



Development Applications and Technical Services

**Centers for Medicare & Medicaid
Services**

Electronic Submission of Medical Documentation (esMD)

Review Contractor (RC) Client Microsoft .NET User Guide and Installation Handbook

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Table of Contents

1. Introduction	1
1.1 Overview of the esMD	1
1.1.1 The esMD Claim Review Contractors	1
1.2 System Overview	2
1.3 System Requirements	3
1.4 RC Client Overview	3
1.4.1 RC Client Pull/Push Functionality	4
1.4.2 RC Client Application Overview	4
1.4.3 RC Client Operation Overview	5
2. Overview of How This Document is Structured	7
3. How to Start the RC Client and Log In	9
4. How to Enter a Decision on the Review Decision Response to Prior Authorization (PA) Request Tab	10
4.1 How to Enter an A-Affirmed Decision.....	10
4.2 How to Enter a M-Affirmed with Change Decision	16
4.3 How to Enter a N-Non Affirmed Decision.....	27
5. How to Enter an Error Code on the Error Response to PA Request Tab	33
6. How to Submit an Inbound Submission Error on the Administrative Error Response to Inbound Submissions Tab	38
7. How to Verify Connection to TIBCO MFT Server, Using the Advanced/Debugging Tab	41
8. System Requirements	42
8.1 Processor.....	42
8.2 Disk Space	42
8.3 Memory	43
8.4 Permissions.....	43
8.5 Network.....	43
8.6 Microsoft .NET Framework.....	43
8.7 Libraries.....	43
9. How to Install and Configure a Microsoft .NET Version of RC Client	43
9.1 Out-of-the-Box	44
9.1.1 Keystore Set Up.....	44
9.1.2 Configuring the RC Client	44
9.1.3 Running the RC Client	46

9.2	Custom RC Client	47
10.	TIBCO® MFT File Transfers	47
11.	XML Messages	48
11.1	Inbound	48
11.1.1	Payload Files	49
11.1.2	Flat File Rendering (FFR)	49
11.1.3	Cover Sheet.....	50
11.1.4	Metadata File	53
11.1.5	Pickup HIH Status Response.....	55
11.1.6	Pickup Validation Error Response	55
11.1.7	Administrative Error HIH Status Response	56
11.1.8	Administrative Error Response Validation Error.....	56
11.1.9	Virus Scan Error Response	56
11.1.10	PA Review Response HIH Status Response	57
11.1.11	PA Review Response Validation Error Response	58
11.2	Outbound	58
11.2.1	Pickup Notification	58
11.2.2	Error Pickup Notification	59
11.2.3	Review Decision Response to PA Request	59
11.2.4	Error Response to PA Request.....	62
11.2.5	Administrative Error Response to Inbound Submissions	63
12.	RC Client Components	64
12.1	SFTP Client	65
12.2	Compression Utility	65
12.3	Encryption Utility	66
12.4	XML Processor	66
12.5	Scheduler	66
13.	RC Client Workflow	66
13.1	Start RC Client	66
13.1.1	Login and Encryption	66
13.2	Outbound Process	67
13.2.1	Outbound Start	67
13.2.2	Get Outbound Documents	67
13.2.3	Connect	69
13.2.4	Push	69
13.3	Inbound Processes	69
13.3.1	Inbound Start	69
13.3.2	Extraction Failure	69
13.3.3	Extraction.....	69
13.3.4	Checksum Verification	69
13.4	Acknowledgements	69
13.4.1	Pickup Notification	69

13.4.2	Error Pickup Notification	70
13.5	Connect	70
13.6	Get Notifications	70
13.7	Process Document	70
13.8	Pull Document	70
14.	Release 4.0 Changes in the API	71
15.	.NET Client API	72
15.1	Security	72
15.2	.NET API Documentation	73
15.2.1	Login	73
15.2.2	Inbound.....	74
15.2.3	Outbound	75
15.2.4	PA Review Decision Response	76
15.2.5	PA Error (Rejected Decision) Response.....	77
15.2.6	Administrative Error Response to Inbound Submissions	77
15.2.7	Utilities – Encryption	78
15.2.8	Advanced / Debugging API.....	79
15.2.9	Validation API	79
15.3	Logs	80
16.	Error Codes	81
16.1	Errors: esMD to RC	81
16.2	Errors: RC to esMD	83
16.2.1	Administrative Errors:	83
16.2.2	Pickup Errors	83
17.	Contacts	83
Appendix A:	Description of Fields on RC Client Tabs	85
Appendix B:	Reject Error Codes	88
Appendix C:	Industry Codes	89
Appendix D:	PA Reason Codes	90
Appendix E:	PA Procedure Codes	91
Appendix F:	Data Directories	93
Appendix G:	Content Type Codes	94
Appendix H:	Record of Changes	95
Appendix I:	Acronyms	96
Appendix J:	Glossary	97

Appendix K:	Referenced Documents.....	98
Appendix L:	Approvals	99

List of Figures

Figure 1: RC Client Inbound and Outbound Process	5
Figure 2: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 1	51
Figure 3: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 2	52
Figure 4: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 3	53
Figure 5: RC Client Components	65
Figure 6: RC Client Workflow.....	68
Figure 7: Encryption and Decryption Process	73

List of Tables

Table 1: Medicare Contractors, Responsibilities and Contact Information ...	2
Table 2: Libraries.....	43
Table 3: Sample RC Client Configuration File	45
Table 4: Inbound Files	48
Table 5: Outbound Files	48
Table 6: E_185457-flatfilerendering.ffr	50
Table 7: E_123456-metadata.xml	53
Table 8: A_123456_Pickup_HIH_Status_Response.xml.....	55
Table 9: R_123456_Pickup_Validation_Error.xml	55
Table 10: S_123456_Administrative_Error_HIH_Status_Response.xml.....	56

