



CLINICAL PROCEDURES (CP) V1.0 FLOWSHEETS MODULE INSTALLATION GUIDE

MD*1.0*26

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Department of Veterans Affairs
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Revision History

Description	Date	Author
Patch MD*1.0*16 released.	May 2011	Rachel Wilder
Corrected filename in section 3 "Installing the KIDS Build" and searched entire document for same error.	July 2011	Rachel Wilder
Changed all references of MD1_0P16_Gateway_Installer.exe to MD1_0P16CPGatewayServiceSetup.exe.	July 2011	Rachel Wilder
Section 4.3 – moved step 4 above figure 4-2 for more logical ordering. Section 4.6 – moved note to the top of step 1.	July 2011	Rachel Wilder
Removed note about password protected file from section 5.2 “ CP Flowsheets”, and revised text in first paragraph.	July 2011	Rachel Wilder

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1. Introduction

This *Clinical Procedures (CP) V1.0 Flowsheets Module Installation Guide* provides information for Information Resource Management (IRM) personnel to install and configure the components of Clinical Flowsheets (MD*1.0*16).

1.1. Overview

The Clinical Flowsheets patch of the CP package provides an electronic representation of the traditional paper flowsheet maintained during each inpatient stay. Vitals, Intake/Output, Wound Documentation, etc., are examples of data types that can be recorded via Clinical Flowsheets into the Veterans Health Information System and Technology Architecture (VistA) system. Clinical Flowsheets provides a departure from its predecessor applications by storing collected information as discrete data. Some data elements, such as vital signs, are available to the Vitals Package and Computerized Patient Record System (CPRS). Various reports built on the other data elements are available for CPRS in the form of Text Integration Utilities (TIU) Notes.

There are two ways to enter data into Clinical Flowsheets: manually and via Health Level 7 (HL7) messaging. Any instrument or external system capable of sending HL7 messages is considered a source of data for Clinical Flowsheets (provided that the HL7 messages conform to Clinical Flowsheets requirements).

Clinical Flowsheets uses VistA Data Extraction Framework (VDEF) support, HL7 messaging, and the CP Gateway service to notify the medical device of the patient's admission, discharge, and transfer.

The Clinical Flowsheets patch consists of the following three Graphical User Interface (GUI) components and one (1) Kernel Installation & Distribution System (KIDS) build:

- CP Console
- CP Flowsheets
- CP Gateway Service
- MD_1_P16.kid

The CP Console component provides the tools to create the CP Flowsheets. Sites can begin this process following the installation.

The CP Flowsheets application is available by request from the implementation team.

1.1.1. CP Gateway Service

The CP Gateway Service is the component that processes HL7 messages.

Unlike the Legacy CP Gateway, the new CP Gateway Service is a Windows service that will, by default, restart automatically when the system is restarted.

The CP Gateway Service is composed of two subsystems, one existing solely within VistA, and the other existing as a Windows service that interacts with VistA by way of the Remote Procedure Call (RPC) Broker. Other systems send observations to VistA inside an HL7 (ORU^R01) inbound message. The message is received by the VistA HL7 system, the patient and device are validated after which the message is forwarded to the CP Gateway Service.

The VistA CP Gateway subsystem parses and validates the patient-identifying information and the device identifier. If the patient information and device identifiers are valid, the Windows service is notified that there is a message waiting to be processed in VistA. The Windows service calls into VistA via the RPC Broker to retrieve the HL7 message. The Windows service then parses and validates the observation data and saves the validated information in the CliO data store.

1.1.2. The CP Gateway Service ADT System

The CP Gateway Service Admissions, Discharges, Transfers (ADT) system distributed within patch MD*1.0*16 allows Clinical Procedures to notify other systems when an admission, discharge or transfer occurs. This notification occurs via HL7, and allows these other systems to prepopulate their patient databases with patient demographic information as stored in VistA. This allows these other systems to guarantee the correctness of their patient information when they send clinical observations to CP.

As part of patch MD*1.0*16, CP is distributing a subscriber protocol (MD DGPM PATIENT MOVEMENT). This protocol is registered as a subscriber to the Patient Information Management System (PIMS) event publisher protocol DGPM MOVEMENT EVENTS. When notified of a patient movement, MD DGPM PATIENT MOVEMENT stores information relevant to the patient movement in the CP_MOVEMENT_AUDIT file (#704.005).

After this information is stored in the CP_MOVEMENT_AUDIT file, the VDEF processing task retrieves it and uses it to generate an appropriate ADT message. This message is then submitted to the HL7 system, which uses dynamic routing to determine to which logical link(s) the ADT message should be sent.

The following three items require configuration for the ADT feed (event handling system) to work.

- PROTOCOL file (#101)
- VDEF
- HL7

1.1.3. CliO Database

The CliO database provides a standardized terminology data store for all clinical observations throughout the Department of Veterans Affairs (VA).

1.1.4. Terminology Mapping

There are 115 different Legacy interfaces for medical devices which are supported by the Office of Information & Technology (OI&T). These devices do not always use the same terms to describe the data they transmit. For example, one device may use the term “heart rate,” while another may transmit the same information as “pulse.” The CP Gateway provides extensive terminology mapping which translates such proprietary labels so the information is understood to represent the same thing and, thus, be stored appropriately. This is more efficient than trying to compel each medical device vendor to conform to using standard terminology.

Similarly, CP Flowsheets can display the data to the user using the terminology that is preferred at a given unit or medical center. A flowsheet used by an Medical Intensive Care Unit (MICU) at one hospital can be customized to display “Heart Rate,” while a flowsheet used by a step-down unit may display “HR” or “Pulse.”

1.2. CP Flowsheets

CP Flowsheets provides an electronic representation of the traditional paper flowsheet. This user-friendly, customizable Graphical User Interface (GUI) provides functionality for data entry, validation and editing, as well as patient management.

- Based on the paper flowsheets used in Critical Care Units, Flowsheets provides electronic flowsheets that can be custom designed for any clinical area of a Medical Center.
- Flowsheets is a tool that allows clinicians to standardize assessment templates nationwide.
- Flowsheets provides the ability to report discreet observations data combined with progress notes.
- Flowsheets creates a complete audit trail of patient documentation.

1.3. CP Console

CP Console provides the tools to build the flowsheet views and layouts that are used in inpatient settings for patient care, for recording vital statistics as necessary. It also provides a means for configuring the CP Gateway, assigning permissions to CP Flowsheets users, and system administration.

For more information about CP Console, refer to the *CP V1.0 Flowsheets Module Implementation Guide*.

1.4. Using This Manual

This manual guides the reader through a very specific order for installing and configuring the various components of Clinical Flowsheets. This section of the manual will explain the reasoning for that order.

It is recommended that you follow this order because steps described in the later chapters are dependent upon certain previous steps.

Chapter 2. Preinstallation: This chapter lists installation prerequisites. Please install the specified patches and/or packages before attempting to install Clinical Flowsheets.

Chapter 2 also describes where you can download the files needed to install Clinical Flowsheets.

Chapter 3. Installing the KIDS Build: This chapter provides a screen capture of the KIDS build installation process.

Chapter 4. Post-KIDS Configuration: This chapter contains instructions for system and user configuration that occurs in Vista.

Chapter 5. Installing the CP Gateway Service: This chapter walks the reader through the workflow to install the CP Gateway Service application. This involves running the **MD1_0P16CPGatewayServiceSetup.exe** file mentioned in Chapter 2..

Chapter 6. Installing the CP Flowsheets and CP Console Clients: The chapter describes how to install the CP Flowsheets client application and the CP Console application.

Chapter 7. Post Installation: This chapter introduces executable command line switches and how to add CP Flowsheets to the CPRS Tools menu.

Chapter 8. FAQ: This chapter contains answers to frequently asked questions.

Chapter 9. Glossary

1.5. How Much Do I Need to Install?

Depending on your purposes for installing MD*1.0*16, you may not need to install all of the components described in this Installation Guide. Please follow these guidelines for determining which components you should install:

- If the site is not currently running Clinical Procedures, only the KIDS build needs to be installed. All other installation instructions and post-installs can be ignored.
- If the site is running Clinical Procedures and does not plan on implementing Clinical Flowsheets at this time, only the KIDS and CP Console (replacement for the current CP Manager) needs to be installed.
- If the site is running Clinical Procedures and wishes to begin the implementation of Clinical Flowsheets, then all four components need to be installed: KIDS, CP Console, CP Flowsheets and the new CP Gateway Service.
- **Note:** the CP Manager application is no longer supported after the installation of MD*1.0*16. Use CP Console to perform the functions previously provided by CP Manager.

2. Preinstallation

2.1. Installation Prerequisites

- Clinical Flowsheets cannot be installed as a stand-alone application without CP. If this is a first-time installation, you must first install the CP package and released CP patches. For more information on installing CP, refer to the *CP V1.0 Flowsheets Module Installation Guide*.
- Although packaged separately, Clinical Flowsheets is part of the Clinical Procedures patch, MD*1.0*16. Thus, Clinical Flowsheet functionality cannot be installed without the Clinical Procedures application. If you do not have the Clinical Procedures (CP) package and all released CP patches prior to MD*1.0*16 are not installed, you must install them.
- Vitals Patch GMRV*5.0*22 and patches GMRV*5.0*23, MD*1.0*20, and MD*1.0*21 must be installed prior to the installation of patch MD*1.0*16.
- Coordinate the installation with the Nursing Automated Data Processing Application Coordinator (ADPAC), Medicine ADPAC, Information Resource Management Service (IRMS) and if applicable at your site, the Clinical Application Coordinator (CAC).

2.2. General MD*1.0*16 Installation Flow

The following flow diagram illustrates an overview of the basic flow of the MD*1.0*16 Installation.

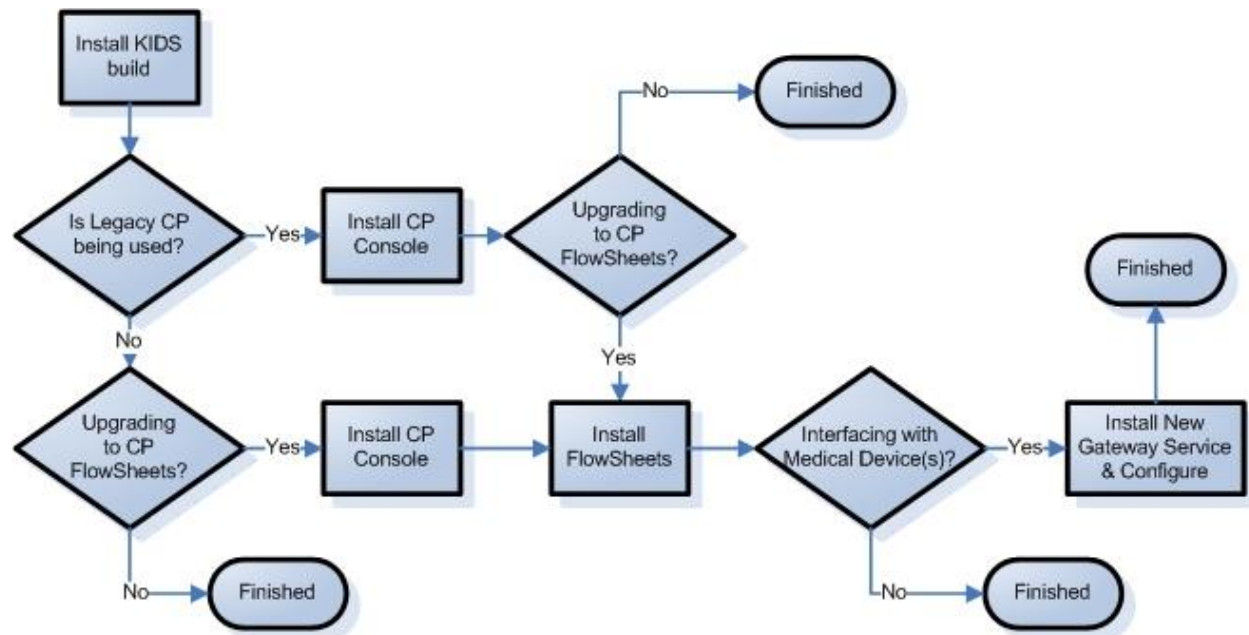


Figure 2-1, Installation Flow

2.3. Obtaining the Clinical Flowsheets Installation Files

There are three distribution files that are used to install the three Clinical Flowsheets components (CP Gateway Service, CP Console, and CP Flowsheets). There is also a configuration file containing the sample views. The distribution files are available for download from the Anonymous directories.

