



**CLINICAL PROCEDURES  
TECHNICAL MANUAL AND PACKAGE  
SECURITY GUIDE**

Version 1.0

April 2004

Department of Veterans Affairs  
VistA Health Systems Design and Development



## Revision History

<b>Description</b>	<b>Date</b>
Originally released.	April 2004
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<sup>1</sup> Patch MD\*1\*2 July 2004 Patch 2 release added.



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# 1. Introduction

CP is a conduit for passing final patient results, using Health Level 7 (HL7) messaging, between vendor clinical information systems (CIS) and Veterans Health Information Systems and Technology Architecture (VistA). The patient's test result or report is displayed through the Computerized Patient Record System (CPRS). The report data is stored on the Imaging Redundant Array of Inexpensive Disks (RAID) and in some instances, discrete data is stored in the Medicine database.

CP provides features that can be used across clinical departments such as general medicine, cardiology, pulmonary, women's health, neurology, and rehabilitation medicine.

## Benefits

### a. Standardized and Common User Interface

Clinicians can go through the same program, CPRS, to enter, review, interpret, and sign CP orders. CP documents in TIU obey Authorization Subscription Utility (ASU) Business Rules. The update users functionality currently used by Consults determines which users are allowed to access or edit CP documents.

### b. Integration

The ordering process of a CP procedure is initiated by CPRS and processed through the Consult/Request Tracking Package (Consults). The interpretation of the data is entered and displayed through TIU. The final result of the CP procedure is displayed by VistA Imaging. The ordering, viewing, reviewing, interpreting, and signing of the CP medical record is accessed through one location, the Consults tab in CPRS.

### c. Variety of Accepted File Types

CP is able to accept data/final result report files from automated instruments in .txt, .rtf, .jpg, .jpeg, .bmp, .tiff, .pdf, and .html file types. CP allows additional automated instruments and file types to be added to interface with CP in the future.

### d. Links to Other Packages

CP interfaces with packages such as Computerized Patient Record System (CPRS), Consult/Request Tracking Package, Text Integration Utility Package (TIU), and VistA Imaging. New Health Summary components shall be available in the future.

### e. Interface Between CP and Imaging

Certain images such as consent forms and report objects are acquired, processed, stored, transmitted, and displayed by the VistA Imaging package. This interface will replace existing capture interface between Medicine 2.3 and VistA Imaging.

**f. Inpatient and Outpatient Workloads**

CP Definition file (#702.01) allows for defining the Hospital Location where the procedure is performed. This determines which Encounter Form is presented to the end user. CPRS and TIU parameters allow for the configuration of TIU software to prompt users to enter workload data which is then passed to the Patient Care Encounter software (PCE) for both inpatients and outpatients.

## 2. Implementation and Maintenance

Refer to Chapter 1 – Introduction of the Clinical Procedures Implementation Guide for implementation and maintenance issues.



### 3. Clinical Instrument Interface Specifications

Refer to Chapter 10 of the Clinical Procedures Implementation Guide for information on Setting up HL7 Parameters.

Refer to the Clinical Instrument Bi-Directional Interface Specifications document for information on Clinical Instrument Interface Specifications:

[http://vista.med.va.gov/clinicalspecialties/clinproc/docs/clinical\\_instrument\\_bi-directional.pdf](http://vista.med.va.gov/clinicalspecialties/clinproc/docs/clinical_instrument_bi-directional.pdf)



## 4. Routine Descriptions

```
2MDAPI ; HOIFO/DP/NCA - CP API Calls ; [05-05-2003 10:28]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDAPI1 ; HOIFO/NCA - Electrocardiogram Data Extraction ;12/4/02 12:32
; ;1.0;CLINICAL PROCEDURES;**1**;Apr 01, 2004
MDHL7A ; HOIFO/WAA - Routine to Decode HL7 for CP ; [05-07-2001 10:38]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7B ; HOIFO/WAA -Bi-directional interface routine ;7/23/01 11:41
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7BH ; HOIFO/WAA -Bi-directional interface (HL7) routine ;7/23/01 11:41
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7E ; HOIFO/WAA -Olympus/CMore/Pentax Endoscopy ; 06/08/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7K2 ; HOIFO/WAA -HP EnConcert Echo ; 06/08/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7M1 ; HOIFO/WAA - Muse EKG ; [02-06-2002 16:13]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7MCA ; HIRMFO/REL-Routine to Decode HL7 for MEDICINE ; [05-07-2001 10:38]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7MCX ; HIRMFO/WAA - Generate HL7 Error Message for MEDICINE ; [05-07-2001
10:38]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7P1 ; HOIFO/WAA-Sensormedics,Jaeger Pulmonary ; 06/08/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7R1 ; HOIFO/WAA -Clinivision Respiratory ; 06/13/02
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7U ; HOIFO/WAA -Routine utilities for CP ;7/23/01 11:41
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7U1 ; HOIFO/WAA -Routine utilities for CP PROCESSING OBX ; 7/26/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7U2 ; HOIFO/WAA -Utilities for CP PROCESSING OBX text ; 7/26/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7U3 ; HOIFO/WAA -Utilities for CP to process HL7 messages ; 7/26/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7X ; HOIFO/WAA -Generate HL7 Error Message ; 06/08/00
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDHL7XXX ; HOIFO/DP - Loopback device for CP ; 22-MAY-2003 13:37:41
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDPCE ; HIRMFO/NCA - Routine For Data Extract ; [05-28-2002 12:55]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDPFTP1 ;HOIFO/NCA - PFT REPORT-DEMO INFO ;3/15/04 11:55
; ;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
MDPFTP2 ; HOIFO/NCA - PFT REPORT-VOLUMES ;3/15/04 10:00
; ;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
MDPFTP2A ; HOIFO/NCA - PFT REPORT-FLOWS ;3/17/04 08:22
; ;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
MDPFTP3 ; HOIFO/NCA - PFT REPORT-SPECIAL STUDIES (PT 2) ;3/17/04 12:48
; ;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
MDPOST ; HOIFO/DP - Post Init ;2/18/04 11:39
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDPOST1 ; HOIFO/NCA/DP - Build CP DEFINITION file (#702.01) - Optional Post
Init ; [12-04-2002 13:06]
; ;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDPS1 ; HOIFO/NCA - CP/Medicine Report Generator ;5/18/04 09:48
; ;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
```

<sup>2</sup> Patch MD\*1\*2 July 2004 New routine listing, several routines added.

## Routine Descriptions

```
MDPS2      ; HOIFO/NCA - CP/Medicine Report Generator (Cont.) ;5/18/04 09:41
           ;;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
MDPS3      ; HOIFO/NCA - Remote Data View Data Retriever for CP ;4/29/04 10:50
           ;;1.0;CLINICAL PROCEDURES;**2**;Apr 01, 2004
MDRPCOD     ; HOIFO/DP - Object RPCs (TMDProcedureDef) ; [01-09-2003 15:20]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOG     ; HOIFO/DP - CP Gateway ; [01-09-2003 15:20]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOL     ; HOIFO/DP - Object RPCs (Logfile) ; [02-11-2002 13:41]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOO     ; HOIFO/DP - Object RPCs (TMDOutput) ; [03-24-2003 15:44]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOP     ; HOIFO/DP - Object RPCs (TMDPatient) ; [01-09-2003 15:21]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOR     ; HOIFO/DP - Object RPCs (TMDRecordId) ; [01-10-2003 09:14]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOT     ; HOIFO/DP/NCA - Object RPCs (TMDTransaction) ;12/5/02 15:33
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOT1    ; HOIFO/NCA/DP - Object RPCs (TMDTransaction) - Continued ; [08-02-
2002 12:55]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOU     ; HOIFO/DP - Object RPCs (TMDUser) ; [01-09-2003 15:21]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCOV     ; HOIFO/DP - Object RPCs (TMDParameter) ; [04-15-2003 12:42]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
MDRPCU      ; HOIFO/DP - Object RPC Utilities ; [05-23-2003 10:16]
           ;;1.0;CLINICAL PROCEDURES;;Apr 01, 2004
```

## 5. File List and Related Information

### File and Field Descriptions

#### CP Transaction File - #702

This file contains the studies between the instruments and user generated data as it is matched to a consult order and a TIU document is created for the results. It also manages the interface between the images and the Imaging RAID.

Field Name	Field Number	Format	Description
Patient	702,.01	Pointer to Patient (#2) file	This field contains a pointer to the Patient (#2) file for this study.
SSN	702,.011	Computed	This field contains the computed value of the patient's SSN from the Patient (#2) file.
DOB	702,.012	Computed	This field contains the computed value of the patient's date of birth from the Patient (#2) file.
Created Date/Time	702,.02	Date	This field contains the date/time the study was created within the CP User executable.
Created By	702,.03	Pointer to New Person (#200) file	This field contains the DUZ of the user that created this study.
CP Definition	702,.04	Pointer to CP Definition (#702.01) file	This field contains a pointer to the CP Definition (#702.01) file of the procedure definition that this study represents.
Consult Number	702,.05	Free Text 1-20 characters in length	This field contains an IEN of the Consult (#123) file representing the Consult order that is matched up to this study.
TIU Note	702,.06	Pointer to TIU Document (#8925) file	This field contains a pointer to the TIU Document (#8925) file representing the note that contains the interpretation of this study as well as the links to the associated images.
Vstring	702,.07	Free Text 1-50 characters in length	This field contains This field contains the vstring. The vstring is in the following format: Visit Type_";" _Visit Date/Time_";" _Hospital Location (internal entry number of the visit).

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Transaction Message	702,.08	Free Text 1-80 characters in length	Contains the message returned from the VistA Imaging API's for storing the images on the server.
Transaction Status	702,.09	Set: 0 - New 1 - Submitted 2 - Error 3 - Complete	This field contains the status of this study.
Error Messages (multiple)	702.091,.01	Number between 1-9999, 0 decimal digits	Error message number.
Date Received	702.091,.02	Date	Date and time this error message was generated.
Received From	702.091,.03	Free Text 1-30 characters in length	Where the error was generated.
Message	702.091,.09	Free Text 1-150 characters in length	Text of the error message.
Image (multiple)	702.1,.01	Number between 1-999, 0 decimal digits	Index of attached image for this study.
Type	702.1,.02	Set: I - Instrument data U - User supplied file	Type of attachment to be processed.
Result Report	702.1,.03	Pointer to CP Result Report (#703.1) file	Pointer to the CP Result Report (#703.1) file containing the attachment from the instrument.
Status	702.1,.09	Set: 0 - Submitted to server 1 - Error in submission 2 - Error in filing 3 - Copied to server	Status of this image.
UNC	702.1,.1	Free Text 1-245 characters in length	Contains the Universal naming Convention (UNC) for this attachment.
Submitted to Instrument	702,.11	Pointer to CP Instrument (#702.09) file	Points to the instrument definition that this study was submitted to at the time of check-in.

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Instrument Order Number	702,.12	Free Text 1-22 characters in length	Contains the unique order number for this study that is sent to the bi-directional instrument.
Image Count	702,.991	Computed	Computed field to return the number of images associated with this study.

**CP Definition File - #702.01**

This file defines all the procedures used by the Clinical Procedures package. All elements that define a procedure are in this file. This file is exported with data, but entries may be added by the site.

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Name	702.01,.01	Free Text 3-30 characters in length	This field contains the name of the procedure. It should be descriptive of the procedure and contain 3-30 alphanumeric characters. The first character <b>MUST</b> be a letter. To maintain consistency it is recommended that all procedures be entered in <b>UPPERCASE</b> letters as well.
Treating Specialty	702.01,.02	Pointer to Facility Treating Specialty (#45.7) file	This field defines the specialty that this procedure falls under.
Require External Data	702.01,.03	Set: 0 - No 1 - Yes	Setting this field to Yes will force a consult for this procedure to be processed via the CP User executable for matching whether or not there are instruments associated with it.
Default TIU Note	702.01,.04	Pointer to TIU Document Definition (#8925.1) file	This field contains a TIU Note Title to use as the default when CP creates a note for interpretation for this procedure.
Hospital Location	702.01,.05	Pointer to Hospital Location (#44) file	This is the location that will be used when creating the TIU Note for interpretation.
Auto Submit	702.01,.07	Set: 0 - No 1 - Yes	This field only applies to bi-directional instruments. It is used to indicate whether or not the image attachment should be automatically submitted to VistA Imaging once the procedure is performed and the result is passed to CP.
External Data Directory	702.01,.08	Free Text 3-150 characters in length	This field contains a reference to a network share where user supplied attachments are located for this procedure.

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Active	702.01,.09	Set: 0 - No 1 - Yes	Yes/No to indicate active procedures that can be linked to Consults.
Instrument (multiple)	702.011,.01	Pointer to CP Instrument (#702.09) file	Contains a pointer to an instrument that generates results for this procedure.

**CP Instrument File - #702.09**

This file contains the list of instruments used by the Clinical Procedures package. This file is exported with data.

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Name	702.09,.01	Free Text 3-30 characters in length	Name or mnemonic of instrument. Used by vendor in HL7 message header.
Notification Mailgroup	702.09,.02	Pointer to Mail Group (#3.8) file	Mail group that will receive error messages and other notifications dealing with this device from the interface routines.
Description	702.09,.03	Free Text 1-50 characters in length	This field contains a short informational description for the instrument.
Delete when Submitted	702.09,.05	Set: 0 - No 1 - Yes	Select Yes if you want files created by this instrument deleted once they are successfully copied to the VistA Imaging RAID. Deletion will be performed by the VistA Imaging application.
Printable Name	702.09,.06	Free Text 3-30 characters in length	Name of instrument that is printed on the reports, etc.
Default File Ext	702.09,.07	Free Text (e.g., .txt)	Default file extension for vendor instrument reports (e.g., .doc, .pdf).
Serial Number	702.09,.08	Free Text 1-50 characters in length	Vendor serial number of the instrument (for reference only).
Active	702.09,.09	Set: 0 - No 1 - Yes	Whether or not the instrument is active on the network.
Processing Routine	702.09,.11	Free Text 1-8 characters in length	MUMPS routine used to process interface information.
Processing Code	702.09,.12	Set: M - Medicine C - CP V. 1.0 B - Both	Where data is to be processed: M - Medicine C - Clinical Procedures B - Both
Bi-directional	702.09,.13	Set: 0 - No 1 - Yes	This field indicates whether or not this device can accept HL7 messages from VistA.
IP Address	702.09,.14	Free Text 7-15 characters in length	This field contains the IP address of this instrument.

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Port	702.09,.15	Number between 1000-99999, 0 decimal digits	This field contains the port number for this instrument.
HL7 Instrument ID	702.09,.16	Free Text 3-30 characters in length	This is the name of the actual device where the device name can be "SMC St Louis".
HL7 Universal Service ID	702.09,.17	Free Text 1-48 characters in length	This field defines what type of procedure the device can perform if the device can perform multiple types of procedures.
HL7 Logical Link	702.09,.18	Pointer to the HL Logical Link (#870) file	This field contains the HL7 logical link.
Server Name	702.09,.21	Free Text 1-30 characters in length	Network name of instrument server where the report is stored.
Server Share	702.09,.22	Free Text 1-30 characters in length	Share folder/drive of the instrument server where the report is stored.
Server Path	702.09,.23	Free Text 1-150 characters in length	Path on the network where the report is stored.
Server Executable	702.09,.24	Free Text 1-30 characters in length	Name of server program that is run to create the report for the interface.
Process UNC	702.09,.301	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces UNC type data.
Process Text	702.09,.302	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces text type data.
Process URL	702.09,.303	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces URL type data.
Process DLL	702.09,.304	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces DLL type data.
Process UUEncode	702.09,.305	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces UUEncode type data.

File List and Related Information

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Process XML	702.09,.306	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces XML type data.
Process XMS	702.09,.307	Set: 0 - No 1 - Yes	Enter Yes if this instrument produces XMS type data.

**CP Result Report File - #703.1**

This file contains the information for the results uploaded from the medical instruments used by Clinical Procedures. It is distributed without any data. All fields are automatically stuffed by Clinical Procedures. There is no user input.

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Upload ID	703.1,.01	Free Text 1-30 characters in length	Unique identifier assigned for each upload.
Patient	703.1,.02	Pointer to Patient (#2) file	Pointer to the Patient (#2) file of the patient uploaded from the result of the instrument.
Date/Time Performed	703.1,.03	Date	Date/time the procedure was performed on the instrument.
Instrument	703.1,.04	Pointer to CP Instrument (#702.09) file	Pointer to the CP Instrument (#702.09) file of the instrument that produced these reports.
Study Reference Number	703.1,.05	Free Text 1-12 characters in length	This field is used as a reference to the transaction.
HL7 Reference Number	703.1,.06	Free Text 1-30 characters in length	This field is used to keep the IEN of the HL7 message. It serves as a reference to the message that will be purged once the data has been successfully moved to the VistA Imaging server.
Status	703.1,.09	Set: U - Unmatched M - Matched	Status of the results: U - Unmatched M - Matched
Upload Item (multiple)	703.11,.01	Set: 1 - Impression Text 2 - Report Text 3 - Attachment UNC 4 - Attachment URL 5 - UUEncoded Data 6 - DLL 7 - XML Data 8 - XML Style Sheet	This field contains the type of data element that was uploaded from the instrument.
Attachment UNC	703.11,.02	Free Text 1-240 characters in length	This field contains the Universal Naming Convention (UNC) for this attachment. This indicates where the attachment is located.

File List and Related Information

<b>Field Name</b>	<b>Field Number</b>	<b>Format</b>	<b>Description</b>
Item Value	703.11,.1	Free Text 1-245 characters in length	If the uploaded item is a single string value, it is stored here.
Item Text	703.11,.2	Word-Processing	If the uploaded data is multi-lined, it is stored here.

## Package Default Definition

FILE #	NAME	UP DATE DD	SEND SEC. CODE	DATA COMES W/FILE	SITE DATA	RSLV PTS	USER OVER RIDE
702	CP TRANSACTION	YES	YES	NO			
702.01	CP DEFINITION	YES	YES	NO			
702.09	CP INSTRUMENT	YES	YES	YES	MERG	NO	NO
703.1	CP RESULT REPORT	YES	YES	NO			



## 6. Exported Options

### Delphi Components

Clinical Procedures uses RPC Broker and custom Delphi Components in the display and navigation of screens. Below is a list of the Delphi components this application currently uses along with a short description.

#### **TMDRecordSource = class(TComponent)**

This is the primary component that all others interact with. This component represents a record within FileMan via the Data Dictionary Number and the IEN. In the event that the record is a sub-file then this component will point to another TMDRecordSource that represents the parent record of the sub-record. There is no limit to the number of sub-records that can be linked together.

#### **TMDEdit = Class(TEdit)**

This component is designed to manage FileMan Free-Text and Numeric type fields. Other types may be used here with the exception of word-processing but they will require exact data input (i.e. non-ambiguous entries must be entered in the case of pointers or set of codes types). All input and output transforms are applied to the field on validation.

