



Remote Order Entry System

(ROES)

Security Guide



Version 3.0*4

Updated February 2011

Department of Veterans Affairs

VistA Health Systems Design and Development

Revision History

Date	Description	Author
September 16, 2003	Format manual and input revisions	Loren Behuniak
September 18, 2003	Revised format	Loren Behuniak
October 21, 2003	Revised base on NVS input	Loren Behuniak
July 2007	Changed DDC to DALC	Christine Beynon
February 2009	Update for changes due to ROES*3.0*4	Pam J Urrutia
February 2010	Changes to eligibility process	Pam J Urrutia

Table of Contents

REVISION HISTORY	III
PREFACE	1
PURPOSE OF THE REMOTE ORDER ENTRY SYSTEM	1
SCOPE OF MANUAL	1
AUDIENCE	1
RELATED MANUALS	1
INTRODUCTION	2
PURPOSE OF ROES 3.0.....	2
BENEFITS OF ROES 3.0.....	2
GENERAL RULES FOR ROES 3.0 DATA ENTRY PAGES	4
ORIENTATION	5
RECOMMENDED DESKTOP MINIMUMS FOR ROES 3.0	5
ROES 3.0 DISPLAY CONSIDERATIONS	6
SYMBOLS USED IN MANUAL	6
GETTING ADDITIONAL INFORMATION.....	6
GENERATING MENU DIAGRAMS	6
CHAPTER 1: SECURITY MANAGEMENT.....	7
LEGAL REQUIREMENTS	7
SECURITY MEASURES	7
MODIFICATION RESTRICTIONS	7
INTEGRATION AGREEMENTS	8
USER TRAINING	8
UNIQUE FEATURES.....	8
ADDITIONAL ISO INFORMATION.....	8
CHAPTER 2: SECURITY FEATURES.....	9
MAIL GROUPS AND ALERTS	9
INFORMATIONAL WEBSITES	9
FILES.....	9
FILE STRUCTURE OF FILE 791814.....	10
REMOTE SYSTEMS	10
ARCHIVING/PURGING.....	11
CONTINGENCY PLANNING.....	12
ELECTRONIC SIGNATURES	12
MENUS.....	12
<i>ROES3 Patient Order from CPRS (GUI).....</i>	<i>12</i>
<i>Station Orders from the Desktop (GUI).....</i>	<i>13</i>
<i>Security Keys.....</i>	<i>14</i>
FILE SECURITY.....	14
REFERENCES	14
POLICIES	14
ACRONYMS.....	15

GLOSSARY	16
INDEX	17

Preface

Purpose of the Remote Order Entry System

The Remote Order Entry System (ROES) version 3.0 gives authorized end users at VHA facilities the ability to order products and services from the VA Acquisition & Logistics Acquisition & Logistics Center (DALC).

Scope of Manual

This manual provides instructions for the installation and maintenance of the ROES 3.0*4 software.

Audience

The information in this manual is intended for facility Information Security Officers (ISO) and Information Resource Management staff.

Related Manuals

*Remote Order Entry System (ROES) Version 3.0*4 Release Notes*

*Remote Order Entry System (ROES) Version 3.0*4 Technical Manual*

*Remote Order Entry System (ROES) Version 3.0*4 User Manual*

*Remote Order Entry System (ROES) Version 3.0*4 Installation Guide*

Introduction

Purpose of ROES 3.0

ROES 3.0 was developed to simplify and enhance the ordering of products and services from the Denver Acquisition & Logistics Center (DALC) including hearing aids and numerous other commodities. Ancillary functions such as updating patient records and registering devices may also be done through the web interface. ROES 3.0 is accessed from your PC as a web application through your browser allowing orders to be placed using an interactive, real time point and click interface. ROES 3.0 also accommodates keyboard navigation and entry.