File Transfer Protocol (FTP) Instructions:

The file listed below may be obtained via FTP. The preferred method is to FTP the files from:

download.vista.med.va.gov

This transmits the files from the first available FTP server. Sites may also elect to retrieve software directly from a specific server as follows:

CIO FIELD OFFICE	FTP ADDRESS	DIRECTORY
-----	-----	-----
Albany	ftp.fo-albany.med.va.gov	[anonymous.software]
Hines	ftp.fo-hines.med.va.gov	[anonymous.software]
Salt Lake City	ftp.fo-slc.med.va.gov	[anonymous.software]

<u>File Name</u>	<u>Contents</u>	<u>Retrieval Format</u>
MD_1_P16.kid	MD*1.0*16 KIDS Build	ASCII
MD1_0P16_Sample_Views.xml	Sample Views	BINARY
MD1_0P16CPGatewayServiceSetup.exe	MD*1.0*16 CP Gateway Service setup file	BINARY
MD1_0P16_EXES_AND_DOC.zip	12 files indented below	BINARY
-CliO_Terminology.doc	MD*1.0*16 Clinical Flowsheets Terminology file	
-CPConsole.cnt	MD*1.0*16 CP Console online Help contents file	
-CPConsole.exe	MD*1.0*16 CP Console Executable	
-CPConsole.hlp	MD*1.0*16 CP Console online Help file	
-CPGatewayService.exe	MD*1.0*16 CP Gateway Service Executable	
-MD_1_P16.KID	MD*1.0*16 KIDS Build	
-MD_1_P16_IG.pdf	MD*1.0*16 Clinical Procedures (CP) V1.0 Flowsheets Module Installation Guide	
-MD_1_P16_IMPG.pdf	MD*1.0*16 Clinical Procedures (CP) V1.0 Flowsheets Module Implementation Guide	
-MD_1_P16_RN.pdf	MD*1.0*16 Clinical Procedures (CP) V1.0 Flowsheets Module Release Notes	

-MD_1_P16_TM.pdf	MD*1.0*16 Clinical Procedures (CP) Technical Manual and Package Security Guide	
-MD_1_P16_UM.pdf	MD*1.0*16 Clinical Procedures (CP) V1.0 Flowsheets Module User Manual	
-RoboEx32.dll	.DLL file required to access Help files	
MD1_0P16_Flowsheets.zip	4 files indented below	BINARY
Note: This file is available upon request from the implementation team.		
-CPFlowsheets.exe	MD*1.0*16 CP Flowsheets Executable	
-CPFlowsheets.hlp	MD*1.0*16 CP Flowsheets online Help file	
-CPFlowsheets.cnt	MD*1.0*16 CP Flowsheets online Help contents file	
-RoboEx32.dll	.DLL file required to access Help files	

The CP Flowsheets.exe is not included within MD*1*16 as this executable is an optional and controlled roll out, managed by the Implementation Manager. A readiness checklist will be provided by the Implementation Manager when the site requests the CP Flowsheets.exe.

To request the CP Flowsheets.exe, contact [VA OIT OED ClinProc Implementation Support](#).

2.4. System Requirements

Storage requirements for Clinical Flowsheets client installation:

Type of Data	Size
Applications	< 5MB
Help Files	< 1MB

Sites should reserve 1KB of storage space per observation for data that will accumulate. The vast majority of growth will occur in the OBS file (#704.117).

Preinstallation

The following describes the installation environment for Clinical Flowsheets on the VistA client workstation:

- Workstations must be running under Windows XP Professional. Refer to <http://vaww.vairm.vaco.va.gov/vadesktop> for additional information on VA standard desktop configurations.
- Remote Procedure Call (RPC) Broker Workstation must be installed.
- The Clinical Context Object Workgroup (CCOW) runtime from Sentillion must be installed if CCOW functionality is desired. Please see your Information Resource Management (IRM) representative for the installation of CCOW.
- The workstation must be connected to the local area network.
- Administrator privileges are needed on any machine on which CP Gateway Service is installed.
- VistA Data Extraction Framework (VDEF) should be installed prior to MD*1.0*16

2.5. Setting up the Global Placement

IMPORTANT

A new global ^MDC will be built during the installation of the KIDS build. To avoid it being built in a perhaps incorrect default location it is necessary to have the system administrators create and place the ^MDC global on the proper volume set before the installation.

2.6. Other Considerations

- Sites are recommended to install the software in test accounts prior to installing it in production accounts.
- Refer to the MD*1.0*16 Patch Description for information on verifying the KIDS build checksum before installing Clinical Flowsheets.
- MD*1.0*16 is released under a regular mandate. Once Patch MD*1.0*16 is released, sites have 30 days to install it; however, there is no mandatory date to implement it.
- This patch can be loaded with users on the system. Installing MD*1.0*16 will not affect any users on the system, including those using the pre-patch 16 Clinical Procedures system.
- Installation time is less than five minutes.

Note: the time required to complete the post-install and to receive the MailMan message will vary depending on your system load.

- Installation of this patch should NOT BE QUEUED.
- Suggested time to install: non-peak requirement hours.
- The CP Console and CP Flowsheets components may be installed locally on individual workstations or remotely on a server that is operating 24/7.
- The CP Manager application is no longer supported after the installation of MD*1.0*16. Use CP Console to perform the functions previously provided by CP Manager.

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3. Installing the KIDS Build

1. To install the KIDS build, download MD1_0P16_EXES_AND_DOC.zip as instructed in step 2.3 above. Once the download is complete, unzip the file to C:\MD_INSTALL (or another location) and note that location. Copy the **MD_1_P16.kid** from this location and add it to the installation directory on the VistA server.

Note: ASCII transfer format must be used for uploading the MD_1_P16.kid file from the local desktop to the installation directory on the VistA server.

2. Programmer variables can be initialized by executing the command D ^XUP. Validate that DUZ(0)="@"
3. Use the KIDS installation menu option [XPD MAIN] and select **Installation** and then **Load a Distribution** to load the MD_1_P16.kid file onto your M system.
4. Use the KIDS installation menu option [XPD MAIN] and select **Installation** and then **Install Package(s)** to install the distribution into your M system.
5. Install or update the CP Gateway Service.

Note: ASCII format must be used for downloading the MD_1_P16.kid file.

The patch installation may pause, in some cases for several minutes, at the “installing new terminology” line of the patch installation. This is normal and the patch installation will continue after the terminology is installed.

```
CHEY111>D ^XUP

Setting up programmer environment
This is a TEST account.

Terminal Type set to: C-VT100

You have 870 new messages.
Select OPTION NAME: XPD MAIN      Kernel Installation & Distribution
                    System

        Edits and Distribution ...
        Utilities ...
        Installation ...
        Patch Monitor Main Menu ...

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

You've got PRIORITY mail!
```

Installing the KIDS Build

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

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

At this point, please follow your site's policies regarding the execution of steps 2-4 (Verify Checksums, Print Transport Global, Compare Transport Global).

```
You have PENDING ALERTS
```

```
Enter "VA to jump to VIEW ALERTS option
```

```
You've got PRIORITY mail!
```

```
Select Installation Option: 6 Install Package(s)
```

```
Select INSTALL NAME: MD*1.0*16      Loaded from Distribution  
3/1/10@10:57:27
```

```
=> CP FLOWSHEET BUILD 278 ;Created on Feb 24, 2010@08:53:42
```

```
This Distribution was loaded on Mar 01, 2010@10:57:27 with header of
```

```
CP FLOWSHEET BUILD 278 ;Created on Feb 24, 2010@08:53:42
```

```
It consisted of the following Install(s):
```

```
MD*1.0*16
```

```
Checking Install for Package MD*1.0*16
```

```
Install Questions for MD*1.0*16
```

```
Incoming Files:
```

```
702.01 CP DEFINITION
```

```
Note: You already have the 'CP DEFINITION' File.
```

```
702.09 CP INSTRUMENT
```

```
Note: You already have the 'CP INSTRUMENT' File.
```

```
704.001 CP_CONSOLE_ACL
```

```
704.002 CP_HL7_LOG
```

```
704.004 CP_HL7_LOG_REASON
```

```

704.005    CP_MOVEMENT_AUDIT
704.006    CP_PROTOCOL_LOCATION
704.007    CP_SHIFT
704.008    CP_SCHEDULE
704.101    TERM
704.102    TERM_TYPE    (including data)
704.103    TERM_QUALIFIER_PAIR
704.104    TERM_UNIT_CONVERSION
704.105    TERM_UNIT_PAIR
704.106    TERM_CHILD_PAIR
704.107    TERM_RANGE_CHECK
704.108    TERM_MAPPING_TABLE
704.109    TERM_MAPPING_PAIR
704.111    OBS_VIEW
704.1111   OBS_VIEW_TERMINOLOGY
704.1112   OBS_VIEW_FILTER
704.112    OBS_FLOWSHEET
704.1121   OBS_FLOWSHEET_PAGE
704.1122   OBS_FLOWSHEET_SUPP_PAGE
704.1123   OBS_FLOWSHEET_TOTAL
704.113    OBS_TOTAL
704.1131   OBS_TOTAL_TERMINOLOGY
704.115    OBS_ALARM
704.116    OBS_SET
704.1161   OBS_SET_OBS_PAIR
704.117    OBS
704.118    OBS_QUALIFIER
704.119    OBS_AUDIT
704.121    CP_KARDEX_ACTION
704.1211   CP_KARDEX_EVENTS
704.1212   CP_KARDEX_AUDIT
Incoming Mail Groups:

Enter the Coordinator for Mail Group 'MD DEVICE ERRORS': ACKERMAN,SHIRLEY
AS//

      AAS      192      OI&T STAFF

```

Note: Accept the default answer "NO" for the following three steps:

```

Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//
Want KIDS to INHIBIT LOGONs during the install? NO//

```

Installing the KIDS Build

Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME// ;;9999 TELNET TERMINAL

Install Started for MD*1.0*16 :
Mar 01, 2010@10:59:06

Build Distribution Date: Feb 24, 2010

Installing Routines:
Mar 01, 2010@10:59:06

Running Pre-Install Routine: ^MDPRE16
Removing existing Clinical Data Model files.
MD*1.0*16 Pre-Init Tasks Done.

Installing Data Dictionaries:
Mar 01, 2010@10:59:15

Installing Data:
Mar 01, 2010@10:59:15

Installing PACKAGE COMPONENTS:

Installing SECURITY KEY

Installing DIALOG

Installing MAIL GROUP

Installing HL LOGICAL LINK

Installing HL7 APPLICATION PARAMETER

Installing PROTOCOL

Installing REMOTE PROCEDURE

Installing OPTION

Installing PARAMETER DEFINITION

Mar 01, 2010@10:59:16

Running Post-Install Routine: ^MDPOST16

Installing command file...

Installing command 'AddADTTarget'...

Installing command 'AddBattery'...

Installing command 'AddFlowsheet'...

Installing command 'AddFlowsheetPage'...

Installing command 'AddFlowsheetTotal'...

Installing command 'AddFlowsheetView'...

Installing command 'AddFlowsheetViewFilter'...

Installing command 'AddFlowsheetViewTerm'...

Installing command 'AddInstrument'...

Installing command 'AddKardexAction'...

Installing command 'AddKardexAudit'...

Installing command 'AddKardexEvent'...

Installing command 'AddMappingTable'...

Installing command 'AddMappingTableTerm'...

Installing command 'AddObservation'...

Installing command 'AddObservationAudit'...

Installing command 'AddObservationToSet'...

Installing command 'AddPatientAlarm'...

Note: Installing the commands could take a few minutes.

Importing a new Dictionary and Clinical Data Model.

Deactivating existing terms.

Installing new terminology.

Storing check sum for file TERM...

Storing check sum for file TERM_TYPE...

Storing check sum for file TERM_QUALIFIER_PAIR...

Storing check sum for file TERM_UNIT_CONVERSION...

Storing check sum for file TERM_UNIT_PAIR...

Installing the KIDS Build

```
Storing check sum for file TERM_CHILD_PAIR...
Storing check sum for file TERM_RANGE_CHECK...
Storing check sum for file TERM_MAPPING_TABLE...
Storing check sum for file TERM_MAPPING_PAIR...
New Clinical Data Model for Terminology has been installed.
Removing obsolete parameters ...
Updating queued job settings ...
Task 'TASK_CLIO_CLEANUP' updated...
Task 'TASK_CP_CLEANUP' updated...
Task 'TASK_HL7_CLEANUP' updated...
Updating CP Definition File...
Terminology Caching disabled, use CP Console to rebuild.
Updating CP Instrument File...
New VDEF events filed, remember to activate those needed for this
  installation
Checking for components pointing to inactive terminology

Scanning File: OBS_VIEW_TERMINOLOGY (704.1111) Field: TERM_ID
  0 issue(s) found.

Scanning File: OBS_VIEW_FILTER (704.1112) Field: FILTER_TERM
  0 issue(s) found.

Scanning File: OBS_FLOWSHEET_SUPP_PAGE (704.1122) Field:
  DEFAULT_METHOD_ID
  0 issue(s) found.

Scanning File: OBS_FLOWSHEET_SUPP_PAGE (704.1122) Field:
  DEFAULT_POSITION_ID
  0 issue(s) found.

Scanning File: OBS_FLOWSHEET_SUPP_PAGE (704.1122) Field:
  DEFAULT_LOCATION_ID
  0 issue(s) found.

Scanning File: OBS_FLOWSHEET_SUPP_PAGE (704.1122) Field:
  DEFAULT_PRODUCT_ID
  0 issue(s) found.

Scanning File: OBS_TOTAL (704.113) Field: DEFAULT_UNIT
  0 issue(s) found.
```

```

Scanning File: OBS_TOTAL_TERMINOLOGY (704.1131) Field: TERM_ID
  0 issue(s) found.

Scanning File: OBS_ALARM (704.115) Field: TERM_ID
  0 issue(s) found.
MD*1.0*16 Post Init complete

Updating Routine file...

Updating KIDS files...

MD*1.0*16 Installed.
      Mar 01, 2010@11:02:15

Not a production UCI

Install Completed

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

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

You've got PRIORITY mail!

