

VHA Point of Service (Kiosks) Phase II
Technical Manual
For
Enhancement VPS 1*5



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Table of Contents

Orientation	1
<i>How to Use this Manual</i>	1
<i>Intended Audience</i>	1
<i>Legal Requirements</i>	1
<i>Disclaimers</i>	1
<i>Documentation Conventions</i>	1
<i>Commonly Used Terms</i>	2
<i>Technical Information Online</i>	3
<i>Help Prompts</i>	3
<i>Data Dictionary</i>	3
<i>Assumptions</i>	3
<i>References</i>	3
1 Introduction	4
1.1 Product Overview.....	4
1.2 Namespace Conventions.....	4
2 Implementation and Maintenance.....	4
2.1 Site Parameters	4
2.2 Health Summary Configuration	5
2.3 Create New Clinical Survey Questionnaire Patient Data Object.....	9
2.4 VPS Appointment Status	14
2.4.1 VPS VistA HL7 Messaging Configuration	14
2.4.2 Monitoring and Troubleshooting VPS HL7 Messaging	18
2.5 VPS HL7 A01 Message Profile	22
2.5.1 MSH - Message Header Segment	22
2.5.2 EVN – Event Type	22
2.5.3 PID - Patient Identification Segment	23
2.5.4 PV1 - Patient Visit.....	23
2.5.5 IN1 – Insurance Information.....	24
2.5.6 ZEN – VA Enrollment Segment	24
2.5.7 ZEL – VA Patient Eligibility Segment	25
2.5.8 ZMT – VA Means Test.....	25
2.5.9 HL7 Tables	25
3 Files	27
3.1 VistA M Server Files	27
3.2 VPS 1*5 New Data Files	28
4 Global Translation, Journaling and Protection.....	29

5	Routines	29
5.1	VPS 1*5 RPCs.....	29
5.2	Detailed VPS 1*5 RPC Information.....	30
6	Exported Options.....	30
7	Archiving and Purging.....	30
7.1	Archiving.....	30
7.2	Purging	30
8	Callable Routines.....	30
9	External Interfaces.....	31
10	External Relations.....	31
11	Internal Relations.....	31
12	DBIA Agreements	31
12.1	DBIA Agreements – Custodial Package	31
12.2	DBIA Agreements – Subscriber Package	31
13	Package-wide Variables	32
14	SAC Exemptions	32
15	Software Product Security	32
15.1	Security Management.....	32
15.2	Mail Groups and Alerts	32
15.3	Remote Systems.....	32
15.3.1	Connections.....	32
15.3.2	Remote Data Views	32
15.4	Interfaces	32
15.5	Electronic Signatures.....	32
15.6	Security Keys.....	33
15.7	File Security	33
15.8	Official Policies	33
16	Acronyms and Glossary.....	33
16.1.1	Acronyms.....	33
16.1.2	Glossary.....	34

Figures

No table of figures entries found.

Tables

<i>Table 1: Commonly Used VPS 1*5 Terms.....</i>	<i>2</i>
<i>Table 2 VistA M Server Files Accessed by VPS 1*5.....</i>	<i>28</i>
<i>Table 3 VPS VistA Routines.....</i>	<i>29</i>
<i>Table 4 VPS1*5 RPCs - Tags and Routines</i>	<i>30</i>
<i>Table 5: List of Acronyms.....</i>	<i>33</i>
<i>Table 6: Glossary.....</i>	<i>34</i>

Orientation

How to Use this Manual

This manual provides instructions on the use of VPS 1*5 remote procedure calls (RPC) to access Veterans Health Information Systems and Technology Architecture (VistA) as a data source for VHA Point of Service (Kiosks).

Intended Audience

The intended audience of this manual is the following stakeholders:

- Product Development (PD) VistA legacy development teams.
- Information Resource Management (IRM) system administrators at Department of Veterans Affairs (VA) sites who are responsible for computer management and system security on VistA M Servers.
- Information Security Officers (ISOs) at VA sites responsible for system security.
- Health Product Support (HPS) Information Technology (IT) Specialists who provide application support to VA end-users.

Legal Requirements

There are no special legal requirements involved in the use of VPS 1*5 RPCs.

Disclaimers

This manual provides an overall explanation of VPS 1*5 functionality. This guide does not attempt to explain how the overall VistA programming system is integrated and maintained.



DISCLAIMER: The appearance of any external hyperlink references in this manual does not constitute endorsement by the Department of Veterans Affairs (VA) of this Website or the information, products, or services contained therein. The VA 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 VA Intranet Service.

Documentation Conventions

The following symbols are used throughout this document to alert the reader to special information.



NOTE/REF: Used to denote general information including references to additional reading material.



CAUTION / RECOMMENDATION / DISCLAIMER: Used to caution the reader to take special notice of critical information.

Snapshots of computer online displays (screen captures) and computer source code are shown in non-proportional font and are enclosed within a box. User responses to displayed prompts are **bold italic** typeface. Software reserved words are displayed in **bold** font.

References to “<Enter>” within the screen captures indicate that the user should press the <Enter> key on the keyboard. Other special keys are represented within < > angle brackets and indicate the user should press the indicated key on the keyboard. For example, <PF1> directs the user to press the PF1 key on the keyboard.

The following conventions are used to display test data:

- Social Security Numbers (SSN) for test patients are prefixed with five zero digits e.g. 000009999.
- Patient names are formatted as [Application Name]PATIENT,[N] e.g. VPSPATIENT, ONE.
- User names are formatted as [Application Name]USER[N] e.g. VPSUSER, ONE.



This guide refers to the M programming language as M. Under the 1995 American National Standards Institute (ANSI) standard, M is the primary name of the MUMPS programming language, and MUMPS is considered an alternate name.

Commonly Used Terms

Table 1: Commonly Used VPS 1*5 Terms

Term	Description
Client	A single term used interchangeably to refer to a user, the workstation (i.e., PC), and the portion of the program that runs on the workstation.
Component	A software object that contains data and code. A component may or may not be visible.
GUI	The Graphical User Interface application that is developed for the client workstation.
HL7	Health Level Seven real-time messaging protocol.
HLO	Health Level Seven Optimized refers to the VA implementation of the HL7 protocol in VistA.
Host	The term Host is used interchangeably with the term Server.
Server	The computer where the data and the RPC Broker remote procedure calls (RPCs) reside.
TCP	Transmission Control Protocol is a communications protocol used to provide end-to-end connectivity between hosts.
IP	Internet Protocol is a communications protocol that specifies host network addresses.

Technical Information Online

Project documentation for VPS Kiosks may be found in the Technical Services Project Repository (TSPR). Other online technical information from M Server-based software file, routine and global documentation may be generated using Kernel, MailMan and VA FileMan utilities.

Help Prompts

Help prompts are provided for each field in the VPS 1*5 FileMan data files. Additional online help is provided in the Health Summary technical manual and user guide available on the VistA Document Library (VDL) to assist in VPS 1*5 Health Summary report configuration..

Data Dictionary

Technical information on VistA M Server-based files is stored in the VA FileMan Data Dictionary. The VA FileMan List File Attributes option on the Data Dictionary Utilities submenu may be used to view the attributes of VistA M Server files.

Assumptions

This guide is written with the assumption that the reader is familiar with:

- Kernel – VistA M Server software
- Remote Procedure Call (RPC) Broker – VistA Client/Server software
- VA FileMan data structures and terminology – VistA M Server software
- Microsoft Windows
- M programming language

References

The following references support the reader's understanding of the operation and functioning of VPS 1*5:

- *VPS 1*5 Technical Manual (this guide)*
- *RPC Broker Release Notes*
- *RPC Broker Developer's Guide*
- *RPC Broker Systems Management Guide*
- *RPC Broker TCP/IP Supplement, Patch XWB*1.1*35 and XWB*1.1*44*
- *RPC Broker Technical Manual*
- *RPC Broker User Guide*
- *Veteran's Point of Service (VPS) FY14 OIT PD BRD, Version 2.0 (May 2014)*
- *20090210 VHA Point-of-Service Initiative BRD*
- *Discharge, Transfer, And Appointment Scheduling Technical Manual, (November 2013)*
- *Vista Messaging Services Health Level Seven Optimized (HLO) Developer manual (January 2010)*

These references may be downloaded from the [VA Software Document Library \(VDL\) Website](#).

1 Introduction

The *VPS 1*5 Technical Guide* provides descriptive information and instruction on the use of VPS 1*5 Remote Procedure Calls (RPCs) within VA's Veterans Health Information Systems and Technology Architecture (VistA) environment. This document is intended for systems managers—Information Resource Management (IRM) personnel who are responsible for implementing and maintaining this software, application programmers, and developers. It acquaints system managers with the software structure and functionality of the VPS RPC routines and files that comprise this software.

1.1 Product Overview

VPS 1*5 provides RPCs that extends VetLink integration with multiple VistA packages, and provides the capability to store patient survey data.

The RPCs either extract data from associated VistA files or enhance the established VistA and/or VetLink mechanisms. VistA patch VPS 1*5 focuses on the following functional areas:

1. **Appointment Status Integration:** this effort is to analyze, define, and document the implementation design of the integration between the VPS program and existing VistA appointment module. This provides staff with the ability to use VetLink to see appointments, by using the staff-friendly GUI, pertinent to them and their user template. A bi-directional exchange of appointment statuses between VistA and VetLink will be built such that VetLink can be kept apprised of appointments in various statuses to include not checked in, checked in, partially checked out, checked out, canceled, no-showed, etc.
2. **Clinical Surveys:** this effort is to analyze, define, and document the implementation design of new Clinical Screening Questionnaires (CSQ) module intended to improve delivery of a patient care preventative health component and clinician access to patient information. Clinical Screening Questionnaires will improve the current process by efficiently allowing the patient to self-report on areas of concern to our Veteran population by completing the appropriate questionnaire during their clinic visit. This module will allow the patient to accurately discuss and verify their past and current clinical assessments history and this will help identify any preventative care actions needed by the clinical staff during the current visit and/or perform any necessary interventions or referrals

1.2 Namespace Conventions

VPS is the namespace assigned to VPS 1*5.

