide** provides qualified answers, as well as foundational information. Together, these three publications document the current state of VistALink and anticipate upcoming development.*

Please see the *General Pre-Installation Information* subsection on the next page of this manual for details on accessing all VistALink documentation via the VistA intranet.

**Background Information.** VistALink is a transport layer that allows Java to communicate with M remote procedures. VistALink is completely based on standard technologies, both on the Java and M side.

**Architectural Scope.** VistALink v1.0 is designed to work with a standalone J2SE application. VistALink will be used by other VistA rehosting projects as a transport layer between Java and M. VistALink implements the Java Connector Architecture (JCA) 1.0 standard – v1.0 of VistALink implements only the non-managed / J2SE version of the JCA standard.

**Functionality Scope.** VistALink v1.0 provides:

- a. Communication capabilities for an M application request from a client J2SE Java application
- b. An authenticated communication transport layer from Java to M
- c. End-user authentication within Java applications based on M user accounts (J2SE only)
- d. Calling of RPCs in a secure environment

## **VistALink FAQs.**

For general or frequently asked questions (FAQs) about VistALink, please refer to the following web site:

<http://vista.med.va.gov/migration/foundations/FAQ.htm>

## Chapter 1: Installing VistALink

Installing VistALink involves separate procedures for M systems and the Java workstation. This section has been broken down into subsections containing information on general pre-installation, M-specific pre-installation, general installation and M-specific installation.

### 1.1. General Pre-Installation Information

#### 1.1.1. Required Packages / Patches

Before the installation of VistALink v1.0, the following packages / patches must be installed.

Software	Version	Patch Information
Kernel	8.0	Fully patched, including: XU*8*238
Kernel Toolkit	7.3	Fully patched, including: XT*7.3*67
MailMan	8.0	Fully patched.
RPC Broker	1.1	Fully patched.
VA FileMan	22.0	Fully patched.

#### 1.1.2. Software Retrieval

The ZIP file, **XOB\_1\_0.zip**, contains all the files necessary to install VistALink and is available in the Office of Information Field Office (OIFO) ANONYMOUS.SOFTWARE directories listed below:

OIFO	FTP Address	Directory
Albany	<a href="ftp.fo-albany.med.va.gov">ftp.fo-albany.med.va.gov</a>	anonymous.software
Hines	<a href="ftp.fo-hines.med.va.gov">ftp.fo-hines.med.va.gov</a>	anonymous.software
Salt Lake City	<a href="ftp.fo-slc.med.va.gov">ftp.fo-slc.med.va.gov</a>	anonymous.software
VistA Download Site	<a href="download.vista.med.va.gov">download.vista.med.va.gov</a>	anonymous.software

### 1.1.3. Documentation Retrieval

The following Word and PDF-format documentation files are in the XOB\_1\_0.zip.

File Name	Document
XOB_1_0IG.doc XOB_1_0IG.pdf	VistALink Installation Guide
XOB_1_0DSMM.doc XOB_1_0DSMM.pdf	VistALink Developer and System Manager Manual
XOB_1_0TM.doc XOB_1_0TM.pdf	VistALink Technical Manual and Package Security Guide

### 1.1.4. VistA Document Library

Documentation for this product is also available on the Internet at the following address:

<http://www.va.gov/vdl/>

This address takes you to the VistA Documentation Library (VDL), which lists all VistA software manuals. Click on the VDL “Infrastructure” link to find the VistALink documentation.

### 1.1.5. Hardware and Operating Systems Requirements

VistALink software runs on the standard hardware platforms used by the VHA healthcare facilities. These systems typically have the following configurations:

#### Hardware

- ES40s/ES45s or Alpha 4100s
- Workstation

#### Operating System Software

- DSM/VMS: DSM (version 7.2.1 VA1)  
VMS (version 7.2-1 minimum) (note: VMS version same for Cache/VMS)
- Cache/NT: Cache (version 3.2.31.1)
- Cache/VMS: Cache (version 4.1)

### 1.1.6. Workstation Requirements

- Windows 9x, NT, XP, Windows 2000 workstation or Windows 2000 server with terminal services
- Minimum / Recommended / Preferred Random Access Memory (RAM):
  - Not applicable. See the recommendations for the Java Virtual Machine (JVM) and your application in the *VistALink Developer / System Manager Manual*.
  - Java 2 Platform Standard Edition v.1.4.2 (J2SE v1.4.2) – JRE

Instructions for obtaining the J2SE 1.4.2 can be found in Chapter 2 of this guide, the **VistALink IRM Preparation and Installation Checklist**, beginning on page 22.

### 1.1.7. System Performance Capacity

There are no significant changes in the performance capacity of the VistA operating system once VistALink software is installed. The software should not create any appreciable global growth or network transmission problems. There are no memory constraints.

## 1.2. M-Specific Pre-Installation Information

### 1.2.1. IRM Staff

Programmer access (S DUZ(0)='@') is required for installing VistALink. On a DSM/VMS system, the installer must also have a VMS account.