```

Note: If your site does not plan to implement Clinical Flowsheets and is installing MD*1.0*16 only because it is mandated to do so, you are not required to do anything beyond installing the KIDS build.

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4. Post-KIDS Configuration

Before you begin using Clinical Flowsheets:

1. Create a Service Account for the CP Gateway Service.
2. Configure the user roles by assigning menu options and keys.

Note: Items 3 – 7 are required only for sites using the CP Gateway Service for interfacing. Sites that will use the Clinical Flowsheets package only for manual entry should only be concerned with items 1 and 2.

3. Configure the inbound HL7 feed.

Note: If you are not going to be implementing Flowsheets, ignore step 4. If you have implemented CP Legacy and you are not implementing Flowsheets, continue with steps 5-7.

4. Configure the PROTOCOLs.
5. Configure the VistA Data Extraction Framework (VDEF).
6. Configure the outbound Admission Discharge and Transfer (ADT) link and PROTOCOLs.
7. Configure the outbound ADT subscriptions.

4.1. Creating a Service Account for CP Gateway Service

You will need to create a generic account for the CP Gateway Service to use for connections to VistA.

The CP Gateway Service uses the RPC Broker to communicate with the VistA server and therefore, requires an access code/verify code pair to connect.

1. Assign this new service account **RPC Broker Context for CP Gateway [MDCP Gateway Context] option** as a secondary menu option ONLY and do not assign any primary menu so that interactive access will not be allowed for this account.
2. Create a service account in the **NEW PERSON** file (#200) with access and verify codes. The first name should be **USER** and the last name **CPGATEWAY**. Ensure that the **VERIFY CODE NEVER EXPIRES** flag is SET for this user.

NAME: USER,CPGATEWAY Page 1 of 5

NAME... USER,CPGATEWAY INITIAL: CU
 TITLE: NICK NAME:
 SSN: 000131243 DOB:
 DEGREE: MAIL CODE:
 DISUSER:
 Termination:

NAME COMPONENTS

Prefix:

Given (First): CPGATEWAY

Middle:

Family (Last): USER

Suffix:

USER,CPGATEWAY

Select SEC
 Want to edi
 Want to edi

COMMAND: Press <PF1>H for help Insert

Figure 4-1, Add User

Note: Use FileMan or the ADD a New User option.

- **NAME:** CPGATEWAY, USER
- **INITIAL:** UC
- **ACCESS CODE:** *Determined locally by IRM*
- **VERIFY CODE:** *Determined locally by IRM*
- **XUS Active User:** YES
- **SERVICE/SECTION:** *Determined locally by IRM.*
- **SECONDARY MENU OPTIONS:** MDCP GATEWAY CONTEXT and MD CLIO

The following screen capture demonstrates how the data you enter will appear:

```

NAME: CPGATEWAY,USER                                INITIAL: UC
ACCESS CODE: <Hidden>
DATE VERIFY CODE LAST CHANGED: SEP 11,2007
VERIFY CODE: <Hidden>                                SEX: MALE
PREFERRED EDITOR: SCREEN EDITOR - VA FILEMAN
DATE ENTERED: APR 24, 2007                            CREATOR: FLOWSHEETSCREATOR,ONE
SSN: 0000000000
LAST SIGN-ON DATE/TIME: SEP 17, 2007@09:54:08
XUS Logon Attempt Count: 0                            XUS Active User: Yes
Entry Last Edit Date: APR 24, 2007                    TERMINAL TYPE LAST USED: C-VT100
NAME COMPONENTS: 200                                SERVICE/SECTION: IRM FIELD OFFICE
SIGNATURE BLOCK PRINTED NAME: USER CPGATEWAY
SECONDARY MENU OPTION: MDCP GATEWAY CONTEXT
  
```

Important: After creating the CP Gateway user, you should attempt to log on to VistA with the access and verify codes you created in step 2. VistA should not allow you to complete the logon, but many VistA systems require a verify code change at the first logon. If your system has this requirement, it will prevent the CP Gateway service from starting until the verify code on the CP Gateway service account is changed.

4.2. Configuring User Roles By Assigning Menu Options and Keys

1. In VistA, assign each Clinical Flowsheets user (including the service account CP Gateway user) the **CliO Service Options [MD CLIO] option** as a secondary menu option. See section 6.4, step 1 for details about configuring the CP Gateway.
2. In VistA, give Clinical Flowsheets managers the **MD MANAGER** and **MD ADMINISTRATOR** keys.

MD ADMINISTRATOR: This key gives the user complete access to all functions in CP Console and CP Flowsheets. Without this key, the user relies on permissions assigned to in CP Console. This user is typically an IRM or a Super CAC.

MD MANAGER: This key gives the user rights to edit, audit, and rescind observations entered by other users. This key also gives rights to import views into CP Console. This user is typically a Nurse Manager or CAC.

MD HL7 MANAGER: CP Flowsheets requires the VistA MD HL7 MANAGER role or the MD ADMINISTRATOR role to access the HL7 Monitor. Assign this role to a user who will assist with the HL7 messaging component of CP Flowsheets.

MD READ-ONLY: Assign this role to a user to prevent them from entering data in Flowsheets. **DO NOT** assign MD READ-ONLY to a user concurrently with any role other than **MD HL7 MANAGER**. Doing so will lead to unpredictable results. A user with the MD READ-ONLY key may NOT log on to CP Console and will have limited functionality in CP Flowsheets.

MD TRAINEE: Data entered into CP Flowsheets by a user with the MD TRAINEE key does not display on the flowsheet until it has been verified (on the Log Files tab) by any user who was not assigned the MD TRAINEE key.

Note: If your site is going to use ONLY CP Flowsheets and not the CP Gateway Service, you can stop after section 4.1. Section 4.2 is not required.

4.3. Configuring the Inbound HL7 Feed

ICU devices forward observation data to VistA inside HL7 (ORU^R01) inbound messages.

1. Review the settings for the MDHL IN logical link for correctness and compatibility with the local environment.
2. Edit the MDHL logical link.

```
Select OPTION NAME: HL MAIN MENU          HL7 Main Menu
    Event monitoring menu ...
    Systems Link Monitor
    Filer and Link Management Options ...
    Message Management Options ...
    Interface Developer Options ...
    Site Parameter Edit
    HLO  HL7 (Optimized) MAIN MENU ...
Select HL7 Main Menu Option: Interface Developer Options
    EA  Application Edit
    EP  Protocol Edit
    EL  Link Edit
    VI  Validate Interfaces
        Reports ...
Select Interface Developer Options Option: EL  Link Edit
Select HL LOGICAL LINK NODE:      MDHL IN
                                HL7 LOGICAL LINK
-----
                                NODE: MDHL IN
                                INSTITUTION:
                                MAILMAN DOMAIN:
                                AUTOSTART: Enabled
                                QUEUE SIZE: 100
                                LLP TYPE: TCP
                                DNS DOMAIN:
```

3. Scroll down to the Lower Level Protocol (LLP) TYPE settings and press <Enter>. The TCP settings for this logical link display (Figure 4-2).

4. ¹Set the Transmission Control Protocol/Internet Protocol (TCP/IP) SERVICE TYPE to **SINGLE LISTENER**.

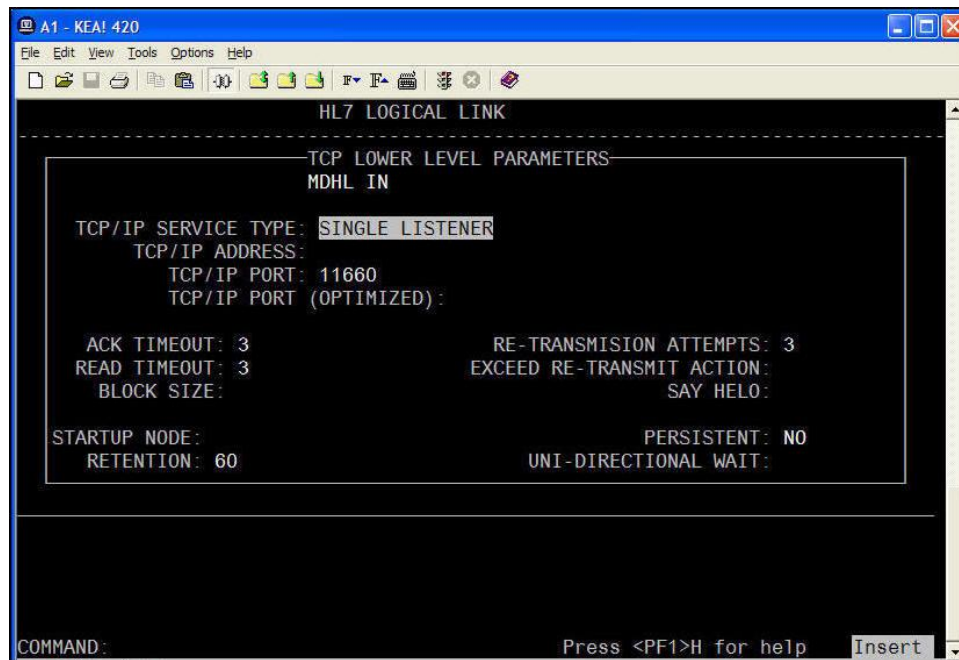


Figure 4-2, TCP/IP Service Type

5. Set the TCP/IP PORT to the port number of the HL7 target used by the 3rd party devices.
6. Set the TaskMan STARTUP NODE according to local requirements.
7. Start the logical link (in the background).

```
Select HL7 Main Menu Option: FILER and Link Management Options

Select Filer and Link Management Options Option: START/Stop Links
This option is used to launch the lower level protocol for the
appropriate device. Please select the node with which you want
to communicate
Select HL LOGICAL LINK NODE: MDHL IN
Job was queued as 924846.
```

¹ Patch MD*1.0*26 August 2011 Moved step 4 above figure 4-2.

4.4. Configuring the PROTOCOL File for ADT Feed

Note: You only need to continue with the following steps if you are using **ADT Outbound Messaging**.

Patch MD*1.0*16 exports a subscriber protocol, MD DGPM PATIENT MOVEMENT, that must be added to the ITEM multiple of the DGPM MOVEMENT EVENTS entry in the PROTOCOL file (#101). This allows the CP ADT feed to receive notification that a patient was admitted, discharged, or transferred.

Note: Ensure that the logical links are started in the background, or it could take a long time to complete.

The following capture shows how to add **MD DGPM PATIENT MOVEMENT** to the ITEM multiple:

```
Select OPTION: 1  ENTER OR EDIT FILE ENTRIES

INPUT TO WHAT FILE: PROTOCOL//
EDIT WHICH FIELD: ALL// ITEM
    1  ITEM      (multiple)
    2  ITEM TEXT
CHOOSE 1-2: 1  ITEM  (multiple)
    EDIT WHICH ITEM SUB-FIELD: ALL//
THEN EDIT FIELD:

Select PROTOCOL NAME: DGPM MOVEMENT EVENTS      MOVEMENT EVENTS v 5.0
Select ITEM: MD DGPM PATIENT MOVEMENT           CliO DGPM patient movement interface
    MD DGPM PATIENT MOVEMENT
    MNEMONIC:
    SEQUENCE:
    MODIFYING ACTION:
    FORMAT CODE:
    DISPLAY NAME:
    PROMPT:
    DEFAULT:
    HELP:
    MODE:
Select ITEM:

Select PROTOCOL NAME:
```

Note: When transporting the KIDS build, the MDC CPAN VS event driver protocol processing ID may initially be set to "debug". This may prevent ADT^A01 messages from going out.

Important: As part of the installation process, it is recommended to edit the protocol and delete the processing ID.