Table 11: M_123456_Administrative_Response_Validation_Error.xml	56
Table 12: X_123456_Virus_Scan_Error.xml.....	57
Table 13: N_123456_PA_Review_Result_HIH_Status_Response.xml.....	57
Table 14: V_123456_PA_Review_Response_Validation_Error.xml	58
Table 15: P_186303_Pickup_Notification.xml	59
Table 16: P_186303_Pickup_Error_Notification.xml.....	59
Table 17: E_1523121_PA_Review_Response.xml	60
Table 18: E_1523124_PA_Review_Response.xml	61
Table 19: E_1541233_PA_Review_Response.xml	62
Table 20: E_1521342_PA_Review_Response.xml	63
Table 21: D_1532432AdministrativeErrorResponse.xml.....	64
Table 22: Inbound Client Methods.....	71
Table 23: The esMD.RcClient.Login.LoginProcess Methods.....	73
Table 24: The esMD.RcClient.Inbound.Inbound Methods.....	74
Table 25: The esMD.RcClient.Outbound.Outbound Methods.....	76
Table 26: Manual Submission of PA Result	76
Table 27: Manual Submission of PA Error (Rejected Decision) Response .	77
Table 28: Administrative Error Response to Inbound Submissions.....	78
Table 29: EMSD.RcClient.Encryption.EncryptionUtil Methods	78
Table 30: Remote Troubleshooting	79
Table 31: Validation Methods.....	80
Table 32: Error Codes Sent from the esMD to RC	81
Table 33: Administrative Error Codes	83
Table 34: Pickup Error Codes	83
Table 35: Support Points of Contact	84

Table 36: Descriptions of Fields on Review Decision Response to PA Request Tab.....	85
Table 37: Descriptions of Fields on Error Response to PA Request Tab....	86
Table 38: Descriptions of Fields on Administrative Error Response to Inbound Submissions Tab	86
Table 39: Descriptions of Fields on Advanced/Debugging Tab	87
Table 40: Procedure Codes for the PA Programs	91
Table 41: Inbound File Names and Data Directories	93
Table 42: Outbound File Names and Data Directories	93
Table 43: Content Type Code Descriptions	94
Table 44: Content Type Codes and Business Types	94
Table 45: Record of Changes.....	95
Table 46: Acronyms	96
Table 47: Glossary	97
Table 48: Referenced Documents.....	98

1. Introduction

The Centers for Medicare & Medicaid Services (CMS) is a federal agency that ensures health care coverage for more than 100 million Americans. The CMS administers Medicare and provides funds and guidance for all of the 50 states in the nation, for their Medicaid programs and Children's Health Insurance Program (CHIP). The CMS works together with the CMS community and organizations in delivering improved and better coordinated care.

1.1 Overview of the esMD

Each year, the Medicare Fee-For-Service (FFS) Program makes billions of dollars in estimated improper payments. The CMS employs several types of Review Contractors (RCs) to measure, prevent, identify, and correct these improper payments. RCs find improper payments and manually review claims against medical documentation obtained to verify the providers' compliance with Medicare rules. The RCs request medical documentation by sending a paper letter to the provider. In the past, medical documentation providers had only two options for delivering the medical documentation requested by sending it by letter or fax.

The Electronic Submission of Medical Documentation (esMD) system gives providers the option of sending medical documentation electronically to a requesting RC, instead of sending the documentation by letter or fax.

Many providers use a Health Information Handler (HIH) organization to perform tasks, such as submitting claims and providing electronic health record systems. Any organization that handles health information on behalf of a provider is an HIH. Some HIHs are beginning to offer esMD gateway services; Claim Clearinghouses, Release of Information vendors, Health Information Exchanges, and Electronic Health Record vendors are often referred to as HIHS.

The esMD system allows providers and HIHs use gateway services to send responses for requests for additional documentation electronically to a RC during the claims review process.

1.1.1 The esMD Claim Review Contractors

Under the authority of the Social Security Act, CMS employs a variety of contractors to process and review claims in accordance with Medicare rules and regulations. Table 1: Medicare Contractors, Responsibilities and Contact Information lists the review contractors referenced in this implementation guide.

Table 1: Medicare Contractors, Responsibilities and Contact Information

Type of Contractor	Responsibilities	Contact Information
Medicare Administrative Contractors (MACs)	Process claims submitted by physicians, hospitals, and other health care professionals, and submit payment to those providers in accordance with Medicare rules and regulations. This includes identifying and correcting underpayments and overpayments.	http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/Review-Contractor-Directory-Interactive-Map
Zone Program Integrity Contractors (ZPICs), formerly Program Safeguard Contractors (PSCs)	Identify cases of suspected fraud and take appropriate corrective actions.	http://www.cms.gov/ Research-Statistics-Data- and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/Review-Contractor-Directory- Interactive-Map
Supplemental Medical Review Contractor (SMRC)	Conduct nationwide medical review, as directed by CMS. This includes identifying underpayments and overpayments.	http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/Medical-Review/SMRC.html
Contractor (CERT DC), CERT Review Contractor (CERT RC), and CERT Statistical Contractor (CERT SC)	Collect documentation and perform reviews on a statistically-valid random sample of Medicare FFS claims to produce an annual improper payment rate.	https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/CERT/index.html?redirect=/cert
Recovery Auditors	Identify underpayments and overpayments, as part of the Recovery Audit Program.	http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/Recovery-Audit-Program/

1.2 System Overview

The esMD system provides a mechanism for exchanging medical documentation and responses for Cross-Enterprise Document Reliable Interchange (XDR) and X12N 278 requests between the Medicare Provider community and the Medicare RC community. The purpose is to enable the electronic transmission of information between HIHs who represent Providers and the Medicare RCs, replacing paper documents where possible.