#### **TMDEditPointer = Class(TComboBox)**

This component is designed to manage FileMan Pointer types. This component currently handles screens via hard coded screens on the server side in routine MDRPCOR.

#### **TMDLabel = Class(TLabel)**

This component is a static component that can display one of three data elements for a FileMan field. These are 1) Data value 2) Field Title or 3) Field Help Text. There is no server update associated with this component.

#### **TMDMemo = Class(TMemo)**

This component manages FileMan word-processing data types only. It will validate the data upon leaving the component.

#### **TMDComboBox = Class(TComboBox)**

This component was designed for either set of codes or pointer type fields. If using a pointer type field the developer must be aware that the entire pointed to file will be retrieved so large files such as the Patient file (#2) is not possible to represent with this component. Files such as the State file (#5) are handled quite well if there are approximately 100 or less entries and the pointed to file does not have complex output transforms on the .01 field.

#### **TMDRadioGroup = Class(TRadioGroup)**

## Exported Options

This field was designed specifically for the FileMan set of codes field. It loads the appropriate codes into the radio group and displays the 'Stands For' portion of the codes while storing to the database the internal value of the code.

### **TMDCheckBox = Class(TCheckBox)**

This component was designed for a set of codes that are restricted to only two codes (i.e. Yes/No, True/False, On/Off).

## Remote Procedure Calls (RPC)

**NAME: MD GATEWAY** TAG: RPC  
 ROUTINE: MDRPCOG RETURN VALUE TYPE: GLOBAL ARRAY  
 AVAILABILITY: RESTRICTED WORD WRAP ON: TRUE  
 VERSION: 1

**NAME: MD TMDOUTPUT** TAG: RPC  
 ROUTINE: MDRPCOG RETURN VALUE TYPE: GLOBAL ARRAY  
 AVAILABILITY: RESTRICTED WORD WRAP ON: TRUE  
 DESCRIPTION:  
 Manages the output of Vista data to the client via the default HFS device.  
 INPUT PARAMETER: OPTION PARAMETER TYPE: LITERAL  
 MAXIMUM DATA LENGTH: 30 REQUIRED: YES  
 SEQUENCE NUMBER: 1  
 DESCRIPTION:  
 Currently set to EXECUTE as the only option.  
 INPUT PARAMETER: RTN PARAMETER TYPE: LITERAL  
 MAXIMUM DATA LENGTH: 30 REQUIRED: YES  
 SEQUENCE NUMBER: 2  
 DESCRIPTION:  
 Contains the routine to produce the output. Currently to client produces  
 this parameter in the form of TAG^ROUTINE(needed parameters) to simplify  
 the calling process.  
 RETURN PARAMETER DESCRIPTION:  
 Text of the requested report.

**NAME: MD TMDPARAMETER** TAG: RPC  
 ROUTINE: MDRPCOV RETURN VALUE TYPE: GLOBAL ARRAY  
 AVAILABILITY: RESTRICTED WORD WRAP ON: TRUE  
 DESCRIPTION:  
 Used to set/retrieve/modify parameters in the Kernel ToolKit PARAMETERS  
 (XPAR) files.  
 RPC is called as follows:  
 Param[0] := OPTION  
 Param[1] := Entity  
 Param[2] := Parameter name  
 Param[3] := Instance  
 Param[4] := Value  
 INPUT PARAMETER: OPTION PARAMETER TYPE: LITERAL  
 MAXIMUM DATA LENGTH: 10 REQUIRED: YES  
 SEQUENCE NUMBER: 1  
 DESCRIPTION:  
 Contains the option for the RPC. RPC is called as shown:  
 Options and other required parameters include:  
 ENTVAL ENT  
 GETPAR ENT, PAR, INST  
 GETLST ENT, PAR  
 GETWP ENT, PAR, INST  
 SETPAR ENT, PAR, INST, VAL  
 SETLST ENT, PAR, , .VAL (Uses instance 0-n)  
 SETWP ENT, PAR, INST, .VAL

## Exported Options

```
DELPAR      ENT,PAR,INST
DELLST      ENT,PAR
INPUT PARAMETER: ENTITY          PARAMETER TYPE: LITERAL
  MAXIMUM DATA LENGTH: 20      REQUIRED: NO
  SEQUENCE NUMBER: 2
```

### DESCRIPTION:

An entity is a level at which you can define a parameter. The entities allowed are stored in the Parameter Entity file (#8989.518). The list of allowable entities at the time this utility was released were:

Prefix	Message	Points to File
PKG	Package	Package (9.4)
SYS	System	Domain (4.2)
DIV	Division	Institution (4)
SRV	Service	Service/Section (49)
LOC	Location	Hospital Location (44)
TEA	Team	Team (404.51)
CLS	Class	Usr Class (8930)
USR	User	New Person (200)
BED	Room-Bed	Room-Bed (405.4)
OTL	Team (OE/RR)	OE/RR List (101.21)

The entity may be referenced as follows:

- 1) The internal variable pointer (nnn;GLO(123,))
- 2) The external format of the variable pointer using the 3 character prefix (prefix.entryname)
- 3) The prefix alone to set the parameter based on current entity selected. (prefix)

Method 3 uses the following values for the following entities:

```
USR      Current value of DUZ
DIV      Current value of DUZ(2)
SYS      System (domain)
PKG      Package to which the parameter belongs
INPUT PARAMETER: PAR          PARAMETER TYPE: LITERAL
  MAXIMUM DATA LENGTH: 30    REQUIRED: NO
  SEQUENCE NUMBER: 3
```

### DESCRIPTION:

A parameter is the actual name which values are stored under. The name of the parameter must be namespaced and it must be unique. Parameters can be defined to store the typical package parameter data (e.g. the default add order screen), but they can also be used to store GUI application screen settings a user has selected (e.g. font or window width). When a parameter is defined, the entities, which may set that parameter, are also defined. The definition of parameters is stored in the PARAMETER DEFINITION file (#8989.51).

NOTE: This utility restricts the parameter name to those in the Clinical Procedures namespace (MD\*).

```
INPUT PARAMETER: INST          PARAMETER TYPE: LITERAL
  MAXIMUM DATA LENGTH: 30    REQUIRED: NO
  SEQUENCE NUMBER: 4
```

### DESCRIPTION:

Most parameters will set instance to 1. Instances are used when more than one value may be assigned to a given entity/parameter combination. An example of this would be lab collection times at a division. A single division may have multiple collection times. Each collection time would be assigned a unique instance.

```
INPUT PARAMETER: VAL          PARAMETER TYPE: LITERAL
  MAXIMUM DATA LENGTH: 80    REQUIRED: NO
```

SEQUENCE NUMBER: 5

DESCRIPTION:

A value may be assigned to every parameter for the entities allowed in the parameter definition. Values are stored in the PARAMETERS file (#8989.5). VAL may be passed in external or internal format. If using internal format for a pointer type parameter, VAL must be preceded with the grave (`) character. If VAL is being assigned to a word processing parameter, the text is passed in the subordinate nodes of VAL (e.g. VAL(0-n)=Text).

RETURN PARAMETER DESCRIPTION:

Returns requested data from the specified option.

NAME: **MD TMDPATIENT** TAG: RPC  
 ROUTINE: MDRPCOP RETURN VALUE TYPE: GLOBAL ARRAY  
 AVAILABILITY: RESTRICTED WORD WRAP ON: TRUE

NAME: **MD TMDPROCEDURE** TAG: RPC  
 ROUTINE: MDRPCOD RETURN VALUE TYPE: GLOBAL ARRAY  
 AVAILABILITY: RESTRICTED WORD WRAP ON: TRUE

NAME: **MD TMDRECORDID** TAG: RPC  
 ROUTINE: MDRPCOR RETURN VALUE TYPE: GLOBAL ARRAY  
 AVAILABILITY: RESTRICTED WORD WRAP ON: TRUE  
 DESCRIPTION:  
 General RPC for VA Fileman functions.

Param 1 is passed in as the function to perform and includes the following:

LOOKUP: Performs very generic file lookup functionality  
 VALIDATE: Validates input to a fileman field and saves to FDA  
 DELREC: Validates ability to delete and if able deletes a record  
 SETFDA: Validates input and stores in FDA  
 SAVEFDA: Saves any data stored in FDA  
 CLEARFDA: Clears any data in the FDA without saving  
 GETDATA: Retrieves a single field value  
 GETCODES: Retrieves the set of codes for a field  
 GETLABEL: Retrieves a fields TITLE or LABEL if no Title  
 GETIDS: Returns required identifiers for a DD Number  
 GETHELP: Returns Fileman help for a field  
 RENAME: Validates and renames .01 field if valid  
 NEWREC: Creates a new record  
 CHANGES: Returns 0/1 if changes exist in FDA  
 CHKVER: Version check Client <-> Server  
 LOCK: Locks a record by DD and IENS  
 UNLOCK: Unlocks record locked by LOCK option

INPUT PARAMETER: OPTION PARAMETER TYPE: LITERAL  
 MAXIMUM DATA LENGTH: 30 REQUIRED: YES  
 SEQUENCE NUMBER: 1

DESCRIPTION:

See description of RPC.

INPUT PARAMETER: DDNUM PARAMETER TYPE: LITERAL  
 MAXIMUM DATA LENGTH: 10 REQUIRED: NO  
 SEQUENCE NUMBER: 2

DESCRIPTION:

Contains the Data Dictionary number of the item being manipulated.

INPUT PARAMETER: IENS PARAMETER TYPE: LITERAL  
 MAXIMUM DATA LENGTH: 20 REQUIRED: NO



## Parameter Definitions

### NAME: MD ALLOW EXTERNAL ATTACHMENTS

DISPLAY TEXT: Allow non-instrument attachments  
 MULTIPLE VALUED: No VALUE TERM: Allowed  
 VALUE DATA TYPE: yes/no

#### DESCRIPTION:

Set this value to Yes to allow users of CPUser.exe to attach documents to the transaction that are not created by an instrument.

PRECEDENCE: 1 ENTITY FILE: SYSTEM

### NAME: MD CRC BYPASS

DISPLAY TEXT: Bypass CRC Checking  
 VALUE TERM: Bypass CRC Checking

MULTIPLE VALUED: No  
 VALUE DATA TYPE: yes/no

#### DESCRIPTION:

Set this value to 'Yes' to prevent the client application from verifying its CRC Value at startup.

PRECEDENCE: 1 ENTITY FILE: SYSTEM

### NAME: MD CRC VALUES

DISPLAY TEXT: Clinical Procedures CRC Values  
 MULTIPLE VALUED: Yes  
 INSTANCE TERM: Executable or Library Name  
 VALUE TERM: CRC Value PROHIBIT EDITING: No  
 VALUE DATA TYPE: free text VALUE DOMAIN: 1:15  
 INSTANCE DATA TYPE: free text INSTANCE DOMAIN: 1:30

#### DESCRIPTION:

This parameter is used to store the CRC values for the most recent versions of executable and libraries. Use the Tools menu on the CPManager program to calculate the needed CRC Values of the current versions.

PRECEDENCE: 1 ENTITY FILE: SYSTEM

### NAME: MD DAYS FOR INSTRUMENT DATA

DISPLAY TEXT: Temporary instrument data life (Days)  
 MULTIPLE VALUED: No VALUE TERM: Days  
 PROHIBIT EDITING: No VALUE DATA TYPE: numeric  
 VALUE DOMAIN: 0:365

#### DESCRIPTION:

The number of days to keep data from the auto-instruments after the data has been associated with a Clinical Procedures report.

PRECEDENCE: 1 ENTITY FILE: SYSTEM

### NAME: MD FILE EXTENSIONS

DISPLAY TEXT: Imaging File Types

MULTIPLE VALUED: Yes INSTANCE TERM: Extension  
 VALUE TERM: File type PROHIBIT EDITING: No  
 VALUE DATA TYPE: free text VALUE DOMAIN: 1:80  
 VALUE HELP: Enter a description of this file type  
 INSTANCE DATA TYPE: free text INSTANCE DOMAIN: 2:10  
 INSTANCE HELP: Enter the extension of the file type with a '.'  
 INSTANCE VALIDATION CODE: K:X'?1"."9ULN X

#### DESCRIPTION:

This parameter stores a list of valid file types and the associated extensions of these files.

## Exported Options

PRECEDENCE: 1

ENTITY FILE: SYSTEM

**NAME: MD GATEWAY**

MULTIPLE VALUED: Yes  
VALUE TERM: Parameter Value  
VALUE DOMAIN: 1:255  
INSTANCE DOMAIN: 1:255

DISPLAY TEXT: CP Gateway Parameters  
INSTANCE TERM: Parameter Name  
VALUE DATA TYPE: free text  
INSTANCE DATA TYPE: free text

PRECEDENCE: 1

ENTITY FILE: SYSTEM

**NAME: MD HFS SCRATCH**

DISPLAY TEXT: Vista Scratch HFS Directory  
MULTIPLE VALUED: No  
VALUE DATA TYPE: free text  
VALUE HELP: Enter in an OS level directory  
VALUE TERM: Directory name  
VALUE DOMAIN: 1:250

DESCRIPTION:

Contains the directory specification for the Kernel OPEN^%ZISH call. This directory should be accessible for read/write operations by all CP users.

PRECEDENCE: 1

ENTITY FILE: SYSTEM

**NAME: MD IMAGING XFER**

MULTIPLE VALUED: No  
VALUE DATA TYPE: free text

DISPLAY TEXT: Imaging Network Share  
VALUE TERM: Imaging Network Share  
VALUE DOMAIN: 1:250

DESCRIPTION:

This parameter contains the name of a network server, share, and path (UNC) to a location where Clinical Procedures can put files for pick-up by the Imaging background processor for archiving.

PRECEDENCE: 1

ENTITY FILE: SYSTEM

**NAME: MD OFFLINE MESSAGE**

MULTIPLE VALUED: No  
VALUE DATA TYPE: word processing

DISPLAY TEXT: Offline message  
VALUE TERM: Offline Message

DESCRIPTION:

This parameter contains a message to display to the users when the Clinical Procedures application is offline.

PRECEDENCE: 1

ENTITY FILE: SYSTEM

**NAME: MD ONLINE**

DISPLAY TEXT: Clinical Procedure Online/Offline  
MULTIPLE VALUED: No  
VALUE TERM: Is Clinical Procedures Online  
PROHIBIT EDITING: No  
VALUE HELP: Enter 'Yes' to allow access to CP  
VALUE DATA TYPE: yes/no

DESCRIPTION:

This parameter controls access to the Clinical Procedures package.

PRECEDENCE: 1

ENTITY FILE: SYSTEM

**NAME: MD USER DEFAULTS**

MULTIPLE VALUED: Yes  
VALUE TERM: Parameter value  
VALUE DATA TYPE: free text  
INSTANCE DATA TYPE: free text

DISPLAY TEXT: CP User Defaults  
INSTANCE TERM: Parameter setting  
PROHIBIT EDITING: No  
VALUE DOMAIN: 1:250  
INSTANCE DOMAIN: 1:250

DESCRIPTION:

This parameter is used to store a users default parameter settings. Each

setting is defined on the client.  
PRECEDENCE: 1

ENTITY FILE: USER

**NAME: MD VERSION CHK**

MULTIPLE VALUED: Yes

VALUE TERM: Compatible with current server version

PROHIBIT EDITING: No

INSTANCE DATA TYPE: free text

DESCRIPTION:

This parameter is used to store the application:versions that are compatible with the current server version of Clinical Procedures. Instance format of APPLICATION:VERSION (example: CPMANAGER.EXE:0.0.0.0).

PRECEDENCE: 1

DISPLAY TEXT: Version Compatibility

INSTANCE TERM: Application:Version

VALUE DATA TYPE: yes/no

INSTANCE DOMAIN: 1:30

ENTITY FILE: SYSTEM

**NAME: MD WEBLINK**

DISPLAY TEXT: Clinical Procedures Home Page

MULTIPLE VALUED: No

VALUE DATA TYPE: free text

DESCRIPTION:

This parameter contains the web address for the Clinical Procedures home page. This can be modified to a local address in the event that the pages are downloaded to be displayed from a local server location.

PRECEDENCE: 1

VALUE TERM: Web Address

VALUE DOMAIN: 1:250

ENTITY FILE: SYSTEM



## HL Logical Links

```

NODE: MCAR INST
  DEVICE TYPE: Single-threaded Server
  AUTOSTART: Enabled
  TASK NUMBER: 526320
  QUEUE SIZE: 100
  RE-TRANSMISSION ATTEMPTS: 3
  ACK TIMEOUT: 60
  TCP/IP PORT: 9026
  PERSISTENT: NO
  IN QUEUE BACK POINTER: 331
  OUT QUEUE BACK POINTER: 220
  LLP TYPE: TCP
  STATE: Reading
  TIME STARTED: MAR 04, 2004@06:46:17
  SHUTDOWN LLP ?: NO
  READ TIMEOUT: 60
  EXCEED RE-TRANSMIT ACTION: ignore
  TCP/IP SERVICE TYPE: SINGLE LISTENER
  STARTUP NODE: DEV:ISC4A1
  IN QUEUE FRONT POINTER: 331
  OUT QUEUE FRONT POINTER: 210

```

```

NODE: MCAR OUT
  DEVICE TYPE: Non-Persistent Client
  AUTOSTART: Enabled
  TASK NUMBER: 529066
  QUEUE SIZE: 100
  READ TIMEOUT: 60
  EXCEED RE-TRANSMIT ACTION: ignore
  TCP/IP PORT: 9028
  PERSISTENT: NO
  IN QUEUE BACK POINTER: 202
  OUT QUEUE BACK POINTER: 206
  LLP TYPE: TCP
  STATE: Openfail
  TIME STARTED: MAR 04, 2004@06:45:47
  SHUTDOWN LLP ?: NO
  RE-TRANSMISSION ATTEMPTS: 3
  ACK TIMEOUT: 60
  TCP/IP ADDRESS: 10.3.17.157
  TCP/IP SERVICE TYPE: CLIENT (SENDER)
  STARTUP NODE: DEV:ISC4A1
  IN QUEUE FRONT POINTER: 202
  OUT QUEUE FRONT POINTER: 202

```

## Menu Options by Name

```

NAME: MD GUI USER
  TYPE: Broker (Client/Server)
  TIMESTAMP OF PRIMARY MENU: 59331,44145
  MENU TEXT: MD GUI USER
  CREATOR: ACKERMAN,NIEN-CHIN
RPC: MD TMDOUTPUT
RPC: MD TMDPARAMETER
RPC: MD TMDPATIENT
RPC: MD TMDPROCEDURE
RPC: MD TMDRECORDID
RPC: MD TMDTRANSACTION
RPC: MD TMDUSER
RPC: MD UTILITIES
  UPPERCASE MENU TEXT: MD GUI USER

```

```

NAME: MD GUI MANAGER
  TYPE: Broker (Client/Server)
  TIMESTAMP OF PRIMARY MENU: 59385,45622
  MENU TEXT: MD GUI MANAGER
  CREATOR: ACKERMAN,NIEN-CHIN
RPC: MD TMDOUTPUT
RPC: MD TMDPARAMETER
RPC: MD TMDPATIENT
RPC: MD TMDPROCEDURE
RPC: MD TMDRECORDID
RPC: MD TMDTRANSACTION
RPC: MD TMDUSER
RPC: MD UTILITIES
RPC: MD GATEWAY

```

## Exported Options

UPPERCASE MENU TEXT: MD GUI MANAGER

## 7. Cross-References

Included in this section is the information about the cross-references of the application.

