

**Medical Care Collection Fund (MCCF) Electronic Data
Interchange (EDI) Transaction Applications Suite
(TAS) eBilling Build 2**

Integrated Billing IB*2.0*577

Version 4.0

**Deployment, Installation, Back-Out, and Rollback
Guide**



October 2017

**Department of Veterans Affairs
Office of Information and Technology (OI&T)**

Revision History

Date	Version	Description	Author
June 2017	1.0	Initial Version	Vito D'Amico
October 2017	2.0	Updated based upon review comments	Vito D'Amico
October 2017	3.0	Made some corrections based upon review comments	Vito D'Amico
October 2017	4.0	Made one last correction in section 5.2.2.	Vito D'Amico

Artifact Rationale

This document describes the Deployment, Installation, Back-out, and Rollback Plan for new products going into the VA Enterprise. The plan includes information about system support, issue tracking, escalation processes, and roles and responsibilities involved in all those activities. Its purpose is to provide clients, stakeholders, and support personnel with a smooth transition to the new product or software, and should be structured appropriately, to reflect particulars of these procedures at a single or at multiple locations.

Per the Veteran-focused Integrated Process (VIP) Guide, the Deployment, Installation, Back-out, and Rollback Plan is required to be completed prior to Critical Decision Point #2 (CD #2), with the expectation that it will be updated throughout the lifecycle of the project for each build, as needed.

Table of Contents

1	Introduction	1
1.1	Purpose	1
1.2	Dependencies	1
1.3	Constraints.....	1
2	Roles and Responsibilities	1
3	Deployment.....	2
3.1	Timeline.....	2
3.2	Site Readiness Assessment.....	2
3.2.1	Deployment Topology (Targeted Architecture).....	2
3.2.2	Site Information (Locations, Deployment Recipients).....	2
3.2.3	Site Preparation	3
3.3	Resources	4
3.3.1	Facility Specifics.....	4
3.3.2	Hardware	4
3.3.3	Software.....	4
3.3.4	Communications.....	5
3.3.4.1	Deployment/Installation/Back-Out Checklist	5
4	Installation	5
4.1	Pre-installation and System Requirements.....	5
4.2	Platform Installation and Preparation	6
4.3	Download and Extract Files.....	6
4.4	Database Creation	6
4.5	Installation Scripts	6
4.6	Cron Scripts	6
4.7	Access Requirements and Skills Needed for the Installation.....	6
4.8	Installation Procedure	6
4.9	Installation Verification Procedure	6
4.10	System Configuration	7
4.11	Database Tuning.....	7
5	Back-Out Procedure	7
5.1	Back-Out Strategy	7
5.1.1	Mirror Testing or Site Production Testing	7
5.1.2	After National Release but During the Designated Support Period	7
5.1.3	After National Release and Warranty Period.....	7
5.2	Back-Out Considerations	7
5.2.1	Load Testing	8

5.2.2	User Acceptance Testing	8
	Back-Out Criteria	9
5.3	Back-Out Risks	9
5.4	Authority for Back-Out	9
5.5	Back-Out Procedure	10
5.6	Back-out Verification Procedure	10
6	Rollback Procedure	10
6.1	Rollback Considerations	10
6.2	Rollback Criteria	10
6.3	Rollback Risks	11
6.4	Authority for Rollback	11
6.5	Rollback Procedure	11
6.6	Rollback Verification Procedure	11

Table of Tables

Table 1: Deployment, Installation, Back-out, and Rollback Roles and Responsibilities.....	1
Table 2: TEST Site Preparation	3
Table 3: Site Preparation.....	3
Table 4: Facility-Specific Features	4
Table 5: Hardware Specifications	4
Table 6: Software Specifications	4
Table 7: Deployment/Installation/Back-Out Checklist.....	5

1 Introduction

This document describes how to deploy and install the IB*2.0*577 and how to back-out the product and rollback to a previous version or data set.

1.1 Purpose

The purpose of this plan is to provide a single, common document that describes how, when, where, and to whom the IB*2.0*577 will be deployed and installed, as well as how it is to be backed out and rolled back, if necessary. The plan identifies resources, communications plan, and rollout schedule. Specific instructions for installation, back-out, and rollback are included in this document.

1.2 Dependencies

IB*2.0*407, IB*2.0*522, IB*2.0*547, IB*2.0*550, IB*2.0*554 and IB*2.0*576 must be installed **before** IB*2.0*577.

1.3 Constraints

This patch is intended for a fully patched VistA system.