2 Implementation and Maintenance

The *VPS 1*5 Installation Manual* provides detailed information regarding the installation of the VPS 1*5 RPCs and configuration requirements.

2.1 Site Parameters

No site specific parameters are provided or required for VPS 1*5.

2.2 Health Summary Configuration

VPS 1*5 provides the capability to report on the clinical survey questionnaire (CSQ) activity of clinic patients in CPRS using Ad Hoc Health Summary (HS) reports.

Two default Ad Hoc HS reports, **CSQ HS TYPE** and **CSQ HS CALC TYPE** were created during the VPS 1*5 post-install process. Data for these Ad Hoc HS reports are populated from the default **VPS CSQ PDO** object, which was also created during the VPS 1*5 post-install process.

To execute the Ad Hoc HS reports CSQ HS TYPE or CSQ HS CALC TYPE, launch CPRS and select the patient whose survey responses are to be reported. Click the **Reports** tab

Recent Lab Results	Vitals	Appointments/Visits/Admissions
No Orders Found.	T 98.9 F Jun 27, 2007 07:58(37.2 C)	No data found
	P 90 Jun 27, 2007 07:58	
	R 16 Jun 27, 2007 07:58	
	BP 113/58 Jun 27, 2007 07:58	
	w/T 237.3 lb Jun 27, 2007 07:58(107.64 kg)	
	PN 0 Jun 27, 2007 07:58	
	PDX 93 Jun 27, 2007 07:58	

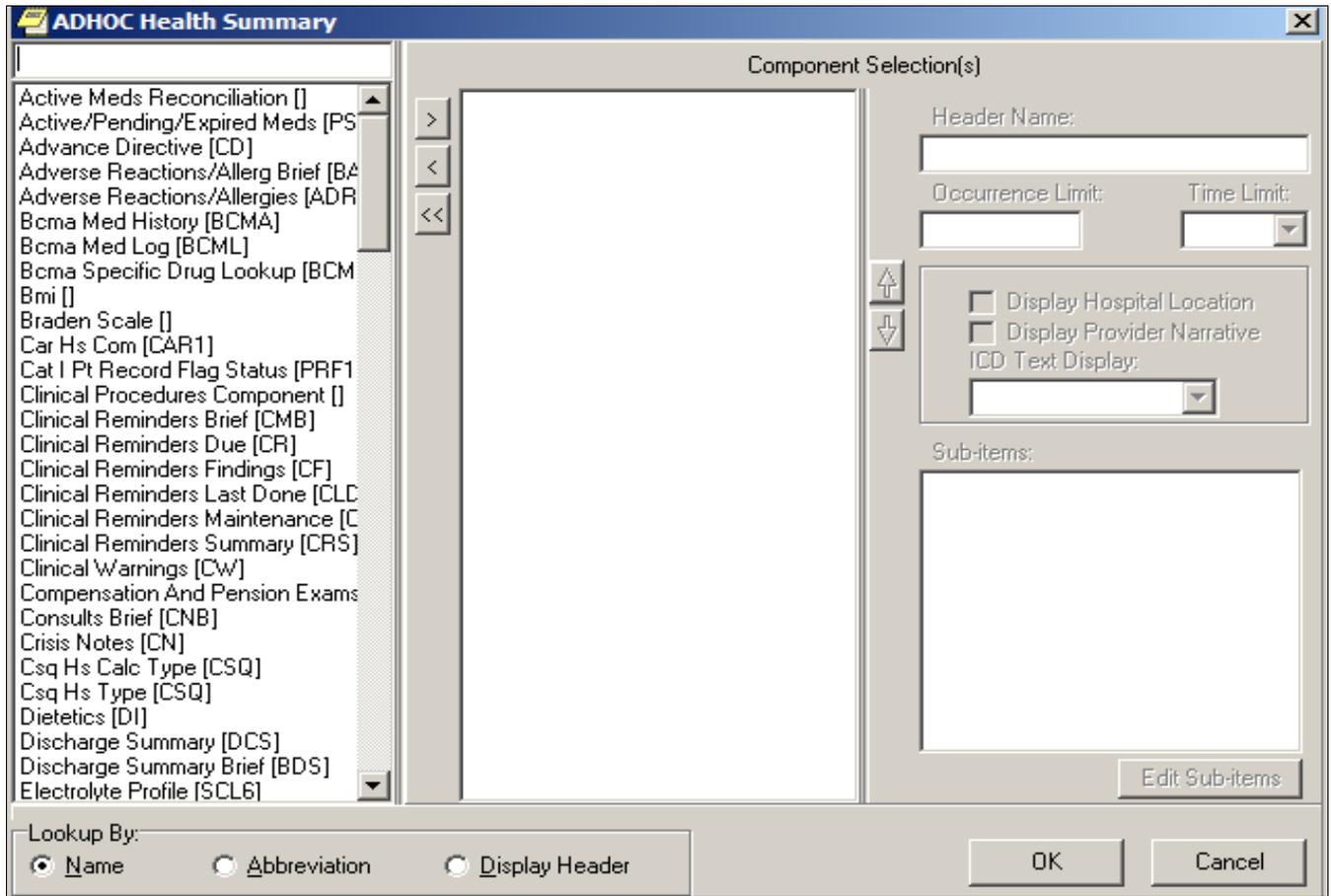
Click the plus sign to open the Health Summary Reports.

- [-] Clinical Reports
- [+] **Health Summary**
- [-] HDR Reports
- [-] Dept. of Defense Reports
- [-] Imaging (local only)
- [-] Graphing (local only)
- [-] Lab Status

Click Adhoc Report in the Health Summary Reports list.

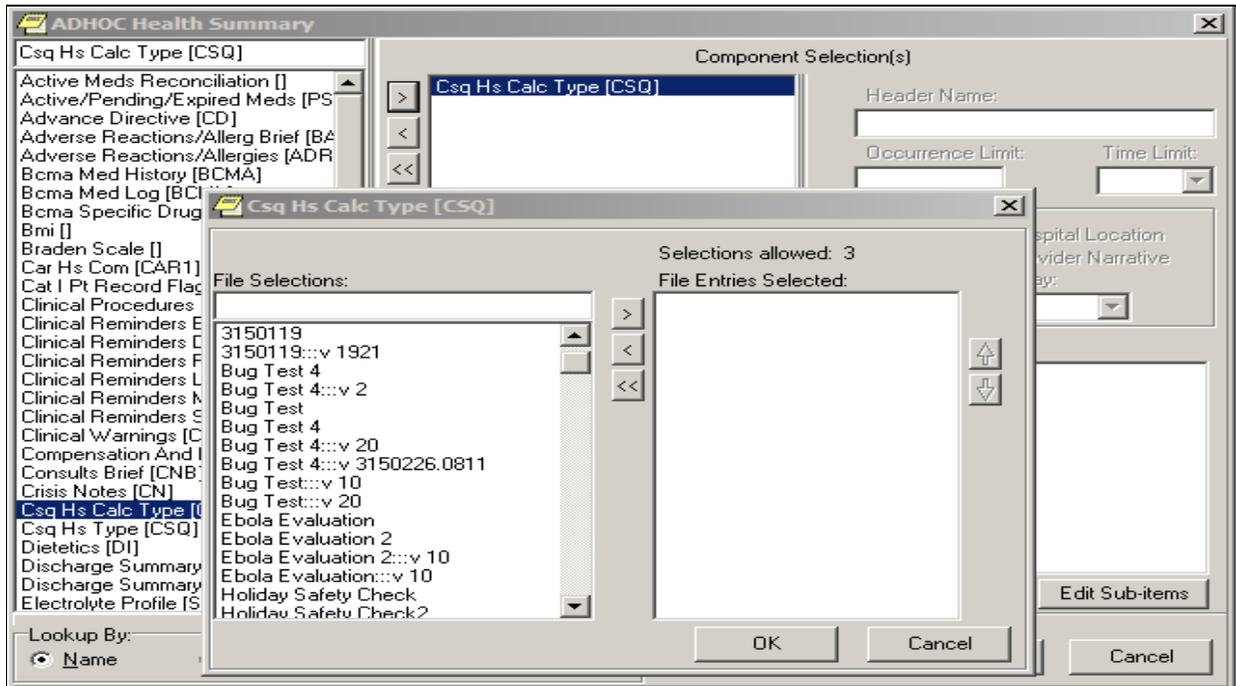
- [-] Health Summary
 - [-] Test Survey
 - [+] **Adhoc Report**
 - [-] Health Summary Supravista
 - [-] Msa Med Rec
 - [-] Historical Surgery Reports
 - [-] Inpatient Health Summary
 - [-] Outpatient Health Summary

Click on an Adhoc report name, Csq Hs Calc Type [CSQ} and then click the right-arrow, >, in the Component Selections pane.