The RC Client is a utility that enables RCs to communicate with esMD by exchanging files via TIBCO® Managed File Transfer (MFT) server.

Note: The esMD identifies submissions and requests sent from the HIHs to RCs, as inbound files, and identifies transactions and responses for XDR and X12N 278 sent from the RCs to HIHs, as outbound files.

1.3 System Requirements

See Section 8, System Requirements for the system requirements for installing a Microsoft .NET version of the RC Client.

Section 8, System Requirements provides the requirements needed for the computer system where the RC Client will be installed, including the computer system's processor, amount of disk space and free memory needed, permissions, minimum internet connectivity Kilobits Per Second (Kbps) transfer speeds, and the Microsoft .NET Framework version needed to run the RC Client properly.

Refer to the EIDM Instructions in the link below on how to obtain an EIDM login:
<http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Downloads/EIDMInstructions.docx>

Refer to Section 1.4.3 RC Client Operation Overview for Enterprise File Transfer (EFT) Password requirements as per CMS policy for logging in to Internal Server.

1.4 RC Client Overview

Since September 2011, the CMS has implemented the esMD program for providers to submit medical documentation in response to requests from Medicare RCs and also enhanced the esMD Gateway to support electronic responses to requests.

In September 2012, the CMS implemented a Prior Authorization (PA) process via the esMD Gateway for Power Mobility Devices (PMD) for FFS Medicare beneficiaries who reside in seven states with high populations of error-prone providers (California, Florida, Illinois, Michigan, New York, North Carolina, and Texas).

In January 2013, the CMS expanded the CMS esMD Gateway to allow Durable Medical Equipment (DME) suppliers and providers to send electronic PA Requests to Medicare RCs.

In June 2013, the CMS enabled automated "Prior Authorization Review Results Responses" from Medicare RCs to HHCs via the esMD Gateway.

In June 2014, the "RC Client" application was implemented to allow data exchanges between HHCs and facilitate Medicare RCs electronically receiving PA requests to the RC's computer system and allow RCs to electronically enter decisions on PA requests.

In June 2015, the "RC Client" application was extended to allow RCs to enter a Reject Error Code for a PA request electronically received, or electronically submit that there was an error in receiving the PA request's response that was transmitted to the RC Client installed on the Medicare RC's computer system or network. The RC will be able to submit responses for PA programs, such as the Ambulance and Hyperbaric Oxygen (HBO) and PMD programs.

In July 2016, the “RC Client” application will receive Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS) PA request and Home Health Services (HHS) PA request, and will be able to send PA responses for these PA programs. The “RC Client” will also receive Second Level Appeal Requests via the esMD system.

1.4.1 RC Client Pull/Push Functionality

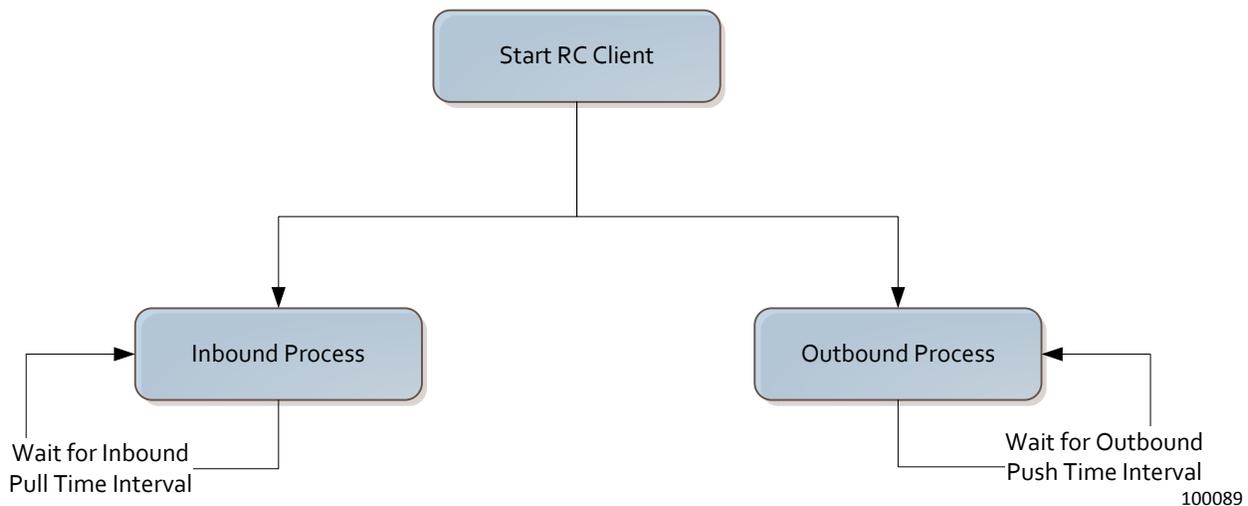
The RC Client provides the following functionality:

- Pull:
 - Inbound documents (submitted by HIHs) from the TIBCO MFT server;
 - HIH acknowledgements indicating receipt of pick-up notifications and PA review result responses; and
 - Data Element Validation results for the outbound process.
- Push:
 - PA review decision responses to PA Requests for XDR and X12N 278 to esMD;
 - Error responses to PA Requests for XDR and X12N 278 to esMD;
 - Administrative Error responses for XDR and X12N 278 to esMD;
 - Error messages generated due to file decompression and checksum verification;
 - Acknowledgement messages for receipt of documents and authorization requests; and
 - Site-Specific Configuration settings:
 - Push frequency/Pull frequency; and
 - Folder locations for both Inbound and Outbound files.