<b>FILE NUMBER</b>	<b>FIELD NUMBER</b>	<b>CROSS REFERENCE</b>	<b>DESCRIPTION</b>
<b>702</b>	.05	ACON	Used for searches when the user knows the Consult order number.
	.06	ATIU	Used for searches when the user knows the TIU Note title.
	.01	B	Regular B Cross Reference of the .01 field, the patient name.
	.04	ACP	Used for searches when the user knows the CP definition.
	.11	AINST	Used for searches when the user knows if the study was submitted to Imaging.
	.12	AION	Used to quickly retrieve the study ien from the instrument order number.
Subfile 702.091	.01	B	Regular B Cross Reference of the .01 field, error messages.
Subfile 702.1	.01	B	Regular B Cross Reference of the .01 field, image.
<b>702.01</b>	.02	ASPEC	Used for searches when the user knows the Treating Specialty.
	.01	B	Regular B Cross Reference of the .01 field, name of the procedure.
	.01	UC	Used to validate a new entry as unique without case sensitivity.
Subfile 702.011	.01	AINST	Used for searches when the user knows the name of the instrument.
	.01	B	Regular B Cross Reference of the .01 field, instrument.

<b>FILE NUMBER</b>	<b>FIELD NUMBER</b>	<b>CROSS REFERENCE</b>	<b>DESCRIPTION</b>
<b>702.09</b>	.01	B	Regular B Cross Reference of the .01 field, name of the instrument.
	.01	UC	Used to validate a new entry as unique without case sensitivity.
<b>703.1</b>	.02	ADFN	Used for searches when the user knows the patient name.
	.03	ADTP	Used for searches when the user knows the date/time performed.
	.04	AINST	Used for searches when the user knows the name of the instrument.
	.09	ASTATUS	Sets the status for the Gateway to find studies to process.
	.01	B	Regular B Cross Reference of the .01 field, the upload ID.
Subfile 703.11	.01	B	Regular B Cross Reference of the .01 field, upload item.

## 8. Archiving and Purging

There is no archiving capability at this time. Purging is available in the CPGateway through the Set Maximum Log Entries option. See description below.

**Set Maximum Log Entries** allows the user to adjust the number of entries that are displayed in the log file. Once this value is reached, entries will be purged from the beginning of the log to keep the log file from growing too large. This value will take effect after the next polling operation so if the current poll value is 300 seconds it may take up to 5 minutes for the new value to be used. Allowable values are 100 to 10000 entries. When the CP Gateway is shut down, all entries are purged from the log file.

**Note:** Purging is also done daily while the CP Gateway is running. This purge deletes the raw data that comes across from the instrument. The CP Gateway keeps data for a specified number of days based on the entry in the system parameter “Days to keep Instrument Data”. Data older than this will be purged. The data to be deleted is already matched with a study. The fields purged are the Item Value field (#.1) and Item Text field (#.2) of the Upload Item multiple in the CP Results file (#703.1).

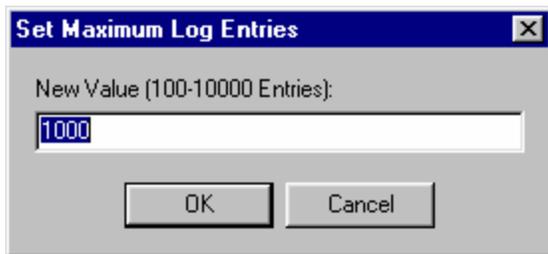


Fig. 9-1



## 9. Callable Routines

There are no callable routines.



## 10. External Relations

1. The following describes the installation environment for Version 1.0 of the Clinical Procedures package on the VistA server:
  1. VA FileMan V. 22 or greater
  2. Kernel V. 8.0 or greater
  3. Kernel Toolkit V. 7.3 or greater
  4. Kernel RPC Broker V. 1.1 or greater
  5. PIMS (Patient Information Management System) V. 5.3 or greater (including):
    - a. Registration V. 5.3
    - b. Scheduling V. 5.3
  6. Health Summary V. 2.7 or greater
  7. HL7 (Health Level 7) V. 1.6 or greater
  8. Consults/Request Tracking V. 3.0
  9. TIU (Text Integration Utility) V. 1.0
  10. Order Entry V. 3.0 (CPRS (Computerized Patient Record System) V. 1.0 (GUI V. 18.8)) or greater
  11. PCE (Patient Care Encounter) V. 1.0 or greater
  12. VistA Imaging V. 3.0 or greater (includes installation of background processor and jukebox)
  13. Medicine V. 2.3 (optional)

These packages must be patched up through and including the following patches before Clinical Procedures is installed:

1. Patch 17 of Consults/Request Tracking V. 3.0 (GMRC\*3.0\*17)
  2. Patch 112 of Order Entry V. 3.0 (OR\*3.0\*112)
  3. Patch 109 of Text Integration Utility V. 1.0 (TIU\*1.0\*109)
  4. Patch 7 of Imaging V. 3.0 (MAG\*3.0\*7)
  5. Patch 93 of HL7 V. 1.6 (HL\*1.6\*93)
  6. Patch 98 of HL7 V. 1.6 (HL\*1.6\*98)
  7. If Medicine V. 2.3 is installed, you must install Patch 24 of Medicine (MC\*2.3\*24), and Patch 146 of Kernel (XU\*8.0\*146).
2. Existing integration agreements between the Clinical Procedures software and other VistA applications are summarized below.

DBIA's where the Clinical Procedures package is the subscriber:

```
1096      NAME: PATIENT MOVEMENT file cross reference
CUSTODIAL PACKAGE: REGISTRATION                      Albany
SUBSCRIBING PACKAGE: AUTOMATED MED INFO EXCHANGE     Albany
                  CLINICAL PROCEDURES
                  ORDER ENTRY/RESULTS REPORTING
                  CLINICAL REMINDERS
USAGE: Controlled Subscri  ENTERED: JAN  3,1995
```



of an application programmer interface (API) which would support the mandated requirements. PCE was tasked with developing the API. \$\$DATA2PCE^PXAPI was developed to enable the adding, editing and deletion of encounter, provider, diagnosis and procedure data. Data will be stored in the Visit and V files and will be posted on the PXX VISIT DATA EVENT for use by subscribing packages such as Scheduling.

This document includes:

1. Definitions and Conventions used to describe the API.
2. Description of \$\$DATA2PCE^PXAPI, its parameter definitions, and the returned values.
3. A table which describes the subscripts used for passing data to PCE.
4. An example array for passing data to PCE.

#### DEFINITIONS AND CONVENTIONS:

Listed below are definitions and conventions used to describe this API.

1. Valid data values: [ 1 | 0 | null ]  
`1' Denotes TRUE or YES  
`0' Denotes FALSE or NO  
null Denotes VALUE NOT KNOWN
2. Counter "i" is used as a subscript. It denotes a sequence number, i.e., 1, 2,
3. To denote deletion of a data ITEM, pass the "@" symbol as the data value in the node for the item being deleted. You may not delete required data items.
4. To denote deletion of an ENTRY, pass "1" as the data value in the "DELETE" node of the identified entry.

```
$$DATA2PCE^PXAPI(INPUT_ROOT,PKG,SOURCE,.VISIT,USER,ERR_DISPLAY))
```

This is a function which will return a value identifying the status of the call. Data that is processed by PCE will be posted on the PXX VISIT DATA EVENT protocol.

#### Parameter Description:

1. INPUT\_ROOT: (required) Where INPUT\_ROOT is a unique variable name, either local array or global array, which identifies the defined data elements for the encounter. An example of an INPUT\_ROOT is ^TMP("LRPXAPI",\$J) or ^TMP("RAPXAPI",\$J). The gross structure of the array includes four additional subscripts (ENCOUNTER, PROVIDER, DX/PL, PROCEDURE and STOP) for defining the data passed. A detailed description of this array and its structure are included below in a table format.
2. PKG: (required) Where PKG is a pointer to the Package File (9.4).
3. SOURCE: (required) Where SOURCE is a string of text (3-30 character) identifying the source of the data. The text is the SOURCE NAME field (.01) of the PCE Data Source file (839.7). If the SOURCE currently does not exist in the file, it will be added. Examples of SOURCE are: "LAB DATA" or "RADIOLOGY DATA" or "PXCE DATA ENTRY" or "AICS ENCOUNTER FORM."

## External Relations

4. VISIT: (optional) Where VISIT is a pointer to the Visit file (9000010) which identifies the encounter which this data should be associated with.  
If the pointer to the Visit file is saved, it is necessary to also subscribe to IA 1902.
5. USER: (optional) User who is responsible for add/edit/delete action on the encounter. Pointer to the New Person file (200).  
If USER is not defined, DUZ will be used.
6. ERR\_DISPLAY: (optional) To display errors during development, this variable may be set to "1". If it is defined the errors will be displayed on screen when the error occurs. If ERR\_DISPLAY is not defined, errors will be posted on the defined INPUT\_ROOT subscripted by "DIERR". BLD^DIALOG is used to manage errors. Review BLD^DIALOG and MSG^DIALOG descriptions included in the FileMan v. 21.0 Programmer Manual on pages 189 - 200.

### Returned Value:

- 1 If no errors occurred and data was processed.
- 1 An error occurred. Data may or may not have been processed.  
If ERR\_DISPLAY is undefined, errors will be posted on the INPUT\_ROOT subscripted by "DIERR".
- 2 Unable to identify a valid VISIT. No data was processed.
- 3 API was called incorrectly. No data was processed.

ENCOUNTER: All data must be associated with an entry in the VISIT file (#9000010). Only one "ENCOUNTER" node may be passed with each call to \$\$DATA2PCE^PXAPI. The "ENCOUNTER" node documents encounter specific information and must be passed:

1. To create an entry in the VISIT file (9000010). All provider, diagnosis and procedure data is related to an entry in the VISIT file.
2. To enable adding, editing or deleting "ENCOUNTER" node data elements. When encounter data elements are not added, edited or deleted, the VISIT parameter may be passed in lieu of defining an "ENCOUNTER" node.

### SUBSCRIPT DESCRIPTION:

"ENCOUNTER",1,"ENC D/T") Required  
This is the encounter date/ time for primary encounters or the date for occasions of service. If the encounter is related to an appointment, this is the appointment date/time. If this is an occasion of service created by an ancillary package, this is the date/time of the instance of care.  
Imprecise dates are allowed for historical encounters.  
Encounter date/time may be added, but not edited.  
\*Deletions of encounters can occur only when nothing is pointing to the encounter.  
Format: FileMan Internal Format for date/time

"ENCOUNTER",1,"PATIENT") Required  
This is the patient DFN. This cannot be edited or deleted.  
Format: Pointer to IHS Patient file (9000001)  
This file is Dinumed to the Patient file (2)

"ENCOUNTER",1,"HOS LOC")	Required
This is the hospital location where the encounter took place for primary encounters, or this is the ordering location for ancillary encounters.	
Format: Pointer to Hospital Location file (44)	
"ENCOUNTER",1,"OUTSIDE LOCATION")	Optional
This is an outside location of an encounter, not included in the INSTITUTION file.	
Format: Free text (2-245 characters)	
The OUTSIDE LOCATION should exclude the INSTITUTION: "ENCOUNTER:,1,"INSTITUTION") and the INSTITUTION should exclude the OUTSIDE LOCATION.	
"ENCOUNTER",1,"INSTITUTION")	Optional
This is the Institution where the encounter took place. If it is not defined, the division defined for the Hospital Location is used. If that is not defined, \$\$SITE^VASITE is used.	
Format: Pointer to IHS Location file (9999999.06). This file is dinumed to the Institution file (4).	
"ENCOUNTER",1,"SC")	Optional
This encounter is related to a service connected condition.	
Format: [ 1   0   null ]	
"ENCOUNTER",1,"AO")	Optional
This encounter is related to Agent Orange exposure.	
Format: [ 1   0   null ]	
"ENCOUNTER",1,"IR")	Optional
This encounter is related to Ionizing Radiation exposure.	
Format: [ 1   0   null ]	
"ENCOUNTER",1,"EC")	Optional
This encounter is related to Environmental Contaminant exposure.	
Format: [ 1   0   null ]	
"ENCOUNTER",1,"MST")	Optional
This encounter is related to Military Sexual Trauma.	
Format: [ 1   0   null ]	
"ENCOUNTER",1,"HNC")	Optional
This encounter is related to Head & Neck Cancer.	
Format: [ 1   0   null ]	
"ENCOUNTER",1,"CHECKOUT D/T")	Optional
This is the date/time when the encounter was checked out.	
Format: FileMan Internal Format for date/time	
"ENCOUNTER",1,"ELIGIBILITY")	Optional
This is the eligibility of the patient for this encounter.	
Format: Pointer to Eligibility Code file (8)	
"ENCOUNTER",1,"APPT")	Optional
This is the appointment type of the encounter.	
Format: Pointer to Appointment Type file (409.1)	
"ENCOUNTER",1,"SERVICE CATEGORY")	Required
This denotes the type of encounter.	
Format: Set of Codes.	
A::=Ambulatory	
Should be used for clinic encounters. "A" s are changed to "I"s by Visit Tracking if patient is an inpatient at the time of the encounter.	
H::=Hospitalization	
Should be used for an admission.	
T::=Telecommunications	
E::=Event (Historical)	
Documents encounters that occur outside of this facility.	
Not used for workload credit or 3rd party billing.	

## External Relations

X::=Ancillary Package Daily Data.

"X" s are changed to "D"s by Visit Tracking if patient is an inpatient at the time of the encounter.

"ENCOUNTER",1,"ENCOUNTER TYPE") Required

This identifies the type of encounter, e.g., primary encounter, ancillary encounter, etc. A "Primary" designation indicates that the encounter is associated with an appointment or is a standalone. Examples of ancillary encounters include Laboratory and Radiology instances of care.

Format: Set of Codes.

P::=Primary

O::=Occasion of Service

A::=Ancillary

"ENCOUNTER",1,"PARENT") Optional

This is the parent encounter for which the ENCOUNTER is a supporting encounter. For example, this would be the primary encounter for which this occasion of service supports and should be associated.

Format: Pointer to Visit file (9000010).

"ENCOUNTER",1,"COMMENT") Optional

Comment

Format: Free Text (1-245 characters)

PROVIDER: The "PROVIDER" node may have multiple entries (i) and documents the provider, indicates whether he/she is the primary provider, and indicates whether the provider is the attending provider. Comments may also be passed. To delete the entire "PROVIDER" entry, set the "DELETE" node to 1.

### SUBSCRIPT DESCRIPTION:

"PROVIDER",i,"NAME") Required

Provider's IEN.

Format: Pointer to NEW PERSON file (200)

"PROVIDER",i,"PRIMARY") Optional

Indicator that denotes this provider as the "primary" provider.

Format: [ 1 | 0 | null ]

"PROVIDER",i,"ATTENDING") Optional

Indicator that denotes this provider as the attending provider.

Format: [ 1 | 0 | null ]

"PROVIDER",i,"COMMENT") Optional

Comment

Format: Free text (1- 245 characters)

"PROVIDER",i,"DELETE") Optional

This is a flag that denotes deletion of the Provider entry.

Format: [ 1 | null ]|

DX/PL: The "DX/PL" node may have multiple entries (i) and documents diagnoses and/or problems. Only active ICD-9-CM codes will be accepted. The "DX/PL" node adds diagnoses to the PCE database as well as adding an active or inactive diagnosis or problem to the Problem List. If a diagnosis or problem already exists on the Problem List, this node may be used to inactivate it. To delete the entire "DX/PL" entry from PCE (not Problem List), set the "DELETE" node to 1.

## SUBSCRIPT DESCRIPTION:

"DX/PL",i,"DIAGNOSIS") Required for PCE Optional for PL  
 Diagnosis code  
 Format: Pointer to ICD9 Diagnosis file (80)

"DX/PL",i,"PRIMARY") Optional for PCE N/A for PL  
 Code that specifies that the diagnosis is the "primary" diagnosis  
 for this encounter. Only one "primary" diagnosis is recorded  
 for each encounter.  
 Format: [ 1 | 0 | null ]

"DX/PL",i,"LEXICON TERM") Optional for PCE Optional for PL  
 This is a term that is contained in the Clinical Lexicon.  
 Format: Pointer to the Expressions file (757.01)

"DX/PL",i,"PL IEN") Optional for PCE \*Optional for PL  
 This is the problem IEN that is being acted upon. \*This node is  
 required to edit an existing problem on the Problem List.  
 Format: Pointer to Problem List file (9000011)

"DX/PL",i,"PL ADD") N/A for PCE \*Optional for PL  
 \*This is required to Add a diagnosis/problem to the Problem List.  
 "1" indicates that the entry should be added to the Problem  
 List.  
 Format: [ 1 | 0 | null ]

"DX/PL",i,"PL ACTIVE") N/A for PCE Optional for PL  
 This documents whether a problem is active or inactive. The  
 Default is Active if not specified.  
 Format: Set of Codes.  
 A::=Active  
 I::=Inactive

"DX/PL",i,"PL ONSET DATE") N/A for PCE Optional for PL  
 The date that the problem began.  
 Format: FileMan Internal Format for date.

"DX/PL",i,"PL RESOLVED DATE") N/A for PCE Optional for PL  
 The date that the problem was resolved.  
 Format: FileMan Internal Format for date.