### 1.2.2. Software Installation Time

The estimated installation time for VistALink is less than five minutes.

### 1.2.3. Users on the System

VistALink v1.0 is a new package release. Users may remain on the system. No options need to be placed out of service. Inhibiting logons during installation is not necessary.

### 1.2.4. Namespaces

VistALink has been assigned the **XOB** namespace.

### 1.2.5. Routine List

VistALink v1.0 includes the following 25 routines.

1. XOBUENV
2. XOBUM
3. XOBUM1
4. XOBUPOST
5. XOBUPRE
6. XOBVLIB
7. XOBVLL
8. XOBVLT
9. XOBVPOST
10. XOBVPRE
11. XOBVRH
12. XOBVRM
13. XOBVRMX
14. XOBVRPC
15. XOBVRPCI
16. XOBVRPCX
17. XOBVSKT
18. XOBVSYSI
19. XOBVTCP
20. XOBVTCPL
21. XOBVTLS
22. XOBSCAV
23. XOBSCAV1
24. XOBSCAV2
25. XOBSCI

## 1.2.6. File and Global Information

VistALink v1.0 installs the following new files:

File #	File Name	Root Global	Global Protection
18.01	FOUNDATIONS SITE PARAMETERS	^XOB(18.01,	@
18.03	VISTALINK LISTENER CONFIGURATION	^XOB(18.03,	@
18.04	VISTALINK LISTENER STARTUP LOG	^XOB(18.04,	@
18.05	VISTALINK MESSAGE TYPE	^XOB(18.05,	@

## 1.2.7. Translation

Translation of the ^XOB global is recommended. This should be properly done in the desired database set before the installation is run.

## 1.2.8. Journaling

Since the ^XOB global is relatively static, journaling of this global is not required.

## 1.2.9. Protection

Protection				
Global Name	DSM for OpenVMS		Cache	
	^XOB	System:	RWP	Owner:
World:		RW	Group:	N
Group:		RW	World:	N
UCI:		RW	Network:	RWD

## 1.3. General Installation Information

Unzip and extract the VistALink v1.0 distribution file to a directory on the workstation (e.g., c:\Program Files\vistalink).

Contents:

<root>	Contains the Readme.txt and ReleaseNotes
allSrc	All VistALink source code
doc	VistALink documentation
jars	VistALink Java Archive (JAR) library files
javadoc	API documentation in "javadoc" format
m	KIDS distribution for the M routines
samples	Source code for the sample application

## 1.4. M Installation Information

1. Locate the KIDS host file in the c:\Program Files\vistalink\m directory. The name of the file is **XOB\_1\_0.KID**.
2. Transfer file XOB\_1\_0.KID to the appropriate M system(s) for installation. The .KID file is an ASCII file.
3. Use the KIDS Installation option 'Load A Distribution' entering XOB\_1\_0.KID as the name of the Host File. This will load three transport globals, which are contained within the distribution. The three transport globals appear below, each with a brief description.
  - XOBU 1.0                      Root namespace for all Foundations products
  - XOBV 1.0                      VistALink namespace
  - XOBS 1.0                      VistALink Security namespace
4. At this time the KIDS Installation option 'Verify Checksums in Transport Global' may be run; this option will ensure the transport global was not corrupted in transit. Use **XOBU 1.0** as the response to the 'Select INSTALL NAME:' prompt.

*Use the example / instructions below to run the 'Verify Checksums...' KIDS Installation option.*

```
Select Installation Option: 2 Verify Checksums in Transport Global
Select INSTALL NAME: XOBU 1.0                      Loaded from Distribution
9/30/03@08:23:15
=> Foundations, VistALink, and VistALink Security v1.0 [Build
1.0.0.124]
```

```
This Distribution was loaded on Sep 30, 2003@08:23:15 with header of
Foundations, VistALink, and VistALink Security v1.0 [Build 1.0.0.124]
;Created on Sep 29, 2003@10:13:33
It consisted of the following Install(s):
XOBU 1.0                      XOBV 1.0                      XOBS 1.0
DEVICE: HOME//              TELNET PORT
```

---

PACKAGE: XOBV 1.0      Sep 30, 2003 8:24 am      PAGE 1

---

5 Routine checked, 0 failed.

---

PACKAGE: XOBV 1.0      Sep 30, 2003 8:24 am      PAGE 1

---

16 Routine checked, 0 failed.

---

PACKAGE: XOBV 1.0      Sep 30, 2003 8:24 am      PAGE 1

---

4 Routine checked, 0 failed.

5. Use the KIDS Installation option 'Install Package' to install VistALink.

Use **XOBV 1.0** as the name to install.

- The following question may be answered 'Yes,' but rebuilding menu trees may increase patch installation time.