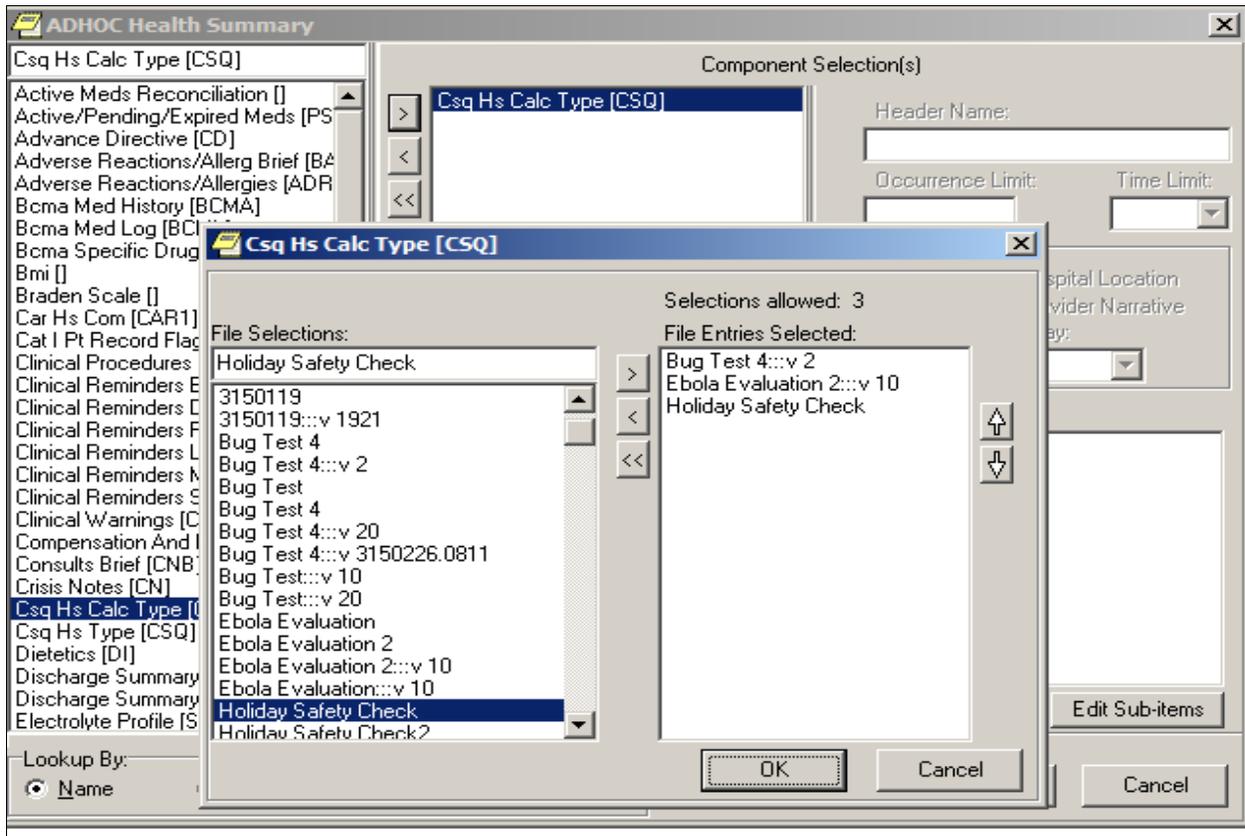


You may select multiple Adhoc reports for display. When you select either the Cs Hs Type [CSQ] or the Csq Hs Calc Type [CSQ] for reporting, you will be presented with a dialog to allow the selection of up to 3 clinical survey questionnaires to be included.

Click the CSQ name in the File Selection box, then click the right-arrow, >.

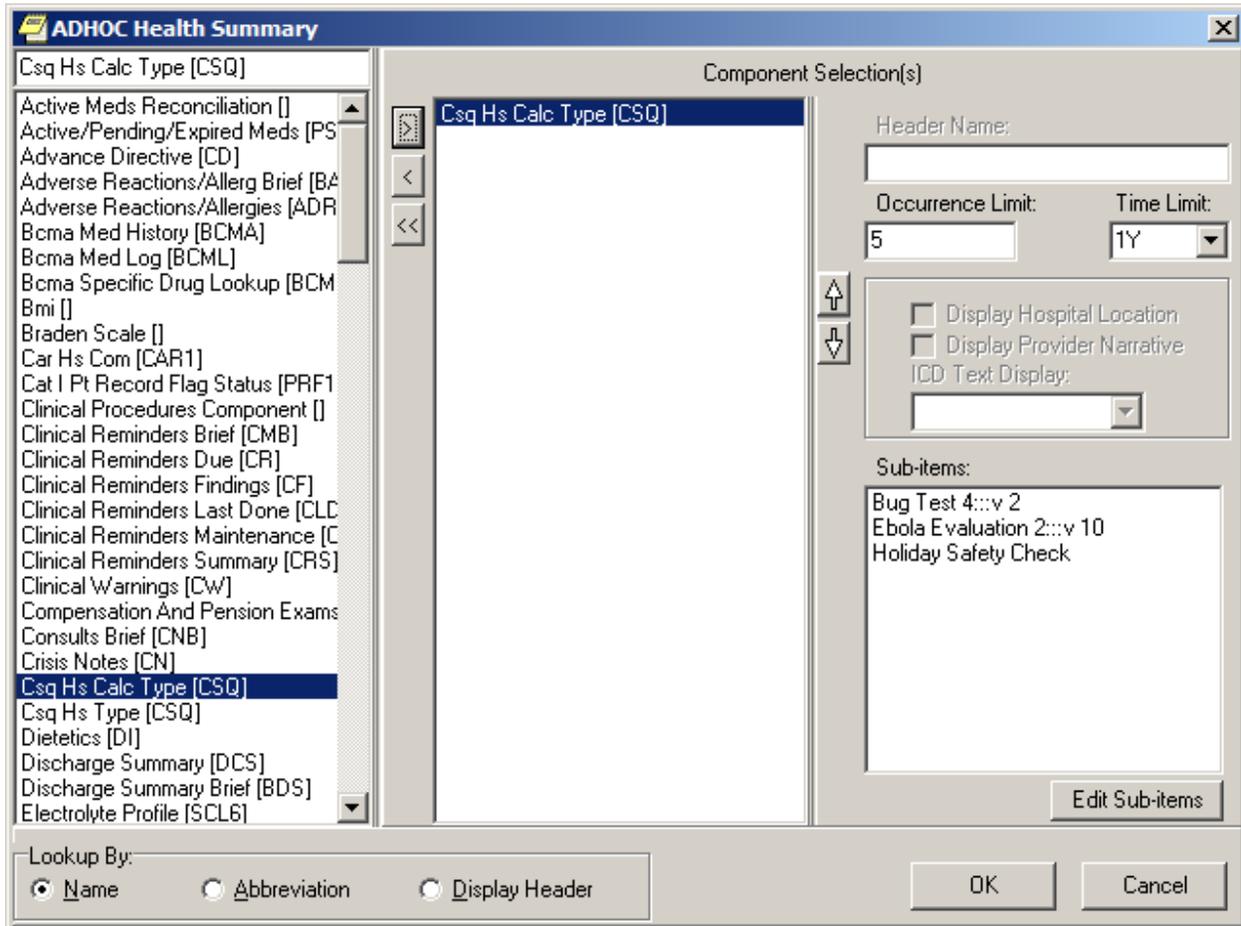


When all CSQs have been selected and appear in the **File Entries Selected** list, click the OK button



Click the OK button

Click the OK button again to generate a report of the patient's survey responses for the selected CSQs. If a patient responded to a CSQ multiple times during the current year, the most recent occurrences up to the occurrence limit of 5 will be included in the report.



Following is sample output of the CSQ HS CALC TYPE report.

```
02/26/2015 18:54
***** CONFIDENTIAL AD HOC SUMMARY pg. 1 *****
XXXXX,XXX X XXX-XX-XXXX DOB: 12/26/1955

CSQ - CSQ HS CALC TYPE

-----
BUG TEST 4:::V 2 - (max 5 occurrences or 1 year)

Patient Name: XXXXX,XXX X
Questionnaire IEN: 4
Questionnaire Name: BUG TEST 4
Date and Time Taken: FEB 25, 2015@08:11
Date and Time Last Modified: FEB 26, 2015@08:11
Questions and Answers:
What is your name? Programmer,%FOUR

- - - - -
Survey Calculated Value: VERSION Check
Value - SCORE;2F
Value - XYZ;55

-----
EBOLA EVALUATION 2:::V 10 - (max 5 occurrences or 1 year)

No results

-----
HOLIDAY SAFETY CHECK - (max 5 occurrences or 1 year)

No results

-----
CSQ - CSQ HS CALC TYPE (max 5 occurrences or 1 year) -----
No data available for BUG TEST 4:::V 2; Ebola Evaluation 2:::V 10;
HOLIDAY SAFETY CHECK

*** END ***** CONFIDENTIAL AD HOC SUMMARY pg. 1 *****
```

2.3 Create New Clinical Survey Questionnaire Patient Data Object

The VPS CSQ patient data object is the default PDO for VPS clinical survey questionnaires. Additional customized PDOs may be created by the Clinical Applications Coordinator (CAC). The CAC may specify Questionnaire internal entry number (IEN) and/or Questionnaire name, the number of occurrences of the questionnaire to be included, as well as a date range to filter VPS CSQ results to be included in a CSQ PDO.

The process for creating a new CSQ PDO is described in following sample screen captures.