"DX/PL",i,"PL SC") N/A for PCE Optional for PL  
 This problem is related to a service connected condition.  
 Format: [ 1 | 0 | null ]

"DX/PL",i,"PL AO") N/A for PCE Optional for PL  
 This problem is related to Agent Orange exposure.  
 Format: [ 1 | 0 | null ]

"DX/PL",i,"PL IR") N/A for PCE Optional for PL  
 This problem is related to Ionizing Radiation exposure.  
 Format: [ 1 | 0 | null ]

"DX/PL",i,"PL EC") N/A for PCE Optional for PL  
 This problem is related to Environmental Contaminant exposure.  
 Format: [ 1 | 0 | null ]

"DX/PL",i,"NARRATIVE") \*Optional for PCE \*Optional for PL  
 The provider's description of the diagnosis/problem. \*If NARRATIVE  
 is not passed for a diagnosis/problem, the Description from  
 the ICD Diagnosis file (80) will be used as the default.  
 Format: Free text (2-245 characters)

"DX/PL",i,"CATEGORY") Optional for PCE N/A for PL  
 A term that denotes a grouping or category for a set of related  
 diagnosis/problem.  
 Format: Free text (2-245 characters)

## External Relations

"DX/PL",i,"ENC PROVIDER") Optional for PCE \*Optional for PL  
 Provider who documented the diagnosis/problem.  
 \*This is required to Add a diagnosis/problem to the Problem List.  
 Format: Pointer to New Person file (200)

"DX/PL",i,"EVENT D/T") Optional for PCE N/A for PL  
 Date/Time Diagnosis was documented.  
 Format: FileMan Internal Format for date/time

"DX/PL",i,"COMMENT") Optional for PCE \*Optional for PL  
 Comment  
 Format: PCE Free Text (1-245 char)  
 PL Free Text (3-60 char)

"DX/PL",i,"DELETE") Optional for PCE N/A for PL  
 This is a delete flag used to denote deletion of the diagnosis entry.  
 Format: [ 1 | null ]|

PROCEDURE: The "PROCEDURE" node may have multiple entries (i). Only active CPT/HCPCS codes will be accepted. The "PROCEDURE" node documents the procedure(s), the number of times the procedure was performed, the diagnosis the procedure is associated with and the narrative that describes the procedure. It also enables documentation of the provider who performed the procedure, the date/time the procedure was performed and any comments that are associated with the procedure. To delete the entire "PROCEDURE" entry, set the "DELETE" node to 1.

### SUBSCRIPT DESCRIPTION:

"PROCEDURE",i,"PROCEDURE") Required  
 Procedure code  
 Format: Pointer to CPT file (81)

"PROCEDURE",i,"MODIFIERS",MODIFIER)=" Optional  
 CPT Modifier(s)  
 Format: external form. Any number of modifiers may be listed.

"PROCEDURE",i,"QTY") Required  
 Number of times the procedure was performed.  
 Format: Whole number > 0

"PROCEDURE",i,"DIAGNOSIS") Optional  
 The diagnosis that is associated with the identified procedure.  
 Format: Pointer to ICD Diagnosis file (80)

"PROCEDURE",i,"NARRATIVE") \*Optional  
 The provider's description of the procedure performed. \*If NARRATIVE is not passed for a procedure, the Short Name from the CPT file (81) will be used as the default.  
 Format: Free text (2-245 characters)

"PROCEDURE",i,"CATEGORY") Optional  
 A term that denotes a grouping or category for a set of related procedures.  
 Format: Free text (2-245 characters)

"PROCEDURE",i,"ENC PROVIDER") Optional  
 Provider who performed the procedure.  
 Format: Pointer to New Person file (200)

"PROCEDURE",i,"EVENT D/T") Optional  
 Date/Time procedure was done.  
 Format: FileMan Internal Format for date/time

"PROCEDURE",i,"COMMENT") Optional  
 Comment  
 Free Text (1-245 characters)

"PROCEDURE",i,"DELETE") Optional  
 This is a flag that denotes deletion of the Procedure entry.  
 Format: [ 1 | null ]|

PATIENT ED: The "PATIENT ED" node may have multiple entries (i). To delete the entire "PATIENT ED" entry, set the "DELETE" node to 1.

## SUBSCRIPT DESCRIPTION:

"PATIENT ED",i,"TOPIC") Required  
 Education Topic that patient received education.  
 Format: Pointer to Education Topics file (9999999.09)

"PATIENT ED",i,"UNDERSTANDING") Optional  
 The patients level of understanding of the education.  
 Format: Set of Codes.  
 1::=Poor  
 2::=Fair  
 3::=Good  
 4::=Group--No Assessment  
 5::=Refused

"PATIENT ED",i,"ENC PROVIDER") Optional  
 Provider who was the educator.  
 Format: Pointer to New Person file (200)

"PATIENT ED",i,"EVENT D/T") Optional  
 Date/Time of Event  
 Format: FileMan Internal Format for date/time

"PATIENT ED",i,"COMMENT") Optional  
 Comment  
 Format: Free Text field (1-245 characters)

"PATIENT ED",i,"DELETE") Optional  
 This is a flag that denotes deletion of the Provider entry.  
 Format: [ 1 | null ]|

"PATIENT ED",i,"DELETE") Optional  
 This is a flag that denotes deletion of the Patient Ed entry.  
 Format: [ 1 | null ]|

HEALTH FACTOR: The "HEALTH FACTOR" node may have multiple entries (i). To delete the entire "HEALTH FACTOR" entry, set the "DELETE" node to 1.

## SUBSCRIPT DESCRIPTION:

"HEALTH FACTOR",i,"HEALTH FACTOR") Required  
 Health Factor that contributes to a patient's state of health.  
 Format: Pointer to Health Factors file (9999999.64)

"HEALTH FACTOR",i,"LEVEL/SEVERITY") Optional  
 Level/Severity of health factor related to the patient's state of health.  
 Format: Set of Codes.  
 M::=Minimal  
 MO::=Moderate  
 H::=Heavy/Severe

"HEALTH FACTOR",i,"ENC PROVIDER") Optional  
 Provider who documented the health factor.  
 Format: Pointer to New Person file (200)

## External Relations

"HEALTH FACTOR",i,"EVENT D/T") Optional  
Date/Time of Event  
Format: FileMan Internal Format for date/time

"HEALTH FACTOR",i,"COMMENT") Optional  
Comment  
Format: Free Text field (1-245 characters)

"HEALTH FACTOR",i,"DELETE") Optional  
This is a flag that denotes deletion of the Health Factor entry.  
Format: [ 1 | null ]|

EXAM: The "EXAM" node may have multiple entries (i). To delete the entire "EXAM" entry, set the "DELETE" node to 1.

### SUBSCRIPT DESCRIPTION:

"EXAM",i,"EXAM") Required  
Exam that was performed.  
Format: Pointer to Exam file (9999999.15)

"EXAM",i,"RESULT") Optional  
Result of Exam  
Format: Set of Codes.  
A::=Abnormal  
N::=Normal

"EXAM",i,"ENC PROVIDER") Optional  
Provider who performed the exam..  
Format: Pointer to New Person file (200)

"EXAM",i,"EVENT D/T") Optional  
Date/Time of Exam  
Format: FileMan Internal Format for date/time

"EXAM",i,"COMMENT") Optional  
Comment  
Format: Free Text field (1-245 characters)

"EXAM",i,"DELETE") Optional  
This is a flag that denotes deletion of the Exam entry.  
Format: [ 1 | null ]|

SKIN TEST: The "SKIN TEST" node may have multiple entries (i). To delete the entire "SKIN TEST" entry, set the "DELETE" node to 1.

### SUBSCRIPT DESCRIPTION:

"SKIN TEST",i,"TEST") Required  
Skin Test that was performed  
Format: Pointer to Skin Test file (9999999.28)

"SKIN TEST",i,"READING") Optional  
Numeric measurement of the surface area tested (in millimeters).  
Format: Whole number between 0 and 40 inclusive.

"SKIN TEST",i,"RESULT") Optional  
Results of the Skin Test  
Format: Set of Codes.  
P::=Positive  
D::=Doubtful  
N::=Negative  
O::=No Take

"SKIN TEST",i,"D/T READ") Date/time skin test was read Format: FileMan Internal Format for date/time	Optional
"SKIN TEST",i,"ENC PROVIDER") Provider who read the skin test. Format: Pointer to New Person file (200)	Optional
"SKIN TEST",i,"EVENT D/T") Date/Time test was administered. Format: FileMan Internal Format for date/time	Optional
"SKIN TEST",i,"COMMENT") Comment Format: Free Text field (1-245 characters)	Optional
"SKIN TEST",i,"DELETE") This is a flag that denotes deletion of the Skin Test entry. Format: [ 1   null ]	Optional

IMMUNIZATION: The "IMMUNIZATION" node may have multiple entries (i). To delete the entire "IMMUNIZATION" entry, set the "DELETE" node to 1.

#### SUBSCRIPT DESCRIPTION:

"IMMUNIZATION",i,"IMMUN") Immunization that was performed. Format: Pointer to Immunization file (9999999.14)	Required
"IMMUNIZATION",i,"SERIES") Series specifies the sequence of the series for the immunization that was administered. Format: Set of Codes. P::=Partially complete C::=Complete B::=Booster 1::=Series1 thru 8::=Series8	Optional
"IMMUNIZATION",i,"REACTION") The observed reaction to the immunization. Format: Set of Codes. 0::=None 1::=Fever 2::=Irritability 3::=Local Reaction or Swelling 4::=Vomiting 5::=Rash or Itching 6::=Lethargy 7::=Convulsions 8::=Arthritis or Arthralgias 9::=Anaphylaxis or Collapse 10::=Respiratory Distress 11::=Other	Optional
"IMMUNIZATION",i,"CONTRAINDICATED") This field may be used to indicate that this immunization should not be administered again. "1" indicates that the immunization should not be given to the patient in the future. Format: [ 1   0   null ]	Optional
"IMMUNIZATION",i,"ENC PROVIDER") Provider who performed the immunization. Format: Pointer to New Person file (200)	Optional

## External Relations

"IMMUNIZATION",i,"EVENT D/T") Optional  
Date/Time immunization was administered.  
Format: FileMan Internal Format for date/time

"IMMUNIZATION",i,"COMMENT") Optional  
Comment  
Format: Free Text (1-245 characters)

"IMMUNIZATION",i,"DELETE") Optional  
This is a flag that denotes deletion of the Immunization entry.  
Format: [ 1 | null ]|

TREATMENT: The "TREATMENT" node may have multiple entries (i). To delete the entire "TREATMENT" entry, set the "DELETE" node to 1.

### SUBSCRIPT DESCRIPTION:

"TREATMENT",i,"TREATMENT") Required  
Name of Treatment  
Format: Pointer to Treatment file (9999999.17)

"TREATMENT",i,"QTY") Optional  
Number of times the treatment was performed.  
Format: Whole number > 0

"TREATMENT",i,"NARRATIVE") \*Optional  
The provider's description of the treatment performed. \*If NARRATIVE is not passed for a treatment, the Treatment Name from the Treatment file (9999999.17) will be used as the default.  
Format: Free text (2-245 characters)

"TREATMENT",i,"CATEGORY") Optional  
A term that denotes a grouping or category for a set of related treatments.  
Format: Free text (2-245 characters)

"TREATMENT",i,"ENC PROVIDER") Optional  
Provider who performed the treatment.  
Format: Pointer to New Person file (200)

"TREATMENT",i,"EVENT D/T") Optional  
Date/Time treatment was done.  
Format: FileMan Internal Format for date/time

"TREATMENT",i,"COMMENT") Optional  
Comment  
Format: Free Text (1-245 characters)

"TREATMENT",i,"DELETE") Optional  
This is a flag that denotes deletion of the Treatment entry.  
Format: [ 1 | null ]|

### EXAMPLE OF DATA PASSED TO \$\$DATA2PCE^PXAPI

Provided below is an example of data passed to \$\$DATA2PCE^PXAPI where Laboratory is the ancillary package reporting the data.

```
$$DATA2PCE^PXAPI("LRPXAPI",$J,182,"LAB DATA")
```

This is an example where Laboratory passes two laboratory tests (Glucose and CPK) which were resulted on 4/20/96 at 9:30 a.m. This occasion of service is defined as an Ancillary Package Daily Data (X).

```

^TMP("LRPXAPI",543173595,"ENCOUNTER",1,"CREDIT STOP") = 59
^TMP("LRPXAPI",543173595,"ENCOUNTER",1,"ENC D/T") = 2960420.093
^TMP("LRPXAPI",543173595,"ENCOUNTER",1,"HOS LOC") = 59
^TMP("LRPXAPI",543173595,"ENCOUNTER",1,"PATIENT") = 1030
^TMP("LRPXAPI",543173595,"ENCOUNTER",1,"SERVICE CATEGORY") = X
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"ENC PROVIDER") = 58
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"EVENT D/T") = 2960420.093
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"PROCEDURE") = 82950
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"QTY") = 1
^TMP("LRPXAPI",543173595,"PROCEDURE",2,"ENC PROVIDER") = 58
^TMP("LRPXAPI",543173595,"PROCEDURE",2,"EVENT D/T") = 2960420.093
^TMP("LRPXAPI",543173595,"PROCEDURE",2,"PROCEDURE") = 82552
^TMP("LRPXAPI",543173595,"PROCEDURE",2,"QTY") = 1
^TMP("LRPXAPI",543173595,"PROVIDER",1,"NAME") = 58
^TMP("LRPXAPI",543173595,"PROVIDER",1,"PRIMARY") = 1
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"PROCEDURE") =
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"MODIFIERS",57) = ""
^TMP("LRPXAPI",543173595,"PROCEDURE",1,"QUANTITY") = 1

```

```

ROUTINE: PXAPI
COMPONENT: DATA2PCE
VARIABLES:

```

\*\*\*\*\*

```

2692      NAME: ORQPTQ1 calls
CUSTODIAL PACKAGE: ORDER ENTRY/RESULTS REPORTING           Salt Lake City
SUBSCRIBING PACKAGE: CONSULT/REQUEST TRACKING              Salt Lake City
                  calls TEAMPROV
                  CLINICAL REMINDERS                       Salt Lake City
                  calls TEAMPTS
                  GEN. MED. REC. - VITALS                   Chicago
                  Calls TEAMS and TEAMPTS.
                  KERNEL
                  CLINICAL PROCEDURES
                  USAGE: Controlled Subscri ENTERED: JAN  2,1999
                  STATUS: Active             EXPIRES:
                  DURATION: Till Otherwise Agr VERSION:
DESCRIPTION:                                     TYPE: Routine
ORQPTQ1 provides entry points to provide patient lists by providers, etc.
This DBIA will include those calls being used by outside packages.

```

```

ROUTINE: ORQPTQ1
COMPONENT: TEAMPROV(.ARRAY,TEAMIEN)
          Input an OE/RR team IEN and receive back an array of provides
          linked to the team.
VARIABLES: Output   ARRAY
          Return array as follows:
          ARRAY(#) = New Person IEN ^ New Person Name
VARIABLES: Input   TEAMIEN
          IEN of OE/RR LIST file (#100.21)
COMPONENT: TEAMS(.ARRAY)
          Input name of array and receive back all OE/RR LIST file
          (#100.21) IENS and names. If no entries in FILE 100.21, then
          return: ARRAY(1) = "^No teams found."

```

External Relations

VARIABLES: Both ARRAY  
 Name of the array to return data in. Return array as follows: ARRAY(#) = FILE 100.21 IEN ^ FILE 100.21 NAME (.01)

COMPONENT: TEAMPTS(.ARRAY,TEAM)  
 Input name of array and OE/RR LIST file (#100.21) IEN. Receive back all patient DFNs and names associated with that FILE 100.21 entry. If no entries, then return: ARRAY(1) = "^No patients found."

VARIABLES: Both ARRAY  
 Name of the array to return data in. Return array as follows: ARRAY(#) = DFN ^ FILE 2 NAME (.01)

VARIABLES: Input TEAM  
 IEN for a FILE 100.21 entry.

KEYWORDS:

\*\*\*\*\*

2693 NAME: TIULQ calls  
 CUSTODIAL PACKAGE: TEXT INTEGRATION UTILITIES Salt Lake City  
 SUBSCRIBING PACKAGE: CONSULT/REQUEST TRACKING Salt Lake City  
 LAB SERVICE  
 SURGERY Birmingham  
 CLINICAL PROCEDURES  
 ORDER ENTRY/RESULTS REPORTING  
 USAGE: Controlled Subscri ENTERED: JAN 2,1999  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 DESCRIPTION: TYPE: Routine

Entry points in this routine provide extract mechanisms for TIU records.

ROUTINE: TIULQ  
 COMPONENT: EXTRACT(TIUDA, TIUROOT, TIUERR, DR, TIULINE, TIUTEXT, FORMAT, OVRRIE)  
 Call to retrieve record and addenda

VARIABLES: Input TIUDA  
 Internal entry number of note in TIU DOCUMENT file (#8925). [REQUIRED]

VARIABLES: Input TIUROOT  
 Root of the array in which data should be returned. [OPTIONAL]  
 (set to "^TMP("TIULQ",\$J)" if not defined on entry).

VARIABLES: Output TIUERR  
 Error message in format 1^message

VARIABLES: Input DR  
 List of field numbers to return values for. [OPTIONAL]  
 (set to ".01:.1;1201:1701" if not defined on entry)

VARIABLES: Input TIULINE  
 Offset line number [OPTIONAL]

VARIABLES: Input TIUTEXT  
 1 returns report text. [OPTIONAL]

VARIABLES: Input FORMAT  
 Set as input parameter for format as accepted by  
 EN^DIQ1. [OPTIONAL]

(set to "IE" if not defined on entry)  
 VARIABLES: Input OVERRIDE  
 Override ability of user to print record text.  
 [OPTIONAL]

KEYWORDS:

\*\*\*\*\*

<sup>3</sup>2926 NAME: GMRCGUIA  
 CUSTODIAL PACKAGE: CONSULT/REQUEST TRACKING Salt Lake City  
 SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City  
 PROSTHETICS Chicago  
 CARE MANAGEMENT  
 CLINICAL PROCEDURES  
 Permitted to use the RT entry point component only.  
 USAGE: Controlled Subscri ENTERED: OCT 13,1999  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 DESCRIPTION: TYPE: Routine  
 This DBIA documents calls to GMRCGUIA.

ROUTINE: GMRCGUIA  
 COMPONENT: RT(IEN,ARRAY)  
 Returns narrative for a consult result report

VARIABLES: Input IEN  
 IEN of request in the REQUEST/CONSULTATION file  
 (#123)

VARIABLES: Both ARRAY  
 Name of the array in which to return the text of  
 the report as ARRAY(#,0)=line of text

COMPONENT: \$\$DC(IEN,PROVIDER,DATETIME,STATUS,.COMMENT)  
 Entry point to discontinue or deny a consult request.

VARIABLES: Input IEN  
 IEN of REQUEST/CONSULTATION file (#123)

VARIABLES: Input PROVIDER  
 Pointer to NEW PERSON file (#200) denoting  
 provider who discontinued or denied the consult  
 request.

VARIABLES: Input DATETIME  
 Date/time the actual activity (discontinuation or  
 denial) took place.

VARIABLES: Input STATUS  
 DY if Cancelled (previously 'deny') DC if  
 Discontinued

VARIABLES: Input .COMMENT  
 Array of comment containing explanation of denial  
 or discontinuation.

<sup>3</sup> Patch MD\*1\*2 July 2004 DBIA added.

## External Relations

VARIABLES: Output OUTPUT  
Extrinsic function returns:  
ErrorFlag^ErrorMessage  
  
ErrorFlag is 0 if no error found or 1 if an error occurred. ErrorMessage is null for no error or descriptive of error if one occurred.

COMPONENT: \$\$FR(IEN,SERVICE,PROVIDER,ATTENTION,URGENCY,.COMMENT,DATETIME)  
Call to forward an existing consult to a different service.

VARIABLES: Input IEN  
IEN of REQUEST/CONSULTATION file (#123)

VARIABLES: Input SERVICE  
Pointer to REQUEST SERVICES file (#123.5) indicating service consult request should be forwarded to.