*Want KIDS to Rebuild Menu Trees Upon Completion of Install?*

- Answer 'No' to the following question:

*Want KIDS to INHIBIT LOGONs during the install?*

- Answer 'No' to the following question:

*Want to DISABLE Scheduled Options, Menu Options, and Protocols?*

**Note:** *The XOBV LISTENER STARTUP option, which automatically starts a VistALink listener configuration during system reboot or Cache restart is applicable ONLY to Cache systems and will not be scheduled on a VMS system.*

## 1.5. Additional M Installation Information – File #18

During testing of VistALink v1.0, it was discovered that some sites might still have an old Kernel file residing on their system. The name of the file is **SYSTEM** and it is **file #18**.

This file was created in the early 1980s and was a precursor to the current Kernel System Parameters file. However, it is now obsolete and must be removed from your system before the VistALink package can be installed because it shares the same numberspace that VistALink was assigned.

You may wish to manually backup and delete SYSTEM file #18. If the SYSTEM file is on your system, the VistALink environment check will ask you a series of questions during the installation phase to abort the installation or allow the VistALink installation to delete the file for you. Additionally, instructions are provided which explain how to delete the file manually.

*Note: Section 1.7 of this guide includes a sample M Installation of a system containing SYSTEM file #18.*

## 1.6. M Installation Example<sup>1</sup>

Use the example / instructions in this subsection to set up the M Server portion of VistALink.

*Note: The instructions and images used in this subsection assume a first-time VistALink M server installation. Your system's screen display during installation may vary from the display(s) shown here.*

```
Select Kernel Installation & Distribution System Option: ?
```

```
Edits and Distribution ...
Utilities ...
Installation ...
```

*Choose the **Installation** option from the KIDS menu. Press **Enter**.*

```
Enter ?? for more options,
??? for brief descriptions, ?OPTION for help text.
```

```
Select Kernel Installation & Distribution System Option: INStallation
```

```
Select Installation Option: LOAD a Distribution
Enter a Host File: XOB_1_0.KID
```

*Type the KID file name at the **Enter a Host File** prompt. Press **Enter**.*

---

<sup>1</sup> If reinstalling on a Cache NT system, during the KIDS install phase ONLY, you should first stop all listeners using the instructions in the VistALink Developer / System Manager manual. (*The KIDS install phase comes after the load phase*). After reinstalling, all listeners should be restarted using the VistALink Developer / System Manager manual instructions.

KIDS Distribution saved on Sep 29, 2003@10:13:33  
Comment: Foundations, VistALink, and VistALink Security v1.0 [Build  
1.0.0.124]

This Distribution contains Transport Globals for the following Package(s):

XOBV 1.0  
XOBV 1.0  
XOBS 1.0

Distribution OK!

**Want to Continue with Load? YES//**

Loading Distribution...

Build XOBV 1.0 has an Environmental Check Routine

**Want to RUN the Environment Check Routine? YES//**

XOBV 1.0

Will first run the Environment Check Routine, XOBUEV

>>> Checking environment...

>>> VistALink environment check completed for KIDS Load a Distribution option.

XOBV 1.0  
XOBS 1.0

Use INSTALL NAME: XOBV 1.0 to install this Distribution.

**Select Installation Option: INStall Package(s)**

**Select INSTALL NAME: XOBV 1.0**            Loaded from Distribution

9/30/03@10:40:09

=> Foundations, VistALink, and VistALink Security v1.0 [Build  
1.0.0.124]

This Distribution was loaded on Sep 30, 2003@10:40:09 with header of

Foundations, VistALink, and VistALink Security v1.0 [Build 1.0.0.124]

;Created on Sep 29, 2003@10:13:33

It consisted of the following Install(s):

XOBV 1.0            XOBV 1.0            XOBS 1.0

Checking Install for Package XOBV 1.0

Will first run the Environment Check Routine, XOBUEV

>>> Checking environment...

>>> VistALink environment check completed for KIDS Install Package  
option.

Install Questions for XOBV 1.0

Incoming Files:

*Type **YES** to answer the  
question **Want to  
Continue with Load?**  
Press **Enter**.*

*Choose the **Install  
Package(s)** option and  
press **Enter**. Then, type  
**XOBV 1.0** at the **Select  
INSTALL NAME**  
prompt. Press **Enter**.*

18.01 FOUNDATIONS SITE PARAMETERS

**Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES//**

Checking Install for Package XOBV 1.0

Install Questions for XOBV 1.0

Incoming Files:

18.03 VISTALINK LISTENER CONFIGURATION

18.04 VISTALINK LISTENER STARTUP LOG

18.05 VISTALINK MESSAGE TYPE (including data)

**Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES//**

Checking Install for Package XOBS 1.0

Install Questions for XOBS 1.0

*Since this is a new package, type **NO** to answer the questions **INHIBIT LOGONS...?** and **Want to DISABLE...?** Press **Enter**.*

**Want KIDS to INHIBIT LOGONS during the install? YES// NO**

**Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES// 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// TELNET PORT**

Install Started for XOBV 1.0 :  
Sep 30, 2003@10:40:45

Build Distribution Date: Sep 29, 2003

Installing Routines:  
Sep 30, 2003@10:40:45

Running Pre-Install Routine: EN^XOBUPRE

Installing Data Dictionaries:  
Sep 30, 2003@10:40:45

Installing PACKAGE COMPONENTS:

Installing INPUT TEMPLATE

Installing PROTOCOL

Not a known package or a local namespace.