The following screen illustrates this step:

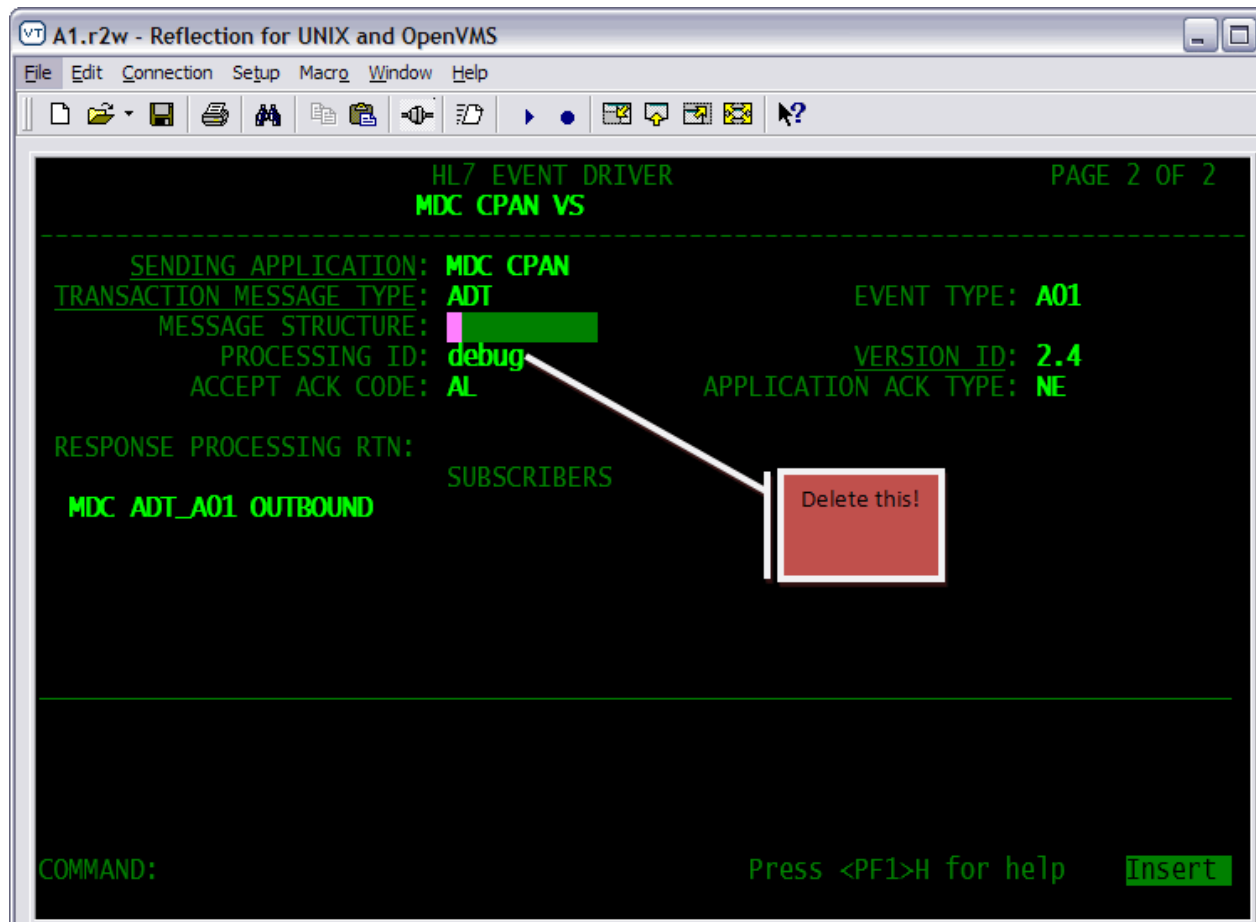


Figure 4-3, Editing the Protocol

4.5. Step 4: Configuring the VDEF for ADT Feed

Note: You will need to reactivate the VDEF APIs after installing ALL subsequent MD*1.0*16 builds.

1. Select the VDEF Configuration and Status [**VDEF CONFIGURATION MENU**] option.

```
Select OPTION NAME: VDEF CONFIGURATION MENU          VDEF Configuration and Status
Site    Site-Wide Parameters
Req     Request Queue Parameters
ActR    Activate/Inactivate Requestor
SusR    Suspend/Run Request Queue
Cust    VDEF Custodial Package Activate/Inactivate
API     VDEF Event API Activate/Inactivate
Stat    Status of VDEF components
Sch     Request Processor Schedule
Select VDEF Configuration and Status Option:
```

2. Activate CP in the VDEF Custodial Package Activate/Inactivate [**VDEF Custodial Package**] option.

Post-KIDS Configuration

```
Select VDEF Configuration and Status Option: CUST  VDEF Custodial Package Activate/Inactivate
Select Custodial Package: CLINICAL PROCEDURES      MD
ACTIVATION STATUS: INACTIVE// ACT  ACTIVE
```

3. Activate the CP APIs in the VDEF system. There are seven APIs that require activation.

- ADT-A01-CPAN
- ADT-A02-CPTP
- ADT-A03-CPDE
- ADT-A08-CPUPI
- ADT-A11-CPCAN
- ADT-A12-CPCT
- ADT-A13-CPCDE

VistA HL7 PROTOCOL	Custodial Package	API Event Active Flag	Extraction Program	Event Description
MDC CPAN VS	CLINICAL PROCEDURES	ACTIVE	MDCA01	CLIO Admit/Visit Notification (A01)
MDC CPTP VS	CLINICAL PROCEDURES	ACTIVE	MDCA02	CLIO Transfer a Patient (A02)
MDC CPDE VS	CLINICAL PROCEDURES	ACTIVE	MDCA03	CLIO Discharge/End Visit (A03)
MDC CPUPI VS	CLINICAL PROCEDURES	ACTIVE	MDCA08	CLIO Update Patient Info (A08)
MDC CPCAN VS	CLINICAL PROCEDURES	ACTIVE	MDCA11	CLIO Cancel Admit Notice (A11)
MDC CPCT VS	CLINICAL PROCEDURES	ACTIVE	MDCA12	CLIO Cancel Transfer (A12)
MDC CPCDE VS	CLINICAL PROCEDURES	ACTIVE	MDCA13	CLIO Cancel Discharge (A13)

4. Activate each CP API.

```
Select OPTION NAME:      VDEF CONFIGURATION MENU      VDEF Configuration and Status
Site  Site-Wide Parameters
Req   Request Queue Parameters
ActR  Activate/Inactivate Requestor
SusR  Suspend/Run Request Queue
Cust  VDEF Custodial Package Activate/Inactivate
API   VDEF Event API Activate/Inactivate
Stat  Status of VDEF components
Sch   Request Processor Schedule
Select VDEF Configuration and Status Option: API  VDEF Event API
Activate/Inactivate
Select VDEF API Event: ADT-A01-CPAN      CLIO Admit/Visit Notification (A01)
Status: INACTIVE
      Pkg: CLINICAL PROCEDURES
API EVENT ACTIVE FLAG: INACTIVE// ACT  ACTIVE
```

5. Repeat step 4 for each of the seven APIs.

Confirm that the **VDEF Maintenance** request queue is running.

4.6. Step 5: Configuring the outbound ADT Feed

The HL7 system delivers ADT messages to vendor devices. Therefore, you need to generate a subscriber PROTOCOL and logical link for each device to which Clinical Flowsheets sends an ADT message. The subscriber PROTOCOL uses MDC ADT OUTBND as the application and uses the IP address and port number of the vendor server in the logical link.

1. Add a logical link.

¹**Note:** The TCP/IP address and port shown below should be replaced with those of *your site's* medical device or the aggregating server of the medical device.

```
Select OPTION NAME: HL MAIN MENU          HL7 Main Menu
      Event monitoring menu ...
      Systems Link Monitor
      Filer and Link Management Options ...
      Message Management Options ...
      Interface Developer Options ...
      Site Parameter Edit
HLO    HL7 (Optimized) MAIN MENU ...
Select HL7 Main Menu Option: Interface Developer Options
EA     Application Edit
EP     Protocol Edit
EL     Link Edit
VI     Validate Interfaces
      Reports ...
Select Interface Developer Options Option: EL Link Edit
Select HL LOGICAL LINK NODE: MDSPL001 (Note: This is an example based on a Spacelabs
device. The actual link node name may differ based on the site's device type.)
Are you adding 'MDSPL001' as a new HL LOGICAL LINK (the 85TH)? No// Y (Yes)
      HL7 LOGICAL LINK
-----
      NODE: MDSPL001
      INSTITUTION:
MAILMAN DOMAIN:
      AUTOSTART:
      QUEUE SIZE: 10
      LLP TYPE: TCP
      DNS DOMAIN:
-----
      HL7 LOGICAL LINK
-----
```

¹ Patch MD*1.0*26 August 2011 Moved note to the top of step 1.

```

-----TCP LOWER LEVEL PARAMETERS-----
MDSPL001

TCP/IP SERVICE TYPE: CLIENT (SENDER)
TCP/IP ADDRESS: 127.0.0.1  << (See note below.)
TCP/IP PORT: 11223  << (See note below.)
TCP/IP PORT (OPTIMIZED):

ACK TIMEOUT:                                RE-TRANSMISSION ATTEMPTS:
READ TIMEOUT:                             EXCEED RE-TRANSMIT ACTION:
BLOCK SIZE:                               SAY HELO:

STARTUP NODE:                                PERSISTENT:
RETENTION:                                  UNI-DIRECTIONAL WAIT:
  
```

The following figure shows additional suggested values for the logical link:

```

HL7 LOGICAL LINK
-----TCP LOWER LEVEL PARAMETERS-----
MDHL IN

TCP/IP SERVICE TYPE: SINGLE LISTENER
TCP/IP ADDRESS:
TCP/IP PORT: 11660
TCP/IP PORT (OPTIMIZED):

ACK TIMEOUT: 3                                RE-TRANSMISSION ATTEMPTS: 3
READ TIMEOUT: 3                             EXCEED RE-TRANSMIT ACTION:
BLOCK SIZE:                                SAY HELO:

STARTUP NODE: CACHE:CACHE                                PERSISTENT: NO
RETENTION: 60                                           UNI-DIRECTIONAL WAIT:

Close      Refresh

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

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

Figure 4-4, Logical Link Values

2. Add a subscriber PROTOCOL using the **HL EDIT INTERFACE** Option Name.

Each subscriber PROTOCOL requires a unique name. In order to ensure this uniqueness, rules are used when generating a new PROTOCOL name. As new vendors are added, likewise PROTOCOL vendor abbreviations will be added.

- The first two letters of the name of the PROTOCOL are MD.

- Two or three characters of the name are based on the vendor name.
- The last three characters are a serial number starting with 001.

Vendor Name	PROTOCOL Vendor Abbreviation
General Electric.	GE
Spacelabs	SPL
Philips	PHL
Picis	PIC
Clinicomp	CLI

Note: The above vendor abbreviations are specified for outbound ADT messages only - not inbound observation messages from third-party vendors. Not all vendors listed are necessarily interfaced with Clinical Flowsheets.

Example

The PROTOCOL used with a Spacelabs device at a specific hospital is **MDSPL001**.

```

Select OPTION NAME: HL MAIN MENU          HL7 Main Menu
      Event monitoring menu ...
      Systems Link Monitor
      Filer and Link Management Options ...
      Message Management Options ...
      Interface Developer Options ...
      Site Parameter Edit
HLO    HL7 (Optimized) MAIN MENU ...
Select HL7 Main Menu Option: Interface Developer Options
EA      Application Edit
EP      Protocol Edit
EL      Link Edit
VI      Validate Interfaces
      Reports ...
Select Interface Developer Options Option: EP  Protocol Edit

Select PROTOCOL NAME: MDSPL001
      Located in the MD (CLINICAL PROCEDURES) namespace.
      Are you adding 'MDSPL001' as a new PROTOCOL? No// Y  (Yes)
      PROTOCOL ITEM TEXT: SPACELABS SERVER 1
      PROTOCOL IDENTIFIER:
                                HL7 INTERFACE SETUP                                PAGE 1 OF 2
-----
      NAME: MDSPL001
DESCRIPTION (wp):  (empty)
ENTRY ACTION:
EXIT ACTION:
      TYPE: subscriber

Enter a code from the list.
Choose from:
E      event driver
S      subscriber                                <Edit the TYPE to be SUBSCRIBER
                                                Press <PF1>H for help      Insert

```

3. Press <Enter>. Control is sent to the HL7 Subscriber edit screen.

```

                                HL7 SUBSCRIBER                                PAGE 2 OF 2
                                MDSPL001
-----
RECEIVING APPLICATION: MDC ADT OUTBOUND xxx << (See note below.)
RESPONSE MESSAGE TYPE: ACK                                EVENT TYPE:
SENDING FACILITY REQUIRED?: NO                            RECEIVING FACILITY REQUIRED?: NO
SECURITY REQUIRED?:
LOGICAL LINK: MDSPL001
PROCESSING RTN:
ROUTING LOGIC:
Exit
Save      Refresh
Enter a command or '^' followed by a caption to jump to a specific field.
COMMAND: E                                Press <PF1>H for help      Insert

```

Note: Once you enter the **RECEIVING APPLICATION** information (MDC ADT OUTBOUND xxx), you will see the full list of vendors noted in Step 2 . The xxx in the above field indicates the vendor type, which could be for example, PHL for Phillips.

4. Activate the logical link.

Note: Both Link Manager and Task Manager must be running.