2 Roles and Responsibilities

Table 1: Deployment, Installation, Back-out, and Rollback Roles and Responsibilities

ID	Team	Phase / Role	Tasks	Project Phase (See Schedule)
1	VA OI&T, VA OI&T Health Product Support & PMO (Leidos)	Deployment	Plan and schedule deployment (including orchestration with vendors)	Planning
2	Local VAMC and CPAC processes	Deployment	Determine and document the roles and responsibilities of those involved in the deployment.	Planning
3	Field Testing (Initial Operating Capability - IOC), Health Product Support Testing & VIP Release Agent Approval	Deployment	Test for operational readiness	Testing
4	Health product Support and Field Operations	Deployment	Execute deployment	Deployment
5	Individual Veterans Administration Medical Centers (VAMCs)	Installation	Plan and schedule installation	Deployment

ID	Team	Phase / Role	Tasks	Project Phase (See Schedule)
6	VIP Release Agent	Installation	Ensure authority to operate and that certificate authority security documentation is in place	Deployment
7	N/A for this patch as we are using only the existing VistA system	Installation	Validate through facility POC to ensure that IT equipment has been accepted using asset inventory processes	
8	VA's eBusiness team	Installations	Coordinate training	Deployment
9	VIP release Agent, Health Product Support & the development team	Back-out	Confirm availability of back-out instructions and back-out strategy (what are the criteria that trigger a back-out)	Deployment
10	No changes to current process – we are using the existing VistA system	Post Deployment	Hardware, Software and System Support	Warranty

3 Deployment

The deployment is planned as a national rollout.

This section provides the schedule and milestones for the deployment.

3.1 Timeline

The duration of deployment and installation is 30 days, as depicted in the master deployment schedule¹.

3.2 Site Readiness Assessment

This section discusses the locations that will receive the IB*2.0*577 deployment.

3.2.1 Deployment Topology (Targeted Architecture)

This patch IB*2.0*577 is to be nationally released to all VAMCs.

3.2.2 Site Information (Locations, Deployment Recipients)

The test sites for IOC testing are:

- CLEVELAND, OH
- FARGO, ND

¹ Project schedule (right click and select open hyperlink to access)

http://vaww.oed.portal.va.gov/pm/hape/ipt_5010/EDI_Portfolio/TAS%20Interim%20Repository/MCCF%20TAS%20Schedule.zip

- OMAHA, NE
- ORLANDO, FL

Upon national release all VAMCs are expected to install this patch prior to or on the compliance date.

3.2.3 Site Preparation

The following table describes preparation required by the “TEST” site prior to deployment.

Table 2: TEST Site Preparation

Site/Other	Problem/Change Needed	Features to Adapt/Modify to New Product	Actions/Steps	Owner
Cleveland, OH	Testers need to obtain access to the Test Environment(s)	N/A	Grant the assigned testers the necessary access to the Test Environment(s)	N/A
Fargo, ND	Testers need to obtain access to the Test Environments	N/A	Grant the assigned testers the necessary access to the Test Environment(s)	N/A
Omaha, NE	Testers need to obtain access to the Test Environments	N/A	Grant the assigned testers the necessary access to the Test Environment(s)	N/A
Orlando, FL	Testers need to obtain access to the Test Environments	N/A	Grant the assigned testers the necessary access to the Test Environment(s)	N/A

The following table describes preparation required by the site prior to deployment.

Table 3: Site Preparation

Site/Other	Problem/Change Needed	Features to Adapt/Modify to New Product	Actions/Steps	Owner
N/A	N/A	N/A	N/A	N/A

3.3 Resources

3.3.1 Facility Specifics

The following table lists facility-specific features required for deployment.

Table 4: Facility-Specific Features

Site	Space/Room	Features Needed	Other
N/A	N/A	N/A	N/A

3.3.2 Hardware

The following table describes hardware specifications required at each site prior to deployment.

Table 5: Hardware Specifications

Required Hardware	Model	Version	Configuration	Manufacturer	Other
Existing VistA system	N/A	N/A	N/A	N/A	N/A

Please see the Roles and Responsibilities table in Section 2 for details about who is responsible for preparing the site to meet these hardware specifications.

3.3.3 Software

The following table describes software specifications required at each site prior to deployment.