ROES 3.0 was designed to use advanced technologies and practices in software design, supporting hardware platform, database management, and network integration to provide DALC customers and staff with simple and easy to use ordering capabilities. The application provides patient care providers and associated Veterans Health Administration (VHA) staff with comprehensive patient information and order histories. It was also designed to use progressive procurement and distribution practices, advanced general business practices, and current VA Regulations, which have evolved since the introduction of ROES 2.0

A definitive criterion used to establish the strategic direction and development path for ROES 3.0 involved combining:

- The necessity to optimize compatibility and data communications capability with established VA systems and business practices
- The objective of applying leading edge information technology resources to strategic business systems development, comparable to the best that can be found in the private sector
- The desire to provide a "progressive continuity" to DALC customers, implementing significant enhancements to the existing application, while minimizing transition apprehension for end users.

Benefits of ROES 3.0

The ROES 3.0 application architecture makes available, for the first time, a web-based application for activities such as order placement and inquiry functions, while retaining and improving upon the character-based interface formerly used in ROES 2.0. It is expected that a web interface, enabling point-and-click functionality, allows information to be presented in a more organized fashion, enhancing the navigation and data entry procedures.

In another departure from previous versions, the majority of ROES 3.0 system software and data files reside on DALC computer resources, leaving only selected key components on local Medical Center systems. There are a number of factors supporting this transition. These include:

- Insurance of a singularity and consistency of the available product database
- Opportunity for immediate real-time processing of orders placed
- Reduced dependency on VAMC application of patches and file modifications

Higher capacity VA wide area network resources implemented since ROES 2.0 enable these architectural changes.




In addition to the overall architecture, ROES 3.0 provides a number of process-specific benefits, features, and functionality improvements, such as the following:

1. Provides users with a simplified ordering process.
2. Includes cost comparison functionality for display/selection of all contract hearing aids meeting selected specifications.
3. Allows repair orders to be entered by the provider.
4. Includes a module to enter audiometric data and display or print the resulting audiogram in graph or tabular format.
5. Provides information in "real time".
6. Provides enhanced commodity ordering capabilities.
7. Provides enhanced device registration capabilities.
8. Provides enhanced display/update capabilities for authorized aids.
9. Provides enhanced station stock ordering capabilities.
10. Decreases delivery time to patients since orders are submitted immediately for processing.
11. Links with the CPRS clinical record application already in place in the VHA environment.
12. Provides increased accuracy in patient eligibility determination prior to order placement, with improvements to subsequent reporting and statistical analysis.
13. Provides access to multiple ROES 3.0 functions (clinical and administrative) through a comprehensive entry point.
14. Provides supervisory designation of user authorization/approval levels.
15. Provides a Cochlear Implant registry for tracking of cochlear implant information.
16. Reduces the likelihood of erroneous orders such as, orders for combinations of device specifications that cannot be accommodated by hearing aid manufacturers.

General Rules for ROES 3.0 Data Entry pages

1. There are no "double clicks" in ROES 3.0. Click the selection one time only.
2. There are no "right mouse button" commands in ROES 3.0.

NOTE: There is a key distinction between Windows-based applications (where double-clicks and right-button functionality are common) and web applications. There will not be a noticeable consequence to the user for these actions; however, the results may be unexpected. Double clicking may cause a drop-down list to open and close quickly. Right-clicking will produce selectable functions made available by the browser, but nothing specific to ROES. We strongly discourage use of the right-click in order to prevent the use of the browser's back and forward functions.

3. It is recommended that users not click the "X" in the top right hand section of the ROES 3.0 browser window to close a window. Use the navigational links and buttons provided within the application to exit the system. Closing the browser window without properly exiting the application will not have any detrimental effects on the user but may leave an open user session and incomplete or 'phantom' order information in the application.
4. Only use the  or  command buttons provided on the ROES 3.0 pages for navigation - never use the windows provided "back" and "forward" commands.
5. The command buttons within the application perform background housekeeping functions that maintain the integrity of the order as a user navigates through the ordering process. The Windows browser's 'Forward' and 'Back' commands bypass those functions and could result in loss of information from the order.
6. "Grayed out" fields cannot be accessed.
7. Any  button will return you to the *View Order History* page.