```

Select OPTION NAME:      HL MAIN MENU      HL7 Main Menu
      Event monitoring menu ...
      Systems Link Monitor
      Filer and Link Management Options ...
      Message Management Options ...
      Interface Developer Options ...
      Site Parameter Edit
HLO  HL7 (Optimized) MAIN MENU ...
Select HL7 Main Menu Option:  Filer and Link Management Options
SM   Systems Link Monitor
FM   Monitor, Start, Stop Filers
LM   TCP Link Manager Start/Stop
SA   Stop All Messaging Background Processes
RA   Restart/Start All Links and Filers
DF   Default Filers Startup
SL   Start/Stop Links
PI   Ping (TCP Only)
ED   Link Edit
ER   Link Errors ...
Select Filer and Link Management Options Option:  Start/Stop Links
This option is used to launch the lower level protocol for the
appropriate device.  Please select the node with which you want
to communicate
Select HL LOGICAL LINK NODE:      MDSPL001
The LLP was last shutdown on DEC 12, 2007 15:02:01.
      Select one of the following:
      F      FOREGROUND
      B      BACKGROUND

```

```
Q          QUIT
Method for running the receiver: B// ACKGROUND
Job was queued as 3092973.
```

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5. Installing the CP Flowsheets and CP Console Clients

5.1. CP Console

The CP Console client application is released as part of Patch MD*1.0*16. The distribution file is available for download from the Anonymous directories. The patch distribution file name is MD1_0P16_EXES_AND_DOC.zip.

Note: To configure the CP Gateway Service, you must install CP Console on the same server, before running CP Console to configure the CP Gateway Service. However, if you are not using the CP Gateway Service to receive data from a third party device, you do not have to install or configure it.

To install the CP Console client, complete the following steps:

1. Extract the compressed ZIP file MD1_0P16_EXES_AND_DOC.zip. It includes the following files:

- CPConsole.exe
- CliO_Terminology.doc
- MD_1_P16_UM.doc
- MD_1_P16_IG.doc
- MD_1_P16_IMPG.pdf
- MD_1_P16_RN.pdf
- MD_1_P16_TM.pdf
- CPConsole.hlp
- CPConsole.cnt
- RoboEx32.dll

2. Distribute the CPConsole.exe file. If you are installing the application onto individual workstations, usually the CPConsole executable file is placed in the following directory: C:\Program Files\Vista\Clinical Procedures.

If a remote installation is chosen (by storing the application executables on a network rather than locally), you must create a link that reflects the target path. This link can then be distributed (copied) to workstations.

3. The online Help files (files ending in .HLP and .CNT) and the .DLL file should go in a subdirectory of the folder where the executables are placed. Name this directory Help, for example C:\Program Files\Vista\Clinical Procedures\Help.

4. The CliO_Terminology.doc should go in a subdirectory of the folder where the executables are placed. Name this directory Documents, for example C:\Program Files\Vista\Clinical Procedures\Documents.

5.2. CP Flowsheets

¹The CP Flowsheets client application is released as part of Patch MD*1.0*16 but is available as a separate file. The distribution file name is MD1_0P16_Flowsheets.zip.

To install the CP Flowsheets client, complete the following steps:

1. Obtain and extract the compressed ZIP file MD1_0P16_Flowsheets.zip. It includes the following files:
 - CPFlowsheets.exe
 - CPFlowsheets.hlp
 - CPFlowsheets.cnt
 - RoboEx32.dll
2. Extract the CPFlowsheets.exe file. If you are installing the application onto individual workstations, usually the CPFlowsheets executable file is placed in the following directory: C:\Program Files\Vista\Clinical Procedures.

If a remote installation is chosen (by storing the application executables on a network rather than locally), you must create a link that reflect the target path. This link can then be distributed (copied) to workstations.
3. The online Help files (files ending in .HLP and .CNT) and the .DLL file should go in a subdirectory of the folder where the executables are placed. Name this directory Help, for example C:\Program Files\Vista\Clinical Procedures\Help.

5.3. Backout Plan

Due to the complexity of the task step-by-step procedures for backing out the MD*1.0*16 patch are not provided here. The procedure is documented in the Production Operations Manual MD_1_P16_POM.doc.

¹ Patch MD*1.0*26 August 2011 Removed note about password protected file from section 5.2 “CP Flowsheets”, and revised text in first paragraph.

To backout the installation, please create a Remedy Ticket or contact the **Remedy Help Desk** at 1-888-596-4357.

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6. Installing the CP Gateway Service

The CP Gateway Service is released as part of Patch MD*1.0*16. The patch distribution file is available for download from the Anonymous directories. The patch distribution includes the setup file

⁴MD1_0P16CPGatewayServiceSetup.exe.

Notes:

- A copy of the CP Console application **MUST** be installed on the same server as the CP Gateway Service in order to administer the CP Gateway Service. This is because the CP Gateway Service depends on information that is stored in the local system registry by the CP Console application.
- The CP Gateway Service does not replace or overwrite the previous CP Gateway, both Gateways can continue to be run and can run on the same system if desired. Any machine capable of running Windows Server 2003 will be sufficient to run the CP Gateway Service..
- You can only have one copy of the CP Gateway Service installed on a server because the server manages the connection properties in the system registry. If you want to run a CP Gateway Service in TEST and PRODUCTION, you will need two servers.

To install the CP Gateway Service, complete the following steps:

1. Run the “**MD1_0P16CPGatewayServiceSetup.exe.**” This will install CPGatewayService.exe. The installer will also stop, uninstall, and remove any prior installations of the CP Gateway Service. The installer will then attempt to start the updated CP Gateway service. (See “

⁴ Patch MD*1.0*26 August 2011 Changed all references of MD1_0P16_Gateway_Installer.exe to MD1_0P16CPGatewayServiceSetup.exe.

Installing the CP Gateway Service

Running the Gateway Installer” in this document.)

2. Start the CP Gateway Service if this is a first-time installation or the service could not be started automatically.

6.1. Running the Gateway Installer

This section demonstrates the various screens of the MD1_0P16CPGatewayServiceSetup.exe file. This workflow assumes that you have already downloaded and extracted the MD1_0P16CPGatewayServiceSetup.exe file, as mentioned above. It also assumes that you have Administrator privileges on the system upon which you will be installing the CP Gateway. Administrator privileges are required to install the CP Gateway.

To install The CP Gateway Service, do the following:

1. Double-click the **MD1_0P16CPGatewayServiceSetup.exe** file. Please wait while the installer program extracts files and prepares your system. If you watch carefully, you will see three progress indicators display in turn. Once the extraction is complete, the first screen of the InstallShield Wizard displays (Figure 6-1).



Figure 6-1, CP Gateway InstallShield Wizard

2. Click **Next**. The ReadMe Information screen displays some notes about the current release (Figure 6-2).

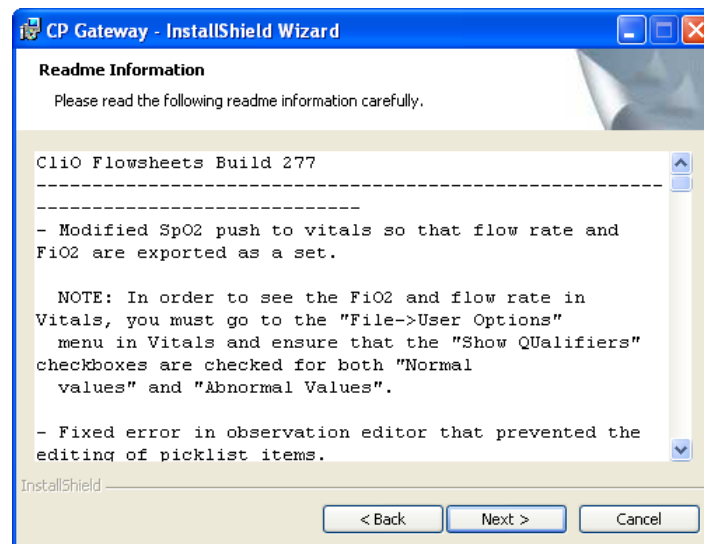


Figure 6-2, Readme Information

Note: Figure 6-2 is included as an example only. The Readme information details will change with each build.

3. Optionally review the release notes, then click **Next**. The Destination Folder screen displays (Figure 6-3).

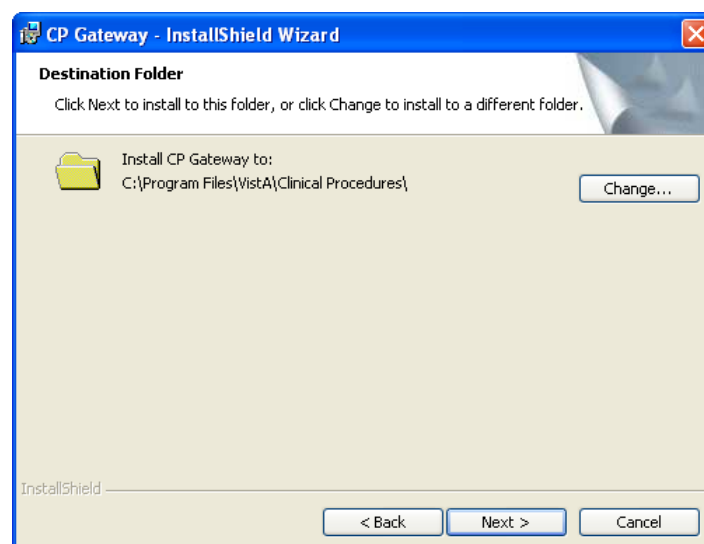


Figure 6-3, Destination Folder

4. The recommended location for the Clinical Flowsheets application files is C:\Program Files\VistA\Clinical Procedures. To choose a different location, click the **Change** button (Figure 6-3) and navigate to the desired folder (Figure 6-4), then click **OK** to close the Change Current Destination Folder window.

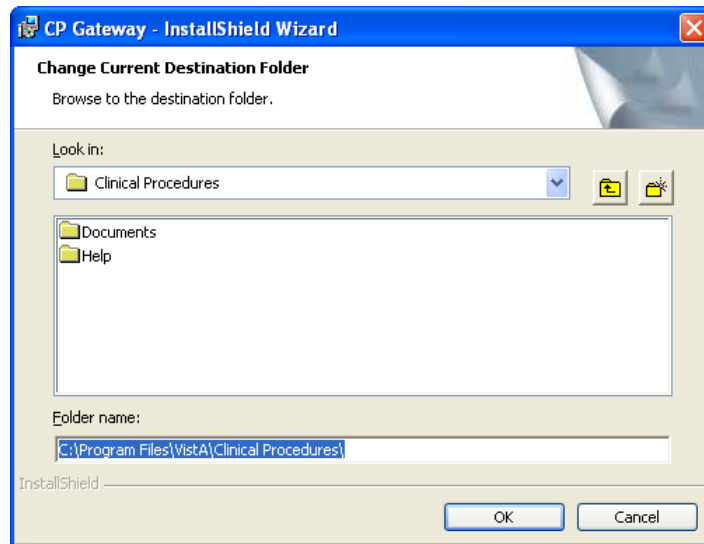


Figure 6-4, Change Current Destination Folder

5. Click **Next** to accept the folder name and continue. The **Ready to Install the Program** window displays (Figure 6-5).

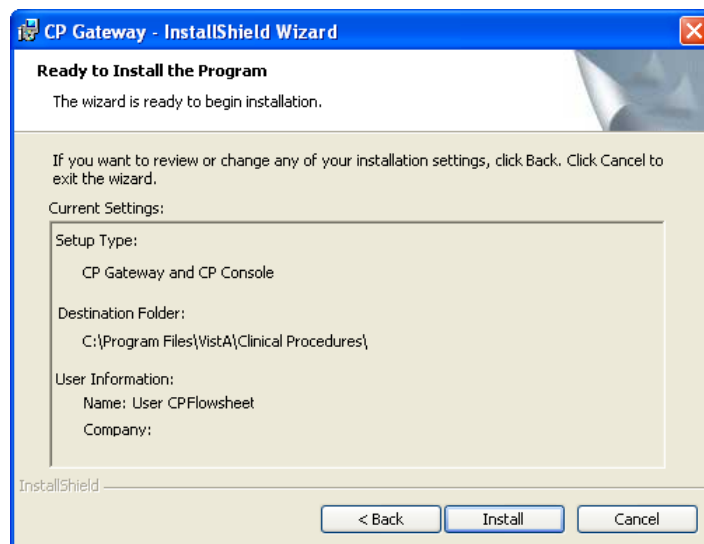


Figure 6-5, Installation Settings

6. The installation settings display. Click **Back** to make changes, click **Cancel** to exit the wizard, or click **Install** to begin the installation. A window displays progress bars while you wait for the applications to be installed (Figure 6-6).

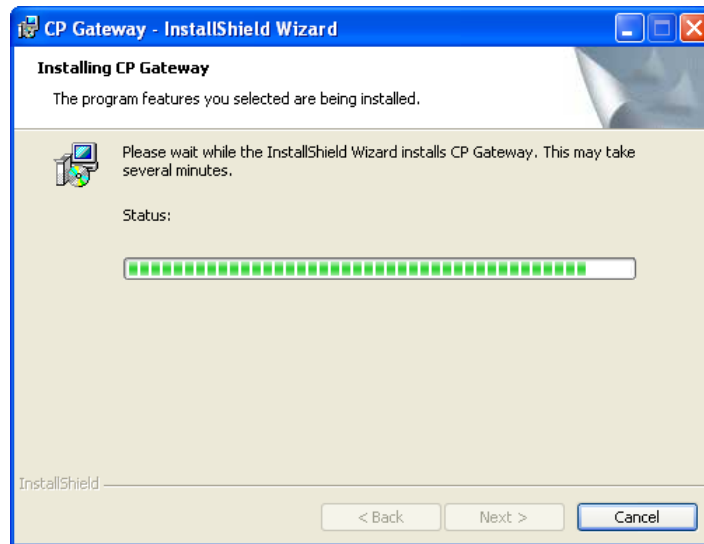


Figure 6-6, Installation Status

7. An Information popup displays a message that the Service was installed successfully. (Figure 6-7). Click **OK** to close the information popup.

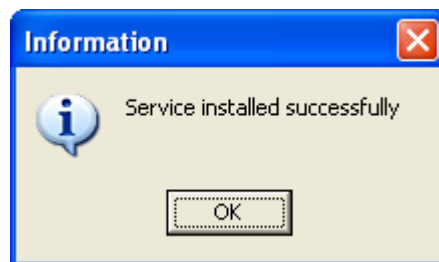


Figure 6-7, Information Popup

8. When installation is complete, the InstallShield Wizard Completed window displays (Figure 6-8). Click **Finish** to close the InstallShield Wizard.

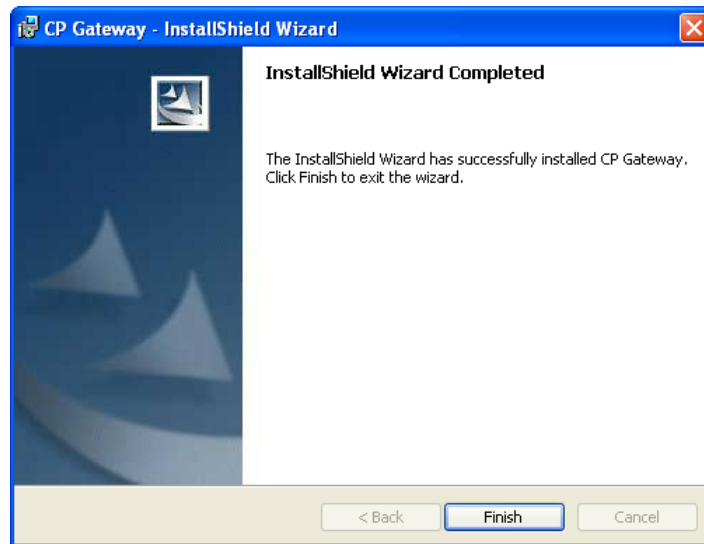


Figure 6-8, InstallShield Wizard Completed

6.2. Verifying the CP Gateway Service

Verify that the Gateway Installer (MD1_0P16CPGatewayServiceSetup.exe) registered the CP Gateway Service.

In Windows, open the Services applet:

1. Click **Start**.
2. Click **Run**. The Run dialog displays (Figure 6-9).
3. Type **services.msc** in the Open field.

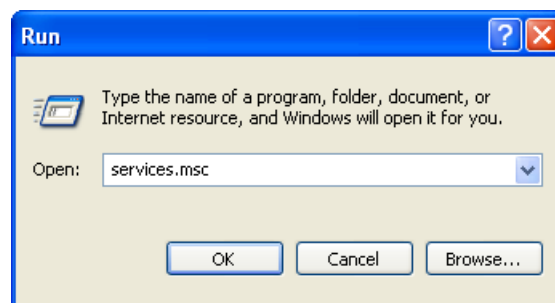


Figure 6-9, Run Dialogue

4. Click **OK**. The Services window opens (Figure 6-10).

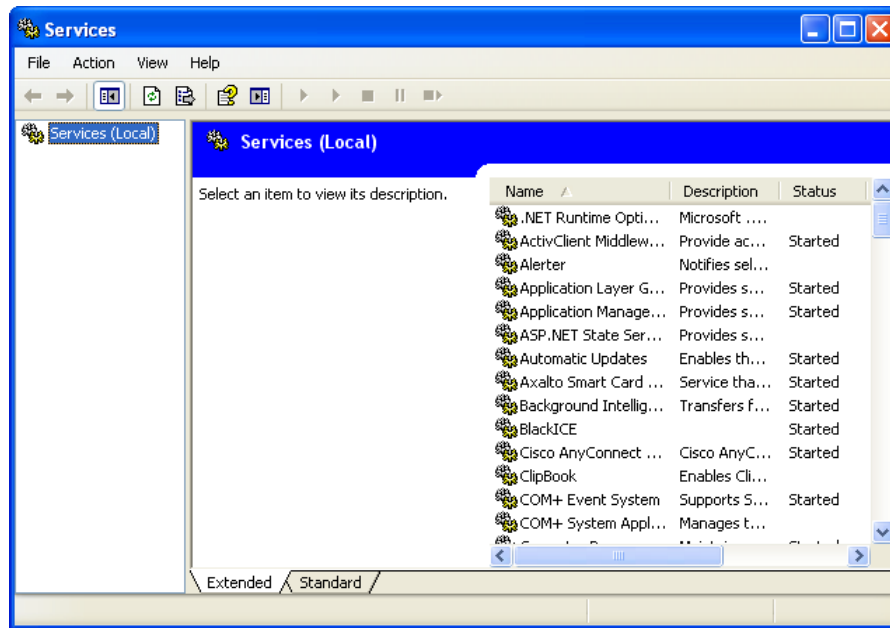


Figure 6-10, Services Window

5. Verify that "CP Gateway Service" is in the list (Figure 6-11). If it is not in the list, you must manually register it, as described in the next section "

Manually Registering the CP Gateway Service.”

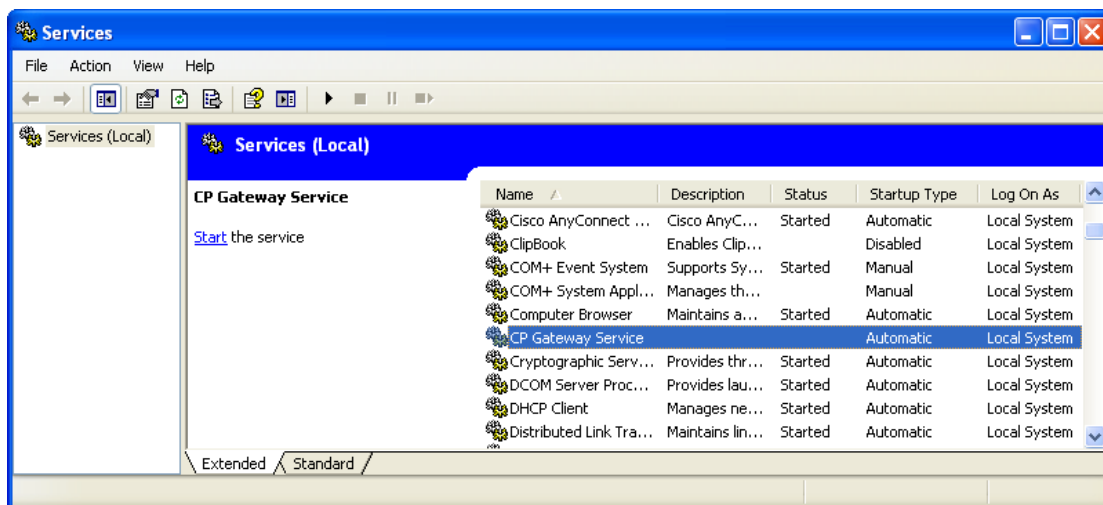


Figure 6-11, CP Gateway Service

Note: The very first time, it will **not** be started. Before it can be started, you must enter the CP Gateway Server settings in CP Console, as described in the section “Configuring the CP Gateway Service,” later in this chapter.