Table 6: Software Specifications

Required Software	Make	Version	Configuration	Manufacturer	Other
Fully patched Integrated Billing package within VistA	N/A	2.0	N/A	N/A	N/A
IB*2.0*407	N/A	Nationally released version	N/A	N/A	N/A
IB*2.0*522	N/A	Nationally released version	N/A	N/A	N/A
IB*2.0*547	N/A	Nationally released version	N/A	N/A	N/A

Required Software	Make	Version	Configuration	Manufacturer	Other
IB*2.0*550	N/A	Nationally released version	N/A	N/A	N/A
IB*2.0*554	N/A	Nationally released version	N/A	N/A	N/A
IB*2.0*576	N/A	Nationally released version	N/A	N/A	N/A

Please see the Roles and Responsibilities table in Section 2 above for details about who is responsible for preparing the site to meet these software specifications.

3.3.4 Communications

The sites that are participating in field testing (IOC) will use the “Patch Tracking” message in Outlook to communicate with the eBilling eBusiness team, the developers, and product support personnel.

3.3.4.1 Deployment/Installation/Back-Out Checklist

The Release Management team will deploy the patch IB*2.0*577, which is tracked nationally for all VAMCs in the NPM in Forum. Forum automatically tracks the patches as they are installed in the different VAMC production systems. One can run a report in Forum to identify when the patch was installed in the VistA production at each site, and by whom. A report can also be run, to identify which sites have not currently installed the patch in their VistA production system.

Therefore, this information does not need to be manually tracked in the chart below.

Table 7: Deployment/Installation/Back-Out Checklist

Activity	Day	Time	Individual who completed task
Deploy	N/A	N/A	N/A
Install	N/A	N/A	N/A

4 Installation

4.1 Pre-installation and System Requirements

IB*2.0*577, a patch to the existing VistA Integrated Billing 2.0 package, is installable on a fully patched M(UMPS) VistA system and operates on the top of the VistA environment provided by the VistA infrastructure packages. The latter provides utilities which communicate with the underlying operating system and hardware, thereby providing Integrated Billing independence from variations in hardware and operating system.

4.2 Platform Installation and Preparation

Refer to the IB*2.0*577 documentation on the National Patch Module (NPM) in Forum for the detailed installation instructions. These instructions would include any pre-installation steps if applicable.

4.3 Download and Extract Files

Refer to the IB*2.0*577 documentation on the NPM to find related documentation that can be downloaded. IB*2.0*577 will be transmitted via a PackMan message and can be pulled from the NPM. It is not a host file, and therefore does not need to be downloaded separately.

4.4 Database Creation

IB*2.0*577 modifies the VistA database. All changes can be found on the NPM documentation for this patch.

4.5 Installation Scripts

No installation scripts are needed for IB*2.0*577 installation.

4.6 Cron Scripts

No Cron scripts are needed for IB*2.0*577 installation.

4.7 Access Requirements and Skills Needed for the Installation

The following staff will need access to the PackMan message containing the IB*2.0*577 patch or to Forum's NPM for downloading the nationally released IB*2.0*577 patch. The software is to be installed by the site's or region's designated: VA OI&T IT OPERATIONS SERVICE, Enterprise Service Lines, Vista Applications Division².

4.8 Installation Procedure

Refer to the IB*2.0*577 documentation on the NPM for detailed installation instructions.

4.9 Installation Verification Procedure

Refer to the IB*2.0*577 documentation on the NPM for specific and detailed installation instructions. These instructions include any post installation steps if applicable. The post installation routine will accomplish the following:

- Recompile the Billing Screen Input Templates
- Survey the Form Type file (#353) to identify which form numbers are being used at the site. Then an email will be sent to the MCCF EDI TAS Development Team with this information which will be used to determine which form numbers are available for future development.

² "Enterprise service lines, VAD" for short. Formerly known as the IRM (Information Resources Management) or IT support.

4.10 System Configuration

No system configuration changes are required for this patch.

4.11 Database Tuning

No reconfiguration of the VistA database, memory allocations or other resources is necessary.

5 Back-Out Procedure

Back-Out pertains to a return to the last known good operational state of the software and appropriate platform settings.

5.1 Back-Out Strategy

Although it is unlikely due to care in collecting, elaborating, and designing approved user stories, followed by multiple testing stages (Developer Unit Testing, Component Integration Testing, SQA Testing, and User Acceptance Testing), a back-out decision due to major issues with this patch could occur. A decision to back out could be made during site Mirror Testing, Site Production Testing or after National Release to the field (VAMCs). The best strategy decision is dependent on the stage of testing during which the decision is made.

5.1.1 Mirror Testing or Site Production Testing

If during Mirror testing or Site Production Testing, a new version of a defect correcting test patch is produced, retested and successfully passes development team testing, it will be resubmitted to the site for testing. If the patch produces catastrophic problems, a new version of the patch can be used to restore the build components to their pre-patch condition.