1.4.2 RC Client Application Overview

The esMD RC .NET Client is a standalone .NET Windows desktop application that runs outside the CMS network on the RC’s machine, computer, or server. The purpose of the RC .NET Client is to connect to the TIBCO MFT server at the Baltimore Data Center (BDC) and push and pull files. The RC .NET Client uses the Enterprise Identity Management (EIDM) login credentials to authenticate with the TIBCO MFT server. The RC Client users (at the RC site) provide their login credentials when they start the RC Client on their machines.

Users enter their login credentials only once at the program startup. When the RC Client starts, it initiates and then continuously runs two parallel threads as shown in Figure 1: RC Client Inbound and Outbound Process. When a user starts the RC Client, it will run continuously and will push and pull files automatically without continual user intervention, based on the frequencies set by the RC.

Figure 1: RC Client Inbound and Outbound Process

In the inbound process, when the RC Client connects to the TIBCO MFT server, the RC Client immediately executes a pull cycle. The documents are pulled into the RC's inbound user directory for the authenticated user, and then the RC Client disconnects and waits for the next cycle, as determined by the Inbound Pull Time Interval setting.

In the outbound process, when the RC Client connects to the TIBCO MFT server, the RC Client executes a push cycle. The documents are pushed from the RC's outbound user directory to the TIBCO MFT server, and then the RC Client disconnects and waits for the next cycle as determined by the Outbound Push Time Interval setting.

The inbound pull frequency is independent of the outbound push frequency. After each successful push or pull process, the RC Client thread disconnects from the TIBCO MFT server. To ensure continuous operation of the RC Client, it must preserve each user's EIDM login credentials during the program execution.

Note: Running multiple instances of the .NET RC Client for the same jurisdiction could result in errors while pulling the files.

The RC Client has been updated as part of esMD Release 4.0 to allow RCs to submit review responses for the new PA programs using the Graphical User Interface (GUI). The RC does not need to login to the TIBCO MFT Server in order to create Review Responses, Error Responses and Administrative Error Responses. The login is necessary only to pull or push files from or to TIBCO MFT Server.

1.4.3 RC Client Operation Overview

The RC Client runs in a cyclical manner, sleeping for a specified time interval between the operating cycles. The sleep intervals are configured in the "checkFrequency" parameter for the Inbound process and the "pushFrequency" parameter for the Outbound process. The RC is

advised to use the default of 240 minutes (4 hours) for the Inbound process and 15 minutes for the Outbound process.

The RC Client operation is interrupted in two events:

1. EIDM passwords that have expired (Note: EIDM passwords expire every 60 days, if not changed); and
2. A Virus Scan error notification is received from the esMD.

In the first scenario, when the EIDM password expires, the RC Client suspends its operation and is terminated. The RC must restart the RC Client and the user must provide the right credentials to login to the TIBCO MFT Server. The EIDM notifies the user 15 days prior to the password expiring. For more information on the EIDM User Credentials and how to reset the password, please refer to the EIDM Instructions document in the esMD Downloads section, using the link below:

[http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information for Review-Contractors.html](http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information%20for%20Review-Contractors.html)

The password setup in the portal must meet the following CMS policy (which differs from EIDM's policy) for users to be able to log into Internet Server:

PASSWORD POLICY

1. Check password against the dictionary
2. Maximum Length: 8
3. Maximum Special: 0
4. Minimum Alpha: 1
5. Minimum Begin Alpha: 1
6. Minimum Length: 8
7. Minimum Lowercase: 1
8. Minimum Number of Character Type Rules That Must Pass: All
9. Minimum Numeric: 1
10. Minimum Uppercase: 1
11. Must not contain values of attributes: accountId
12. Must not contain words: 1234, PASSWORD, WELCOME, CMS, HCFA, SYSTEM, MEDICARE, MEDICAID, TEMP, LETMEIN, GOD, SEX, MONEY, QUEST, F20ASYA, RAVENS, REDSKIN, ORIOLES, BULLETS, CAPITOL, MARYLAND, TERPS, DOCTOR, 567890, 12345678, ROOT, BOSSMAN, JANUARY, FEBRUARY, MARCH, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, SSA, FIREWALL, CITIC, ADMIN, UNISYS, PWD, SECURITY, 76543210, 43210, 098765, IRAQ, OIS, TMG, INTERNET, INTRANET, EXTRANET, ATT, LOCKHEED

Note: After the password reset, update the password to the new password in the configuration or script file if it is being stored and used by RC Client.

In the second scenario, when a Virus Scan error notification has been received from esMD, all the processes of the RC Client are suspended and the RC Client is terminated. In addition, the RC Client is locked and cannot pull/push files even if the RC Client is restarted. The RC is advised to contact the esMD Help Desk (refer to Section 17. Contacts for more details) to unlock the RC Client.

2. Overview of How This Document is Structured

This document is structured into the following two primary sections.

1. First primary section of this document provides the following:

- How to start and log into the RC Client;
- How to enter a Review Response decision;
- How to enter an error code for a PA request;
- How to submit Inbound Submissions errors; and
- Advanced debugging, which shows how to test to see if your RC Client application can connect to the TIBCO MFT server and if you have any inbound files ready for downloading.

❖ The audience for this first section is intended for the **RC business users**.

2. How to install and configure a Microsoft .NET version of RC Client.

❖ The audience for this second section is intended for the **person(s) installing the RC Client application**.

This section provides the technical specifications for installing and configuring RC Client on a computer system or network and includes the following:

- Overview of the installation process;
- Systems Requirements for a Microsoft .NET installation;
- Installing an Out-of-Box .NET version of the RC Client application;
- TIBCO MFT file transfers;

- XML Messages, including Outbound, Inbound, and Error messages;
- Inbound Processes and Files;
- Outbound Processes and Files;
- Configuring the RC Client application;
- RC Client Components;
- RC Client Workflow;
- RC Client application Utilities, Components, Schedulers, and Encryption;
- Release 4.0 Changes to the Application Programming Interface (API);
- Using API;
- Configuring the RC Client application for notifications;
- Processing and pulling in documents; and
- Security.