VARIABLES: Input PROVIDER  
Pointer to NEW PERSON file (#200) indicating provider responsible for the forwarding action.

VARIABLES: Input ATTENTION  
Pointer to NEW PERSON file (#200) indicating the person to whose attention the forwarded consult should be directed.

VARIABLES: Input URGENCY  
Value of the URGENCY from the PROTOCOL file (#101)

VARIABLES: Input .COMMENT  
Array of comments that explains the reason the request was forwarded.

VARIABLES: Input DATETIME  
The date/time the request was forwarded

VARIABLES: Output OUTPUT  
Extrinsic function returns:  
ErrorFlag^ErrorMessage  
  
ErrorFlag is 0 if no error found or 1 if an error occurred. ErrorMessage is null for no error or descriptive of error if one occurred.

COMPONENT: \$\$RC(IEN,RECEIVER,DATETIME,.COMMENTS,ENTERER)  
Call to receive a consult into a service

VARIABLES: Input IEN  
IEN of REQUEST/CONSULTATION file (#123)

VARIABLES: Input RECEIVER  
Pointer to NEW PERSON file (#200) denoting person who received the consult request.

VARIABLES: Input DATETIME  
Actual date/time the consult was received by the service

VARIABLES: Input COMMENTS  
Array of comments entered for request

VARIABLES: Input ENTERER  
IEN of NEW PERSON file (#200) indicating person who entered consult as being received.

VARIABLES: Output OUTPUT  
 Extrinsic function returns:  
 ErrorFlag^ErrorMessage  
 ErrorFlag is 0 if no error found or 1 if an error  
 occurred. ErrorMessage is null for no error or  
 descriptive of error if one occurred.

KEYWORDS:

\*\*\*\*\*

2944 NAME: Calls to TIUSVR1  
 CUSTODIAL PACKAGE: TEXT INTEGRATION UTILITIES Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES  
 USAGE: Controlled Subscri ENTERED: OCT 29,1999  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: ROOT:  
 DESCRIPTION: TYPE: Routine  
 This DBIA documents calls to TIUSVR1.

ROUTINE: TIUSVR1  
 COMPONENT: TGET(.GLOBAL,IEN,ACTION)  
 VARIABLES: GLOBAL Both  
 The global location of the returned data  
 (^TMP("TIUVIEW",\$J)) is returned in this  
 variable which is passed by reference.  
 IEN Input  
 The IEN of the record from the TIU  
 DOCUMENT file.  
 ACTION Input  
 This optional String type parameter  
 identifies the action (e.g., PRINT, or  
 VIEW) that the user is attempting to  
 execute (DEFAULT: VIEW).  
 This API returns the textual portion of a TIU document  
 Record.  
 It's also callable via RPC TIU GET RECORD TEXT.

\*\*\*\*\*

2981 NAME: Calls to GMRCP5  
 CUSTODIAL PACKAGE: CONSULT/REQUEST TRACKING Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Controlled Subscri ENTERED: NOV 12,1999  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: ROOT:  
 DESCRIPTION: TYPE: Routine  
 This DBIA documents calls made to routine GMRCP5.

ROUTINE: GMRCP5  
 COMPONENT: GUI(.ROOT,IEN)

External Relations

VARIABLES: IEN           Input  
                                   IEN of REQUEST/CONSULTATION file (#123)  
                                   for which report should be returned.  
                                   Returns SF513 report for display in GUI environment. Root  
                                   will be set to ^TMP("GMRC",\$J,"SF513").

COMPONENT: EN(IEN,COPYTYPE,DEVICE,.STATUS)

VARIABLES: IEN           Input  
                                   IEN of REQUEST/CONSULTATION file (#123).  
                                   COPYTYPE    Input  
                                   C for Chart Copy W for Working Copy null  
                                   for not applicable  
                                   DEVICE       Input  
                                   Device to be passed to %ZTLOAD as ZTIO.  
                                   STATUS       Output  
                                   Returned as:  
                                   0^Queued as task # n    (if successful)  
                                   -1^Not Queued           (if  
                                   unsuccessful)

Entry point to send a copy of the SF513 to a printer  
 device.

\*\*\*\*\*

<sup>4</sup>3067       NAME: DBIA3067  
 CUSTODIAL PACKAGE: CONSULT/REQUEST TRACKING                                   Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES                                       Chicago  
                   USAGE: Private                                   ENTERED: MAR 16,2000  
                   STATUS: Active                                   EXPIRES:  
                   DURATION: Till Otherwise Agr   VERSION:  
                   FILE: 123                                        ROOT: GMR(123,  
                   DESCRIPTION:                                       TYPE: File  
 PURPOSE: Provide Clinical Procedures with a way to display Consult  
 Procedure order information.  
 GLOBAL REFERENCE:  
   ^GMR(123,  
     5            URGENCY                                   0;9            Read w/Fileman  
    20            REASON FOR REQUEST           20;0           Read w/Fileman  
   30.1          PROVISIONAL DIAGNOSI   30.1;1        Read w/Fileman  
     8            CPRS STATUS                   0;12           Read w/Fileman  
 KEYWORDS:

\*\*\*\*\*

3162       NAME: POINT TO REQUEST/CONSULTATION (#123) FILE  
 CUSTODIAL PACKAGE: CONSULT/REQUEST TRACKING                                   Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES                                       Chicago  
                   USAGE: Controlled Subscri   ENTERED: AUG 9,2000  
                   STATUS: Active                                   EXPIRES:  
                   DURATION: Till Otherwise Agr   VERSION:  
                   FILE: 123                                        ROOT: GMR(123,  
                   DESCRIPTION:                                       TYPE: File  
 This Integration Agreement documents the clinical packages that have  
 permission to point to the REQUEST/CONSULTATION (#123) file.

<sup>4</sup> Patch MD\*1\*2 July 2004 DBIA added.

ROUTINE:

\*\*\*\*\*

3266 NAME: DBIA 3266  
 CUSTODIAL PACKAGE: REGISTRATION  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES  
 USAGE: Controlled Subscri ENTERED: DEC 5,2000  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: ROOT:  
 DESCRIPTION: TYPE: Routine  
 The patient lookup routine, DPTLK1, has a useful api for obtaining a  
 formatted date of birth. Imaging is requesting permission to use this api.

ROUTINE: DPTLK1  
 COMPONENT: \$\$DOB(DFN,DGYR)  
 VARIABLES: DFN Input Patient's DFN.  
 DGYR Input  
 If input value is:  
 0 - returns 4-digit year  
 (default)  
 1 - returns 2-digit year  
 2 - returns filemanager date  
 output DOB = mm/dd/yyyy (default)  
 = mm/dd/yy, if DGYR=1  
 = yyymmdd, if DGYR=2

Calling routine passes the Patient's DFN and obtains the  
 corresponding date of birth for that patient. If the  
 patient's primary eligibility is 'Employee' then  
 "SENSISTIVE" is passed in place of the date of birth.

\*\*\*\*\*

3267 NAME: DBIA 3267  
 CUSTODIAL PACKAGE: REGISTRATION  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES  
 USAGE: Controlled Subscri ENTERED: DEC 5,2000  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: ROOT:  
 DESCRIPTION: TYPE: Routine  
 The patient lookup routine, DPTLK1, has a useful api for obtaining the  
 patient's social security number. Imaging is requesting permission to use  
 this api.

ROUTINE: DPTLK1  
 COMPONENT: SSN  
 VARIABLES: DFN Input Patient's dfn  
 On a given patient will display the patient's ssn  
 identifier; except for employees.

\*\*\*\*\*

External Relations

3376 NAME: DBIA3376  
 CUSTODIAL PACKAGE: TEXT INTEGRATION UTILITIES Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Controlled Subscri ENTERED: MAY 14,2001  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: 8925 ROOT: TIU(8925,DA,0)  
 DESCRIPTION: TYPE: File  
 This IA will document the fact that in the CP TRANSACTION file (#702) has a field called TIU NOTE (Field #.06) which points to the TIU DOCUMENT file (#8925).  
 ^TIU(8925,DA,0)  
 .01 DOCUMENT TYPE 0;1 Pointed to

ROUTINE:

\*\*\*\*\*

3377 NAME: DBIA3377  
 CUSTODIAL PACKAGE: TEXT INTEGRATION UTILITIES Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Private ENTERED: MAY 14,2001  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: 8925.1 ROOT: TIU(8925.1,DA,0)  
 DESCRIPTION: TYPE: File  
 This IA is to document the fact that the CP DEFINITION file (#702.01) has a field called DEFAULT TIU NOTE (Field #.04) which points to the TIU DOCUMENT DEFINITION file (#8925.1).  
 ^TIU(8925.1,DA,0)  
 .01 NAME 0;1 Pointed to

ROUTINE:

\*\*\*\*\*

3468 NAME: CLINICAL PROCEDURE UTILITIES  
 CUSTODIAL PACKAGE: CONSULT/REQUEST TRACKING Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Controlled Subscri ENTERED: OCT 10,2001  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: ROOT:  
 DESCRIPTION: TYPE: Routine  
 This integration agreement describes several utilities used to gather information or update Consult records involved in the Clinical Procedures interface to Consult/Request Tracking.

ROUTINE: GMRCCP  
 COMPONENT: CPLIST(GMRCPT,GMRCPR,GMRCRET)  
 VARIABLES: GMRCPT Input This is the patient identifier (DFN).  
 GMRCPR Input This optional variable is a pointer to the CP DEFINITION (#702.01) file. If this variable is not passed, all CP requests will be returned.



External Relations

VARIABLES: NAMES Output

This variable is passed by reference and is returned as array of GMRC PROCEDURES linked to a given CP DEFINITION in format:

```

                NAMES(x)=GMRC PROCEDURE name^GMRC
PROCEDURE ien
                NAMES(1)="EKG^21"
                NAMES(2)="EKG PORTABLE^32"
    
```

if not currently linked, returned as:  
 NAMES(1)="-1^not currently linked"

PROC Input

This required variable is pointer to the CP DEFINITION (#702.01) file.

This entry point returns a list of the GMRC PROCEDURE (#123.3) file entries linked to a given CP DEFINITION.

\*\*\*\*\*

```

3535      NAME: TIUSRVP Calls
CUSTODIAL PACKAGE: TEXT INTEGRATION UTILITIES           Salt Lake City
SUBSCRIBING PACKAGE: CLINICAL PROCEDURES
        USAGE: Controlled Subscri  ENTERED: MAR  1,2002
        STATUS: Active              EXPIRES:
        DURATION: Till Otherwise Agr  VERSION:
        FILE:                       ROOT:
        DESCRIPTION:                 TYPE: Routine
Entry points in this routine provide mechanisms for creating, updating,
deleting and addending TIU records.
    
```

```

ROUTINE: TIUSRVP
COMPONENT: MAKE(SUCCESS,DFN,TITLE,VDT,VLOC,VSIT,TIUX,VSTR,SUPPRESS,NOASF)
VARIABLES: DFN      Input
    
```

This REQUIRED PARAMETER is the pointer to the patient file.

TITLE Input

This is the pointer to the TIU DOCUMENT DEFINITION FILE which identifies the TITLE of the document to be filed.

VDT Used

This optional parameter is the Date/time of visit. If the parameter VSIT is present, this will be ignored. Otherwise, the RPC will attempt to generate a match with a visit based on DFN, VDT, and VLOC (visit location). In the event that the RPC cannot generate such a match, a new EVENT-type Visit will be created with the current date/time.

VLOC Used

This optional parameter is the Location of Visit (e.g., Cardiology Clinic). It is a pointer to Hospital location (File #44).

VSIT	Used	This is a pointer to the Visit File (#900010) entry for the visit to which the document is to be linked.
TIUX	Input	<p>This is the input array in which the identifiers of the document, as well as its text, are to be stored in the following format:</p> <pre> TIUX(.02)=45678 TIUX(1301)=2960703.104556 TIUX(1302)=293764 TIUX("TEXT",1,0)="The patient is a 70 year old WHITE MALE, who presented to the ONCOLOGY CLINIC" TIUX("TEXT",2,0)="On JULY 3, 1996@10:00 AM, with the chief complaint of NECK PAIN..." </pre>
VSTR	Used	<p>This parameter identifies the visit location, date/time, and Service Category (Hospitalization, Ambulatory, Telecommunications, or Event (HISTORICAL)) in the form of a semi-colon delimited string (e.g., "469;2970616.1415;A").</p>
SUPPRESS	Used	<p>BOOLEAN flag indicating whether or not to suppress execution of the COMMIT ACTION for the document in question. This gives the calling application control over the circumstances in which the COMMIT CODE should be executed.</p>
NOASF	Used	<p>This parameter can optionally be set to 1 to indicate the ASAVE cross-reference in the TIU Document file (#8925) should not be set when call is made. The intent of this cross-reference is for telnet type sessions where a user could be dropped. The cross-reference is used to provide the user with an easy way to resume editing the TIU Document they were working on when they were dropped. In the Clinical Procedures realm, for example, where the stub is created in the 'background' this cross-reference should not be set since the user is not interactively involved in the creation of the record.</p>

External Relations

	SUCCESS	Both	If the call is successful, this will be the record number (IEN) of the resulting entry in the TIU DOCUMENT FILE (#8925). In the event of a filing error, the first "^"-piece will be zero, and the second "^"-piece of this scalar return variable will be a textual message describing the nature of the error (e.g., 0^Invalid TITLE Selected.).
			This entry point allows the creation of TIU DOCUMENT records.
COMPONENT:	UPDATE(SUCCESS, TIUDA, TIUX, SUPPRESS)		
VARIABLES:	SUCCESS	Both	This is the return parameter, which is passed by reference. If an error occurs, it will be a pointer to the FM dialog file followed by the integer 1 in the second "^"-piece (e.g., 8925001^1).
	TIUDA	Input	This is the record # (IEN) of the TIU Document in file #8925.
	TIUX	Input	This is the input array which contains the data to be filed in the modified document. It should look something like this:  TIUX(.02)=45678 TIUX(1301)=2960703.104556 TIUX(1302)=293764 TIUX("TEXT",1,0)="The patient is a 70 year old WHITE MALE, who presented to the ONCOLOGY CLINIC" TIUX("TEXT",2,0)="On JULY 3, 1996@10:00 AM, with the chief complaint of NECK PAIN..."
	SUPPRESS	Used	This BOOLEAN Flag is passed in to suppress the call to the COMMIT CODE for the TIU DOCUMENT in question (i.e., SUPPRESS=1 ==> don't execute commit code; SUPPRESS=0 or UNDEFINED ==> DO execute commit code).  This API updates the record named in the TIUDA parameter, with the information contained in the TIUX(Field #) array. The body of the modified TIU document should be passed in the TIUX("TEXT",i,0) subscript, where i is the line number (i.e., the "TEXT" node should be ready to MERGE with a word processing field). Any filing errors which may occur will be returned in the single valued ERR parameter (which is passed by reference).
COMPONENT:	DELETE(ERR, TIUDA, TIURSN, OVRRIIDE)		
VARIABLES:	TIUDA	Input	Record number of TIU Document to be deleted.

TIURSN	Used	This optional parameter specifies the reason for deletion (i.e., Privacy Act, or Administrative Action). It only needs to be passed if the document has already been signed, and the user is still authorized to delete the record.
ERR	Output	Returns error message with ERR=1^Explanation text if the user is NOT authorized to delete the named record (e.g., it's his, but signed; or it's not his, and he better keep his paws off it).
OVERRIDE	Input	This optional BOOLEAN parameter indicates to the API whether the business rules defined by the site for the DELETE action should be overridden for the document in question. Allowable values are 1 (TRUE), or 0 (FALSE). DEFAULT is 0 (FALSE).  Deletes TIU Document records...Evaluates authorization.
COMPONENT:	MAKEADD(TIUDADD, TIUDA, TIUX, SUPPRESS)	
VARIABLES:	TIUDA	Input This is the record number of the parent document in file 8925.
	TIUX	Input This is a local input array containing the data to be filed for the addendum record, formatted as follows:  TIUX(.02)=45678 TIUX(1301)=2960703.104556 TIUX(1302)=293764 TIUX("TEXT",1,0)="The patient is a 70 year old WHITE MALE, who presented to the ONCOLOGY CLINIC" TIUX("TEXT",2,0)="On JULY 3, 1996@10:00 AM, with the chief complaint of NECK PAIN..."
	SUPPRESS	Used BOOLEAN flag indicating whether or not to suppress execution of the COMMIT ACTION for the document in question. This gives the calling application control over the circumstances in which the COMMIT CODE should be executed.
	TIUDADD	Both This is the record number of the resulting addendum.  NOTE: If no addendum record may be created, then the return variable will look as follows: "-1^Could not create addendum."  This call allows the creation of addenda to TIU Documents.

\*\*\*\*\*



3) Documentation that imported reports/objects meet VHA, regulatory, and quality requirements must be on file with the Vista Imaging Project Office prior to any clinical use. Sample imported reports/objects shall be provided initially to the Vista Imaging Project Office by the package using the API. Sites installing the Vista Imaging API must comply with all Vista Imaging requirements and are responsible for filing all required documentation with the Vista Imaging Project Office, including image quality and data forms and sample reports/objects from any interfaced device.

4) Additional requirements may apply to non-VA software using the Import API.

ROUTINE: MAGGSIUI  
 COMPONENT: IMPORT  
 VARIABLES: MAGRY

Output

The status of the call will be returned in an array. Two examples are given below.

Example 1: Successful Queue

MAGRY(0)="111^Data has been Queued."

A Background Processor Import Queue Number '^' message is returned in the (0) node. No other nodes are defined.

Example 2: unsuccessful Queue

MAGRY (0)="0^Required parameter is null"

MAGRY (1)="Tracking ID is Required. !"

MAGRY (2)="Status Handler is Required.

!"

MAGRY (3)="Acquisition Site is Required.

!"

node (0) = 0 '^' Error message

node(1..n)= all error messages incurred during validation.

IMAGES

Input

An array of fully qualified file names. Each entry is the full path of the Image using UNC notation, and optionally a short description of the Image as the second '^' piece. If the array entry doesn't contain a short description as the 2nd '^' piece, the API will generate a default image short description from the procedure and procedure date. All images in the array will be saved as a group of images. If the array only contains 1 image, it will be saved as a single image.

The following is an example of an input array:

```
IMAGES(1)="\\image server\image
share\filename.ext^image description"
IMAGES(2)="\\image server\image
share\filename2.ext"
IMAGES(3)="\\image server\image
share\filename3.ext^image description"
IMAGES(4)="\\image server\image
share\filename4.ext"
```

MAGIX            Input

An array of predefined 'nodes' and data.

\*\*CLINICAL PROCEDURES Integration Agreements subscribed to

---

Example:

```
MAGIX("ACQD")="COMPUTER AT EDS"
MAGIX("ACQL")=99
MAGIX("ACQS")=688
MAGIX("DOCCTG")=19
MAGIX("DOC DT")="05/05/1999"
MAGIX("IDFN")=1033
MAGIX("STSCB")="TESTCB^MAGGSIUI"
MAGIX("TRKID")="GK;101"
```

The following are possible predefine nodes that can be passed; please note that the items with an asterick (\*) are required information.