5.1.2 After National Release but During the Designated Support Period

If the defect(s) were not discovered until after national release but during the designated support period, a new patch will be entered into the National Patch Module in Forum and will go through all the necessary milestone reviews etc. as a patch for a patch. It is up to VA OI&T and product support whether this new patch would be defined as an emergency patch or not. This new patch could be used to address specific issues pertaining to the original patch or be used to restore the build components to their original pre-patch condition.

5.1.3 After National Release and Warranty Period

After the support period, the VistA Maintenance Program would produce the new patch, either to correct the defective components or restore the build components to their original pre-patch condition.

5.2 Back-Out Considerations

It is necessary to determine if a wholesale back-out of the patch IB*2.0*577 is needed or if a better course of action is needed to correct through a new version of the patch (if prior to national release) or a subsequent patch aimed at specific areas modified or affected by the original patch (after national release). A wholesale back-out of the patch will still require a new version (if prior to national release) or a subsequent patch (after national release). If the back-out is post-release of patch IB*2.0*577, this patch should be assigned status of “Entered in Error” in Forum’s NPM.

5.2.1 Load Testing

N/A. The back-out process would be executed at normal, rather than raised job priority, and is expected to have no significant effect on total system performance. Subsequent to the reversion, the performance demands on the system would be unchanged.

5.2.2 User Acceptance Testing

Cloning a Primary Claim:

- The Copy and Cancel [IB COPY AND CANCEL] option can be used to cancel a primary claim and create a new primary claim which is to be submitted as a replacement claim.
- If the primary claim (Medicare or non-Medicare) has one or more associated MRAs or EOBs in VistA, the IB system will not copy the COB data to the new primary claim except for COB1, Piece 7 - Other Payer Claim Control Number (ICN). The ICN is required for replacement claims.
- The new primary claim should be able to be transmitted and there should be no COB data except for the COB1, Piece 7 - ICN. The MOA1, MIA1, MIA2, CCAS, LCOB and LCAS records will not exist in the outbound transaction.

Field Length Adjustments:

- Up to the maximum number of characters should be allowed to be entered in the X12N/005010X222 Health Care Claim (837) and X12N/005010X223 Health Care Claim (837) guides for the fields affected by the updated IB screens.
- VistA files can store the longer data for the modified data fields of the files affected by this change.
- VistA should be able to transmit up to the maximum number of characters allowed in the X12N/005010X222 Health Care Claim – Professional (837) guide for the fields affected by this change.
- VistA should be able to transmit up to the maximum number of characters allowed in the X12N/005010X223 Health Care Claim - Institutional (837) guide for the fields affected by this change.
- VistA IB should not receive any HIPAA compliance errors associated with field size compliance.
- The X12 837-I and 837-P transactions containing up to the maximum field sizes are transmitted from FSC to the HCCCH and on to the payer without any field size compliance errors.
- The data entered in the longer data fields in IB screens and IB reports should be viewable where it has been determined that there is enough room to display.

Units or Basis for Measurements Codes for Drugs:

- When entering a bill using the Enter/Edit Billing Information option, select Section 4 on Screen 5, and enter a HCPCS/CPT code for a procedure that requires the inclusion of a National Drug Code (NDC) for the administration of a non-prescription (RX) medication.
- An NDC should be able to be entered that is associated with the procedure.
- A Unit/Basis of Measurement should be able to be entered by accepting the default value of UNITS or by entering a code such as F2, GR, ME, ML, UN or by entering “??” at the prompt for unit or basis for measurement code and then selecting a code.
- Upon entering the Unit/Basis of Measurement, the IB system should prompt for the entry of the appropriate unit (quantity).
- The IB system should allow the user to complete and authorize the bill.
- The IB system should be able to transmit the NDC number, the Units/Basis of Measurement and the Quantity in PRF, Pieces 22, 23, 25, for a Professional claim in the flat file.

- The IB system should be able to transmit the NDC number, the Units/Basis of Measurement and the Quantity in INS, Pieces 15, 16, 17, for an Institutional claim in the flat file.

Print NDC Number on UB04:

- The IB system should print each non-prescription, line level NDC qualifier, NDC number, unit of measurement qualifier and the quantity of the medication delivered in FL 43 of the UB04 in a left justified format: QualifierNDC#UnitQualifierQuantity. (For example: N400039006013ME1).
- The IB system should print whole number Quantities with no decimal.
- The IB system should print non-whole number Quantities with up to 3 decimal places.
- The IB system should no longer print non-prescription, line level NDC qualifier, NDC number, unit of measurement qualifier and the quantity of the medication delivered in FL80 of the UB04.