Orientation

Recommended Desktop Minimums for ROES 3.0

SPECIFICATION	RECOMMENDED MINIMUM
Processor	866 MHz
Memory	512 Mb
Hard Drive	20Gb
Video Card	Super VGA
CD-ROM/DVD Drive	32x CD
Monitor	17" VGA, .28 pixel resolution
LAN Interface	10/100 remote wake-on-LAN Ethernet interface
Keyboard	101 -key
Mouse	Microsoft Compatible
Operating System*	Microsoft Windows 9x Microsoft Windows NT Workstation v4.0 or Windows 2000 Pro strongly recommended.
Browser**	Internet Explorer v6+

***NOTE:** ROES 3.0 is compatible with Microsoft Windows XP.

****NOTE:** There are no minimum Browser Service Pack requirements.

A system meeting the above specifications can be expected to provide the functionality necessary for ROES 3.0. The VA Assistant Secretary for Information and Technology has established a set of minimum configurations for any new procurement of desktop systems across the enterprise (VA Directive 6401). For most of the specifications listed above, the VA minimum baseline exceeds the recommended minimum for ROES 3.0. The above specifications are provided to allow for use of equipment in current inventory, if necessary. In assessing procurement and/or other resource acquisition actions to meet ROES 3.0 desktop requirements, each facility is advised to give consideration to the specifications mandated by the above-mentioned Directive. Conformance with these established and/or emerging VA standards is encouraged. A dynamic update of the VA desktop standards is maintained at <http://vaww.vairm.vaco.va.gov/vadesktop/>.

ROES 3.0 Display Considerations

IMPORTANT NOTE: ROES 3.0 application pages display best at a display resolution of 1024x768. If this is not an end user's preferred resolution, ROES pages may not appear properly formatted. This will not affect application functionality, but may make page content more difficult to understand and navigate. If an end user chooses to increase their resolution from 1024x768, they should be aware that all other Windows applications and objects in their Windows environment will be reduced in size.

Symbols Used in Manual

In code examples, the caret (^) or 'U' may be used interchangeably as separators.

The caret is also used to designate a global reference when used in front of a global name as in "^DPT(".

Getting Additional Information

Visit the *VistA* document library at <http://www.va.gov/vdl/> for the ROES PDF and WORD documentation.

Use the KIDS Build File Print option if you would like a complete listing of package components exported with this software.

Use the KIDS Install File Print option if you'd like to print out the results of the installation process.

Option XUPRROU (List Routines) prints a list of any or all of the ROES routines.

Generating Menu Diagrams

RMPF ROES3 is a client/server menu option, and therefore cannot be diagramed in the usual sense of the word. An "Inquire" into the OPTION file (#19) will display the menu information.

Chapter 1: Security Management

Legal Requirements

The DALC (on behalf of VA, as a covered entity) maintains compliance with the Health Insurance Portability and Accountability Act (HIPAA) through Business Associate Agreements with contractors.

Security Measures

ROES 3.0 is structured around standard accepted VA and industry information security controls. While including components of a typical broker-based *VistA* application, the majority of the ROES application is a Web-based application residing at the DALC. While the application is Web-based, it is designed to be accessible only from within the VA enterprise security perimeter or through the authorized VA authentication infrastructure. Typical ROES end users include staff in VAMC Audiology & Speech Pathology Services (ASPS), and some VAMC Prosthetics & Sensory Aids Services (PSAS). Appropriate DALC user accounts are also necessary in order to access ROES. All user accounts are granted only through authorized VA procedures.

All users accessing the DALC must have completed, approved, and signed Security Agreements returned the DALC to obtain Access and Verify codes. Upon access to the DALC for the first time, users are required to enter the assigned Access and Verify codes, but after that time, they will be matched up with the user information stored at the DALC, to allow automatic entry to the Web page.

In addition, supervisors are given access to a Web application that allows them to grant access to a limited group of other users, and assign their level of access. It is the responsibility of the supervisor to maintain this record of who has access to ROES and for what options.

Any suspected or confirmed breach of ROES information security, including compromise of Access and Verify codes, should be reported immediately to the DALC Chief, IRM Division at 303-914-5160.

The *VistA* option RMPF ROES3 is the main *VistA* option that is exported with ROES 3.0. It should be assigned to all users of either the Desktop or CPRS Tools applications to access the DALC Web site. These two options are generally assigned to PSAS users and others who may be designated by PSAS.

Modification Restrictions

No local modifications of this package are authorized.