ACQD\* - Acquisition Device: 'Computer Name' of Device (Domain Name for non-NT).

ACQL - Hospital Location: Pointer to Vista Hospital Location File.

ACQS\* - Acquisition Site: Pointer to Vista Institution File.

CDUZ - DUZ of person capturing the image.

CMTH - Call Method: A Method to call that will generate the image(s) (Note: Either an 'Image Array' or a 'Call Method' is required).

DFLG - Delete Flag: '1' if images should be deleted after successful processing (The default is '0', No Deletion).

DOCCTG - Document Category: Pointer to VistA MAG DESCRIPTIVE CATEGORIES file.

DOC DT - Document Date: (FileMan External or Internal Date)

GDESC - Short Description for the Image or Image Group (60 chars)

IDFN\* - VistA Patient DFN

IMAGE - Full path of image in UNC notation ^ Optional Image Description

ITYPE - Image Type: The type of image (file extension); please consult Imaging for the different file types currently supported.

PASSWORD - Encrypted Password for the network\machine where the import image is located.

PXDT - Procedure Date/Time (FileMan External or Internal Date Time)

PXIEN - Procedure IEN

PXPKG - Procedure Package

STSCB\* - Status Handler: "Tag^Routine" of initiating package. Imaging will call this to return the resulting status of the Import process.

TRKID\* - Tracking ID = PackageID;\_unique identifier Example: "DOC;453"

TRTYPE - Transaction Type: 'NEW' or 'MOD' or 'DEL' (TRYTPE is for Future use. Any value is ignored, it defaults to 'NEW'.)

USERNAME - Username for the network or machine where the import image resides.

This API receives imported images from an application. The API will return an array indicating whether the transaction was successful or unsuccessful.

\*\*\*\*\*

External Relations

3568 NAME: DBIA3568  
CUSTODIAL PACKAGE: TEXT INTEGRATION UTILITIES Albany  
SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
Clinical Procedures will use the LNGCP API to get a  
selectable longlist of TIU Document titles for  
Clinical Procedures.  
USAGE: Private ENTERED: AUG 7,2003  
STATUS: Active EXPIRES:  
DURATION: Till Otherwise Agr VERSION:  
FILE: ROOT:  
DESCRIPTION: TYPE: Routine  
Clinical Procedures API(s)

ROUTINE: TIUCP  
COMPONENT: LNGCP  
VARIABLES: Y Output  
Array of 44 nearest Titles to that  
indicated by the user in the direction  
passed.  
FROM Input  
Reference Titles from which the longlist  
is scrolling.  
DIR Input  
Direction from which the longlist is  
scrolling from the reference Title.  
This API returns a longlist of titles for the Clinical  
Procedures CLASS.  
COMPONENT: ISCP  
VARIABLES: TITLE Input  
The IEN for TIU Document Definition file  
(#8925.1).  
TIUY Output  
Return value is 1 or 0; a one will  
indicate that the input value (TITLE) is  
defined as a Clinical Procedure.  
This API returns a true/false whether the TIU title is  
under the Clinical Procedures class.

\*\*\*\*\*

3869 NAME: APPOINTMENT DATA BY CLINIC  
CUSTODIAL PACKAGE: SCHEDULING  
SUBSCRIBING PACKAGE: GEN. MED. REC. - VITALS  
ORDER ENTRY/RESULTS REPORTING  
CLINICAL PROCEDURES  
CLINICAL REMINDERS  
REGISTRATION  
USAGE: Controlled Subscri ENTERED: JAN 8,2003  
STATUS: Active EXPIRES:  
DURATION: VERSION:  
DESCRIPTION: TYPE: Routine  
This IA contains a list of the supported calls for interaction with  
Appointment data contained in the Patient sub-file 2.98 and the Hospital  
Location appointment sub-file 44.001. This IA is associated with  
Scheduling patch SD\*5.3\*275, to be released to NVS on 1/10/03.

```

ROUTINE: SDAMA202
COMPONENT: GETPLIST
           A call to this entry point will return appointment data for a
           specific clinic.
VARIABLES: Input   SDIEN
                Clinic ID
VARIABLES: Input   SDFIELDS
                Appointment fields requested
VARIABLES: Input   SDAPSTAT
                Appointment Status filter (optional parameter)
VARIABLES: Input   SDSTART
                Start date for appointment search (optional
                parameter)
VARIABLES: Input   SDEND
                End date for appointment search (optional
                parameter)
VARIABLES: Input   .SDRESULT
                Variable to contain the count of returned
                appointments (optional parameter)
VARIABLES: Input   SDIOSTAT
                Patient Status filter (optional parameter)
VARIABLES: Output  SDRESULT
                A count of the returned appointments
VARIABLES: Output  TMP($J,SDAMA202,GETPLIST)
                The output array
                ^TMP($J,"SDAMA202","GETPLIST",X,Y) will contain
                the requested appointment data. Output array
                ^TMP($J,"SDAMA202","GETPLIST","ERROR",error_code)
                will contain any errors that were generated.
    
```

The calling application is responsible for deleting the temporary globals when they have finished processing the appointment data or errors.

KEYWORDS:

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```

54110      NAME: Imaging Consults
CUSTODIAL PACKAGE: CONSULT/REQUEST TRACKING           Chicago
SUBSCRIBING PACKAGE: IMAGING                         Washington
                CLINICAL PROCEDURES
                CP is only allowed access to the ASSOCIATED RESULTS
                (#50) field and all associated sub-fields with read
                w/FileMan access.
                USAGE: Controlled Subscri  ENTERED: JUL 31,2003
                STATUS: Active              EXPIRES:
                DURATION: Till Otherwise Agr  VERSION:
                FILE: 123                   ROOT: GMR(123,
DESCRIPTION:                                     TYPE: File
    
```

<sup>5</sup> Patch MD\*1\*2 July 2004 DBIAs added.

External Relations

Imaging reads fields from the REQUEST/CONSULTATION file to gather information regarding the consult or procedure being performed to produce a patient worklist for modalities. The worklist is displayed on the modality for the technician or physician to select the patient and attach images to the consult\procedure.

GLOBAL REFERENCE:

^GMR(123,
.02 PATIENT NAME 0;2 Read w/Fileman
Patient name, pointer to the Patient file (#2).
1 TO SERVICE 0;5 Read w/Fileman
The service responsible for completion of the consult/request.
3 DATE OF REQUEST 0;7 Read w/Fileman
The date of the request for the consult.
5 URGENCY 0;9 Read w/Fileman
The urgency for the consult or request.
8 CPRS STATUS 0;12 Read w/Fileman
The current CPRS status of the consult or request.

GLOBAL REFERENCE:

^GMR(123,D0,50,
.01 ASSOCIATED RESULTS 0;1 Read w/Fileman
The result to be associated with a consult.
This global allows one or more results to be associated with a consult.

GLOBAL REFERENCE:

^GMR(123,D0,40,
.01 DATE/TIME OF ACTION 0;1 Read w/Fileman
Actual date & time the activity tracking update was added to the
consult or request.
6 FORWARDED FROM 0;6 Read w/Fileman
The hospital service that is forwarding the consult.
Global node has the history of the processing actions for the consult.

KEYWORDS:

\*\*\*\*\*

4231 NAME: DBIA4231
CUSTODIAL PACKAGE: HEALTH SUMMARY Salt Lake City
SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago
USAGE: ENTERED: MAY 7,2004
STATUS: Active EXPIRES:
DURATION: Till Otherwise Agr VERSION:
DESCRIPTION: TYPE: Routine

This IA is used to document the CKP^GMTSUP entry point usage.

CKP^GMTSUP Checks for the end of page and issues a page break if the number of lines printed is equal to or greater than the page length minus the offset (IOSL-GMTSLO).

There are no input parameters, however, this entry point expects to see the following pre-existing variables in the environment:

IOST Terminal Type  
 IOF Form Feed  
 IOSL Page Length  
 GMTSLO Lines Off-Set (number of lines before IOSL where you break the page)  
 GMTSLPG Last Page Indicator Flag (set to 0 except on last page)  
 GMTSDTM Date and Time (external)  
 GMTSEG( Segment Array  
 GMTSEGN Segment Number - GMTSEG(GMTSEGN)  
 GMTSLCMP Last Component Number  
 GMTSTITL Component Title  
 GMTSPHDR( Header Array w/Patient Demographics

Note: The GMTSPHDR can be set by setting DFN and calling DEM^GMTSU.

ROUTINE: GMTSUP  
 COMPONENT: CKP~GMTSUP  
 KEYWORDS:

\*\*\*\*\*

4327 NAME: DBIA4327  
 CUSTODIAL PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Private ENTERED: FEB 3,2004  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: 101.24 ROOT: ORD(101.24  
 DESCRIPTION: TYPE: File

This is a one time only integration agreement for the conversion of Medicine components to Medicine/Clinical Procedures components. This integration agreement is used to document that patch 2 of Clinical Procedures, MD\*1\*2, can use FileMan to lookup the entry ORRPW MEDICINE in the OE/RR Report file (#101.24) and use FileMan to modify ORRPW MEDICINE to ORRPW MEDICINE/CP and add "Medicine/CP" to the Heading and Descriptive Text fields.

GLOBAL REFERENCE:  
 ^ORD(101.24,DA,0)  
 .01 NAME 0;1 Both R/W w/Fileman  
 GLOBAL REFERENCE:  
 ^ORD(101.24,DA,2)  
 .23 HEADING 2;3 Write w/Fileman  
 .24 DESCRIPTIVE TEXT 2;4 Write w/Fileman  
 KEYWORDS:

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External Relations

4328 NAME: DBIA4328  
 CUSTODIAL PACKAGE: HEALTH SUMMARY Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Private ENTERED: JAN 30,2004  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: 142.1 ROOT: GMT(142.1  
 DESCRIPTION: TYPE: File

This is a one time only integration agreement for the conversion of Medicine Components to Medicine/Clinical Procedures Components. This integration agreement is to document that patch 2 of Clinical Procedures, MD\*1\*2, can lookup with FileMan the following entries in the Health Summary Components file (#142.1):

- 1 MEDICINE ABNORMAL BRIEF
- 2 MEDICINE BRIEF REPORT
- 3 MEDICINE FULL CAPTIONED
- 4 MEDICINE FULL REPORT
- 5 MEDICINE SUMMARY

Clinical Procedures can write to the entries to change the print routine, prefix, and description to reflect both Medicine and CP.

GLOBAL REFERENCE:  
 ^GMT(142.1,DA,0)  
 .01 NAME 0;1 Both R/W w/Fileman  
 1 PRINT ROUTINE 0;2 Write w/Fileman  
 13 PREFIX 0;13 Write w/Fileman

GLOBAL REFERENCE:  
 ^GMT(142.1,DA,.1,0)  
 1.1 EXTERNAL/EXTRACT ROU .1;0 Write w/Fileman

GLOBAL REFERENCE:  
 ^GMT(142.1,DA,3.5,0)  
 3.5 DESCRIPTION 3.5;0 Write w/Fileman

KEYWORDS:

\*\*\*\*\*

4428 NAME: ORWRP TIME/OCC LIMITS ALL  
 CUSTODIAL PACKAGE: ORDER ENTRY/RESULTS REPORTING  
 Salt Lake City  
 SUBSCRIBING PACKAGE: CLINICAL PROCEDURES Chicago  
 USAGE: Private ENTERED: MAY 19,2004  
 STATUS: Active EXPIRES:  
 DURATION: Till Otherwise Agr VERSION:  
 FILE: ROOT:  
 DESCRIPTION: TYPE: Other

This DBIA document the usage of the CPRS parameter ORWRP TIME/OCC LIMITS ALL. CP uses the \$\$GET^XPAR("USR.`"\_DUZ\_"^DIV^SYS^PKG", "ORWRP TIME/OCC LIMITS ALL",1,"I") call to get the default date/time and occurrence limit for all reports. CP will use this call to get the occurrence limit so CP can return the accurate number of CP data to CPRS for display in the CPRS Reports tab.

KEYWORDS:

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External Relations

COMPONENT: TIUCOMP(MDNOTE)  
VARIABLES: MDNOTE Input  
The TIU Document IEN from TIU DOCUMENT file (#8925).  
OUTPUT Output  
Extrinsic Function returns: 0/1 for fail/success of transaction completion.  
Entry Point to complete a CP transaction.

COMPONENT: TIUDEL(MDNOTE)  
VARIABLES: MDNOTE Input  
The TIU Document IEN from TIU DOCUMENT file (#8925).  
OUTPUT Output  
Entrinsic Function returns: 0/1 for fail/success of the TIU Note deletion update.  
Entry Point to clean up the CP Transaction file entry of the TIU Note that was deleted.

COMPONENT: ISTAT(MDARR)  
VARIABLES: MDARR Input  
An array of the following:  
MDARR(0)="0^error message" or "1^success message"  
MDARR(1)=TrackID (CP;Transaction IEN)  
MDARR(2)=Image(s) Queue Number  
MDARR(3..N)=Warnings, if error(s) exist.  
Entry Point to update Clinical Procedures of the result of the image(s) that was copied to the Imaging Server.

COMPONENT: ITIU(RESULTS,DFN,CONSULT,VSTRING)  
VARIABLES: RESULTS Output  
RESULTS(0) will equal one of the following (Required)  
; IEN of the TIU note if successful  
; or on failure one of the following status messages  
; -1^No patient DFN  
; -1^No Consult IEN  
; -1^No VString  
; -1^Error in CP transaction  
; -1^Unable to create CP transaction  
; -1^Unable to create the TIU document  
; -1^No such consult for this patient.  
DFN Input Patient IEN. (Required)  
CONSULT Input Consult IEN. (Required)  
VSTRING Input VString data for TIU Note. (Required)  
This entry point enables Vista Imaging to retrieve/create a TIU note for a consult for attaching images to.

\*\*\*\*\*



```

ROUTINE: MDAPI1
COMPONENT: GET(RESULTS,MDARDFN,MDSDT,MDEDT,MDFLDS)
           This API returns a list of data from the Electrocardiogram
           file (#691.5) for a patient for a specified start and end
           date. Only the Electrocardiogram records in the following
           statuses will be returned in the list:

           RELEASED ON-LINE VERIFIED
           RELEASED OFF-LINE VERIFIED
           RELEASED NOT VERIFIED
           RELEASED ON-LINE VERIFIED OF SUPERSEDED
           RELEASED OFF-LINE VERIFIED OF SUPERSEDED
VARIABLES: Both      RESULTS
           Input: The global ^TMP array in which to return
           results. (Required)

           Output: Passed by Reference
           Global array returned in the FM DIQ call
           format:
VARIABLES: Input    MDARDFN
           The patient DFN (Required).
VARIABLES: Input    MDSDT
           The start date of the date range to return the
           data in. This must be in FM internal format.
           (Required).
VARIABLES: Input    MDEDT
           The end date of the date range to return the data
           in. This must be in FM internal format.
           (Required).
VARIABLES: Input    MDFLDS
           A list of fields from file #691.5 to be returned
           in RESULTS. MDFLDS should contain a list of
           fields delimited by ";" (Required).
           example: MDFLDS=".01;11;20..."

           Example API call:

           S RESULTS="^TMP("NAMESPACE",$J)"
           D GET^MDAPI1(.RESULTS,162,2900101,3021001,
                       ".01;11")

           return:

           ^TMP("NAMESPACE",$J,file #,record ien_,"
           ,field #,"E")=Data
           ^TMP("NAMESPACE",$J,subfile #,entry #_,"_
           record ien field of the multiple,"E")=data

           ^TMP("NAMESPACE",$J,0) will equal one of
           the following,
           If the call failed:
           -1^No Patient DFN.
           -1^No Start Date Range
           -1^No End Date Range.
           -1^Start Date greater than End Date.
           -1^No fields defined.

```



## External Relations

VARIABLES: Input GMTSNPG  
The Page Number. (Optional)

VARIABLES: Input GMTSQIT  
Quit indicator. (Optional)

COMPONENT: CPB~MDPS1  
This entry point will display a brief summary of the Clinical Procedures result Report. It displays the Consults # (if it exists), Procedure Name, Date/Time Performed, and the Procedure Summary Code.

The following variables are inputs from the local symbol table:

DFN  
GMTS1  
GMTS2  
GMTSNDM  
GMTSNPG  
GMTSQIT

VARIABLES: Input DFN  
Patient Internal Entry Number. (Required)

VARIABLES: Input GMTS1  
The ending date in inverse date format (9999999-date/time). (Required)

VARIABLES: Input GMTS2  
The beginning date in inverse date format (9999999-date/time). (Required)

VARIABLES: Input GMTSNDM  
The maximum number of entries to return. (Optional)

VARIABLES: Input GMTSNPG  
The Page Number. (Optional)

VARIABLES: Input GMTSQIT  
Quit indicator. (Optional)

COMPONENT: CPF~MDPS1  
This entry point displays the full Clinical Procedures result report. The full report consists of the detailed report of the Consult procedure request, if it exists, and the TIU document text.

The following variables are inputs from the local symbol table:

DFN  
GMTS1  
GMTS2  
GMTSNDM  
GMTSNPG  
GMTSQIT

VARIABLES: Input DFN  
Patient Internal Entry Number. (Required)

VARIABLES: Input GMTS1  
The ending date in inverse date format (9999999-date/time). (Required)

VARIABLES: Input GMTS2  
The beginning date in inverse date format (9999999-date/time). (Required)

VARIABLES: Input GMTSNDM  
The maximum number of entries to return.  
(Optional)

VARIABLES: Input GMTSNPG  
The Page Number. (Optional)

VARIABLES: Input GMTSQIT  
Quit indicator. (Optional)

COMPONENT: CPS~MDPS1  
This entry point displays a one line summary of the Clinical Procedures result report. The one line summary consists of the Consult Number, if it exists, Procedure Name, Date/Time Performed, and the Procedure Summary Code.

The following variables are inputs from the local symbol table:

DFN  
GMTS1  
GMTS2  
GMTSNDM  
GMTSNPG  
GMTSQIT

VARIABLES: Input DFN  
Patient Internal Entry Number. (Required)

VARIABLES: Input GMTS1  
The ending date in inverse date format  
(9999999-date/time). (Required)

VARIABLES: Input GMTS2  
The beginning date in inverse date format  
(9999999-date/time). (Required)

VARIABLES: Input GMTSNDM  
The maximum number of entries to return.  
(Optional)

VARIABLES: Input GMTSNPG  
The Page Number. (Optional)

VARIABLES: Input GMTSQIT  
Quit indicator. (Optional)

COMPONENT: EN1~MDPS1(MDGLO,MDDFN,MDSDT,MDEDT,MDMAX,MDPSC,MDALL)  
This entry point returns a global Array.

Returns:

```
^TMP("MDHSP",557918815,1) = ECG^1200^EN2^MDPS1^^JUL
                          24,2002@13:39^NORMAL^^^^^1200^1642
^TMP("MDHSP",557918815,2) = SPIROMETRY, PRE
&POST^1047^EN2^MDPS1^^
                          JUL 3,2002@13:45^^^^^^1047^1570
^TMP("MDHSP",557918815,3) = ECHO^820^EN2^MDPS1^^MAR
4,2002@12:21^
                          ABNORMAL^^^^^820^1399
```

Piece 1: Procedure Name Piece 2: study internal entry number  
(MCARGDA) Piece 3 & 4: Label and entry point routine Piece 6:  
Date/Time Performed Piece 7: Procedure Summary Code Piece 12:  
same as piece 2 Piece 13: Consult number

If MDALL=1, the ^TMP("MDPTXT",\$J) global will return the text of the procedure reports. The study internal entry number (MCARGDA) will identify the location where the text is within the ^TMP("MDPTXT",\$J) global.

