Remote Order Entry System

(ROES)

Security Guide

Version 3.0

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VistA Health Systems Design and Development

Revision History

Date	Description	Author
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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 Denver Distribution Center (DDC).

Scope of Manual

This manual provides instructions for the installation and maintenance of the ROES 3.0 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 Technical Manual

Remote Order Entry System (ROES) Version 3.0 User Manual

Remote Order Entry System (ROES) Version 3.0 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 Distribution Center (DDC) 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 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 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 DDC 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 DDC customers, implementing significant enhancements to the existing application, while minimizing transition apprehension for end use

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 DDC computer resources, leaving only selected key components on local Medical Center systems. There are a number of factors supporting this transition. These include:

- Assurance 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

These architectural changes are enabled by higher capacity VA wide area network resources implemented since ROES 2.0.

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. Provide users with a simplified ordering process

2. Cost comparison functionality for display/selection of all contract aids meeting selected specifications

3. Allows repair orders to be entered by the clinician

4. Includes a module to enter audiometric data and display or print the resulting audiogram in graph or tabular format

5. Information is provided "real time"

6. Enhanced commodity ordering capabilities

7. Enhanced device registration capabilities

8. Enhanced authorized aids display/update capabilities

9. Enhanced station stock ordering capabilities

10. Submitted orders enter the DDC processing cycle immediately saving time on the delivery of the item to the patient

11. Linkage with the CPRS clinical record application already in place in the VHA environment

12. Increased accuracy in veteran eligibility determination prior to order placement, with improvements to subsequent reporting and statistical analysis

13. Access to multiple ROES functions (clinical and administrative) through a comprehensive entry point

14. Supervisory designation of user authorization/approval levels

15. Cochlear Implant registry for tracking of cochlear implant information

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 Back, Forward, or Exit 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 Exit button will return you to the *View Order History* page.

Orientation

Recommended Desktop Minimums for ROES 3.0

SPECIFICATION	RECOMMENDED MINIMUM
Processor	200 MHz
Memory	64 MB
Hard Drive	4GB
Video	AGP 2x w/4MB
CD-ROM	8x
Monitor	17" VGA, .28 pixel resolution
LAN Interface	10/100 Mbps Ethernet
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 v5

*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 will 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 to 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 **V***ist***A** document library: 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. You can do an "Inquire" into the OPTION file (#19) to get the menu information.

Chapter 1: Security Management

Legal Requirements

There are no unique legal requirements for this version of ROES.

Security Measures

ROES 3.0 is structured around standard accepted VA and industry information security controls. While including components of a typical broker-based **V***ist***A** application, the majority of the ROES application is a Web-based application residing at the DDC. While the application is Web-based, it is not available via the Internet external to VA corporate resources. It is designed to be accessible only from within the VA enterprise security perimeter. The Web application can be accessed only from local **V***ist***A** systems and desktop clients upon which the necessary components have been installed. Typical ROES end users include staff in VAMC Audiology & Speech Pathology Services (ASPS), and some VAMC Prosthetics & Sensory Aids Services (PSAS). Appropriate DDC user accounts are also necessary in order to access ROES. Such user accounts are granted only to authorized VA employees and VA contractors.

All users accessing the DDC must have completed, approved, and signed Security Agreements returned the DDC to obtain Access and Verify codes. Upon access to the DDC 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 DDC, 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 DDC Chief, IRM Division at 303-914-5160.

The **V***ist***A** option RMPF ROES3 is the only **V***ist***A** 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 DDC Web site.

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
RMPFRPC1	38.1	# 767

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 **V**ist**A** package by integrating established **V**ist**A** components with a primarily Web-based application. As such, much of the application maintenance takes place at the DDC application server and is performed by DDC 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 **V**ist**A** data structures and data exchange methods, including **V**ist**A** 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 users generate orders for products and services provided by the DDC. The DDC maintains national contracts for these products and services. The orders generated through ROES are subsequently delivered to commercial contract vendors via standardized secure electronic data exchange processes or via paper-based fax transmission. The DDC (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

Application-generated Mailman messages are passed between two mail groups: RMPF ROES UPDATES (ASPS) and RMPF ROES UPDATES (PSAS). The purpose of these messages is to obtain a veteran eligibility assessment when one cannot be determined programmatically from within the application and **V***ist***A** database. 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:

V*ist***A** RPC Broker Download site: http://vista.med.va.gov/broker/download.asp

V*ist***A** document library: www.va.gov/vdl

Files

One FileMan file is installed on the local VAMC **V***ist***A** system as part of ROES 3.0. The ROES ELIGIBILITY CONFIRMATION file (#791814) is used 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 file is subject to typical **V***ist***A** security protection.