3. How to Start the RC Client and Log In

The following are the step-by-step instructions for starting the RC Client and logging in.

Step 1. Start the RC Client by selecting the **RCClientUI-V4.0.0.exe** in the RC Installation folder or directory.

Starting the RC Client and Logging In

Step 2. The **Login** screen is displayed.

Enter your EIDM **User ID** and **password** and then select **Login and Run RC Client**.

Starting the RC Client and Logging In

Note: The EIDM login credentials are confidential and should not be shared with others. (For more information on EIDM login credentials, see EIDM's Frequently Asked Questions (FAQs) <https://portal.cms.gov/wps/portal/unauthportal/faq>).

Step 3.

Starting the
RC Client and
Logging In

After a successful log in, the **Login Successful. RC Client is Active** message is displayed.

4. How to Enter a Decision on the Review Decision Response to Prior Authorization (PA) Request Tab

This section provides step-by-step instructions on how to enter a decision on the **Review Decision Response to PA Request** tab for the following:

- How to Enter an A-Affirmed Decision;
- How to Enter a M-Affirmed with Change Decision; and
- How to Enter a N-Non Affirmed Decision.

Note: An RC has up to ten business days to process and respond to a PA Request.

4.1 How to Enter an A-Affirmed Decision

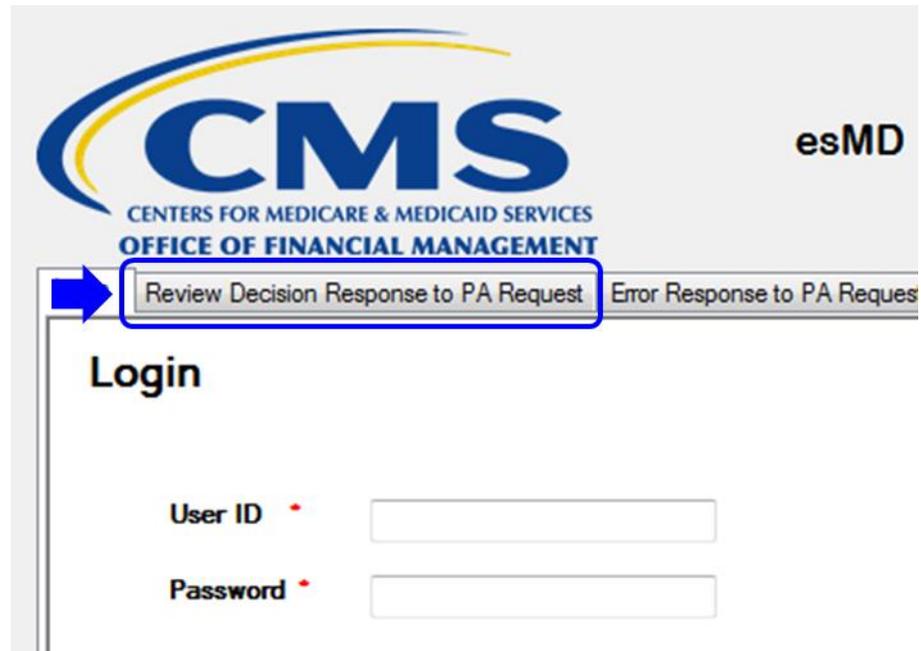
This section provides step-by-step instructions on how to enter an Affirmed decision on the **Review Decision Response to PA Request** tab.

Step 1.

Entering an
A-Affirmed
Decision

Select the **Review Decision Response to PA Request** tab.

❖ After a successful log in, another log in is not required to navigate to and use the Review Decision Response to PA Request tab.



Step 2.
Entering an
A-Affirmed
Decision

The fields for the **Review Decision Response to PA Request** tab are displayed.

❖ **Before You Begin:** If you need a brief description of any of the fields on the tabs, see Appendix A: [Description of Fields on RC Client Tabs](#) on page 85.

Enter the **Transaction ID** and the **Procedure Code**.

The screenshot shows the 'esMD RC CLIENT' interface for the 'Review Decision Response to PA Request' tab. The form contains the following fields and controls:

- Transaction ID:** Text input field containing '1517975'.
- Procedure Code:** Text input field containing 'K0802'.
- Procedure Level Decision:** Dropdown menu with 'Select' as the current value.
- Procedure Level UTN:** Text input field.
- Number of Approved Units:** Text input field.
- Approved Service Date:** Radio button.
- Approved Service Date Range:** Radio button.
- Start Date:** Date picker showing 'Wednesday, March 18, 2015'.
- End Date:** Date picker showing 'Wednesday, March 18, 2015'.
- Industry Code(s):** Large text area with 'Add' and 'Remove' buttons.
- Reason Code(s):** Text area.
- Clear** and **Save** buttons at the bottom of the form.

Step 3.
Entering an
A-Affirmed
Decision

Select the A-Affirmed decision from the Procedure Level Decision drop down menu and enter the Procedure Level UTN.