Integration Agreements

The following Integration Agreements are used in ROES 3.0

ROUTINE	FILE NUMBER	AGREEMENT #
RMPFRPC0	2	# 174
	38.1	# 767
RMPFRPC1	38.1	# 767

Many supported Integration Agreements (IA's) are addressed in the included routines. They are listed at the top of each routine. Those referenced are: 2343, 2701, 3006, 4055, 4440, 10003, 10009, 10015, 10035, 10061, 10063, 10064, 10066, 10070, 10081, 10086, 10089, 10103, and 10104.

User Training

It is highly recommended that all users of ROES 3.0 complete and understand the procedures presented in the ROES 3.0 Training package. This training provides instruction on the proper usage of the ROES 3.0 application for maximum accuracy, efficiency, and security.

Unique Features

As previously mentioned, ROES 3.0 represents a departure from the traditional **VistA** package by integrating established **VistA** components with a primarily Web-based application. As such, much of the application maintenance takes place at the DALC application server and is performed by DALC IRM staff. However, installation and maintenance of certain VAMC-resident components continues to require local IRM involvement and coordination with the end user community. This support generally involves work with existing **VistA** data structures and data exchange methods, including **VistA** menu systems, VA FileMan, the RPC broker, broker-based Delphi applications, and typical desktop system configuration and maintenance. For further information, please reference the ROES 3.0 Technical Manual and the ROES 3.0 Installation Guide.

ROES 3.0 users generate orders for products and services provided by the DALC. The DALC maintains national contracts for these products and services. The orders generated through ROES 3.0 are subsequently delivered to commercial contract vendors via standardized secure electronic data exchange processes or via paper-based fax transmission. The DALC (on behalf of VA, as a covered entity) maintains compliance with the Health Insurance Portability and Accountability Act (HIPAA) through Business Associate Agreements with contractors.

Additional ISO Information

There should be no local requirements of the ISO beyond the normal file and computer safety concerns.

Chapter 2: Security Features

Mail Groups and Alerts

Mailman messages regarding changes and additional information are passed to two mail groups: RMPF ROES UPDATES (ASPS) and RMPF ROES UPDATES (PSAS). To ensure appropriate security and confidentiality, membership in these mail groups should be limited to designated staff in the respective (ASPS or PSAS) Services.

Informational Websites

Refer to the following Websites for downloads and additional information:

VistA RPC Broker Download site: <http://vista.med.va.gov/broker/download.asp>

VistA document library: www.va.gov/vdl

Files

One FileMan file is installed on the local VAMC *VistA* system as part of ROES 3.0. The ROES ELIGIBILITY CONFIRMATION file was used in the initial release to store requests for veteran eligibility assessments from ASPS and the responses to those requests by PSAS. This file references patient entries from the local Patient file (#2), and eligibility information needed prior to accessing the ROES Web application for actions related to specific patients. This ROES ELIGIBILITY CONFIRMATION file is subject to typical *VistA* security protection. It is no longer being added to and used only to reference previously assigned eligibilities. It will be phased out in future patches.

The ROES ELIGIBILITY CONFIRMATION file global is name spaced as ^RMPF(791814, and should not be modified locally or accessed other than through the following ROES component:

- Broker-based application ROES3.EXE

The ROES ELIGIBILITY CONFIRMATION file (#791814) global is cross referenced by the fields:

- PATIENT(B)
- APPROVE/REJECT(C)
- EXPIRATION DATE(D)

File Structure of file 791814

FIELD NUMBER	FIELD NAME
.01	PATIENT (RP2'), [0;1]
.02	DATE REQUEST ENTERED (D), [0;2]
.03	ENTERING USER (ASPS) (P200'), [0;3]
.04	EXPIRATION DATE (D), [0;4]
1.01	SUGGESTED ELIGIBILITY (F), [1;1]
1.02	EMAIL MSG NUMBER (P3.9'), [1;2]
2.01	PSAS ELIGIBILITY (F), [2;1]
2.02	APPROVE/REJECT (S), [2;2]
2.03	USER (PSAS) (P200'), [2;3]
2.04	ACTION DATE (D), [2;4]

Remote Systems

ROES 3.0 includes application components that reside on two systems: the VAMC *VistA* system and the DALC system. The VAMC components include 'M' routines, RPC Broker calls, and Delphi executables. The general purpose of these components is to gather information and initiate an interactive session to the DALC-resident ROES 3.0 Web application. ROES users place orders and perform other order management functions within the ROES Web application.