The global is name spaced as: ^RMPF(791814,

The above global should not be modified locally or accessed other than through the following ROES components:

- Broker-based application ROES3.EXE

- **V***ist***A** routine name ^RMPFDE2 (typically assigned to menus of selected PSAS staff)

- ROES ELIGIBILITY CONFIRMATION FILE (#791814)

- CROSS REFERENCED BY:

- PATIENT(B)

- APPROVE/REJECT(C)

- EXPIRATION DATE(D)

File Structure

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 **V***ist***A** system and the DDC 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 DDC-resident ROES 3.0 Web application, passing the assembled information to the application. ROES users place orders and perform other order management functions within the ROES Web application.

The DDC-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 DDC 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 DDC order fulfillment system.

ROES 3.0 passes patient and end user information to the DDC 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 DDC. All order information is created and stored at the DDC.

Different capabilities within ROES 3.0 are invoked by each of two Delphi executables. One executable and associated set of broker calls integrates as an option on the CPRS Tools menu. When this option is invoked, 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		

The second combination of Delphi executable and associated set of broker calls comprises an executable 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 ELIGIBILITY CONFIRMATION file. Based on the small size of entries in this file and expectations that new entries will be created at a rate of no more than a few (10-20) per day, this file is projected to grow only slightly over time. In general, retention of entries is required for a minimum of two years from the date an eligibility assessment is entered into the file. Purging of entries beyond this time frame is being considered and if appropriate, a purge function 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 **V***ist***A** 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 DDC is maintained within the DDC'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.

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 DDC (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 Executable that connects the user to the DDC Web site from the desktop or CPRS Tools menu.

RPC: RMPFDEMOG

RPC: RMPFELIG

RPC: RMPF ELIG MSG

RPC: DDR GETS ENTRY DATA

RPC: DDR LISTER

RPC: DDR FINDER

RPC: DDR KEY VALIDATOR

RPC: DDR GET DD HELP

RPC: DDR VALIDATOR

RPC: XUS AV CODE

RPC: XUS SIGNON SETUP

RPC: XUS AV HELP

RPC: XUS GET USER INFO

RPC: XWB CREATE CONTEXT

RPC: XWB GET VARIABLE VALUE

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*).

Notice of Pending Eligibility Requests (V*ist*A)

A ROES 3.0 option notifies PSAS when requests for veteran eligibility determination have gone at least seven days without PSAS action. Option **RMPFDE4** is a **V*ist*A** option that checks the ^RMPF(791814, global and sends an alert to the corresponding mail group for requests older than seven days requiring action. This option should be scheduled to run nightly. The option does not need to be scheduled at a specific time. It can be run either before or after midnight.

NAME: RMPFDE4

MENU TEXT: Auto Que of Eligibility Request Alerts

TYPE: run routine

PACKAGE: REMOTE ORDER/ENTRY SYSTEM

DESCRIPTION: This is a ROES3 option that loops through the requests for eligibility determinations from ASPS. The alerts are sent to the requesting user and the RMPF ROES UPDATES (PSAS) mail group. The alerts start after the request has been entered and not acted on within 7 days. They are sent daily until acted upon by PSAS with an Edit, Reject, or Acceptance.

ROUTINE: START^RMPFDE4

UPPERCASE MENU TEXT: AUTO QUE OF ELIGIBILITY REQUES

Prosthetics Eligibility Approval (V*ist*A)

PSAS staff process requests for veteran eligibility determination via the Option **RMPFDE2**. This is a **V*ist*A** option that lists pending requests for eligibility determination. It should be assigned to PSAS person(s) responsible for approving ROES patient eligibilities. After listing the requests awaiting action, the user may edit, approve, or reject the request. This option then notifies both the RMPF ROES UPDATES (ASPS) and RMPF ROES UPDATES (PSAS) mail groups that an action has been taken.

NAME: RMPFDE2

MENU TEXT: Display ROES3 Eligibility Requests

TYPE: run routine

PACKAGE: REMOTE ORDER/ENTRY SYSTEM

DESCRIPTION: This option allows the processing of requests for eligibility determination from PSAS.

ROUTINE: LIST^RMPFDE2 (.ARRAY)

UPPERCASE MENU TEXT: DISPLAY ROES3 ELIGIBILITY REQUESTS

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 User Manual

ROES 3.0 Technical Manual

ROES 3.0 Installation Guide

Policies

Use of ROES and DDC 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.
DDC	Denver Distribution 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.
HTTP	HyperText Transfer Protocol. A protocol for connecting to a Web site.
PSAS	Prosthetics and Sensory Aids Service.
ROES	Remote Order Entry System. A package for ordering various supplies and services from the DDC.
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.
V*ist*A	Veterans Health Information Systems and Technology Architecture.

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, such as the need to process a request for eligibility.
APPLICATION PACKAGE	Software and documentation that support the automation of a service. In this case, the Remote Order Entry System.
KERNEL	A set of V*ist*A software routines that function as an intermediary between the host operating system and the V*ist*A 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 V*ist*A package elements, assigned by the Database Administrator (DBA). For ROES the name spacing is RMPF.
OPTION	An item in the V*ist*A 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.