```
Global ^TMP("MDPTXT",$J
      TMP("MDPTXT",$J ^TMP("MDPTXT",557939153,820,"Procedure
name",1,0) = Current Pat. Status:   Inpatient
^TMP("MDPTXT",557939153,820,"Procedure name",2,0) = Ward:
      3AS ^TMP("MDPTXT",557939153,820,"Procedure
name",3,0) = ^TMP("MDPTXT",557939153,820,"Procedure name",4,0)
= Order Information ^TMP("MDPTXT",557939153,820,"Procedure
name",5,0) = To Service:           CARDIOLOGY
```

- VARIABLES: Both MDGLO  
Return Global Array (Required)
- VARIABLES: Input MDDFN  
Patient DFN (Internal Entry Number)  
(Required)
- VARIABLES: Input MSDST  
Start Date in FM Internal Format (Optional)
- VARIABLES: Input MDEDT  
End Date in FM Internal Format (Optional)
- VARIABLES: Input MDMAX  
Number of studies to return (Optional)
- VARIABLES: Input MDPSC  
Procedure Summary Code to return. The four  
Procedure Summary Code are NORMAL, ABNORMAL,  
BRODERLINE, and INCOMPLETE. By passing this  
parameter, the entry point will pass studies with  
this Procedure Summary Code. (Optional)
- VARIABLES: Input MDALL  
MDALL is flag. If MDALL =1, it identifies that  
all text reports with the procedures list should  
be returned.
- COMPONENT: EN2~MDPS1  
This entry point will displays the text of the Clinical  
Procedures result report. This entry point have to be used  
along with EN1^MDPS1. EN1^MDPS1 will return the TMP global of  
the list of studies. Piece 2 is the study internal entry  
number. Set MCARGDA to equal the study internal intry number  
before calling EN2^MDPS1. EN2^MDPS1 is called to display each  
study.
- VARIABLES: Input MCARGDA
- VARIABLES: Input ORHFS  
If ORHFS exists, EN2 will use IO to print the text  
report.
- COMPONENT: PR690~MDPS1  
Prints the free text of the Medicine report.

The following variables are inputs from the local symbol table:

- DFN
- MCARGDA
- MCPRO
- ORHFS

VARIABLES: Input MCARGDA  
 The internal entry number of the Medicine report record.

VARIABLES: Input MCPRO  
 The free text of the Medicine procedure name in the Procedure/Subspecialty file (#697.2).

VARIABLES: Input DFN  
 Patient internal entry number.

VARIABLES: Input ORHFS  
 Order Entry Host File.

COMPONENT: PR702~MDPS1  
 Prints the free text of the Clinical Procedures result interpretation.

The following variables are inputs from the local symbol table:

DFN  
 MCARGDA  
 MCPRO  
 ORHFS

VARIABLES: Input MCARGDA  
 The internal entry number of the CP Transaction record in file (#702).

VARIABLES: Input MCPRO  
 The free text of the CP Definition name in file (#702.01).

VARIABLES: Input DFN  
 Patient internal entry number.

VARIABLES: Input ORHFS  
 The Order Entry Host File.

KEYWORDS:

\*\*\*\*\*



## 11. Internal Relations

The namespace for the Clinical Procedures package is MD.

Following are the Clinical Procedures GUI Application menu option and the Clinical Procedures Site Files menu option.

```
NAME: MD GUI USER                                MENU TEXT: MD GUI USER
  TYPE: Broker (Client/Server)                   CREATOR: ACKERMAN,NIEN-CHIN
  TIMESTAMP OF PRIMARY MENU: 59331,44145
RPC: MD TMDOUTPUT
RPC: MD TMDPARAMETER
RPC: MD TMDPATIENT
RPC: MD TMDPROCEDURE
RPC: MD TMDRECORDID
RPC: MD TMDTRANSACTION
RPC: MD TMDUSER
RPC: MD UTILITIES
  UPPERCASE MENU TEXT: MD GUI USER
```

```
NAME: MD GUI MANAGER                            MENU TEXT: MD GUI MANAGER
  TYPE: Broker (Client/Server)                   CREATOR: ACKERMAN,NIEN-CHIN
  TIMESTAMP OF PRIMARY MENU: 59385,45622
RPC: MD TMDOUTPUT
RPC: MD TMDPARAMETER
RPC: MD TMDPATIENT
RPC: MD TMDPROCEDURE
RPC: MD TMDRECORDID
RPC: MD TMDTRANSACTION
RPC: MD TMDUSER
RPC: MD UTILITIES
RPC: MD GATEWAY
  UPPERCASE MENU TEXT: MD GUI MANAGER
```



## 12. Package-wide Variables

No package-wide variables are used in this application.



## 13. SAC Exemptions

There is one SAC exemption for Clinical Procedures.

1. STANDARD SECTION: 3A      Namespacing

DATE GRANTED: APR 25,2002

Since the Medicine package has become a child of the Clinical Procedures package, the Clinical Procedures package is exempt from being required to export the Medicine package as part of the Clinical Procedures package.



# 14. Software Product Security

## Security Management

No additional security measures are to be applied other than those implemented through Menu Manager and the package routines. Clinical Procedures uses the standard RPC broker log-in procedure to validate the user and allow access to the system.

No additional licenses are necessary to run the software.

Confidentiality of staff and patient data and the monitoring of this confidentiality is no different than with any other paper reference.

## Security Features

### 1. Mail groups and alerts.

There is one mailgroup associated with this software. This mailgroup is called MD DEVICE ERRORS. The purpose of this mailgroup is to store a list of people who will be notified if a problem arises with an automated instrument. There is one alert in the software that occurs on the VistA server if the package installation does not finish. This alert is sent to the IRMS staff member who ran the installation.

### 2. Remote systems.

The application does not transmit data to any remote system/facility database.

### 3. Archiving/Purging.

Refer to the chapter on [Archiving and Purging](#), in this manual. Purging is available in the CPGateway, refer to the Clinical Procedures Gateway chapter in the Clinical Procedures Implementation Guide for more information.

### 4. Contingency Planning.

It is the responsibility of the using service to develop a local contingency plan to be used in the event of application problems. It is recommended that the CP Gateway be installed on a second machine as a backup in case the initial workstation containing the CP Gateway fails.

### 5. Interfacing.

No specialized (non VA) interfaces are used or required by the application.

6. Electronic signatures.

Electronic signatures are not used in the Clinical Procedures package.

7. Menus.

There are no options of special note for the Information Security Officers (ISO's) to view.

8. Security Keys.

The MD MANAGER key controls access to the 'Update Study Status' and the 'Delete Study' options. A user holding this key will be able to use the 'Update Study Status' option on any study currently displayed on the screen. Holders of this key will also be taken directly to the 'Update Study Status' option when opening a study marked in status 'Error'. The 'Update Study Status' option does not do any validation on the new status assigned to the study. The 'Delete Study' option will attempt to delete the study after checking the business rules on the VistA server for the study given its current status and state on the server. This key should be given only with extreme care and only to those users that fully understand the status structure, and the ramifications of changing the status or deletion of a study.

9. File Security.

NUMBER	NAME	GLOBAL NAME	DD ACC	RD ACC	WR ACC	DEL ACC	LAY ACC	AUD ACC
702	CP TRANSACTION	^MDD(702,	@			@		@
702.01	CP DEFINITION	^MDS(702.01,	@		#	#	#	
702.09	CP INSTRUMENT	^MDS(702.09,	@		#	#	#	@
703.1	CP RESULT REPORT	^MDD(703.1,	@		@	@	@	@

10. References.

There are no special reference materials for this package.

11. Official Policies.

There are no special official policies for this package.

## 15. Vendor Interfaces

### List of Vendor Interfaces

The Mallinckrodt Clinivision, Olympus Endoworks, GE Medical Systems Muse and Viasys/Sensormedics Vmax automated device interfaces are exported with CP. Many other device interfaces are also available and you can view the complete list by visiting the [Clinical Procedures website \(http://vista.med.va.gov/ClinicalSpecialties/clinproc\)](http://vista.med.va.gov/ClinicalSpecialties/clinproc). From the Home page, select Medical Device Interfaces > About the Medical Device Interfaces.

Click the **device** name to view specific information for that device.  
Click the **vendor** name to view the web page.

Device	Vendor	Type of Procedure Performed	Type of report with Discrete data included
<a href="#">Clinivision</a>	<a href="#">Mallinckrodt</a>	Respiratory	Text
<a href="#">Endoworks</a>	<a href="#">Olympus</a>	Bronchoscopy, Colonoscopy, EGD, EGDPEG, ERCP, Endo Ultrasound, Enteroscopy, Liver Biopsy, Paracentesis, Sigmoidoscopy	Text, GIF, JPG
<a href="#">Muse</a>	<a href="#">GE Medical Systems</a>	EKG, Exercise, Holter, Pacemaker EKG	PDF
<a href="#">Vmax</a>	<a href="#">Viasys/Sensormedics</a>	PFT	PDF

### Device Setup Instructions

Here are the setup instructions and vendor contact for each device.

#### Clinivision

**Vendor:** Mallinckrodt    **Type:** Respiratory

#### Description:

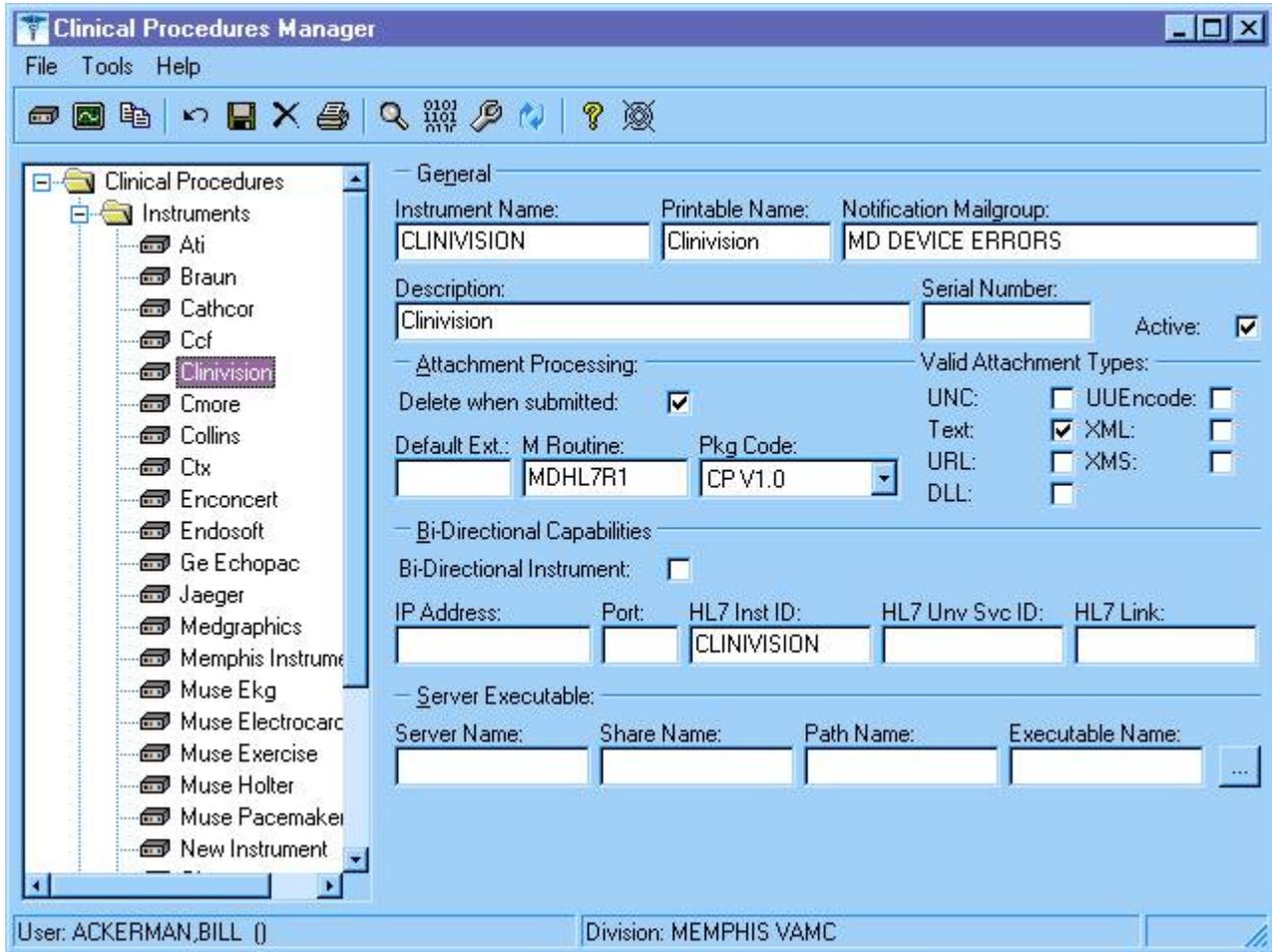
The uni-directional interface for this instrument is currently available.

#### Requirements:

This instrument requires a Clinivision vendor interface.

### Setup Instructions:

This section describes the installation setup for the Clinivision system. Note that a new Protocol and HL Logical Link will need to be created for this device since it is a Persistent connected device.



(Fig. 1)

Figure 1 displays the settings for the Clinivision device in CP Manager.

```

NODE: MCAR3 INST          LLP TYPE: TCP

DEVICE TYPE: Single-threaded Server  STATE: Reading

TIME STARTED: SEP 18, 2002@11:45:27  TASK NUMBER: 321004

SHUTDOWN LLP ?: NO          QUEUE SIZE: 100

RE-TRANSMISSION ATTEMPTS: 3    READ TIMEOUT: 60

ACK TIMEOUT: 60            EXCEED RE-TRANSMIT ACTION: ignore

TCP/IP PORT: 1030         TCP/IP SERVICE TYPE: SINGLE LISTENER

PERSISTENT: NO            STARTUP NODE: ROU:614A01

IN QUEUE BACK POINTER: 1790    IN QUEUE FRONT POINTER: 1790

OUT QUEUE BACK POINTER: 1789    OUT QUEUE FRONT POINTER: 1789

```

(Fig. 2)

Figure 2 shows an entry in the HL Logical Link file for the Clinivision device.

```

NAME: MCAR3 Device Client    ITEM TEXT: Instrument HL7 Event Driver

TYPE: subscriber            CREATOR: ACKERMAN,BILL

PACKAGE: CLINICAL PROCEDURES

DESCRIPTION: This Protocol is used by the HL7 Package to send results to Vista from the Clinivision
Instrument.