Process Payer ID – Store HCCH Payer ID:

- The IB system should be able to accept an inbound 277STAT message from HCCH.
- The IB system should be able to process a 277STAT message and attempt to update the EDI ID NUMBER – PROF [3.02] field or the EDI ID NUMBER – INST [3.04] field with any Payer IDs identified by the HCCH in the 277STAT transaction.
- The IB system should update the EDI ID NUMBER – PROF [3.02] field or EDI ID NUMBER – INST [3.04] field in the Insurance Company file [#36] with the values sent by the HCCH only if the field(s) is blank.

Payer ID Report:

- The IB system should provide access to a new “HCCH Payer ID Report” [IB HCCH PAYER ID REPORT] option (on the MCCR System Definition Menu) for tracking Payer ID (EDI ID NUMBER – PROF [3.02] or EDI ID NUMBER – INST [3.04]) updates that are a result of a 277STAT message.
- Upon selecting the new report option, the IB system should allow for an entry to specify a date range for which to search for system changes to the EDI ID NUMBER – PROF [3.02] field or EDI ID NUMBER – INST [3.04] field.
- The new HCCH Payer ID Report should provide the following data elements: insurance company name; address; Prof ID and/or Inst ID values that were updated; Prof ID and Inst ID values that the system did not update and date of update or attempted update.
- The new HCCH Payer ID Report will only show one attempt per day per Insurance Company per ID (Institutional or Professional) unless subsequent attempts involve a different ID value.

Back-Out Criteria

The project is canceled, the requested changes implemented by IB*2.0*577 are no longer desired by VA OI&T and the Integrated Billing eBusiness team, or the patch produces catastrophic problems.

5.3 Back-Out Risks

Since the eBilling software is tightly integrated with external systems, any attempt at a back-out should include close consultation with the external trading partners such as the Financial Services Center (FSC) and the Health Care Clearing House (HCCH) to determine risk.

5.4 Authority for Back-Out

The order would come from: release coordinator (product support), portfolio director and health product support. This should be done in consultation with the development team and external trading partners

such as FSC and the HCCH to determine the appropriate course of action. eBilling is tightly integrated with these external partners and a back-out of the patch should not be a standalone decision.

5.5 Back-Out Procedure

The rollback plan for VistA applications is complex and not a “one size fits all” solution. The general strategy for a VistA rollback is to repair the code with a follow-up patch. The development team recommends that sites log a ticket if it is a nationally released patch. If not, the site should contact the Enterprise Program Management Office (EPMO) team directly for specific solutions to their unique problems.

The IB*2.0*577 patch contains the following build components.

- Routines
- New Menu Option
- Protocols
- Modifications to the following files:
 - Insurance File [#36]
 - IB Error File [#350.8]
 - IB Site Parameters File
 - IB Non/Other VA Billing Provider File
 - IB Form Skeleton Definition File
 - IB Form Field Content File
 - Bill/Claims File [#399]
- Data Dictionary Changes

While the VistA installation procedure of the KIDS build allows the installer to back up the modified routines using the ‘Backup a Transport Global’ action, the back-out procedure for global, data dictionary and other VistA components is more complex and requires issuance of a follow-up patch to ensure all components are properly removed and/or restored. All software components (routines and other items) must be restored to their previous state at the same time and in conjunction with the restoration of the data.

Please contact the EPMO team for assistance since this installed patch contains components in addition to routines.

5.6 Back-out Verification Procedure

Successful back-out is confirmed by verification that the back-out patch was successfully installed.

6 Rollback Procedure

Rollback pertains to data. The data that is affected by the installation of IB*2.0*577 are those fields that had their field lengths expanded.

6.1 Rollback Considerations

Not applicable.

6.2 Rollback Criteria

Not applicable.

6.3 Rollback Risks

Not applicable.

6.4 Authority for Rollback

Not applicable.

6.5 Rollback Procedure

Not applicable.

6.6 Rollback Verification Procedure

Should it be decided to back-out IB*2.0*577, a utility routine is available to identify the data that exceeds the restored field lengths. This utility will not fix/recover any of the data.

If a decision is made to back-out the longer fields, this utility will be included with a future version of the patch if backed-out during IOC. If this is backed-out post national release, the utility will be part of a warranty patch which restores the prior field lengths.