1. Using the TIU Maintenance Menu option, select item 2, Document Definitions (Manager)

```
Select OPTION NAME: TIU MAINTENANCE MENU  TIU IRM MAINTENANCE MENU  TIU Maintenance Menu

 1      TIU Parameters Menu ...
 2      Document Definitions (Manager) ...
 3      User Class Management ...
 4      TIU Template Mgmt Functions ...
 5      TIU Alert Tools
 6      Active Title Cleanup Report
 7      TIUHL7 Message Manager
        Title Mapping Utilities ...

Select TIU Maintenance Menu <TEST ACCOUNT> Option: 2 Document Definitions (Manager)
```

2. Select item 4, Create Objects, from the Manager Document Definition Menu.

```
--- Manager Document Definition Menu ---

 1      Edit Document Definitions
 2      Sort Document Definitions
 3      Create Document Definitions
 4      Create Objects
 5      Create TIU/Health Summary Objects

You have PENDING ALERTS
Enter "VA to jump to VIEW ALERTS option

Select Document Definitions (Manager) <TEST ACCOUNT> Option: 4 Create Objects
```

3. Press the <ENTER> key at the prompt, FIRST//.

```
START DISPLAY WITH OBJECT: FIRST// .....
.....
.....

Objects                               Feb 24, 2015@15:12:05          Page: 1 of 16
                                Objects

                                Status
1      A1C HGB                                A
2      A1C LAST                                A
3      ABD CAT SCAN                            A
4      ABG                                      A
5      ACTIVE MEDICATIONS                      A
6      ACTIVE MEDS COMBINED                    A
7      ACTIVE PROBLEM                          A
8      ACTIVE/PENDING/EXPIRED MEDICATIONS     A
9      ACTIVE/PENDING/EXPIRED MEDS            I
10     ACTIVE/PENDING/EXPIRING MEDICATIONS (W/O SUPPLIES) A
11     ADMISSIONS PAST YR                      A
12     ALBUMIN                                 A
13     ALBUMIN TIU OBJECT                      A
14     ALLERGIES WITH DETAIL                   A
+      ?Help  >ScrollRight  PS/PL PrintScrn/List  +/-      >>>
      Find      Detailed Display/Edit  Copy/Move
      Change View      Try      Quit
      Create      Owner

Select Action: Next Screen//
```

- Enter CREATE at the Select Action prompt as shown below. Enter a new name for your PDO. To avoid confusion with national or application default PDOs, please do not begin the PDO name with VA, VPS, or CSQ. Delete the CLINICAL COORDINATOR as the CLASS OWNER, and enter your name as the PERSONAL OWNER of the PDO.

```
Select Action: Next Screen// CREATE   Create
Enter the Name of a new Object:<Questionnaire PDO descriptive name>
CLASS OWNER: CLINICAL COORDINATOR// @
PERSONAL OWNER:<your name> <ENTER>

Entry added
```

- After the creating the new PDO object in step 2, the Object list is displayed, and the newly enter object name should appear in the list. Enter the Object number (number to the left of the name) at the Select Entry prompt.

```
Objects                               Feb 24, 2015@15:23:57           Page: 2 of 16
                                Objects
+-----+-----+-----+-----+-----+-----+
+                                     Status
24  Questionnaire PDO description name          I
25  CBC                                           A
26  CBC 2                                         A
    Find                Detailed Display/Edit    Copy/Move
    Change View         Try                    Quit
    Create              Owner

Select Action: Next Screen// D Detailed Display/Edit
Select Entry: (24-37): 24
```

- The Detailed Display screen shows the basic information for the PDO object. Enter Technical Fields at the Select Action prompt. As shown in the screen capture below. Replace the parameter placeholders <QID>, <QNM>, etc. in the following M code and enter the M code with applicable parameters at the OBJECT METHOD prompt.

```
Technical Fields
  Object Method:
+   ? Help      +, - Next, Previous Screen    PS/PL
  Basics       Try                          Delete
  Technical Fields Find                      Quit
Select Action: Next Screen// TECHNICAL FIELDS
```

S X=\$\$GETRPT^VPSSRVY3(DFN,"^TMP("VPSPDO1",SJ),<QID>,<QNM>,<FRMDT>,<TODT>,<CSQOCCU>)

Object CAROLYN TEST

Basics

Name: **Questionnaire PDO description name**
 VHA Enterprise
 Standard Title:
 Abbreviation:
 Print Name: **Questionnaire PDO description name**
 Type: OBJECT
 IFN: 97
 National
 Standard: NO
 Status: INACTIVE
 Owner: **your name**

Technical Fields

Object Method:

? Help +, - Next, Previous Screen PS/PL

Basics Try Delete

Technical Fields Find Quit

Select Action: Quit// Select Action: Quit// **Technical Fields** Technical Fields

OBJECT METHOD: S=\$GETRPT^VPSSRVY3(DFN,"^TMP("VSPD01", \$J)", <QID>, <QNM>, <FRMDT>, <TODT>, <CSQOCCU>)

In the M code shown above, the following parameter are place holders and may be replaced with specific values or left empty:

- QID** The TEMPLATE ID of the desired Clinical Survey Questionnaire. This is the unique survey identifier (optional). To obtain the CSQ TEMPLATE ID do a FileMan inquiry to the VPS QUESTIONNAIRE IDENTIFIERS file #853.85.
- QNM** The Clinical Survey Questionnaire name (optional) is the name in the VPS QUESTIONNAIRE NAME file #853.85 corresponding to a CSQ TEMPLATE ID. To obtain the CSQ name (QNM) do a FileMan inquiry to the VPS QUESTIONNAIRE NAME file #853.875.

NOTE: If both QID and QNM are omitted, all CSQs to which the patient has responded will be included in the PDO.

If both the QID (Questionnaire IEN) and QNM (Questionnaire Name) are provided, the QID must correspond or refer to the provided QNM. If the QID does not correspond or refer to the QNM then no CSQ survey data is returned.

- FRMDT** The starting date for a date range (optional). If not provided all identified questionnaires are returned. The starting date must be entered in FileMan format.
- TODT** The ending date for a date range (optional). If not provided all identified questionnaires are returned. The ending date must be entered in FileMan format.
- CSQOCCU** The number of questionnaire instances to be included in the PDO when a patient has responded to a questionnaire multiple times (optional). If not provided, all occurrences of the CSQ are returned.

Following are sample OBJECT METHOD parameter settings.

- a) The following OBJECT METHOD will retrieve the first three submissions of the CSQ with QID equal to 3 for a patient.

```
S X=$$GETRPT^VPSSRVY3(DFN,"^TMP("VPSPD01",$J)",3,"HOLIDAY SAFETY CHECK",,,3)
```

Or

```
S X=$$GETRPT^VPSSRVY3(DFN,"^TMP("VPSPD01",$J)",3,,,3)
```

- b) The following OBJECT METHOD will retrieve all versions of the CSQ named “BUG TEST 4” and all occurrences of those versions to which a patient responded. To restrict the CSQs retrieved to a specific questionnaire, include the QID.

```
S X=$$GETRPT^VPSSRVY3(DFN,"^TMP("VPSPD01",$J)",,"BUG TEST 4",,,3)
```

- c) The following OBJECT METHOD will retrieve all the CSQs between a date range.

```
S X=$$GETRPT^VPSSRVY3(DFN,"^TMP("VPSPD01",$J)",4,,315 0224,3150227,3)
```

You must activate the CSQ PDO object before you may include it in a TIU note. To activate the CSQ PDO, you press the <ENTER> Key to return to the Detailed Display screen, and enter **Basics** at the Select Action prompt.

Detailed Display	Feb 26, 2015@16:12:45	Page: 1 of 2
Object CAR2 SCRN CAP		
Basics		
Name:	CAR2 SCRN CAP	
VHA Enterprise		
Standard Title:		
Abbreviation:		
Print Name:	CAR2 SCRN CAP	
Type:	OBJECT	
IFN:	97	
National		
Standard:	NO	
Status:	INACTIVE	
Owner:	WHELESS,CAROLYN	
Technical Fields		
Object Method:	S X=\$\$GETRPT^VPSSRVY3(DFN,"^TMP("VPSPD01",\$J)",2,"BUG	
+ ? Help	+ , - Next, Previous Screen	PS/PL
Basics	Try	Delete
Technical Fields	Find	Quit
Select Action:	Next Screen// B Basics	
NAME:	CAR2 SCRN CAP//	
ABBREVIATION:		
PRINT NAME:	CAR2 SCRN CAP//	
PERSONAL OWNER:	WHELESS,CAROLYN// WHELESS,CAROLYN	
STATUS: (A/I):	INACTIVE// ACTIVE ACTIVE Entry Activated.	

Press the <ENTER> key and enter **ACTIVE** in the STATUS field as shown. Quit the TIU Maintenance menu.

To use the created CSQ PDO object, launch CPRS and insert the CSQ PDO into a Notes template.

2.4 VPS Appointment Status

VPS uses the HL Optimized (HLO), an optimized version of HL 1.6, to send HL7 admission, discharge and transfer (ADT) A01 messages containing updated patient appointment, miscellaneous demographic, enrollment, eligibility, patient record flag, and patient balance information. For details on the information included in the VPS ADT A01 message, please see section 2.5 of this document.

The HL7 messages are triggered by the Scheduling Protocol (SDAM). When a patient appointment is created, checked-in, check-out, cancelled or the time values of these actions is modified, an SDAM event is triggered which invokes the VPS Appointment Status protocol. This protocol generates and sends an HL7 A01 message to VetLink.

2.4.1 VPS VistA HL7 Messaging Configuration

VPS VistA Health Level Seven (HL7) Server Configuration is usually a one-time operation performed after installation of VPS*1*5. However, site support staff will require an understanding of the HL7 configuration to troubleshoot messaging errors or communication failures.

Site IRM and VPS system administrators supporting VPS HL7 messaging require the HLO security keys HLOMAIN and HLOMGR.