Not a known package or a local namespace.

Not a known package or a local namespace.

Located in the XOBV (FOUNDATIONS) namespace.

Located in the XOBV (FOUNDATIONS) namespace.

Not a known package or a local namespace.

Located in the XOBV (FOUNDATIONS) namespace.

Located in the XOBV (FOUNDATIONS) namespace.

Not a known package or a local namespace.

Installing LIST TEMPLATE

Installing OPTION

Sep 30, 2003@10:40:46

Running Post-Install Routine: EN^XOBVPOST

Updating Routine file...

Updating KIDS files...

XOBV 1.0 Installed.

Sep 30, 2003@10:40:46

Install Message sent #115187

Install Started for XOBV 1.0 :

Sep 30, 2003@10:40:47

Build Distribution Date: Sep 29, 2003

Installing Routines:

Sep 30, 2003@10:40:47

Running Pre-Install Routine: EN^XOBVPRE

Installing Data Dictionaries:

Sep 30, 2003@10:40:47

Installing Data:

Sep 30, 2003@10:40:47

Installing PACKAGE COMPONENTS:

Installing INPUT TEMPLATE

Installing DIALOG

Installing PROTOCOL

Installing REMOTE PROCEDURE

Installing OPTION

Sep 30, 2003@10:40:48

*Since this is a new package, messages about the protocols will appear during the installation. These are informational only.*

## General Installation Information

---

Running Post-Install Routine: EN^XOBVPOST

>>> Scheduling the XOBV LISTENER STARTUP option...

>>> The XOBV LISTENER STARTUP option has been scheduled as follows:

NUMBER: 114

NAME: XOBV LISTENER STARTUP

SPECIAL QUEUEING: STARTUP

Updating Routine file...

Updating KIDS files...

XOBV 1.0 Installed.

Sep 30, 2003@10:40:48

Install Message sent #115188

Install Started for XOBV 1.0 :

Sep 30, 2003@10:40:48

Build Distribution Date: Sep 29, 2003

Installing Routines:

Sep 30, 2003@10:40:48

Installing PACKAGE COMPONENTS:

Installing DIALOG

Sep 30, 2003@10:40:48

Updating Routine file...

Updating KIDS files...

XOBV 1.0 Installed.

Sep 30, 2003@10:40:48

Install Message sent #115189

Call MENU rebuild

Starting Menu Rebuild: Sep 30, 2003@10:40:57

Collecting primary menus in the New Person file...

*Note: For VMS system users, the **XOBV LISTENER STARTUP** option will not be scheduled.*

Primary menus found in the New Person file

OPTION NAME	MENU TEXT	# OF USERS	LAST USED	LAST BUILT
XUCOMMAND	SYSTEM COMMAND OPTIONS	1	06/20/95	08/19/03
XMUSER	MailMan Menu	8	07/02/93	08/19/03
EVE	Systems Manager Menu	103	08/22/03	08/19/03
XUPROG	Programmer Options	1	04/18/02	08/19/03
XUCORE	Core Applications	1	12/13/99	08/19/03
PSO MANAGER	Outpatient Pharmacy Manager	2	02/15/96	08/19/03
PSO USER2	Pharmacy Technician's Menu	3	07/26/96	08/19/03
PSO SUPERVISOR	Supervisor Functions	1		08/19/03
DGMGR	MAS MANAGER	1	12/11/96	08/19/03
SDAPP	Appointment Menu	1	06/14/90	08/19/03
PSJU MGR	Unit Dose Medications	1	10/25/88	08/19/03
PSGWMGR	Automatic Replenishment	1	10/24/96	08/19/03
NURS-SYS-MGR	Nursing System Manager's ...	1	08/19/97	08/19/03
NURS-ADM	Administrator's Menu	2		08/19/03
NURS-HN	Head Nurse's Menu	1	11/30/90	08/19/03
LRLIASON	Lab liaison menu	1	09/15/92	08/19/03
LRMENU	Laboratory DHCP Menu	1	07/31/97	08/19/03
LRWARDM	Ward lab menu	1	08/28/97	08/19/03

Building secondary menu trees....

Merging.... done.

Menu Rebuild Complete: Sep 30, 2003@10:41:38

100%  
Complete



Install Completed

## 1.7. M Sample Installation (with file #18 information)

Select Kernel Installation & Distribution System Option: Installation

- 1 Load a Distribution
- 2 Verify Checksums in Transport Global
- 3 Print Transport Global
- 4 Compare Transport Global to Current System
- 5 Backup a Transport Global
- 6 Install Package(s)  
Restart Install of Package(s)  
Unload a Distribution

Select Installation Option: LOAD a Distribution  
Enter a Host File: XOB\_1\_0.KID

KIDS Distribution saved on Sep 29, 2003@08:23:15  
Comment: Foundations, VistALink, and VistALink Security v1.0 [Build 1.0.0.124]

This Distribution contains Transport Globals for the following Package(s):

- XOBU 1.0
- XOBV 1.0
- XOBS 1.0

Distribution OK!