The screenshot displays the 'esMD RC CLIENT' interface for the 'Review Decision Response to PA Request' tab. The CMS logo and 'OFFICE OF FINANCIAL MANAGEMENT' are visible at the top. The form contains the following fields and options:

- Transaction ID:** 1517975
- Procedure Code:** K0802
- Procedure Level Decision:** A -Affirmed (highlighted with a blue box and arrow)
- Procedure Level UTN:** A0014280106600
- Number of Approved Units:** (empty field)
- Approved Service Date:** Wednesday, March 18, 2015
- Approved Service Date Range:** (radio button selected)
- Start Date:** Wednesday, March 18, 2015
- End Date:** Wednesday, March 18, 2015
- Industry Code(s):** (empty list with 'Add' and 'Remove' buttons)
- Reason Code(s):** (empty list)

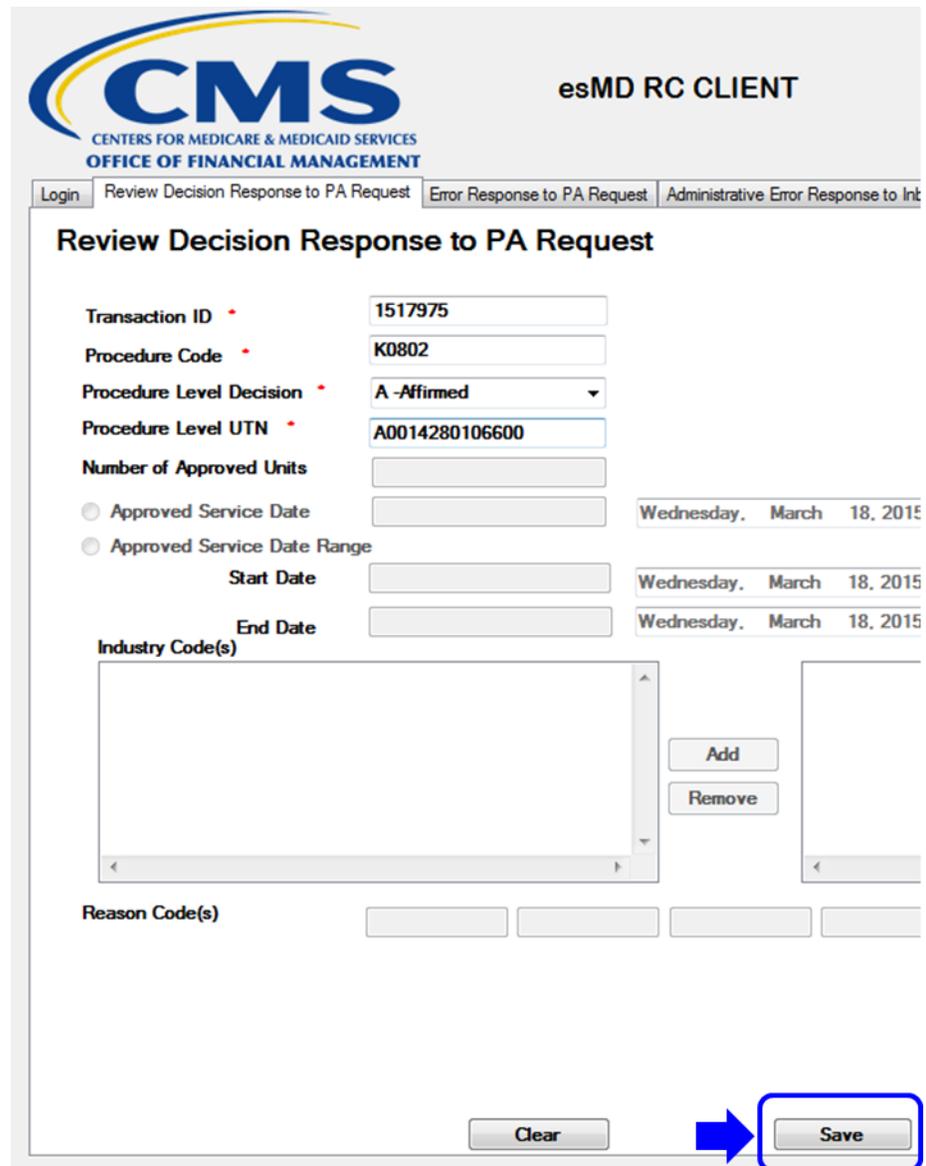
Buttons for 'Clear' and 'Save' are located at the bottom of the form.

Step 4.

Entering an
A-Affirmed
Decision

Select **Save** to save the A-Affirmed decision for submission.

 **Technical Note:** After selecting Save, an Extensible Markup Language (XML) message will be created to be sent to the esMD system and will be packaged into a compressed zip file. The zip file will be placed in a directory specified in the OutboundConfig/outputDirectory of the esmd-rc-client-config.xml. The outbound thread running on the RC Client will push the file to the TIBCO Managed File Transfer (MFT) server.



The screenshot shows the 'esMD RC CLIENT' interface with the 'Review Decision Response to PA Request' tab selected. The form contains the following fields and values:

- Transaction ID: 1517975
- Procedure Code: K0802
- Procedure Level Decision: A -Affirmed
- Procedure Level UTN: A0014280106600
- Number of Approved Units: (empty)
- Approved Service Date: Wednesday, March 18, 2015
- Approved Service Date Range:
 - Start Date: Wednesday, March 18, 2015
 - End Date: Wednesday, March 18, 2015
- Industry Code(s): (empty list with 'Add' and 'Remove' buttons)
- Reason Code(s): (empty list)

At the bottom of the form, there is a 'Clear' button and a 'Save' button. A blue arrow points to the 'Save' button.