Prior to activating VPS Appointment Status Messaging, the VPS HL7 sending and receiving message applications must be entered into the HLO APPLICATION REGISTRY file #779.2. The VPS 1*5 Appointment Status entries in this file are VPS SEND APPT STATUS (the sending application) and VPS VECNA APPT STATUS (the receiving application). These entries are used to automatically populate the sending and receive application fields in the VPS HL7 ADT A01 Message Header (MSH) segment. Following are the registry entries for VPS 1*5 HL7 Appointment Status messaging:

APPLICATION NAME: **VPS SEND APPT STATUS**
Package File Link: **HEALTH LEVEL SEVEN**

APPLICATION NAME: **VPS VECNA APPT STATUS**
Package File Link: **HEALTH LEVEL SEVEN**

These entries should **NOT** be modified or changed. Modification of these entries may prevent transmission of VPS appointment status ADT A01 messages.

VPS 1*5 HL7 Appointment Status messages use an HL Logical Link to transmit messages. During installation of VPS*1*5, the HL Logical Link is configured by the IRM. A FileMan inquiry into the HL LOGICAL LINK file 870 may be used to display the VPS HL7 Appointment Status logical link, **VPSAPPT**. The VPSAPPT should appear as follows, with the DNS DOMAIN and TCP/IP Address replaced with the VPS Kiosks information provided in the VPS HL7 Configuration spreadsheet available at

http://vaww.oed.portal.va.gov/projects/vps/Library/VetLink%205.5/VPS_HL7_Server_Information.xlsx

```

NODE: VPSAPPT
STATE: Shutdown
DNS DOMAIN: XX.XXX.XXX.XXX
SHUTDOWN LLP ? : YES
TCP/IP ADDRESS: XX.XXX.XXX.XXX
TCP/IP PORT (OPTIMIZED): 5001

LLP TYPE: TCP
AUTOSTART: Enabled
TIME STOPPED: FEB 23, 2015@13:47:15
QUEUE SIZE: 10
TCP/IP SERVICE TYPE: CLIENT (SENDER)

```

The DNS DOMAIN field should be populated with the DNS Domain or IP address of the VetLink HL7 server provided for your site. The TCP/IP PORT field is populated with the default VistA client outbound HLO port number.

If modifications or changes are required to the VPSAPPT entry in the HL LOGICAL LINK file #870, use the VistA LINK EDIT option to make the changes.

```

Select OPTION NAME: LINK EDIT HL EDIT LOGICAL LINKS      Link Edit
Select HL LOGICAL LINK NODE: VPSAPPT

```

Use the <TAB> or arrow key to navigate to the logical link fields and enter or modify values for your site's HL LOGICAL LINK configuration.

```

                                HL7 LOGICAL LINK
-----
                                NODE: VPSAPPT                DESCRIPTION:
                                INSTITUTION:
                                MAILMAN DOMAIN:
                                AUTOSTART: Enabled
                                QUEUE SIZE: 10
                                LLP TYPE: TCP
                                DNS DOMAIN: <domain-name or ip address of VetLink HL7 server>
-----
COMMAND:                                Press <PF1>H for help      Insert

```

The LLP TYPE (Lower Level Parameters) sub-fields are accessed by tabbing or using the arrow keys to move to the LLP TYPE field. When the LLP TYPE field is selected, press the <ENTER> key to display the TCP LOWER LEVEL PARAMETERS screen.

```

      HL7 LOGICAL LINK
-----
      TCP LOWER LEVEL PARAMETERS
      VPSAPPT

TCP/IP SERVICE TYPE: CLIENT (SENDER)
TCP/IP ADDRESS: 10.XXX.XXX.XXX
TCP/IP PORT:
TCP/IP PORT (OPTIMIZED): 5001

ACK TIMEOUT:                RE-TRANSMISSION ATTEMPTS:
READ TIMEOUT:              EXCEED RE-TRANSMIT ACTION:
BLOCK SIZE:                SAY HELO:
STARTUP NODE:              TCP/IP OPENFAIL TIMEOUT:
RETENTION:                 PERSISTENT:
                           UNI-DIRECTIONAL WAIT:

COMMAND:                    Press <PF1>H for help   Insert
  
```

In the TCP/IP ADDRESS field, enter the IP address of the receiving HL7 Server. This IP Address will be used for HL7 message transmission if the DNS name is not in the DNS server or the DNS server is not available. In the TCP/IP PORT is the default VistA HLO default port number. (Note: Port number assignments may be in the range 1000 to 32000. Presently, VPS Kiosks is using the default HLO outbound port, but may establish a different port assignment in the future.) The DNS DOMAIN, TCP/IP ADDRESS and TCP/IP PORT values are provided the VPS HL7 Configuration spreadsheet (link provided above).

To save changes/modifications, tab to the COMMAND field and press <ENTER> to close the TCP LOWER LEVEL PARAMETERS dialog.

```

      HL7 LOGICAL LINK
-----
      TCP LOWER LEVEL PARAMETERS
      VPSAPPT

TCP/IP SERVICE TYPE: CLIENT (SENDER)
TCP/IP ADDRESS: XX.XXX.XXX.XXX
TCP/IP PORT:
TCP/IP PORT (OPTIMIZED): 5001

ACK TIMEOUT:                RE-TRANSMISSION ATTEMPTS:
READ TIMEOUT:              EXCEED RE-TRANSMIT ACTION:
BLOCK SIZE:                SAY HELO:
STARTUP NODE:              TCP/IP OPENFAIL TIMEOUT:
RETENTION:                 PERSISTENT:
                           UNI-DIRECTIONAL WAIT:

Close      Refresh

Enter a command or '^' followed by a caption to jump to a specific field.

COMMAND: Close                    Press <PF1>H for help   Insert
  
```

When you have entered the required configuration values, use the tab key to navigate to the COMMAND field and enter **Save** and press the <ENTER> key. Exit the link edit screen by navigating to the COMMAND field and enter **Exit** and press the <ENTER> key.

```

                                HL7 LOGICAL LINK
-----
                                NODE: VPSAPPT                                DESCRIPTION:
                                INSTITUTION:
                                MAILMAN DOMAIN:
                                AUTOSTART: Enabled
                                QUEUE SIZE: 10
                                LLP TYPE: TCP
                                DNS DOMAIN: <domain-name or ip address of VetLink HL7 server>
-----
Exit      Save      Refresh
Enter a command or '^' followed by a caption to jump to a specific field.
COMMAND: Save                                Press <PF1>H for help      Insert
```

The above operations will be performed during the VPS 1*5 post-install and HL Logical Link connectivity will be verified. The above instructions and screen captures are provided for information and assistance should changes to the VPSAPPT HL Logical Link become necessary in the future.

2.4.2 Monitoring and Troubleshooting VPS HL7 Messaging

The HL7 MAIN MENU, HLO option is used to monitor and research issues with VPS HL7 ADT A01 Appointment Status messages, as shown in the following screen capture.

```

Select OPTION NAME: HL7 MAIN MENU HL MAIN MENU HL7 Main Menu

    Event monitoring menu ...
    Systems Link Monitor
    Filer and Link Management Options ...
    Message Management Options ...
    Interface Developer Options ...
    Site Parameter Edit
HLO HL7 (Optimized) MAIN MENU ...

Select HL7 Main Menu Option: HLO HL7 (Optimized) MAIN MENU

SM HLO SYSTEM MONITOR
MV HLO MESSAGE VIEWER
STAT HLO MESSAGE STATISTICS
ES HLO ERROR STATISTICS
SE HLO EDIT ERROR SCREENS
TS TROUBLESHOOTING MENU ...
DM HLO DEVELOPER MENU ...
SP EDIT HLO SYSTEM PARAMETERS

Select HL7 (Optimized) MAIN MENU Option: SM

HLO SYSTEM MONITOR Feb 23, 2015@14:15 Page: 1 of 1
Brief Operational Overview
SYSTEM STATUS: RUNNING
PROCESS MANAGER: RUNNING
STANDARD LISTENER: RUNNING
TASKMAN: RUNNING
DOWN LINKS:
CLIENT LINK PROCESSES: 2
IN-FILER PROCESSES: 2
MESSAGES PENDING ON OUT QUEUES: 0 ON SEQUENCE QUEUES: 0
STOPPED OUTGOING QUEUES:
MESSAGES PENDING ON APPLICATIONS: 0
STOPPED INCOMING QUEUES: VPS
FILE 777 RECORD COUNT: 0 --> as of Feb 22, 2015@16:41:57
FILE 778 RECORD COUNT: 0 --> as of Feb 22, 2015@16:41:57
MESSAGES SENT TODAY: 5
MESSAGES RECEIVED TODAY: 0
MESSAGE ERRORS TODAY: 0
    Brief System Status >>>
LP LIST PROCESSES BS BRIEF STATUS TL TEST TCP LINK
DL DOWN LINKS ML MONITOR LINK RT RealTime MODE
OQ OUTGOING QUEUES STOP HLO SEQ SEQUENCE QUEUES
IQ INCOMING QUEUES START HLO SQ START/STOP QUEUE
Select Action:Quit//
  
```

At the start of each business day, the VPS system support staff should verify that the HLO System is running correctly. In the HLO SYSTEM MONITOR display, the SYSTEM STATUS, PROCESS MANAGER, STANDARD LISTENER, and TASKMAN should be in the RUNNING STATE. If any of these processes show as STOPPED, please notify you IRM to restart the process.

The number of messages that are pending transmission as shown by the MESSAGES PENDING ON OUT QUEUES should not be an excessively large and growing number.