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

Build XOBU 1.0 has an Enviromental Check Routine  
Want to RUN the Environment Check Routine? YES//  
XOBU 1.0  
Will first run the Environment Check Routine, XOBUEENV

>>> Checking environment...

>>>>>>>>> ATTENTION: File SYSTEM (#18) was found on your system. <<<<<<<<<<

SYSTEM file #18 was the precursor to the KERNEL SYSTEMS PARAMETER file and is obsolete. The SYSTEM file uses the same numberspace that VistALink is assigned and must be deleted before VistALink can be installed. You may wish to manually backup and manually delete file #18.

If you do not manually delete file #18 and it is still on your system during the installation phase, you will be prompted with a series of questions. The questions will allow you to abort the installation or allow the installation to safely delete the SYSTEM file for you.

Would you like instructions on how to delete SYSTEM file (#18)? YES//

\*\*\*\*\* How to delete the SYSTEM file (#18) \*\*\*\*\*

- 1) From the programmer prompt, go to the FileMan main menu
- 2) Choose option 6, UTILITY FUNCTIONS
- 3) Choose option 6, EDIT FILE
- 4) MODIFY WHAT FILE: // 18 SYSTEM
- 5) Do you want to use the screen-mode version? YES// YES  
(recommend using screen-mode because you can exit out without saving your changes if necessary)
- 6) At the FILE NAME: prompt (which should have the name SYSTEM in it), type @

Press return to continue:

- 7) It will then ask the following questions:  
DO YOU WANT JUST TO DELETE THE FILE CONTENTS,  
& KEEP THE FILE DEFINITION? No// No (No)  
IS IT OK TO DELETE THE '^DIC(18)' GLOBAL? Yes// Yes (Yes)  
SURE YOU WANT TO DELETE THE ENTIRE FILE? No// Yes (Yes)  
Deleting the DATA DICTIONARY...  
Deleting the INPUT TEMPLATES....  
Deleting the PRINT TEMPLATES...  
Deleting the SORT TEMPLATES...  
Deleting the FORMS...

- 8) The last step is a global listing to check that file #18 and its DD have been deleted. Here's an example:

```
cor> D ^%G
Global ^DIC(18,
DIC(18,
Global ^DD(18,
DD(18,
Global ^
```

Press return to continue:



>>> VistALink environment check completed for KIDS Install Package option.

Install Questions for XOBV 1.0

Incoming Files:

18.01 FOUNDATIONS SITE PARAMETERS

Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES//

Checking Install for Package XOBV 1.0

Install Questions for XOBV 1.0

Incoming Files:

18.03 VISTALINK LISTENER CONFIGURATION

18.04 VISTALINK LISTENER STARTUP LOG

18.05 VISTALINK MESSAGE TYPE (including data)

Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES//

Checking Install for Package XOBV 1.0

Install Questions for XOBV 1.0

Want KIDS to INHIBIT LOGONS during the install? YES// NO

Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES// 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// TELNET PORT

Install Started for XOBV 1.0 :  
Sep 30, 2003@08:42:39

Build Distribution Date: Sep 29, 2003

Installing Routines:  
Sep 30, 2003@08:42:39

Running Pre-Install Routine: EN^XOBUPRE

## General Installation Information

---

Installing Data Dictionaries:  
Sep 30, 2003@08:42:45

Installing PACKAGE COMPONENTS:

Installing INPUT TEMPLATE

Installing PROTOCOL  
Not a known package or a local namespace.  
Not a known package or a local namespace.  
Not a known package or a local namespace.  
Located in the XOBV (FOUNDATIONS) namespace.  
Located in the XOBV (FOUNDATIONS) namespace.  
Not a known package or a local namespace.  
Located in the XOBV (FOUNDATIONS) namespace.  
Located in the XOBV (FOUNDATIONS) namespace.  
Not a known package or a local namespace.

Installing LIST TEMPLATE

Installing OPTION  
Sep 30, 2003@08:42:47

Running Post-Install Routine: EN^XOBVPOST

Updating Routine file...

Updating KIDS files...

XOBV 1.0 Installed.  
Sep 30, 2003@08:42:47

Install Message sent #115187

Install Started for XOBV 1.0 :  
Sep 30, 2003@08:42:48

Build Distribution Date: Sep 29, 2003

Installing Routines:  
Sep 30, 2003@08:42:48

Running Pre-Install Routine: EN^XOBVPRE

Installing Data Dictionaries:  
Sep 30, 2003@08:42:48

Installing Data:  
Sep 30, 2003@08:42:48

Installing PACKAGE COMPONENTS:

Installing INPUT TEMPLATE

Installing DIALOG

Installing PROTOCOL

```
Installing REMOTE PROCEDURE

Installing OPTION
      Sep 30, 2003@08:42:49

Running Post-Install Routine: EN^XOBVPOST

>>> Scheduling the XOBV LISTENER STARTUP option...

>>> The XOBV LISTENER STARTUP option has been scheduled as follows:

NUMBER: 114                                NAME: XOBV LISTENER STARTUP
      SPECIAL QUEUEING: STARTUP

Updating Routine file...

Updating KIDS files...

XOBV 1.0 Installed.
      Sep 30, 2003@08:42:49

Install Message sent #115188

Install Started for XOBV 1.0 :
      Sep 30, 2003@08:42:49

Build Distribution Date: Sep 29, 2003

Installing Routines:
      Sep 30, 2003@08:42:49

Installing PACKAGE COMPONENTS:

Installing DIALOG
      Sep 30, 2003@08:42:49

Updating Routine file...

Updating KIDS files...

XOBV 1.0 Installed.
      Sep 30, 2003@08:42:57

Install Message sent #115189

Call MENU rebuild

Starting Menu Rebuild:  Sep 30, 2003@08:43:03

Collecting primary menus in the New Person file...
```

## General Installation Information

---

Primary menus found in the New Person file

OPTION NAME	MENU TEXT	# OF USERS	LAST USED	LAST BUILT
XUCOMMAND	SYSTEM COMMAND OPTIONS	1	06/20/95	08/19/03
XMUSER	MailMan Menu	8	07/02/93	08/19/03
EVE	Systems Manager Menu	103	08/22/03	08/19/03
XUPROG	Programmer Options	1	04/18/02	08/19/03
XUCORE	Core Applications	1	12/13/99	08/19/03
PSO MANAGER	Outpatient Pharmacy Manager	2	02/15/96	08/19/03
PSO USER2	Pharmacy Technician's Menu	3	07/26/96	08/19/03
PSO SUPERVISOR	Supervisor Functions	1		08/19/03
DGMGR	MAS MANAGER	1	12/11/96	08/19/03
SDAPP	Appointment Menu	1	06/14/90	08/19/03
PSJU MGR	Unit Dose Medications	1	10/25/88	08/19/03
PSGWMGR	Automatic Replenishment	1	10/24/96	08/19/03
NURS-SYS-MGR	Nursing System Manager's ...	1	08/19/97	08/19/03
NURS-ADM	Administrator's Menu	2		08/19/03
NURS-HN	Head Nurse's Menu	1	11/30/90	08/19/03
LRLIASON	Lab liaison menu	1	09/15/92	08/19/03
LRMENU	Laboratory DHCP Menu	1	07/31/97	08/19/03
LRWARDM	Ward lab menu	1	08/28/97	08/19/03

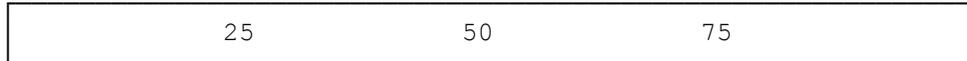
Building secondary menu trees....

Merging.... done.

Menu Rebuild Complete: Sep 30, 2003@08:43:41

---

100%  
Complete



Install Completed

## 1.8. Implementation

### 1.8.1. Configuring VistALink Listener(s)

In order to enable Java clients to connect to your M system(s), VistALink listener(s) must be configured to run on your system. Configuration of the listener(s) will vary depending on your operating system.

Chapter 4 in Part II of the *VistALink Developer / System Manager Manual* contains two subsections, **Listener Management for Cache NT and Cache VMS Systems** and **Listener Management for DSM / VMS Systems**, with instructions to start, stop and create and/or edit listener configurations.

### 1.8.2. Testing the Listener(s)

A sample Java application has been created to validate proper installation of VistALink, the Java libraries and the M code, in addition to testing VistALink connectivity between the application and an M server system. Instructions on installing and running the sample application are found in the **VistALink IRM Preparation and Installation Checklist**, or Chapter 2 of this guide.

Additional detailed information on sample applications can also be found in Chapter 2 and Chapter 3 of the *VistALink Developer / System Manager Manual*.

### 1.8.3. Client Workstation Setup (Developer)

For additional developer-oriented material on VistALink installation and implementation, see the *VistALink Developer / System Manager Manual*.

### 1.8.4. Client Workstation Setup (End-User)

On the client workstation, VistALink is a set of libraries used by other applications, rather than an application itself. It is anticipated that rehosted VistA applications will determine which supporting libraries (such as VistALink) should be installed on the client workstation. These applications will likely provide guidelines on which versions to install and where to install them. In particular, some applications will be providing their own installers and managing their own library configurations.

A generic installation of VistALink, therefore, is not advisable. As an alternative, applications that use VistALink should determine how VistALink libraries might be installed for their specific application.

## Chapter 2: VistALink IRM Preparation and Installation Checklist

### 2.1. Purpose

The checklist on the next page of this guide is designed to help IRM programmers install VistALink v1.0. **Note that the *VistALink Developer / System Manager Manual* contains detailed information about the installation of VistALink v1.0 and should be used in conjunction with this document.**

Additionally, the checklist addresses the optional installation of a sample Java application on a client workstation.