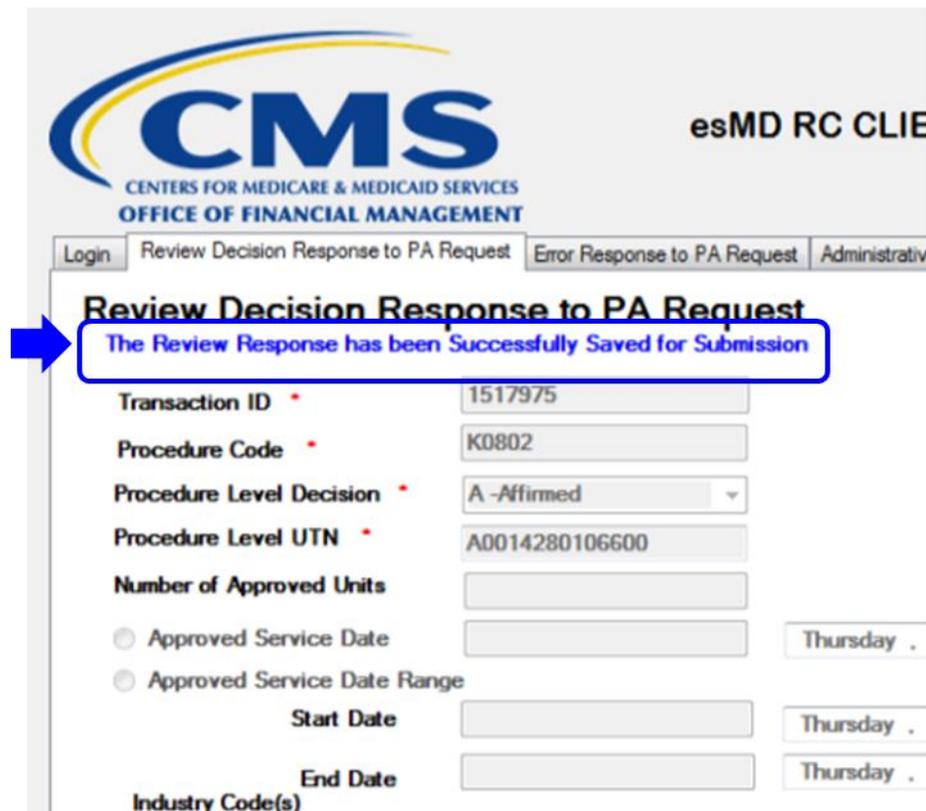
Step 5.
Entering an
A-Affirmed
Decision

After selecting Save, the **“The Review Response has been Successfully Saved for Submission”** message is displayed.

 **Technical Note:** After selecting Save, the RC Client validates the data entered and displays errors messages, as applicable.

If the data validation is successful, the A-Affirmed decision is created, and the **“The Review Response has been Successfully Saved for Submission”** message is displayed.

Note: After successfully saving a decision for submission, all information in the fields are cleared and another response may be entered.



The screenshot shows the CMS esMD RC Client interface. At the top, the CMS logo and "esMD RC CLIE" are visible. Below the logo, the text "CENTERS FOR MEDICARE & MEDICAID SERVICES OFFICE OF FINANCIAL MANAGEMENT" is displayed. A navigation bar contains tabs for "Login", "Review Decision Response to PA Request", "Error Response to PA Request", and "Administrativ". The "Review Decision Response to PA Request" tab is active, and a blue arrow points to a message box that says "The Review Response has been Successfully Saved for Submission". Below the message box, there are several input fields: "Transaction ID" (1517975), "Procedure Code" (K0802), "Procedure Level Decision" (A -Affirmed), "Procedure Level UTN" (A0014280106600), "Number of Approved Units", "Approved Service Date" (Thursday), "Approved Service Date Range" (Start Date: Thursday, End Date: Thursday), and "Industry Code(s)".

4.2 How to Enter a M-Affirmed with Change Decision

This section provides step-by-step instructions on how to enter a M-Affirmed with Change decision on the **Review Decision Response to PA Request** tab.

Step 1.

Entering a
**M-Affirmed
with Change
Decision**

Select the **Review Decision Response to PA Request** tab.

❖ After a successful log in, another log in is not required to navigate to and use the Review Decision Response to PA Request tab.



Step 2.
Entering a
**M-Affirmed
with Change
Decision**

The fields for the **Review Decision Response to PA Request** tab are displayed.

❖ Before You Begin: If you need a brief description of any of the fields on the tabs, see Appendix A: [Description of Fields on RC Client Tabs](#) on page 85.

Enter the **Transaction ID** and the **Procedure Code**.

The screenshot shows the 'esMD RC CLIENT' interface for the 'Review Decision Response to PA Request' tab. The 'Transaction ID' field is highlighted with a blue box and a blue arrow pointing to it from the left. The 'Procedure Code' field is also highlighted. Below these are several other input fields and buttons. The 'Approved Service Date' is set to Thursday, March 19, 2020. The 'Approved Service Date Range' has a start and end date of Thursday, March 19, 2020. There are 'Add' and 'Remove' buttons for the 'Industry Code(s)' field, and 'Clear' and 'Save' buttons at the bottom.

Step 3.
 Entering a
**M-Affirmed
 with Change
 Decision**

Select the **M-Affirmed with Change** decision from the **Procedure Level Decision** drop down menu.

Note: After selecting a M-Affirmed **with Change** decision, the "**Decision M is not valid decision for the PMD PA review result response**" message is displayed. A M-Affirmed **with Change** decision selected and saved for submission for a PMD PA review result response will be treated as an invalid response in the esMD system.

Enter the **Procedure Level Universal Tracking Number (UTN)**.

Enter the **Number of Approved Units**, when you also have to submit this information. (This is not a required field.)

The screenshot shows the 'Review Decision Response to PA Request' form in the esMD RC CLIENT. The form is titled 'Review Decision Response to PA Request' and includes the following fields and options:

- Transaction ID: 1517979
- Procedure Code: A0426
- Procedure Level Decision: M -Affirmed with Chang (highlighted with a blue arrow and a warning message: "Decision M is not valid decision for the PMD PA review result respon")
- Procedure Level UTN: A0014280106601
- Number of Approved Units: 5
- Approved Service Date: Wednesday, March 18, 2015
- Approved Service Date Range: Start Date: Wednesday, March 18, 2015; End Date: Wednesday, March 18, 2015
- Industry Code(s): (Empty list with 'Add' and 'Remove' buttons)
- Reason Code(s): (Empty list with 'Add' button)

Buttons for 'Clear' and 'Save' are located at the bottom of the form.