The DALC-resident component of ROES 3.0 exists as a Web-based order entry application. The interactive order entry process utilizes the browser as the application interface. Depending on which of two ROES 3.0 entry points is accessed (determined by the calling Delphi executable), end users have access to specific functional modules associated with the entry and management of orders for DALC products and services. Navigation and order entry is accomplished using typical Windows and Web methods, including drop-down selection, check boxes, radio buttons, free text, etc. Information entered in the Web application is processed by the DALC order fulfillment system.

ROES 3.0 passes patient and end user information to the DALC Web application using HTTP and a smart URL. When patient information is included, the patient SSN is encrypted before insertion into the URL and decrypted by the DALC. A secure https connection is used. All order information is created and stored at the DALC.

When the executable (ROES3.exe) and associated set of broker calls are invoked from an option on the CPRS Tools menu, the following information is passed in the URL:

• Patient information	• Name	• SSN (encrypted)
• ROES 3 calculated eligibility	• Date of birth	• Date of death
• ICN	• City	• Address line 1
• Address line 2	• Address line 3	• State
• Zip	• Temporary address start date	• Temporary address end date
• Phone number	• Eligibility status	• Sensitive record flag
• Primary eligibility	• Priority group	• End user information
• First five characters of last name	• Title	• Station
• Service	• Production system flag	

The second Delphi executable (ROES3DeskTop.exe), and its associated set of broker calls, comprises an application that can be invoked directly (separate from CPRS) or from an application shortcut. The DESKTOP APPLICATION inserts the following information into the URL:

- End user number (DUZ)
- First five characters of the user's last name
- Service
- Station

Archiving/Purging

ROES 3.0 has no package-specific archiving or purging procedures or recommendations. A small amount of information is maintained on the local system in the ROES ELIGIBILITY CONFIRMATION file(#791814). In general, retention of entries is required for a minimum of two years from the date an eligibility assessment is entered into the file. Based on the small size of entries in this file and that no new entries will be created, purging of entries beyond this time frame and will be issued in a future ROES 3.0 patch. Set and kill dates for these entries are managed by the ROES package. No archiving is necessary.

Contingency Planning

No package-specific contingency planning procedures are required on the local system beyond those typically protecting the **VistA** system. Using services are responsible for developing local contingency plans to accommodate unavailability of this module in a production environment.

Protection for the Web application residing at the DALC is maintained within the DALC's contingency planning resources, procedures, and documentation. Since access to the Web application depends on the availability of enterprise WAN resources, disruption of WAN service may lead to delays in order submission or require alternative (paper-based) delivery on a temporary basis

Electronic Signatures

Electronic signatures are not used in ROES 3.0 at this time.

Menus

ROES3 Patient Order from CPRS (GUI)

The main option necessary for placing orders and performing other actions that are patient specific is **RMPF ROES3**. This option is typically assigned to ASPS staff and other staff who might order products or services from the DALC (e.g., PSAS staff at some facilities). This option is accompanied by a **ROES3.EXE** executable, which is normally placed on end users' CPRS Tools menu (see *ROES 3.0 Installation Guide*).

NAME: RMPF ROES3

MENU TEXT: ROES3 OPTION ACCESS

TYPE: Broker (Client/Server)

PACKAGE: REMOTE ORDER/ENTRY SYSTEM

DESCRIPTION: This is the option that allows user's to access the Delphi Executables that connects the user to the DALC Web site from the desktop or CPRS Tools menu.