6.3. Manually Registering the CP Gateway Service

If the CP Gateway Service was not successfully registered, you will need to register the service manually: In Windows, open a DOS window.

- a. Click **Start**.
 - b. Click **Run**.
 - c. In the Open text box, type **cmd**.
 - d. Click **OK**. DOS window opens.
1. Go to the directory where you installed CP Gateway. The default file location is c:\program files\Vista\Clinical Procedures\Gateway\
 2. At the DOS prompt, type: **CPGatewayService.exe /install**
An Information popup displays (Figure 6-12).



Figure 6-12, Information Popup

3. Click **OK**.
4. To close the DOS window, type “exit” and press <Enter>.

Note: If the installer hasn't been configured yet, you need to configure before installing.

6.4. Configuring the CP Gateway Service

Once you have verified that the CP Gateway Service was registered, you must configure it. You will only need to configure the CP Gateway Service once. Subsequent installations (even following uninstalls) will be able to use prior settings to achieve the connection.

The CP Gateway Service must be installed and registered with Windows before you can configure it in CP Console.

1. **Login to CP Console using your access code/verify code pair.** The CP Gateway Configuration detail displays. (Figure 6-13).

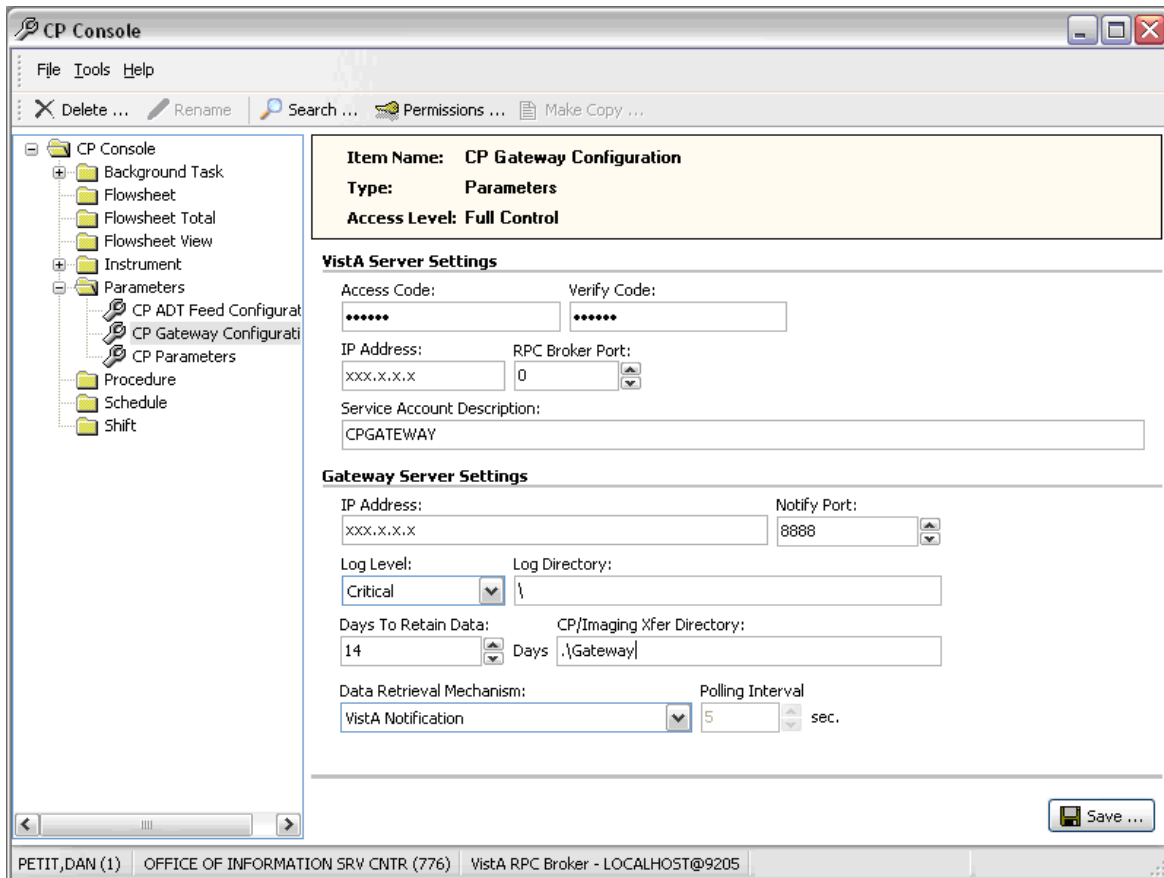


Figure 6-13, CP Gateway Configuration Details

2. The **VistA Server Settings** field entries are stored on the workstation in the system registry. This allows the CP Gateway Service to connect at startup to the appropriate VistA system with which you are communicating. Type in the field entries.
 - a. **Access Code** of the site's VistA service user account with the RPC Broker Context for CP Gateway [MDCP Gateway Context] option as a secondary menu
 - b. **Verify Code** of the site's VistA service user account with the RPC Broker Context for CP Gateway [MDCP Gateway Context] option as a secondary menu
 - c. **RPC Broker Port** for the CP Gateway Service on the VistA server to which you are connecting the broker
 - d. **IP Address** of the VistA server
3. Obtain the IP address for the Gateway Server Settings used by the VistA server to connect to your local service. You can get it from a few places, such as from a network administrator, from Network Control Panel settings, or from a Windows command screen, as described below.

Note: It is required that you use a **static IP address** in the following format:
xxx.xxx.xxx.xxx. Figure 6-14 shows an example of an IP address: 10.3.31.72.

Optional – One way to obtain the IP address on a Windows system is as follows:

- a. Click **Start | Run**.
- b. Type **cmd**.
- c. Type **ipconfig**. A list displays that contains the IP address (Figure 6-14).



Figure 6-14, IP Address

4. The lower half of the CP Gateway Configuration screen (Figure 6-13) provides fields for you to enter the CP Gateway Server Settings. Figure 6-15 provides a close up view of this screen area, along with sample entries.

Gateway Server Settings	
IP Address: 10.3.17.11	Notify Port: 8888
Log Level: Detail	Log Directory: .\
Days To Retain Data: 14	CP/Imaging Xfer Directory: .\Gateway
Data Retrieval Mechanism: Vista Notification	Polling Interval 5 sec.

Figure 6-15, Gateway Server Settings

The following list provides more detailed explanations of the various Gateway Server Settings.

- a. **IP Address:** Enter the workstation IP address on which the CP Gateway Service is installed
- b. **Notify Port:** This is the listening port of the local machine that opens when a message is sent to the workstation. The default is **8888**.

- c. **Log Level:** Specify the amount of detail to log in the Windows Event Viewer for the CP Gateway Service.
 - Critical – only severe errors
 - Error – critical + errors that cause instability in the operation of the CP Gateway Service
 - Warning – Critical + error + any items captured but that allow the CP Gateway Service to continue running
 - Detail – critical + error + warning + detailed execution trail of everything that the CP Gateway Service does as it processes HL7 messages
 - d. **Log Directory:** The directory in which the logs for the CP Gateway Service are stored. The default is **C:\temp** and .\ dumps them in the CP Gateway Service directory.
 - e. **Days To Retain Data:** The number of days to retain successfully processed HL7 data before purging messages in the “In Processed” state.
 - f. **CP/Imaging Xfer Directory:** This field is reserved for future use.
 - g. **Data Retrieval Mechanism:** The source for data retrieval. The recommended setting is **Vista Notification**.
 - h. **Polling Interval:** A field used only in Legacy polling applications.
5. Click **Save** to store the settings. Next, you must start the CP Gateway Service.

6.5. Configuring ADT Feed Subscriptions

The dynamic routing system (ADT feed) must be configured, so that HL7 knows to which system to deliver the ADT messages.

1. Log in to CP Console, using your access code/verify code pair.
2. Expand the CP Console tree view and click **Parameters**.
3. Select **CP ADT Feed Configuration**. The CP ADT Feed Configuration detail displays with a list of current ADT targets.

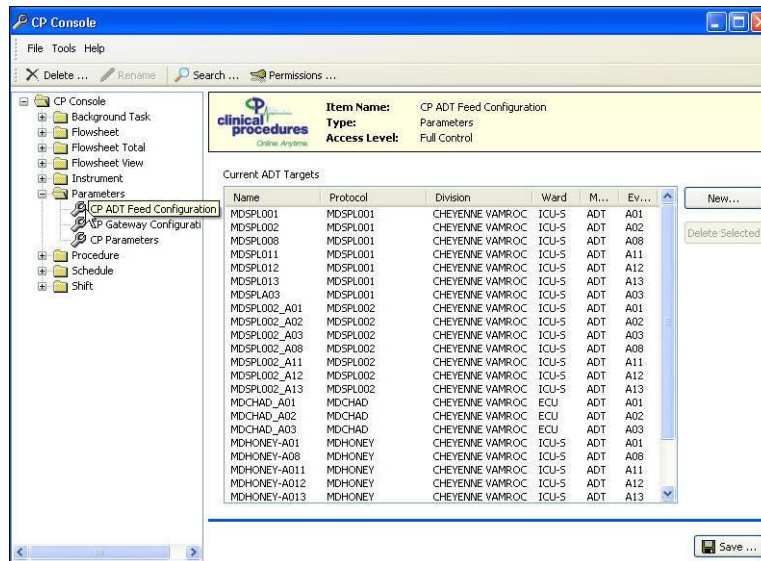


Figure 6-16, CP ADT Feed Configuration

4. To add a new ADT target, click **New**. The Add ADT Target window displays.

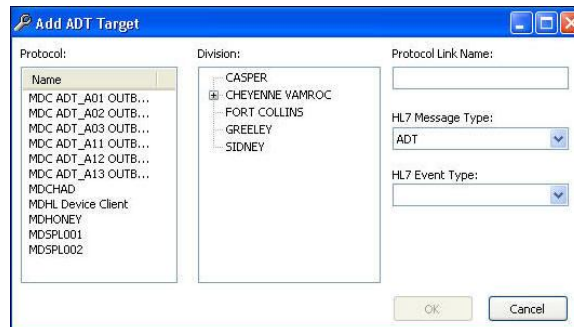


Figure 6-17, Add ADT Target

5. From the PROTOCOL list, select a subscriber PROTOCOL name (such as MDGE001 or MDSPL001)

Note: Do not select any PROTOCOL names that start with MDC_ADT.

6. From the Division list, select either an entire division or a ward within a division. (This allows Clinical Flowsheets to filter outbound messages by patient location.)

Note: Selecting an entire division will **not** enable all outbound ADT messaging for the entire division.

7. In the PROTOCOL Link Name box, enter a name. We suggest following a naming convention that includes the PROTOCOL, the division, and the ADT event type (for example MDGE_SICU_A01)
8. From the HL7 Event Type drop-down, select an ADT outbound message type.
9. Click **OK**.

Repeat steps 4-9 for each HL7 event type you need to link. Contact [VA OIT OED ClinProc Implementation Support](#) if you need a list of which ADT events can be accepted.

- A01 Admit/visit notification
- A02 Patient transfer
- A03 Discharge/end visit
- A08 Update patient info
- A11 Cancel admission
- A12 Cancel transfer
- A13 Cancel discharge/end visit

6.6. Starting the CP Gateway Service

Note: Following the first installation, manually start the CP Gateway Service. Subsequent installations will generally be able to use previous settings and both register and start the service automatically as part of the install (MD1_OP16CPGatewayServiceSetup.exe).

To manually start the service, do the following:

1. In Windows, open the Services applet:
 - a. Click **Start**.
 - b. Click **Run**.
 - c. In the Open text box, type **services.msc**
 - d. Click **OK**. The Services window opens.
2. Find “Clinical Procedures Gateway Service” in the list (Figure 6-18).

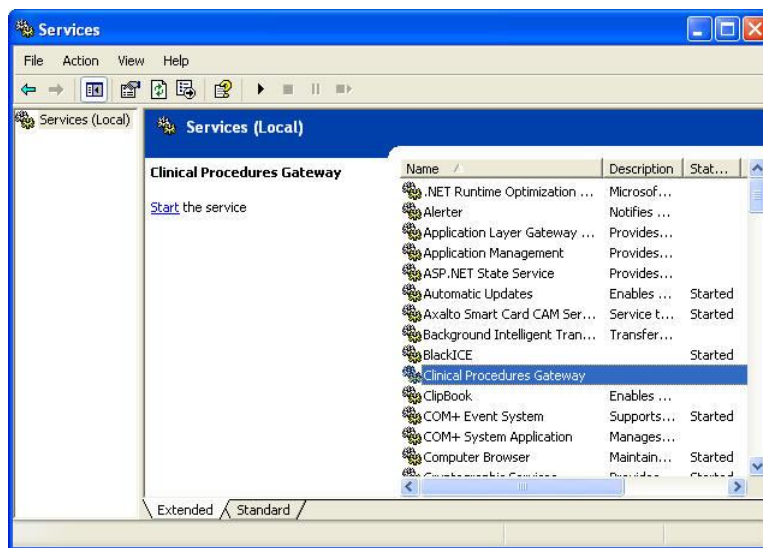


Figure 6-18, Clinical Procedures Gateway Service

3. Right-click “Clinical Procedures Gateway Service” and select **Start**. A progress window displays as the service starts (Figure 6-19).

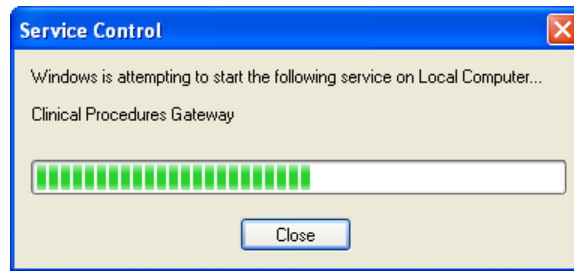


Figure 6-19, Clinical Procedures Gateway Progress

4. When the progress window closes, the Services window redisplay. The status column in the Clinical Procedures Gateway row displays **Started**.

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7. Post Installation

7.1. Adding Command Line Switches

CP Flowsheets and CP Console both support command line switches to save users time when logging on. There is also a command line switch to suppress the use of CCOW, should you not wish to use it. Command line switches can be applied to Desktop icons, Start Menu items, or the command assigned to an item on the CPRS tools menu.

The following command line switches are supported by these two applications:

`[/server=servername] [/port=listenerport] [/noccow]`

In the following example, the CP Flowsheets application will run without first requiring the user to select a server and port from the Connect To window (Figure 7-1):

`"C:\Program Files\VistA\Clinical Procedures\CPFlowsheets.exe" /server=Hines /port=9100`

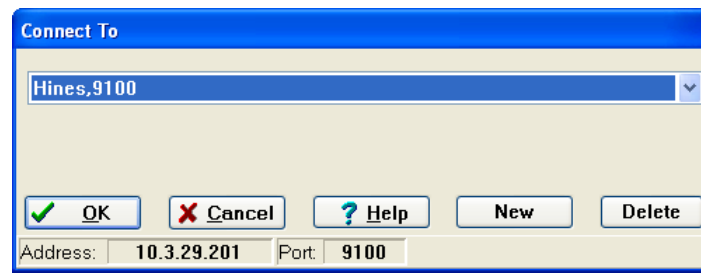


Figure 7-1, Connect To window

CP Flowsheets will bypass the Connect To window and directly display the VistA Sign-on window. Once the user enters Access and Verify Codes, CP Flowsheets will connect to the specified server and port. (The Open Patient window will display.)

In the following example, the CP Flowsheets application will run without CCOW functionality:

`"C:\Program Files\VistA\Clinical Procedures\CPFlowsheets.exe" /noccow`

Once the user has logged onto VistA and the CP Flowsheets main screen displays, the status line displays the No CCOW icon and notification (Figure 7-2).



Figure 7-2, No CCOW Status

Switches:

Name	Description	Abbreviation
/server	Specifies a VistA server to which you are connected.	/s
/port	Specifies an alternate listener port on the selected server.	/p
/noccow	Prevents CCOW from running	

7.2. Add CP Flowsheets to the CPRS Tools Menu (ORWT TOOLS MENU)

You can use the ORWT TOOLS MENU to set up access to CP Flowsheets from the CPRS Tools menu. You can set up the options for the site and then override them as appropriate at the division, service, and user levels. Here are some guidelines:

- Enter each item in the format, NAME=COMMAND.

NAME is the name that displays on the menu, such as CP Flowsheets. If you want to provide keyboard access, you can also enter **&** in front of a letter, such as CP & Flowsheets.

COMMAND is the directory path followed by the executable name.

Notes:

- You must surround a path that contains space characters, such as C:\Program Files\... with quotation marks. You can also include switches in the path. Here's an example:

```
CP Flowsheets="C:\Program Files\Clinical Procedures\CPFlowsheets.exe"
/cprs / s=%SRV /p=%PORT
```
- You can pass context-sensitive parameters, which are entered as placeholders, and then converted to the appropriate values at runtime. The placeholder parameter used with Clinical Procedures is:

%DFN Indicates the DFN of the currently selected patient in CPRS. This parameter passes the current patient to Clinical Procedures. You can also use %DFN as a placeholder in other CP applications.

%SRV Indicates the name of the server that CPRS is currently connected to. This parameter passes the current server name to Clinical Procedures. You can also use %SRV as a placeholder in other CP applications.

%PORT Indicates the listener port that CPRS is currently communicating through. This parameter passes the current listener port to Clinical Procedures. You can also use %PORT as a placeholder in other CP applications.

- Command line switches, such as nonsharedbroker, can be used. Refer to the *CP Flowsheets Module Implementation Guide* “[Appendix A - CP Application Startup Options and Command Line Switches](#),” for more information.

Example: Create a tools menu option that contains CP Flowsheets.

From the system prompt, do the following:

```
Select PARAMETER DEFINITION NAME: orwt TOOLS MENU      CPRS GUI Tools Menu ORWT TOOLS MENU may
be set for the following:

    1   User          USR      [choose from NEW PERSON]

    2   Location      LOC      [choose from HOSPITAL LOCATION]

    2.5 Service      SRV      [choose from SERVICE/SECTION]

    3   Division      DIV      [REGION 5]

    4   System        SYS      [OEC.ISC-SLC.VA.GOV]

Enter selection: 1 User NEW PERSON

Select NEW PERSON NAME: CPUSER, FOUR CF

----- Setting ORWT TOOLS MENU for User: DELAWARE,JOHN -----

Select Sequence: 1

Are you adding 1 as a new Sequence? Yes// YES

Sequence: 1// 1

Name=Command: CP Flowsheets="<directory name>\CPFlowsheets.exe" /cprs /dfn=%DFN /s=%SRV
/p=%PORT