If the pending message count is increasing and/or messages do not appear to be transmitting, restarting the HL LOGICAL LINK may resume message processing. To restart the VPSAPPT HL Logical Link, enter **DL** at the Select Action prompt. Note: This action is also used to re-start links that have been SHUTDOWN deliberately after configuration changes or other network changes.

```

LP LIST PROCESSES      BS BRIEF STATUS      TL TEST TCP LINK
DL DOWN LINKS         ML MONITOR LINK     RT RealTime MODE
OQ OUTGOING QUEUES    STOP HLO            SEQ SEQUENCE QUEUES
IQ INCOMING QUEUES    START HLO           SQ START/STOP QUEUE
Select Action:Quit// DL

```

Enter RL at the Select Action prompt on the Down HLO Links screen and enter the name of the link to be re-started, VPSAPPT.

```

Down HLO Links                      Feb 24, 2015@17:58:23          Page: 0 of
0
Pending Messages                    Date/Time Down

Down Client Links
SL SHUTDOWN LINK              RL RESTART LINK
Select Action:Quit// RL RESTART LINK
Select a TCP Client Link (Outgoing):VPSAPPT

```

Return to the HLO SYSTEM MONITOR by pressing the <ENTER> key. If the pending count continues to increase, check the outgoing HL queues.

To check the outgoing queues, enter OQ at the Select Action prompt.

```

LP LIST PROCESSES      BS BRIEF STATUS      TL TEST TCP LINK
DL DOWN LINKS         ML MONITOR LINK     RT RealTime MODE
OQ OUTGOING QUEUES    STOP HLO            SEQ SEQUENCE QUEUES
IQ INCOMING QUEUES    START HLO           SQ START/STOP QUEUE
Select Action:Quit// OQ

```

The HLO Outbound Queue display shows the outbound message queue name. An asterisk next to the queue name indicates a stopped queue which should be restarted.

```

HLO Outbound Queues                 Feb 24, 2015@18:06:49          Page: 1 of 0
Link                               Queue/Priority          Count          Top Message
VPSEND28651                        DEFAULT                 33            442 1461930
*VPSEND28651                        DEFAULT                 1069          442 740657

Outgoing Queues *down links !stopped queues
DQ DELETE QUEUE                  DT DEL TOP MSG
DM DISPLAY MESSAGE                RT Real Time Display
Select Action:Quit//

```

If messages appear to be stuck in an outbound queue, you may select the **DT** option to delete the top message. This action may or may not cause subsequent messages in the queue to be processed.

To re-start a stopped queue, return to the HLO SYSTEM MONITOR screen (from the HLO Outbound Queue screen just press the <ENTER> key) and enter SQ at the Select Action prompt.

```
LP LIST PROCESSES      BS BRIEF STATUS      TL TEST TCP LINK
DL DOWN LINKS         ML MONITOR LINK     RT RealTime MODE
OQ OUTGOING QUEUES    STOP HLO            SEQ SEQUENCE QUEUES
IQ INCOMING QUEUES    START HLO           SQ START/STOP QUEUE
Select Action:Quit// SQ
```

Select item 1, START, select O OUTGOING, and enter the name of the stopped queue shown on the HLO Outbound Queue display (see above).

```
Select Action:Quit// SQ  START/STOP QUEUE

  Select one of the following:

      1      START
      2      STOP

Do you want to START or STOP a queue: 1//  START

  Select one of the following:

      I      INCOMING
      O      OUTGOING

Do you want to start an incoming queue or an outgoing queue: I//  OUTGOING
Enter the full, exact name of queue: VPSEND28651
```

If messages continue to not be sent after restarting the VPS APPT HL LOGICAL LINK and the HLO OUTGOING QUEUES, please take the following steps.

1. Using VistA FileMan, edit the **VPS HL7 SITE PARAMETER file #853.1** and set the **ACTIVE** field to **NO**. This will stop the creation of new HL7 messages.
2. Log a Remedy Ticket with the National Service Desk for assistance.

Temporary network issues or other site resource limitations may require that VPS Appointment Status messaging be suspended. To stop VPS Appointment Status messaging:

1. Using VistA FileMan, edit the **VPS HL7 SITE PARAMETER file #853.1** and set the **ACTIVE** field to **NO**. This will stop the creation of new HL7 messages.
2. Allow the VPS HL Logical Link to remain operational. Messages pending transmission on the VPS message queues will be sent. When all the pending messages have been successfully transmitted the VPS message queues will be empty. At this time the VPS HL Logical Link may be shutdown, if necessary.

When the network or resource limitations have been restored to normal, perform the following steps to restart VPS Appointment Status messaging:

1. Use the HLO System Monitor **DL** option to re-start the VPS HL Logical Link.
2. Use the HLO System Monitor **TL** option to test the VPS HL Logical Link. The TL option should display **VPSAPPT:5001 IS operational** (Note the site HLO port number may differ from 5001). If the TL option displays **VPSAPPT:5001 IS NOT operational**, please log a ticket with the National Service Desk for assistance.
3. After the HLO System Monitor **TL** option displays the **VPSAPPT:5001 IS operational** message, use FileMan to edit the **VPS HL7 SITE PARAMETER** file **#853.1** and set the **ACTIVE** field to **YES**. **Note: Do not activate VPS APPOINTMENT STATUS message creation if the VPS HL Logical Link is not operational.**

If messages in the VPS message queues are being transmitted, but the number of messages in the VPS message queues is increasing, the receiving HL7 server may be down or have an issue. Please take the following steps.

1. Please contact gckiosksupport@vecna.com and **include your site name and the information in the HL LOGICAL LINK file**. If necessary, escalate to VPS@VA.GOV.

If immediate assistance is not available, it is recommended that VPS Messaging be stopped until the transmission problem is identified and corrected. To stop VPS Appointment Status messaging please perform the following steps in sequence.

2. Using VistA FileMan, edit the **VPS HL7 SITE PARAMETER** file **#853.1** and set the **ACTIVE** field to **NO**. This will stop the creation of new HL7 messages.
3. Using the HLO System Monitor **DL** option, shutdown the VPS HL Logical Link.

Additional information on the options and troubleshooting actions is available in the *Health Level Seven Optimized (HLO) System Manage Manual* version 1.1, which is available in the Infrastructure section of the [VistA Documentation Library \(VDL\)](#).

2.5 VPS HL7 A01 Message Profile

2.5.1 MSH - Message Header Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	1	ST	R			Field Separator	Recommended value is (bar)
2	4	ST	R			Encoding Characters	Recommended delimiter values: Component = ^ (caret) Repeat = ~ (tilde) Escape = \ (back slash) Sub-component = & (ampersand)
3	15	ST				Sending Application	Name field of HL7 Application Parameter file.
4	20	ST				Sending Facility	Sending station's facility number from Institution field of HL7 Communication Parameters file.
5	30	ST				Receiving Application	Name field of HL7 Application Parameter file.
6	30	ST				Receiving Facility	Receiving station's facility number from Institution field of HL Logical Link file.
7	26	TS				Date/Time Of Message	Date and time message was created.
8	40	ST				Security	Not used
9	7	CM	R		0076 0003	Message Type	Always set to ADT^A01
10	20	ST	R			Message Control ID	Automatically generated by VISTA HL7 Package.
11	1	ID	R		0103	Processing ID	P (production)
12	8	ID	R		0104	Version ID	Version ID field of event protocol in Protocol file.
13	15	NM				Sequence Number	Not used
14	180	ST				Continuation Pointer	Not used
15	2	ID			0155	Accept Acknowledgment Type	NE (never acknowledge)
16	2	ID			0155	Application Acknowledgment Type	AL (always acknowledge)

2.5.2 EVN – Event Type

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Value
1	3	ID	B		0003	Event Type Code	Not Used
2	26	TS	R			Recorded Date/Time	Appointment Date (FileMan format)
3	26	TS	O			Date/Time Planned Event	Appointment Date (HL7 format)
4	3	IS	O		0062	Event Reason Code	Codes 04-18 representing the APPOINTMENT STATUS file IEN and string value e.g. 1 CHECKED IN
5	370 40 330 5 40 5 40 160	XCN ST TS TS TS	RE R R R RE		0188	Operator ID ID number Family name Surname Own surname prefix Own surname Surname prefix from partner/spouse Surname from partner /spouse	Appointment Print Status (Display Status) Clinic IEN Clinic Name (file #44) Appointment Type IEN Appointment Type Name (file #409.1) Cancellation Remarks

2.5.3 PID - Patient Identification Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	4	SI				Set ID - Patient ID	Always set to '1'
2	20 20 5	CK ST ST				Patient ID ID Check digit Code identifying the check digit Assigning authority Namespace ID	Patient DFN Station Number Not Used Assigning authority code e.g. "USVHA"
3	20	CM	R	Y		Patient Identifier List	Not used
4	12 15	CX ST				Alternate Patient ID ID	Sensitive Patient Flag_ e.g. 0_NON-SENSITIVE
5	48	PN	R			Patient Name	Patient Name
6	30	ST				Mother's Maiden Name	Not Used
7	26	TS				Date of Birth	Not Used
8	1	ID			0001	Sex	Not Used
9	48	PN		Y		Patient Alias	Not used
10	1	ID			0005	Race	Not used
11	106 50	AD ST	R R	Y		Patient Address Street address Other designation	Not Used Bad Address ID_Bad Address Reason.
12	4	ID				County Code	Not used
13	40 50	XTN ST		Y		Phone Number – Home Text=Not Used Telecommunication use code Telecommunication equipment type Email address Country code=Not Used Area/city code=Not Used Phone number=Not Used Extension=Not Used Text=not used	Components: Not Used Not Used Not Used Patient email address
14	40	TN		Y		Phone Number – Business	Not used
15	25	ST				Language – Patient	Not used
16	1	ID			0002	Marital Status	Not used
17	3	ID			0006	Religion	Not used
18	20	CK				Patient Account Number	Not used
19	16	ST				SSN Number – Patient	Social security number and pseudo indicator.