RPC: RMPFDEMOG

RPC: XUS AV CODE

RPC: DDR GETS ENTRY DATA

RPC: XUS SIGNON SETUP

RPC: DDR LISTER

RPC: XUS AV HELP

RPC: DDR FINDER

RPC: XUS GET USER INFO

RPC: DDR KEY VALIDATOR

RPC: XWB CREATE CONTEXT

RPC: DDR GET DD HELP

RPC: XWB GET VARIABLE VALUE

RPC: DDR VALIDATOR

Station Orders from the Desktop (GUI)

End users can also place general station orders through ROES3 by using a desktop application separate from CPRS. This also requires that the user have the **RMPF ROES3** option assigned as described above. In this case, the option is accompanied by a **Roes3Desktop.exe** executable, which is usually placed on an end user's desktop system or network drive (see *ROES 3.0 Installation Guide*).

Security Keys

No security keys are exported with ROES 3.0.

File Security

No file security is provided.

References

Refer to the following documents for additional information:

*ROES 3.0*4 Installation Guide*

*ROES 3.0*4 Release Notes*

*ROES 3.0*4 Technical Manual*

*ROES 3.0*4 User Manual*

Policies

Use of ROES and DALC resources for providing audiology and speech devices to veteran beneficiaries is referenced in *VHA Directive 1173* and *VHA Handbook 1173.7, Audiology and Speech Devices*

Acronyms

TERM	DESCRIPTION
ASPS	Audiology and Speech Pathology Service
CPRS	Computerized Patient Record System
DALC	Denver Acquisition & Logistics Center. A part of the Department of Veteran's Affairs that is located in Denver, Colorado.
DFN	The internal number of the patient in the PATIENT file (#2).
GUI	Graphical User Interface. Existing in a Windows environment that allows users to interact using a mouse or keyboard.
HIPPA	The Health Insurance Portability and Accountability Act
HTTP	HyperText Transfer Protocol. A protocol for connecting to a Web site.
HTTPS	Hypertext Transfer Protocol over Secure Socket Layer
ISO	Information Security Officer
KIDS	Kernel Installation and Distribution System
PSAS	Prosthetics and Sensory Aids Service
ROES	Remote Order Entry System. A package for ordering various supplies and services from the DALC.
RPC	Remote Procedure Call. M code that takes optional parameters to do some work and then returns either a single value or an array back to the client application.
URL	Uniform Resource Locator
VAMC	Veterans Affairs Medical Center
VistA	Veterans Health Information Systems and Technology Architecture.
WAN	Wide Area Network
WORD	Microsoft word processing software

Glossary

TERM	DESCRIPTION
ALERTS	Brief online notices that are issued to users as they complete a cycle through the menu system. Alerts are designed to provide notification of pending computing activities.
APPLICATION PACKAGE	Software and documentation that support the automation of a service. In this case, the Remote Order Entry System.
KERNEL	A set of <i>VistA</i> software routines that function as an intermediary between the host operating system and the <i>VistA</i> application package (in this case ROES).
LISTENER	In ROES this is the RPC Broker on the workstation and the server.
NAME SPACING	A convention for naming <i>VistA</i> package elements, assigned by the Database Administrator (DBA). For ROES the name spacing is RMPF.
OPTION	An item in the <i>VistA</i> OPTION file (#19).
ROUTINE	Groups of program lines that are saved, loaded, and called as a single unit via a specific name.
SECURITY KEY	A non-visual object or code that provides a layer of protection on the range of computing capabilities available with a particular software package. Access to ROES options is controlled via assignable privileges that control access to ROES menus.
SUBSCRIPT	A numeric or string value that identifies a specific node within an array or global.

Index

Date of birth	11	RMPF ROES3	6, 7, 12, 13
Date of death.....	11	RMPFRPC0	8
DESKTOP APPLICATION	11	RMPFRPC1	8
ELIGIBILITY CONFIRMATION file	11	ROES 3 calculated eligibility	11
Eligibility status	11	ROES ELIGIBILITY CONFIRMATION file...	9
End user information.....	11	ROES3.EXE	9, 12
End user number (DUZ)	11	Roes3Desktop.exe	13
ICN.....	11	Sensitive record flag	11
Name	11	Service	11
Patient file	9	SSN.....	10, 11
Patient information.....	11	Station.....	11, 13
Primary eligibility	11	Temporary address end date	11
Priority group	11	Temporary address start date	11
RMPF ROES UPDATES (ASPS)	9	URL	10
RMPF ROES UPDATES (PSAS)	9		