### 2.2 Background

VistALink provides a transport layer to allow Java to communicate with M. Based on standard Java and M technologies, VistALink v1.0:

- consists of Java-side connector libraries and the M-side Listener,
- allows Java code to call M-side RPCs and other types of M routines using native Java APIs, and
- will be included in the Care Management/HealthVet Desktop (OR\*3\*174) release.

### 2.3 Phased Development

VistALink v1.0 is the first of three planned releases:

- Version 1.0 provides Java to M communication in a client/server environment similar to how Delphi applications communicate with M via the Broker.
- Version 1.5 will provide J2EE application server-to-M communications.
- Version 2.0 will provide M-to-J2EE application server communications.

### 2.4 References

- *VistALink FAQs*: <http://vista.med.va.gov/migration/foundations/FAQ.htm>
- *VistALink Release Notes*
- *VistALink Installation Guide*
- *VistALink Developer / System Manager Manual*
- *VistALink Technical Manual and Package Security Guide*
- *Foundations Tool Set*: <http://vista.med.va.gov/migration/technology/Technology.htm>

## 2.5 Assumptions

The **VistALink IRM Preparation and Installation Checklist** (see below) assumes that:

- the optional sample Java application is installed on a Windows client workstation<sup>2</sup>
- the installer holds Programmer access on the local M server and has a VMS account if installing on a DSM/VMS system
- the System Manager has translated the ^XOB global across all nodes
- the System Manager has disabled journaling and set the proper global access privileges for the ^XOB global

The Foundations<sup>3</sup> Development team has provided a sample VistALink Java application that may be installed on a client workstation to test connectivity between the application and an M server. The following checklist complements the detailed instructions contained in the resources referenced above.

Recommended activities for installing VistALink v1.0 on an M server and for installing the optional sample Java application on a client workstation are divided in the checklist into four activities: General, M Server, Client Workstation, and Sample Application Testing. Successful execution of the sample Java application will validate proper installation of all the Java libraries and M code. Connectivity between the application and an M server will also be validated by the sample Java application.

### 1: General

Task #	Activity	Complete														
1.1	<p>FTP the XOB_1_0 distribution ZIP file from one of the Anonymous directories [ANONYMOUS.SOFTWARE]:</p> <table border="0"> <tr> <td style="padding-right: 20px;"><u>OI Field Office</u></td> <td><u>FTP Address</u></td> </tr> <tr> <td>Albany</td> <td>ftp.fo-albany.med.va.gov</td> </tr> <tr> <td>Hines</td> <td>ftp.fo-hines.med.va.gov</td> </tr> <tr> <td>Salt Lake City</td> <td>ftp.fo-slc.med.va.gov</td> </tr> <tr> <td>VistA Download Site</td> <td>download.vista.med.va.gov</td> </tr> </table>	<u>OI Field Office</u>	<u>FTP Address</u>	Albany	ftp.fo-albany.med.va.gov	Hines	ftp.fo-hines.med.va.gov	Salt Lake City	ftp.fo-slc.med.va.gov	VistA Download Site	download.vista.med.va.gov					
<u>OI Field Office</u>	<u>FTP Address</u>															
Albany	ftp.fo-albany.med.va.gov															
Hines	ftp.fo-hines.med.va.gov															
Salt Lake City	ftp.fo-slc.med.va.gov															
VistA Download Site	download.vista.med.va.gov															
1.2	<p>Unzip the XOB_1_0 distribution ZIP file to a directory of choice on a client workstation (e.g., c:\Program Files\vistalink). Contents:</p> <table border="0"> <tr> <td style="padding-right: 20px;">&lt;root&gt;</td> <td>Contains the Readme.txt and ReleaseNotes</td> </tr> <tr> <td>allSrc</td> <td>All VistALink source code</td> </tr> <tr> <td>doc</td> <td>VistALink v1.0 manuals</td> </tr> <tr> <td>jars</td> <td>VistALink Java Archive (JAR) library files</td> </tr> <tr> <td>javadoc</td> <td>API documentation in "javadoc" format</td> </tr> <tr> <td>m</td> <td>KIDS distribution for the M server routines</td> </tr> <tr> <td>samples</td> <td>Source code for the sample application</td> </tr> </table>	<root>	Contains the Readme.txt and ReleaseNotes	allSrc	All VistALink source code	doc	VistALink v1.0 manuals	jars	VistALink Java Archive (JAR) library files	javadoc	API documentation in "javadoc" format	m	KIDS distribution for the M server routines	samples	Source code for the sample application	
<root>	Contains the Readme.txt and ReleaseNotes															
allSrc	All VistALink source code															
doc	VistALink v1.0 manuals															
jars	VistALink Java Archive (JAR) library files															
javadoc	API documentation in "javadoc" format															
m	KIDS distribution for the M server routines															
samples	Source code for the sample application															

<sup>2</sup> There is nothing about VistALink that is particularly tied to the Windows client environment, as it is a pure Java application.