2.5.4 PV1 - Patient Visit

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	4	SI				Set ID - Patient ID	Sequential number beginning with 1, for each Patient Record Flag assigned to a patient.
2	1	IS	R		0004	Patient Class	Always set to Unknown
3	80	PL	O			Assigned Patient Location	Not Used
4	2	IS	O		0007	Admission Type	Not Used

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
5	300	CX	RE	Y		Preadmit Number	Patient Record Flags
	8	ST	RE			ID	Flag origin (National Local)
	20	ST	RE			Check digit	Flag Type (e.g. Behavioral)
	3	ID				Code identifying check digit	Not Used
	20	ST	RE			Assigning authority	
	250	ST	RE			Namespace	Flag Name (e.g. Behavioral)
						Universal ID	Not Used
6	80	PL	O			Prior Patient Location	Not Used
7	250	XCN	O			Attending Doctor	Not Used
8	250	XCN	O			Referring Doctor	Not Used
9	250	XCN	O			Consulting Doctor	Not Used
10	3	IS	O			Hospital Service	Not Used
11	80	PL	O			Temporary Location	Not Used
12	2	IS	O			Preadmit Test Indicator	Not Used
13	2	IS	O			Re-admission Indicator	Not Used
14	6	IS	O			Admit Source	Not Used
15	2	IS	O			Ambulatory Status	Not Used
16	2	IS	O			VIP Indicator	Not Used
17	250	XCN	O			Admitting Doctor	Not Used
18	2	IS	O			Patient Type	Not Used
19	250	CX	O			Visit Number	Not Used
20	50	FC	O			Financial Class	Not Used
21	2	IS	O			Charge Price Indicator	Not Used
22	2	IS	O			Courtesy Code	Not Used
23	2	IS	O			Credit Rating	Not Used
24	2	IS	O			Contract Code	Not Used
25	8	DT	O			Contract Effective Date	Not Used
26	12	NM	O			Contract Amount	Patient balance-owed

2.5.5 IN1 – Insurance Information

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	4	SI	R			SET ID	SEQUENTIAL NUMBER (1 is always primary eligibility)
2	250	CE	R			Insurance Plan	
	1	ST	RE			Identifier	Patient Insured (Y N)

2.5.6 ZEN – VA Enrollment Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	4	SI	R			SET ID –ZEN	Always set to 1
2	8	DT	RE			ENROLLMENT DATE	Not Used
3	1	ID	R		VA024	SOURCE OF ENROLLMENT	Not Used
4	2	IS	R		VA015	ENROLLMENT STATUS	Enrollment Status Code
5	3	IS	RE		VA016	REASON CANCELED/DECLINED	Not Used
6	30	TX	RE			CANCELED/DECLINED REMARKS	Not Used
7	3	IS	RE		VA115	FACILITY RECEIVED	Not Used
8	10	IS	RE		VA115	PREFERRED FACILITY	Not Used
9	1	IS	RE		VA021	ENROLLMENT PRIORITY	Not Used
10	8	DT	R			EFFECTIVE DATE	Pre-Registration Date Changed (FileMan format)
11	8	DT	R			ENROLLMENT APPLICATION DATE	Pre-Registration Date Change (HL7 Format)

2.5.7 ZEL – VA Patient Eligibility Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	4	SI	R			SET ID	SEQUENTIAL NUMBER (1 is always primary eligibility)
2	2	IS			VA004	ELIGIBILITY CODE	Eligibility Code
3	16	CK				LONG ID	Not Used
4	12	ST				SHORT ID	Eligibility Status e.g. VERIFIED
5	1	IS			0136	DISABILITY RETIREMENT FROM MIL	Not Used
6	9	NM				CLAIM FOLDER NUMBER	Not Used
7	40	ST				CLAIM FOLDER LOCATION	Not Used
8	1	IS			VA001	VETERAN?	Not Used
9	30	ST				TYPE OF PATIENT	Not Used
10	1	IS			VA006	ELIGIBILITY STATUS	Not Used
11	8	DT				ELIGIBILITY STATUS DATE	Ineligible Date (FileMan Format)
12	8	DT				ELIGIBILITY INTERIM RESPONSE	Ineligible Date (HL7 Format)

2.5.8 ZMT – VA Means Test

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	SEQ Values
1	4	SI	R			SET ID	SEQUENTIAL NUMBER (1 is always primary eligibility)
2	8	DT	R			Means Test Date	Not Used
3	2	IS	R		VA002	Means Test Status	Means Test Status Code

2.5.9 HL7 Tables

2.5.9.1 Table VA002: Current Means Test Status

Value	Description
0	Exempt (LTC C0-Pay Exempt Test)
1	Non- Exempt (LTC C0-Pay Exempt Test)
A	MT COPAY EXEMPT
B	CATEGORY B
C	MT COPAY REQUIRED
E	EXEMPT
G	GMT COPAY REQUIRED
I	INCOMPLETE
L	NO LONGER APPLICABLE
M	NON-EXEMPT
N	NO LONGER REQUIRED
P	PENDING ADJUDICATION
R	REQUIRED

2.5.9.2 Table VA004: Eligibility

Value	Description
1	SERVICE CONNECTED 50% to 100%
2	AID & ATTENDANCE
3	SC LESS THAN 50%
4	NSC - VA PENSION
5	NSC
6	OTHER FEDERAL AGENCY
7	ALLIED VETERAN
8	HUMANITARIAN EMERGENCY
9	SHARING AGREEMENT
10	REIMBURSABLE INSURANCE
12	CHAMPVA
13	COLLATERAL OF VET.
14	EMPLOYEE
15	HOUSEBOUND
16	MEXICAN BORDER WAR
17	WORLD WAR I
18	PRISONER OF WAR
19	TRICARE/CHAMPUS
21	CATASTROPHIC DISABILITY
22	PURPLE HEART RECIPIENT
23	REFUSED MT CO-PAY

2.5.9.3 Table VA015: Enrollment Status

Value	Description
1	UNVERIFIED
2	VERIFIED
3	INACTIVE
4	REJECTED
5	SUSPENDED
6	TERMINATED
7	CANCELED/DECLINED
8	EXPIRED
9	PENDING
10	NOT ELIGIBLE
11	REJECTED; FISCAL YEAR
12	REJECTED; MID-CYCLE
13	REJECTED; STOP NEW ENROLLMENTS

14	REJECTED; INITIAL APPLICATION BY VAMC
15	PENDING; NO ELIGIBILITY CODE
16	PENDING; MEANS TEST REQUIRED
17	PENDING; ELIGIBILITY STATUS IS UNVERIFIED
18	PENDING; OTHER
19	NOT ELIGIBLE; REFUSED TO PAY COPAY
20	NOT ELIGIBLE; INELIGIBLE DATE
21	PENDING; PURPLE HEART UNCONFIRMED
22	REJECTED; BELOW ENROLLMENT GROUP THRESHOLD

2.5.9.4 Table 062 – Event Type

Value	Description
01	Patient request
02	Physician order
03	Census management
04	1 CHECKED IN
05	2 CHECKED OUT
06	3 NO ACTION TAKEN
07	4 NO SHOW
08	5 CANCELLED BY CLINIC
09	6 NO SHOW & AUTO RE-BOOK
10	7 CANCELLED BY CLINIC & AUTO RE-BOOK
11	8 INPATIENT APPOINTMENT
12	9 CANCELLED BY PATIENT
13	10 CANCELLED BY PATIENT & AUTO RE-BOOK
14	11 FUTURE
15	12 NON-COUNT
16	13 DELETED
17	14 ACTION REQUIRED

3 Files

3.1 VistA M Server Files

VPS 1*5 retrieves data from VistA M Server files owned and maintained by packages external to VPS. The following table lists the VistA M Server files and global references used by VPS 1*4 and VPS 1*5 RPCs.

Table 2 VistA M Server Files Accessed by VPS 1*5

FILE NAME AND NUMBER	GLOBAL REFERENCE
ANNUAL MEANS TEST #408.31	^DGMT(408.31
BILLING PATIENT #354	^IBA(354
BRANCH OF SERVICE #23	^DIC(23
CANCELLATION REASON #409.2	^SD(409.2
COLLECTION SAMPLE #62	^LAB(62
ELIGIBILITY CODE #8	^DIC(8
HL LOGICAL LINK #870	^HLCS(870
HLO APPLICATION REGISTRY	^HLD(779.2
HOSPITAL LOCATION #44	^SC(
MEANS TEST STATUS #408.32	^DG(408.32
NEW PERSON #200	^VA(200
PATIENT #2	^DPT(
PATIENT ENROLLMENT #27.11	^DGEN(27.11
PROTOCOL #101	^ORD(101
TYPE OF PATIENT #391	^DG(391
VPS CLINICAL SURVEY	^VPS(853.8
VPS QUESTIONNAIRE IDENTIFIERS	^VPS(853.85
VPS QUESTIONNAIRE NAME	^VPS(853.875
VPS APPOINTMENT QUEUE	^VPS(853.9
VPS HL7 SITE PARAMETERS	^VPS(853.1

3.2 VPS 1*5 New Data Files

VPS 1*5 implements four new VistA database files:

- VPS CLINICAL SURVEY (#853.8)
- VPS QUESTIONNAIRE IDENTIFIERS (#853.85)
- VPS QUESTIONNAIRE NAME (#853.875)
- VPS APPOINTMENT QUEUE (#853.9)
- VPS HL7 SITE PARAMETERS (#853.1)

The VPS CLINICAL SURVEY file (#853.8) stores the clinical survey questionnaire data for each clinic patient. The data in this file is sorted by patient and by survey and is used to populate the Computerized Patient Record System (CPRS) CSQ Ad Hoc Health Summary Reports and CSQ patient data object (PDO).

The VPS QUESTIONNAIRE IDENTIFIERS file (#853.85) stores the key identifiers for a VPS Clinical Survey. The TEMPLATE ID field is the unique identifier for a VPS Clinical Survey version.