IDENTIFIER: E              TIMESTAMP: 59039,32152

SENDING APPLICATION: INST-MCAR    RECEIVING APPLICATION: MCAR-INST

TRANSACTION MESSAGE TYPE: ORU    EVENT TYPE: R01

PROCESSING ID: P            LOGICAL LINK: MCAR3 INST

VERSION ID: 2.3            RESPONSE MESSAGE TYPE: ACK

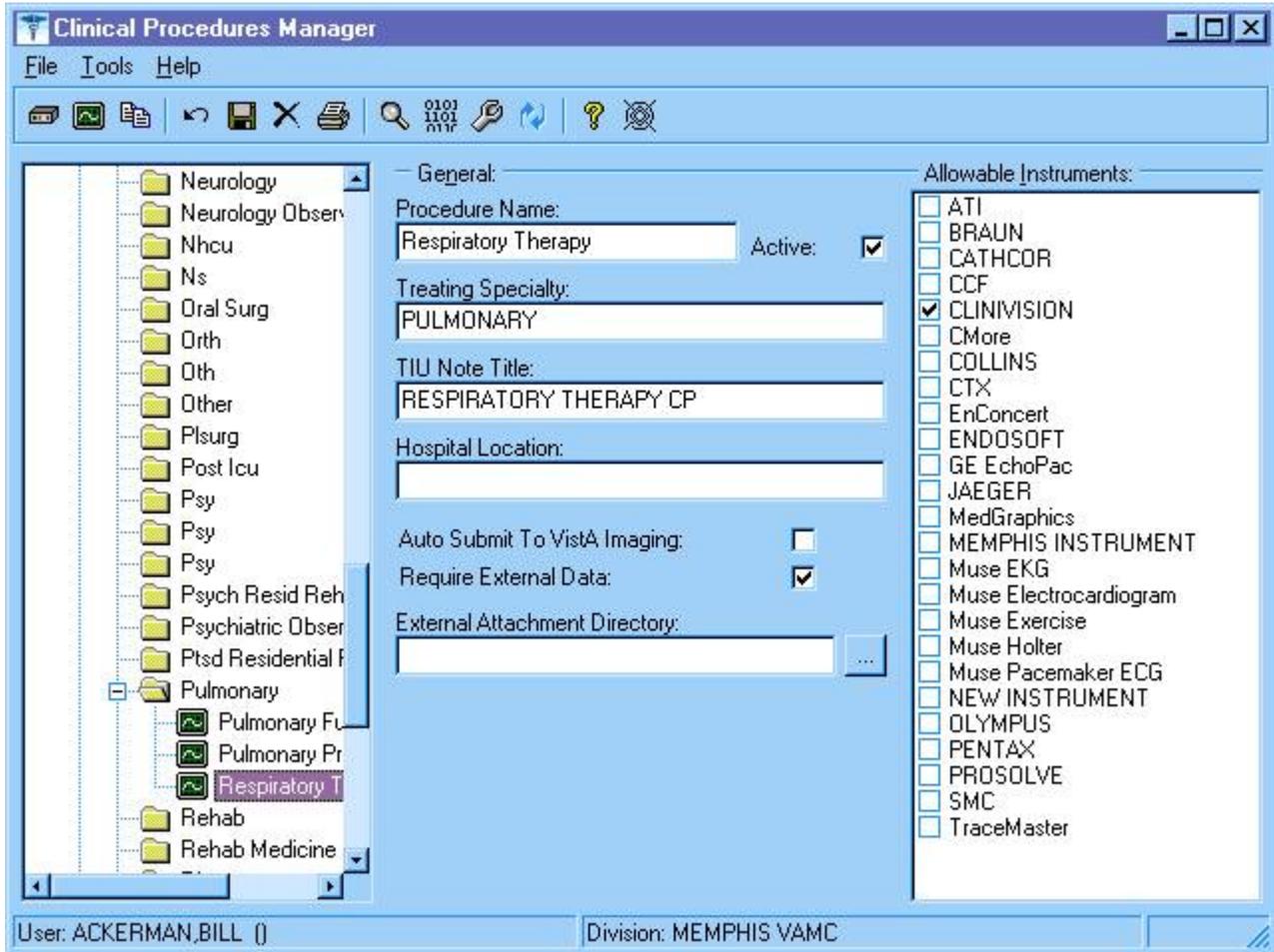
PROCESSING ROUTINE: D ^MDHL7A    SENDING FACILITY REQUIRED?: NO

RECEIVING FACILITY REQUIRED?: NO

```

(Fig. 3)

Fig. 3 shows the new Protocol that will need to be entered for the Link.



(Fig. 4)

Figure 4. The device will need to be linked to a procedure in CP Manager.

Contact Clinivision and ask the contact to report the device to the production account, port 1030.

**Transmission Instructions:**

No information available at this time.

**Manuals:**

No information available at this time.

**Vendor Contacts:**

<http://www.clinivision.com/contact/>

**Trouble Shooting:**

Is the machine plugged in?

Is the machine on?  
Are all cables connected correctly?

## **Endoworks**

**Vendor:** Olympus    **Type:** Endoscopy

### **Description:**

The bi-directional interface for this instrument is currently available.

### **Requirements:**

This instrument requires an Advanced Gateway vendor interface.

### **Setup Instructions:**

The Olympus Interface is a non-persistent interface and can share its TCP/IP port address with other non-persistent devices. To configure the Olympus (Endoworks) software, it is recommended that you consult Olympus. Olympus has the correct setting for the EndoWorks software that is needed to interface with CP.

### **Transmission Instructions:**

No information available at this time

### **Manuals:**

No information available at this time.

### **Sample Reports:**

View the sample report for Endoworks on the Clinical Procedures website:

[http://vista.med.va.gov/clinicalspecialties/clinproc/docs/olympus\\_report.txt](http://vista.med.va.gov/clinicalspecialties/clinproc/docs/olympus_report.txt)

### **Vendor Contacts:**

Mike Pietromonaco  
[michael.pietromonaco@olympus.com](mailto:michael.pietromonaco@olympus.com)  
(631) 844-5378

### **Costs:**

No information available at this time.

### **Trouble Shooting:**

Is the machine plugged in?  
Is the machine on?  
Are all cables connected correctly?

## **Muse**

**Vendor:** GE/Marquette    **Type:** EKG

### **Description:**

The bi-directional interface for this instrument is currently available.

### **Requirements:**

This instrument requires a Muse HL7 vendor interface.

### **Setup Instructions:**

The Muse Interface is a Persistent Interface and must have its own TCP/IP Port address. For configuring the Muse software, it is recommended that you consult with GE/Marquette. GE/Marquette has the correct setting for the Muse software that is needed to interface with CP.

### **Transmission Instructions:**

To send data to Clinical Procedures once the results have been sent from the Cart to the MUSE server, follow these steps:

1. The MUSE generated hard copy is assigned to a cardiologist for over-reading (reviewing).
2. Changes are made on the interpretation, signed by the doctor and returned to the EKG Department.
3. EKG Tech logs on to the MUSE. (All users of the MUSE are assigned a number and password with certain levels of NECESSARY access.)
4. EKG Tech selects over reader (reviewing Cardiologist).
5. EKG Tech selects the patient.
6. EKG Tech selects and then edits the interpretation.
7. EKG Tech selects either Confirm and Print, or Confirm. If Confirm and Print is selected, the HL7 result is sent, and the report is printed. If only Confirm is selected, just the HL7 result is sent.

### **Manuals:**

No information available at this time.

### **Sample Reports:**

View the sample report for Muse on the Clinical Procedures website:

<http://vista.med.va.gov/clinicalspecialties/clinproc/docs/muse.pdf>

### **Vendor Contact:**

David R. Kingdon  
HIS Integration Lead  
IT Professional Services  
Diagnostic Cardiology Systems

GE Medical Systems - Information Technologies  
18107 Briden Oak Court  
Spring, TX 77379  
Phone: 866-270-2928  
David.Kingdon@med.ge.com

**Costs:**

No information available at this time.

**Trouble Shooting:**

1. Is the machine plugged in?
2. Is the machine on?
3. Are all cables connected correctly?

**VMAX**

**Vendor:** Viasys/Sensormedics   **Type:** PFT

**Description:**

The bi-directional interface for this instrument is currently available.

**Requirements:**

This instrument requires a Netlink vendor interface.

**Configuration Files:**

This file contains the configuration parameters for the Vmax software. The vendor should already have a copy of this file. If the vendor does not have the file, it can be downloaded by clicking on the [Vmaxconfigfile.zip](#) file.

**Setup Instructions:**

The Sensormedics Interface is a Non-Persistent Interface and can share TCP/IP ports with other Non-Persistent device interfaces. The VMAX software must have a shared directory to hold the report document that is created. The directory might be on the PC or on a network share. The key point is that the directory must be accessible from the VMAX software.

1. Start the VMAX software.
2. Click on the Reports Button.
3. Select the Netlinks/IS menu from the menu bar.
4. Select TCP/IP from the File Menu on the menu bar.

5. Enter the TCP/IP and Port address to the listener that will be receiving the data from the VMAX software.
6. Exit back to the Reports Screen.
7. Select Setup from the File Menu and enter the Full NETWORK path to the Share directory where you want the PDF document to be stored.

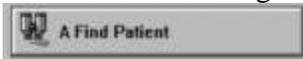
Transmission Instructions:

A path must be setup where the PDF report will be stored prior to being transmitted to VISTA Imaging. This path is usually preset to C:\PDFFiles\ and should be changed to \\(PC Network name)\PDFFiles\. Also, the directory C:\PDFFiles should have Share enabled with Read, Write, Delete permissions for both Imaging and the PC on which the share directory exists.

The following instructions are for transmitting the final patient report to Clinical Procedures.

Note: If the patient whose results you wish to send is already being displayed on the monitor, you can start at step 5.

1. From the Vmax Program Manager screen click the Find Patient Button.



The Find Patient window opens. No patients are displayed.

2. Set search criteria (Last Name, ID, etc.) if any, and click on F1. A list of patients matching your search criteria appears.
3. Select the patient whose results you wish to send by clicking on their name. The selected patient's name is highlighted.
4. Click the F3 button to load the selected patients results data. The Vmax Program Manager screen reappears.
5. From the Vmax Program Manager screen click the Reports Button.



The Reports screen appears.

6. Select the report to process for this patient from the Reports selection box on the left side of the screen. The selected report appears in the upper left box as the Default Patient Report.
7. From the Menu bar click the PrintPDF button to compile the PDF report. A dialog box appears momentarily, indicating the progress of the PDF file creation.
8. From the Menu bar click Netlink/IS® to open the Netlink Transmission Manager.



The Transmission Manager screen appears

**Files to be backed up:**

You need to backup these files to preserve the operation of Vmax. These files should be backed up after the Vmax is working in production. This list was last updated on May 13, 2003.

**Vision folder files used in Netlink communications.**

(Depending on software version and configuration, not all files may be present) All files are located in the C:\Vision folder

The following files **always exist** and have **user-modifiable** content

• Id_text.dbf	• Invalid.dbf
• Text_cfg.dbf	• Xmit_cfg.dbf
• Xmitcom.dbf	• Xmithdft.dbf
• Xmithost.dbf	• Xmitparm.dbf
• Xmitpath.dbf	• Xmitxref.dbf

The following files **sometimes exist** and have **user-modifiable** content: They should be manually copied if needed.

• Except	• Replace
• User_1.dbf	• User_2.dbf
• User_3.dbf	• User_4.dbf
• User_5.dbf	• User_6.dbf
• User_7.dbf	•

The following files are shipped **standard** with the software and are **NOT user-modifiable**. They should only be loaded from the software install disk.

• Batchesnd.db1	• Ctrl_str.dbf
• Received.txt	• Response.txt
• Smascii.dbf	• Smhl7def.dbf
• Smvadeb.dbf	• Xexcept.dbf

## Vendor Interface List

<ul style="list-style-type: none"><li>• Xmiticon.dbf</li></ul>	<ul style="list-style-type: none"><li>• Xmitprm.dbf</li></ul>
<ul style="list-style-type: none"><li>• Xreplace</li></ul>	<ul style="list-style-type: none"><li>•</li></ul>

The following files are **modified by the software** during operation and **should NOT be user-modified**: They should only be generated by running the software.

<ul style="list-style-type: none"><li>• Batchesnd.dbf</li></ul>	<ul style="list-style-type: none"><li>• Fileout1.txt</li></ul>
<ul style="list-style-type: none"><li>• Fileout2.txt</li></ul>	<ul style="list-style-type: none"><li>• Text_rpt.dbf</li></ul>
<ul style="list-style-type: none"><li>• Text_rpt.fpt</li></ul>	<ul style="list-style-type: none"><li>• Usehost</li></ul>

### Manuals:

No information available at this time.

### Sample Reports:

View the sample report for VMax on the Clinical Procedures website:

[http://vista.med.va.gov/clinicalspecialties/clinproc/docs/sensormedics\\_report.pdf](http://vista.med.va.gov/clinicalspecialties/clinproc/docs/sensormedics_report.pdf)

### Vendor Contacts:

Ted Johnson

[ted.johnson@viasyshc.com](mailto:ted.johnson@viasyshc.com)

(800) 231-2466 ext. 4207

### VA References:

Memphis, TN

Washington, DC

### Costs:

No information available at this time.

### Trouble Shooting:

Is the machine plugged in?

Is the machine on?

Are all cables connected correctly?

## 16. Glossary

**Access Code** A unique sequence of characters known by and assigned only to the user, the system manager and/or designated alternate(s). The access code (in conjunction with the verify code) is used by the computer to identify authorized users.

**Action** A functional process that a clinician or clerk uses in the TIU computer program. For example, "Edit" and "Search" are actions. Protocol is another name for Action.

**ADP Coordinator/ADPAC/Application Coordinator** Automated Data Processing Application Coordinator. The person responsible for implementing a set of computer programs (application package) developed to support a specific functional area such as clinical procedures, PIMS, etc.

**Application** A system of computer programs and files that have been specifically developed to meet the requirements of a user or group of users.

**Archive** The process of moving data to some other storage medium, usually a magnetic tape, and deleting the information from active storage in order to free-up disk space on the system.

**ASU** Authorization/Subscription Utility, an application that allows sites to associate users with user classes, allowing them to specify the level of authorization needed to sign or order specific document types and orderables. ASU is distributed with TIU in this version; eventually it will probably become independent, to be used by many VistA packages.

**Attachments** Attachments are files or images stored on a network share that can be linked to the CP study. CP is able to accept data/final result report files from automated instruments. The file types that can be used as attachments are the following:

.txt	Text files
.rtf	Rich text files
.jpg	JPEG Images
.jpeg	JPEG Images
.bmp	Bitmap Images
.tiff	TIFF Graphics (group 3 and group 4 compressed and uncompressed types)
.pdf	Portable Document Format
.html	Hypertext Markup Language

.DOC (Microsoft Word files) are not supported. Be sure to convert .doc files to .rtf or to .pdf format.

**Background Processing** Simultaneous running of a "job" on a computer while working on another job. Examples would be printing of a document while working on another, or the software might do automatic saves while you are working on something else.

**Backup Procedures** The provisions made for the recovery of data files and program libraries and for restart or replacement of ADP equipment after the occurrence of a system failure.

**Boilerplate Text** A pre-defined TIU template that can be filled in for Titles, Speeding up the entry process. TIU exports several Titles with boilerplate text which can be modified to meet specific needs; sites can also create their own.

**Browse** Lookup the file folder for a file that you would like to select and attach to the study. (e.g., clicking the “...” button to start a lookup).

**Bulletin** A canned message that is automatically sent by MailMan to a user when something happens to the database.

**Business Rule** Part of ASU, Business Rules authorize specific users or groups of users to perform specified actions on documents in particular statuses (e.g., an unsigned CP note may be edited by a provider who is also the expected signer of the note).

**Class** Part of Document Definitions, Classes group documents. For example, “CLINICAL PROCEDURES” is a class with many kinds of Clinical Procedures notes under it. Classes may be subdivided into other Classes or Document Classes. Besides grouping documents, Classes also store behavior which is then inherited by lower level entries.

**Consult** Referral of a patient by the primary care physician to another hospital service/ specialty, to obtain a medical opinion based on patient evaluation and completion of any procedures, modalities, or treatments the consulting specialist deems necessary to render a medical opinion.

**Contingency Plan** A plan that assigns responsibility and defines procedures for use of the backup/restart/recovery and emergency preparedness procedures selected for the computer system based on risk analysis for that system.

**CP** Clinical Procedures.

**CP Definition** CP Definitions are procedures within Clinical Procedures.

**CP Study** A CP study is a process created to link the procedure result from the medical device or/and to link the attachments browsed from a network share to the procedure order.

**CPRS** Computerized Patient Record System. A comprehensive VistA program, which allows clinicians and others to enter and view orders, Progress Notes and Discharge Summaries (through a link with TIU), Problem List, view results, reports (including health summaries), etc.

**Data Dictionary** A description of file structure and data elements within a file.

**Device** A hardware input/output component of a computer system (e.g., CRT, printer).

**Document Class** Document Classes are categories that group documents (Titles) with similar characteristics together. For example, Cardiology notes might be a Document Class, with Echo notes, ECG notes, etc. as Titles under it. Or maybe the Document Class would be Endoscopy Notes, with Colonoscopy notes, etc. under that Document Class.

**Document Definition** Document Definition is a subset of TIU that provides the building blocks for TIU, by organizing the elements of documents into a hierarchy structure. This structure allows documents (Titles) to inherit characteristics (such as signature requirements and print characteristics) of the higher levels, Class and Document Class. It also allows the creation and use of boilerplate text and embedded objects.

**Edit** Used to change/modify data typically stored in a file.

**Field** A data element in a file.

**File** The M construct in which data is stored for retrieval at a later time. A computer record of related information.

**File Manager or FileMan** Within this manual, FileManager or FileMan is a reference to VA FileMan. FileMan is a set of M routines used to enter, edit, print, and sort/search related data in a file, a database.

**File Server** A machine where shared software is stored.

**Gateway** The software that performs background processing for Clinical Procedures.

**Global** An M term used when referring to a file stored on a storage medium, usually a magnetic disk.

**GUI** Graphical User Interface - a Windows-like screen that uses pull-down menus, icons, pointer devices, and other metaphor-type elements that can make a computer program more understandable, easier to use, allow multi-processing (more than one window or process available at once), etc.

**Interpreter** Interpreter is a user role exported with USR\*1\*19 to support the Clinical Procedures Class. The role of the Interpreter is to interpret the results of a clinical procedure. Users who are authorized to interpret the results of a clinical procedure are sent a notification when an instrument report and/or images for a CP request are available for interpretation. Business rules are used to determine what actions an interpreter can perform on a document of a specified class, but the interpreter themselves are defined by the Consults application. These individuals are 'clinical update users' for a given consult service.

**IRMS** Information Resource Management Service.

**Kernel** A set of software utilities. These utilities provide data processing support for the application packages developed within the VA. They are also tools used in configuring the local computer site to meet the particular needs of the hospital. The components of this operating system include: MenuMan, TaskMan, Device Handler, Log-on/Security, and other specialized routines.

**LAYGO** An acronym for Learn As You Go. A technique used by VA FileMan to acquire new information as it goes about its normal procedure. It permits a user to add new data to a file.

**M** Formerly known as MUMPS or the Massachusetts (General Hospital) Utility Multi-Programming System. This is the programming language used to write all VistA applications.

**MailMan** An electronic mail, teleconferencing, and networking system.

**Menu** A set of options or functions available to users for editing, formatting, generating reports, etc.

**Module** A component of a software application that covers a single topic or a small section of a broad topic.

**Namespace** A naming convention followed in the VA to identify various applications and to avoid duplication. It is used as a prefix for all routines and globals used by the application.

**Network Server Share** A machine that is located on the network where shared files are stored.

**Notebook** This term refers to a GUI screen containing several tabs or pages.

**OI** Office of Information, formerly known as Chief Information Office Field Office, Information Resource Management Field Office, and Information Systems Center.

**Option** A functionality that is invoked by the user. The information defined in the option is used to drive the menu system. Options are created, associated with others on menus, or given entry/exit actions.

**Package** Otherwise known as an application. A set of M routines, files, documentation and installation procedures that support a specific function within VistA.

**Page** This term refers to a tab on a GUI screen or notebook.

**Password** A protected word or string of characters that identifies or authenticates a user, a specific resource, or an access type (synonymous with Verify Code).

**Pointer** A special data type of VA FileMan that takes its value from another file. This is a method of joining files together and avoiding duplication of information.

**Procedure Request** Any procedure (EKG, Stress Test, etc.) which may be ordered from another service/specialty without first requiring formal consultation.

**Program** A set of M commands and arguments, created, stored, and retrieved as a single unit in M.

**Queuing** The scheduling of a process/task to occur at a later time. Queuing is normally done if a task uses up a lot of computer resources.

**Result** A consequence of an order. Refers to evaluation or status results. When you use the Complete Request (CT) action on a consult or request, you are transferred to TIU to enter the results.

<RET> Carriage return.

**Routine** A set of M commands and arguments, created, stored, and retrieved as a single unit in M.

**Security Key** A function which unlocks specific options and makes them accessible to an authorized user.

**Sensitive Information** Any information which requires a degree of protection and which should be made available only to authorized users.

**Site Configurable** A term used to refer to features in the system that can be modified to meet the needs of each site.

**Software** A generic term referring to a related set of computer programs. Generally, this refers to an operating system that enables user programs to run.

**Status Symbols** Codes used in order entry and Consults displays to designate the status of the order.

**Task Manager or TaskMan** A part of Kernel which allows programs or functions to begin at specified times or when devices become available. See Queuing.

**Title** Titles are definitions for documents. They store the behavior of the documents which use them.

**TIU** Text Integration Utilities.

**User** A person who enters and/or retrieves data in a system, usually utilizing a CRT.

**User Class** User Classes are the basic components of the User Class hierarchy of ASU (Authorization/Subscription Utility) which allows sites to designate who is authorized to do what to documents or other clinical entities.

## Glossary

**User Role** User Role identifies the role of the user with respect to the document in question (e.g., Author/Dictator, Expected Signer, Expected Cosigner, Attending Physician, etc.).

**Utility** An M program that assists in the development and/or maintenance of a computer system.

**Verify Code** A unique security code which serves as a second level of security access. Use of this code is site specific; sometimes used interchangeably with a password.

**VistA** Veterans Health Information Systems and Technology Architecture.

**Workstation** A personal computer running the Windows 9x or NT operating system.