<sup>3</sup> OI, HSD&D, DaIS, VistA Migration, Foundations

**2: M Server**

Task #	Activity	Complete
2.1	Prepare a fully patched mirror image of your production account for a VistALink v1.0 test environment. Required patches:  XT*7.3*67      XU*8*238	
2.2	From the VistALink distribution files, locate the KIDS host file in the c:\Program Files\vistalink\m subdirectory. The name of the file is XOB_1_0.KID	
2.3	Load the distribution file XOB_1_0.KID on the M server. It contains XOBU 1.0, XOBV 1.0, and XOBS 1.0. Use install name XOBU 1.0 to install the distribution.	
2.4	Configure the VistALink Listener (refer to the VistALink Developer/System Manager Manual, Chapter 4).	

**3: Client Workstation (Optional)**

Task #	Activity	Complete
3.1	Download and install the J2SE v1.4.2 Java Runtime Environment (JRE) on the workstation. The link is: <a href="http://java.sun.com/j2se/1.4.2/download.html">http://java.sun.com/j2se/1.4.2/download.html</a> . Reboot.	
3.2	Download and install the J2EE v1.3.1 Software Development Kit (SDK) on the workstation. The link is: <a href="http://java.sun.com/j2ee/sdk_1.3/">http://java.sun.com/j2ee/sdk_1.3/</a> .	
3.3	Download/unzip/extract the JAXEN v1.0 files to the workstation. The link is: <a href="http://prdownloads.sourceforge.net/jaxen/jaxen-1.0-FCS.zip?download">http://prdownloads.sourceforge.net/jaxen/jaxen-1.0-FCS.zip?download</a> .	
3.4	Download/unzip/extract the Xerces v1.4.4 files to the workstation. The link is: <a href="http://xml.apache.org/dist/xerces-j/Xerces-J-bin.1.4.4.zip">http://xml.apache.org/dist/xerces-j/Xerces-J-bin.1.4.4.zip</a>	
3.5	Download/unzip/extract Log4j v1.2.8 files to the workstation. The link is: <a href="http://www.apache.org/dist/jakarta/log4j/jakarta-log4j-1.2.8.zip">http://www.apache.org/dist/jakarta/log4j/jakarta-log4j-1.2.8.zip</a> .	
3.6	Create a directory on the workstation to hold the Java libraries required for the VistALink sample application (e.g., c:\javalib).	
3.7	Copy the following files from their installation directories to the Java library directory created above (e.g., c:\javalib): <ul style="list-style-type: none"> <li>• j2ee.jar</li> <li>• jaxen-full.jar</li> <li>• xerces.jar</li> <li>• saxpath.jar</li> <li>• log4j-1.2.8.jar</li> </ul>	
3.8	From the c:\Program Files\vistalink\jars subdirectory, copy the following files to the same directory used above (e.g., c:\javalib): <ul style="list-style-type: none"> <li>• vljConnector_1.0.jar</li> <li>• vljFoundationsLib_1.0.jar</li> <li>• vljSecurity_1.0.jar</li> </ul>	
3.9	From the c:\Program Files\vistalink subdirectory, copy the samples folder into the same directory used above (e.g., c:\javalib).	
3.1	From the c:\javalib\samples directory, open the setVistaLinkEnvironment.bat file with Notepad (or right click and choose Edit). Make sure the directory locations described in the file match the physical location of the files on the workstation. Edit as needed to match and save.	

**4a: Sample Java Application (Foundations M Server) Testing**

Task #	Activity	Complete
4a.1	Test the sample application’s connectivity to the VistALink Listener running on the Foundations M server <sup>4</sup> . <ul style="list-style-type: none"> <li>From the c:\javallib\samples directory, execute the <b>runSwingTester.bat</b> file to run the sample application.</li> </ul>	
4a.2	Select DemoServer from the Server Alias combo box and click on the Connect button.	
4a.3	Testing is successful and connectivity is achieved if you are presented a VistA Log-in screen. Click the Cancel button to close the application. Close the cmd window.	

<sup>4</sup> Foundations has provided connection to a Caché NT system running a properly configured VistALink Listener; this system is located at the Albany OIFO.

**4b: Sample Application (Local M Server) Testing**

Task #	Activity	Complete
4b.1	From the c:\javalib\samples directory, open the jaas.config file with Notepad. <ul style="list-style-type: none"> <li>• Edit the LocalServer's ServerAddressKey to reflect the Internet Protocol (IP) address of your VistA server.</li> <li>• Also edit the ServerPortKey to reflect the port number you created for your VistALink Listener (port 8001 is suggested for test, port 8000 for production). Save the changes.</li> </ul>	
4b.2	Test the sample application's connectivity to the Listener running on your local M system. <ul style="list-style-type: none"> <li>• From the c:\javalib\samples directory, execute the <b>runSwingTester.bat</b> file to run the sample application.</li> </ul>	
4b.3	Select LocalServer from the Server Alias combo box and click on the Connect button.	
4b.4	Testing is successful and connectivity is achieved if you are presented your local VistA Log-in screen. Log in!	
4b.5	Click on the tabs to test the application's features.	

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