Select Sequence:
```

When you select “CP Flowsheets” from the CPRS Tools menu, CP Flowsheets is displayed and the actual server, port, and global reference are substituted for the command line switches.

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8. FAQ

Question	What do I do if I have installation issues?
Response	<ol style="list-style-type: none"> 1. If assistance is needed during installation please create a Remedy Ticket or contact the Remedy Help Desk at 1-888-596-4357.
Question	How can I check my connection to the broker server?
Response	<ol style="list-style-type: none"> 1. Check the windows registry (HKLM/software/vista/broker/servers) key and ensure that the key is set to the correct IP and port. 2. Check that the broker is running on the correct instance of VistA and on the correct port. <ul style="list-style-type: none"> • Type D ^%SS to show the list • Find the instance and find the line XWBTCPL • Verify that the TCP port number is correct
Question	How can I check the Windows application Event Notifier?
Response	<ol style="list-style-type: none"> 1. Right-click My Computer. 2. Select Manage. 3. Expand Event Viewer. 4. Select Application.
Question	How do I stop the CP Gateway Service?
Response	<ol style="list-style-type: none"> 1. In Windows, click Start Control Panel Administrative Tools Services. The Services window displays. 2. Click the Clinical Procedures Gateway row. A link, Stop the service, displays. 3. Click Stop. A progress window displays as the service stops. 4. When the progress window closes, the Services window redisplay. The status column in the Clinical Procedures Gateway row displays Stopped.
Question	How can I change the time interval for CP Console and CP Flowsheets at which they time out?
Answer	The time interval is set using the TIMED READ value in the NEW PERSON file (#200).

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9. Glossary

This glossary is used for the Clinical Flowsheets project and may include terms and definitions not used in this specific document.

Term	Description
<RET>	Carriage return.
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	Automated Data Processing
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.
ADT	Advanced Data Type (InterSystems Cache). Also Admissions, Discharges, Transfers.
AP	Arterial pressure
API	Application Programming Interface. An interface that a computer system, library, or application provides in order to accept requests for services from other programs, and/or to allow data to be exchanged between them.
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.
Assessment	Assessment is the documentation of a clinician's observations and interpretation of a patient's clinical state based on a particular set of observations. The documentation is in the form of name-value pairs with values selected from a predetermined set, of name-value pairs in which the value is a number or set of numbers, or of free text. Examples of assessments from paper ICU flowsheets are coma scale, patient opens eyes, pupil size, reaction to light, and so on.
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.

Term	Description
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.
Background Task	A job running on a computer while simultaneously working on a second job.
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.
BP	Blood Pressure.
Broker	Software which mediates between two objects, such as a client and a server or a repository and a requestor.
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).
CAC	Clinical Application Coordinator.
Care Action	Care action is an intervention scheduled on a patient that may or may not be ordered.
CCB	Change Control Board.
CCDSS	Clinical Care Delivery Support System.
CCOW	Clinical Context Object Workgroup. An HL7 standard protocol through which applications can synchronize in real-time, enabling Single Sign On and Context Management.
CDR	Clinical Data Repository.
CIS	Clinical Information System. An ICU Clinical Information System is any hardware/software system that works in concert to collect, store, display, and/or enable manipulation of potential, clinically relevant information. A CIS also acts as an HL7 Gateway. Vendors of monitors and other instruments used in an ICU provide the CIS. The primary distinguishing feature of this CIS is its ability to manually select a subset of all available data and send it to the EMR.
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.
Clinical Flowsheets	A module of the Clinical Procedures package that allows the collection of discrete data from medical devices or a Clinical Information System. It is a complete HL7 standardized instrument interface developed and owned by the Department of Veterans Affairs. This module is comprised of three components: the CP Flowsheets application, the CP Console application, and the CliO Generic Interface.
Clinical Reminders	A system which allows caregivers to track and improve preventive healthcare and disease treatment for patients and to ensure timely clinical interventions.
CliO	Clinical Observations database.
CM	Configuration Management.

Term	Description
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 Console	An application used by Administrators to configure the CP Flowsheets application and its interface settings.
CP Definition	CP Definitions are procedures within Clinical Procedures.
CP Flowsheets	A GUI component of the Clinical Flowsheets package. Its primary functions are to provide a means to display data collected from a medical device and to allow manual entry of data. Additional functionality is provided to display and print reports, verify incoming observational data, add comments, correct erroneous information, and submit TIU Notes to CPRS.
CP Gateway	The service application that prepares the data contents of HL7 messages for use in CP Hemodialysis. It requires no direct user interaction.
CP Manager	The CP Manager application is no longer supported after the installation of MD*1.0*16; it has been superseded by. CP Console.
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.
DBIA	Database Integration Agreement.
Delphi	A programming language, also known as Object Pascal.
Device	A hardware input/output component of a computer system (e.g., CRT, printer).
Display Interval	The amount of time that displays in each column of a flowsheet view. Display interval is configurable from 1 minute to 24 hours. Shorter interval settings can improve readability when a large amount of data is received over a short period of time. Longer interval settings allow you to view longer periods of time while reducing the amount of horizontal scrolling necessary to view all columns.
DLL	Dynamically Linked Library. These files provide the benefit of shared libraries.
DOB	Date of Birth.
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.
DUZ	Designated user. This is the internal FileMan number for a particular user.
Edit	Used to change/modify data typically stored in a file.

Glossary

Term	Description
EMR	Electronic Medical Record. HealtheVet, is the permanent medical record for a patient in VistA
Field	A data element in a file.
File	The M construct in which data is stored for retrieval later. 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.
Flowsheet	A flowsheet is a table, chart, spreadsheet, or other method of displaying data on two axes. One axis represents time intervals and the other axis represents the readings from an ICU monitor documented at the various time intervals.
Flowsheet view	A customizable subsection (or page) of a flowsheet. Flowsheet views are created by adding and arranging terms and choosing their default qualifiers. Flowsheet views can be set up to display observations, provide a way to manually enter observations, and display reports.
Fluid off	Cumulative volume of fluid removed from patient.
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.
HDR	Health Data Repository.
HEP (CUM)	Cumulative heparin infusion
HFS	Host File System.
HIPAA	Health Insurance Portability and Accountability Act.
HL7	Health Level 7. A language which various healthcare systems use to interface with one another.
HL7 Gateway	Hardware or software provided by a vendor that is able to receive information in a vendor's proprietary format from one or more ICU monitors and other instruments, to translate the data into standardized HL7 message format, and to pass the messages to other systems.
HR	Heart Rate.
HSD&D	Office of Information (OI), Health Systems Design & Development.
HSITES	Health Systems Implementation, Training, Education, and Support.
ICU	Intensive Care Unit.
IEN	Internal Entry Number.
IJ	Internal Jugular.
Instrument	An instrument is a device used to perform a medical function on a patient. In Clinical Flowsheets instrument refers to ICU monitors, which are electronic devices that collect and/or display information concerning the physical state of a patient. Usually, the monitor attaches to a patient and takes readings over time without requiring intervention for each reading.

Term	Description
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.
IRM	Information Resource Management.
IRMS	Information Resource Management Service.
JCAHO	Joint Commission on Accreditation of Healthcare Organizations.
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.
Key	A level of access assigned to a Flowsheets user that determines which Flowsheets functions the user may perform. Refer to "User Role" in this Glossary.
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.
LPES/CPS	Legacy Product Enterprise Support/Clinical Product Support. Enterprise Product Support (formerly Enterprise VistA Support).
log	A list that provides the time and description of events as they occur.
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.
MAP	Mean Arterial Pressure.
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.
MUMPS	Massachusetts General Hospital Utility Multi-Programming System. Obsolete; now known as "M" programming language.
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.
NTE	Not To Exceed.
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.
optional page	One of two special types of flowsheet views which provides a way to track a specific condition (e.g., a pacemaker) on its own flowsheet view. An Optional Page can display only once in a given flowsheet. If an optional page is closed and then redisplayed, any data previously entered still displays.

Glossary

Term	Description
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).
PCE	Patient Care Encounter.
Permission	Setting that can be used to allow access to particular views, flowsheets, etc. to one or more specific users and to control the type of access each user has.
PIMS	Patient Information Management System.
Pivot	Swap the axes of a table or chart. This causes the values that were displayed along the vertical axis to be displayed along the horizontal axis and the values that were displayed along the horizontal axis to be displayed along the vertical axis.
PM	Project Manager.
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.
PRN	As needed.
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.
Protocol	A set of rules governing communication within and between computing endpoints.
PS	Provider Systems.
PV	Pulmonary Vascular.
QG	Quality Gate.
Qualifiers	A word or phrase that provides specific information about an observation. For example, an observation could have qualifiers such as Unit (f=degrees Fahrenheit, c=degrees Celsius, bpm=beats per minute, rpm=respirations per minute, etc.), Method (Cu=cuff BP, Dop=Doppler BP, etc.), Position (Ly=lying, Si=sitting, St=standing, etc.), Location (La=left arm, LL=left leg, RA=right arm, RL=right leg, etc.), Quality (A=accurate, E=Estimated), etc.
Queuing	The scheduling of a process/task to occur later. Queuing is normally done if a task is a heavy user of computer resources.
RAID	Redundant Array of Inexpensive Disks. A data storage scheme using multiple hard drives to share or replicate data among the drives.
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.
Routine	A set of M commands and arguments, created, stored, and retrieved as a single unit in M.
RPC	Remote Procedure Call. A protocol that allows a computer program running on one host to cause code to be executed on another host.
Rx	Prescription.
SAC	Standards And Conventions.
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.

Term	Description
Service	A long-running executable designed to perform specific functions without user intervention. Windows services can be configured to restart automatically when the operating system is rebooted.
SGML	Standard Generalized Markup Language.
Shift	A period of time that can be defined in CP Flowsheets. This often corresponds to the time an individual an individual works.
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 for a related set of computer programs, such as an operating system that enables user programs to run.
SQA	Software Quality Assurance.
SRS	Software Requirements Specification.
SSN	Social Security Number.
Status Symbols	Codes used in order entry and Consults displays to designate the status of the order.
STS	Standards and Terminology Services. An initiative to create and maintain standardized terminology throughout the VA by assigning a code to every term.
Supplemental page	One of two special types of flowsheet views which provides a way to track a specific condition (e.g., a pressure wound) on its own flowsheet view. Multiple supplemental pages can be added to a single flowsheet in order to track numerous specific conditions. If a supplemental page is closed and then a new supplemental page is added, the new supplemental page is blank.
Tab	One of the five primary GUI screens of the CP Flowsheets application: Flowsheet, Alarms, Reports, Log Files, and HL7 Monitor.
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.
Term	As used in Flowsheets, a term is any piece of relevant data. A term, like “Blood Pressure” will typically have one or more associated measures, modifiers, or qualifiers.
Terminology	Standardization of words and terms used in Flowsheets.
Title	Titles are definitions for documents. They store the behavior of the documents which use them.
TIU	Text Integration Utilities.
TMP	Trans Membrane Pressure.
UFR	Ultrafiltration Rate.
UI	User Interface.
UNC	Universal Naming Convention.
Untrusted device	A medical instrument which has not been mapped for use with the Clinical Flowsheets package. Data sent from an untrusted device will not display in a flowsheet view until someone reviews it (on the CP Flowsheets Log Files tab) and marks it as verified.
URL	Uniform Resource Locator. A means of finding a resource (such as a web page or a device) on the Internet.
URR	Urea Reduction Ratio. The reduction in urea as a result of dialysis.
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

Term	Description
User Role	User Role (in a documentation context). The role of the user with respect to the document in question (e.g., Author/Dictator, Expected Signer, Expected Cosigner, Attending Physician, etc.).
User Role	User Role (in a Flowsheets setup context). The role of a Flowsheets user with respect to which Flowsheets functions the user will have permission to perform. Flowsheets User Role include the following. <ul style="list-style-type: none"> • MD ADMINISTRATOR • MD MANAGER • MD HL7 MANAGER • MD READ-ONLY • MD TRAINEE
Utility	An M program that assists in the development and/or maintenance of a computer system.
UUEncoded format	A form of binary to text encoding whose name derives from "Unix-to-Unix encoding".
VA	Department of Veterans Affairs. Formerly the Veterans Administration.
VAMC	Department of Veterans Affairs Medical Center.
VDEF	VistA Data Extraction Framework.
Verify Code	A unique security code which serves as a second level of security access. Use of this code is site specific. This term is sometimes used interchangeably the term password.
VHA	Veteran Health Administration.
VistA	Veterans Health Information Systems and Technology Architecture.
VP	Venous Pressure.
VOID	Veterans Health Administration (VHA) Unique Identifier. A unique identifier that specifies individual data elements or observations. In Clinical Flowsheets, each term is assigned a VOID.
Workstation	A personal computer running the Windows 9x or NT operating system.
XML	Extensible Markup Language. A simplified subset of Standard Generalized Markup Language (SGML). Its primary purpose is to facilitate the sharing of data across different information systems.
XMS	Extended Memory Specification. The specification describing the use of extended memory in real mode for storing data.