The VPS QUESTIONNAIRE NAME file (#853.875) stores the unique name and version number of each VPS CSQ. The data in its files is used to filter report results.

The VPS APPOINTMENT QUEUE file (#853.9) temporarily stores clinic appointment data for a specified date range. The files is used to minimize the number of records that must be returned by the VPS GET UPDATED APPOINTMENTS” RPC.

The VPS HL7 SITE PARAMETERS file (#853.1) stores the flags which control VPS HL7 message transmission.

Attributes for each of these files may be obtained from VistA FileMan.

4 Global Translation, Journaling and Protection

There are no VPS 1*5 VistA M Server files for which VPS is the custodial owner. Consequently, global translation, journaling and protection is not required.

5 Routines

Table 3 VPS VistA Routines

ROUTINE NAME	DESCRIPTION
VPSAPPT	Procedures and function calls to return all existing appointments for a specified clinic for a specified date range.
VPSAPPT2	Procedures and function calls to return the changed appointments for a specified clinic for a specified date range.
VPSSRVY1	Procedures and function calls to parse and store patient CSQ questions and responses to file # 853.8.
VPSSRVY2	Procedure and function calls to read from 853.8 and return patient CSQ questions, responses and calculated values.
VPSSRVY3	Procedures and function calls to create and print CPRS Health Summary report.
VPSEND	Procedures and function calls to generate and send and HL7 A01 message containing appointment status information.
VPSRPC26	Procedures and functions to provide patient data such as current balance owned and patient record flag data for appointment status integration.

5.1 VPS 1*5 RPCs

The VPS 1*5 routines are executed by remote procedure calls through VistA RPC Broker. The following table lists the VPS 1*4 RPCs giving the RPC tag and routine name used for invocation

Table 4 VPS1*5 RPCs - Tags and Routines

RPC NAME	TAG	ROUTINE
VPS GET APPOINTMENTS	GET	VPSAPPT
VPS GET CHANGED APPOINTMENTS	GETCHG	VPSAPPT
VPS SAVE CLINICAL SURVEY	SAVE	VPSSRVY1
VPS GET SURVEY DATA	GETRPC	VPSSRVY2

5.2 Detailed VPS 1*5 RPC Information

Details on the input parameters and the output produced by each of the VPS 1*5 RPCs may be obtained from a FileMan inquiry to the REMOTE PROCEDURE file # 8994.

1. Sign on to **VistA** system
2. Select option **VA FILEMAN DIUSER**.
3. Select the **Inquire to File Entries** option
4. OUTPUT FROM WHAT FILE: **REMOTE PROCEDURE**
5. Select REMOTE PROCEDURE NAME: **<ENTER THE VPS RPC NAME>**
6. ANOTHER ONE: **`<ENTER>**
7. STANDARD CAPTIONED OUTPUT? Yes//**Y**
8. Include Computed fields: (N/Y/R/B): NO// **<ENTER>**
9. The entry for the VPS RPC NAME entered at step 5 is listed.

6 Exported Options

There are no VistA M Server options exported with VPS 1*5.

7 Archiving and Purging

7.1 Archiving

There are no archiving procedures needed for VPS 1*5 RPC components.

7.2 Purging

There are no purging procedures needed for VPS 1*5 RPC components.

8 Callable Routines

VPS 1*5 does not provide callable VistA M Server routines.

9 External Interfaces

There are no interfaces to VPS 1*5 RPCs other than those provided by the VistA M Server and VistA RPC Broker.

10 External Relations

The following minimum package versions are required:

- VA FileMan V. 22.0,
- Kernel V. 8.0,
- Kernel Toolkit V. 7.3,
- CPRS V. 29,
- RPC Broker V. 1.1
- HL*1.6*126 V 1.6

Sites should verify that all patches to these packages have been installed.

11 Internal Relations

There are no internal relations for VPS 1*5.

12 DBIA Agreements

The VistA Database Administrator (DBA) maintains a list of Integration Agreements (IAs) or mutual agreements between custodial owners allows the use of internal entry points or other software-specific features that are not open for unrestricted use.

12.1 DBIA Agreements – Custodial Package

10. Sign on to **FORUM** system
11. Go to the **DBA** Menu
12. Select the **Integration Agreements Menu** option
13. Select the **Custodial Package Menu** option
14. Choose the **Active by Custodial Package** Option
15. When prompted for a package, enter *VPS VA Point of Service (Kiosks)*
16. All current IAs to which VPS VA Point of Service (Kiosks) is custodian are listed.

12.2 DBIA Agreements – Subscriber Package

1. Sign on to the **FORUM** system
2. Go to the **DBA** Menu

3. Select the **Integration Agreements Menu** option
4. Select the **Subscriber Package Menu** option
5. Select the **Print ALL by Subscriber Package** Option
6. When prompted with “Select PACKAGE NAME,” enter **VPS**
7. When prompted with “START WITH SUBSCRIBING PACKAGE,” ENTER **VPS**
8. All current IAs to which VPS VA Point of Service (Kiosks) is a subscriber are listed

13 Package-wide Variables

There are no package-wide variable associated with VPS 1*5.

14 SAC Exemptions

There are no SAC Exemptions for VPS 1*5.

15 Software Product Security

15.1 Security Management

No security keys required for used of VPS 1*5 RPCs.

15.2 Mail Groups and Alerts

There are no mail groups or alerts provided in VPS 1*5 RPCs.

15.3 Remote Systems

15.3.1 Connections

There are no direct remote system connections to VPS 1*5 RPCs. Access to VPS 1*5 run routines is provided through the VistA RPC Broker and the underlying VistA M Server.

15.3.2 Remote Data Views

Remote Data views are not supported by VPS 1*5 RPCs.

15.4 Interfaces

There are no non-VA products embedded in or required by VPS 1*5 RPCs, other than those proved by the underlying operating system and VistA RPC Broker.

15.5 Electronic Signatures

There are no electronic signatures used or required by VPS 1*5 RPCs.

15.6 Security Keys

No security keys are exported with the RPC Broker software.

15.7 File Security

There are no VistA M Server data files for which VPS 1*5 is the custodial owner.

15.8 Official Policies

As per the Software Engineering Process Group/Software Quality Assurance (SEPG/SQA) Standard Operating Procedure (SOP) 192-039—Interface Control Registration and Approval (effective 01/29/01), application programmers must not alter any HealthVet VistA Class I software code.

16 Acronyms and Glossary

16.1.1 Acronyms

Table 5: List of Acronyms

Term	Definition
AVS	After Visit Summary
BR	Business rule
CBO	Chief Business Office
CCOW	Clinical Context Object Workgroup
CPRS	Computerized Patient Record System
DFN	Data file number
HIPAA	Health Insurance Portability and Accountability Act
HL7	Health Level Seven
DBIA	Database Integration Agreement
IB	Integrated Billing
ICR	Integration Control Registrations
IEN	Internal entry number
GUI	Graphical user interface
MUMPS/M	Massachusetts General Hospital Utility Multi-Programming System
NSR	New Service Request
OED	Office of Enterprise Development
PIMS	Patient Information Management System
PMO	Program Management Office
POS	Point of Service
RPC	Remote Procedure Call
RSD	Requirements Specification Document
SACC	Standards and Conventions Committee
SSOi	Single Sign On and Patient Context Management

Term	Definition
TCP/IP	Transmission Control Protocol/Internet Protocol
VistA	Veteran's Health Information Systems and Technology Architecture
VISN	Veterans Integrated Service Network
VHA	Veterans Health Administration
VPS	Veterans Point Of Service
VSS	Voluntary Service System

16.1.2 Glossary

Table 6: Glossary

Term	Definition
Access Code	The unique sequence of characters assigned to the user by the site system manger. The access code in conjunction with the verify code is used to identify authorized users.
Application	A collection of computer programs and files developed specifically to meet the requirements of a user or group of users.
Archive	The process of moving data that is no longer actively used to a separate storage for long-term retention.
Computerized Patient Record System (CPRS)	A suite of clinical applications in VistA that provide access to a patient's Electronic Medical Record (EMR).
E-VPS	The set of VistA patches implementing features identified by VHA Point of Service (Kiosks) Phase II Enhancement VPS 1*4.
Field	A data element in a file.
FileMan	The VistA database manager.
Global	A collection of variables (fields) stored on disk that persist beyond routine or process completion. M VistA Server Globals are records stored in structured data files by M.
Kernel	A set of utilities that support data processing on VistA M Servers.
Kiosk	Implementation of a kiosk server at one TCP/IP domain.
M	Massachusetts (General Hospital) Utility Multi-Programming System, formerly known as MUMPS.
Option	Commands presented to a computer user by an applications. Typically, options are presented on a menu and have specific entry and exit actions.
Purge	The action/process of deleting a file or data from a file.
Procedure	A re-useable part of a computer program that performs a single function.
Required Field	A field which must have a data value entered by the user or passed as a parameter to computer program or subroutine.
Reminder Definition	Pre-defined sets of findings used to identify patients that should receive tests or treatments specific to diagnosed patient conditions. Reminder definitions specify criteria such as diagnoses, procedures, health factors, medications, or demographic variables used to identify affected patients.
RPC	Remote Procedure Call is an inter-process communication protocol that allows invocation of a program subroutine or procedure to execute in shared network space.
Routine	A set of commands and arguments related, stored and executed as a single M program.

Term	Definition
Security Key	A keyword which makes specific options accessible to an authorized user.
Remote Procedure	A remote procedure is a procedure that can be executed by another program executing on a remote computer or another program process area.
Verify Code	A unique code which server as a second level of user authentication for accessing a VistA M Server.
VetLink	The VPS Kiosk application composed of a kiosk client used by VA patients and staff to connect to a kiosk server.