Step 4a.
 Entering a
**M-Affirmed
 with Change
 Decision**

Enter a single **Approved Service Date** or an **Approved Service Date Range**.

To enter a single **Approved Service Date**, select the date on the Approved Service Date calendar, as illustrated below.

CMS
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 OFFICE OF FINANCIAL MANAGEMENT

esMD RC CLIENT

Login | Review Decision Response to PA Request | Error Response to PA Request | Administrative Error Response to Inbound Subm

Review Decision Response to PA Request

Transaction ID * 1517979

Procedure Code * A0426

Procedure Level Decision * M - Affirmed with Change Decision M is not valid decision for the PMI

Procedure Level UTN * A0014280106601

Number of Approved Units 5

Approved Service Date

Approved Service Date Range

Start Date

End Date

Industry Code(s)

Reason Code(s)

Thursday, March 19, 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
22	23	24	25	26	27	28
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

Today: 3/19/2015

Remove

Step 4b.
Entering a
**M-Affirmed
with Change
Decision**

The **date selected** is then placed in the Approved Service Date field.

❖ To enter an **Approved Service Date Range**, see Step 5.

The screenshot shows the 'esMD RC CLIENT' interface for the 'Review Decision Response to PA Request' tab. The form contains the following fields and values:

- Transaction ID: 1517979
- Procedure Code: A0426
- Procedure Level Decision: M - Affirmed with Change (Note: Decision M is not valid decision for the PA)
- Procedure Level UTN: A0014280106601
- Number of Approved Units: 5
- Approved Service Date: 03/20/2015 (highlighted with a blue box and arrow)
- Approved Service Date Range: (Not selected)
- Start Date: (Empty)
- End Date: (Empty)
- Industry Code(s): (Empty)
- Reason Code(s): (Empty)

Step 5.
 Entering a
**M-Affirmed
 with Change
 Decision**

To enter an **Approved Service Date Range** (i.e. a Start Date and an End Date), first, select the date on the Approved Service Date calendar for the **Start Date**, as illustrated below.

Note: An RC has to provide either **Approved Service Date** or **Approved Service Date Range** as they are mutually exclusively.

The screenshot displays the 'esMD RC CLIENT' interface for 'Review Decision Response to PA Request'. The form contains the following fields and options:

- Transaction ID: 1517979
- Procedure Code: A0426
- Procedure Level Decision: M -Affirmed with Change (with a note: "Decision M is not valid decision for the PMD")
- Procedure Level UTN: A0014280106601
- Number of Approved Units: 5
- Radio buttons for "Approved Service Date" and "Approved Service Date Range" (the latter is selected and highlighted with a blue box and arrow).
- Start Date and End Date input fields.
- Industry Code(s) text area.
- Reason Code(s) input fields.
- Buttons for "Clear" and "Save".

A calendar is open, showing the date 12/19/2015 selected with a blue box and arrow. The calendar header indicates "Thursday, March 19, 2015".

Step 5a.
 Entering a
**M-Affirmed
 with Change
 Decision**

Now, select the **date** on the Approved Service Date calendar for the **End Date**.

Note: The End Date cannot be the same date as the Start Date.

CMS
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esMD RC CLIENT

Review Decision Response to PA Request

Transaction ID * 1517979
 Procedure Code * A0426
 Procedure Level Decision * M -Affirmed with Change Decision M is not valid decision for the PA
 Procedure Level UTN * A0014280106601
 Number of Approved Units 5

Approved Service Date Range
 Start Date 03/12/2015 Thursday, March 12, 2015
 End Date Thursday, March 19, 2015

Industry Code(s)

March, 2015						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
22	23	24	25	26	27	28
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

Reason Code(s)

Clear Save

Step 5b.
 Entering a
**M-Affirmed
 with Change
 Decision**

The **Start Date** and **End Date** are added to the Start Date and End Date fields, as illustrated below.

CMS
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 OFFICE OF FINANCIAL MANAGEMENT

esMD RC CLIENT

Login | Review Decision Response to PA Request | Error Response to PA Request | Administrative Error Response to Inbo

Review Decision Response to PA Request

Transaction ID * 1517979

Procedure Code * A0426

Procedure Level Decision * M - Affirmed with Change ▾ Decision M is not valid decision for!

Procedure Level UTN * A0014280106601

Number of Approved Units 5

Approved Service Date Thursday , March 19, 2015

Approved Service Date Range

Start Date 03/12/2015 Thursday , March 12, 2015

End Date 03/23/2015 Monday , March 23, 2015

Industry Code(s)

Add

Remove

Reason Code(s)

Clear Save

Step 6.

**Entering a
M-Affirmed
with Change
Decision**

Enter a **Reason Code** or multiple **Reason Codes**.

For information on how to access an up-to-date list of PA Reason Codes, see Appendix D: PA Reason Codes.

Note: When you have to enter more than five Reason Codes, select **Add** at the end of the row of Reason Code fields to add a new row. Continue to select Add at the end of each row, until all of your Reason Codes have been entered. You may enter a maximum of 25 Reason Codes.

The screenshot shows the 'esMD RC CLIENT' interface for 'Review Decision Response to PA Request'. The form contains the following fields and values:

- Transaction ID: 1517979
- Procedure Code: A0426
- Procedure Level Decision: M -Affirmed with Change (Note: Decision M is not valid decision for the PMD PA review result response)
- Procedure Level UTN: A0014280106601
- Number of Approved Units: 5
- Approved Service Date Range: Start Date 03/12/2015, End Date 03/23/2015

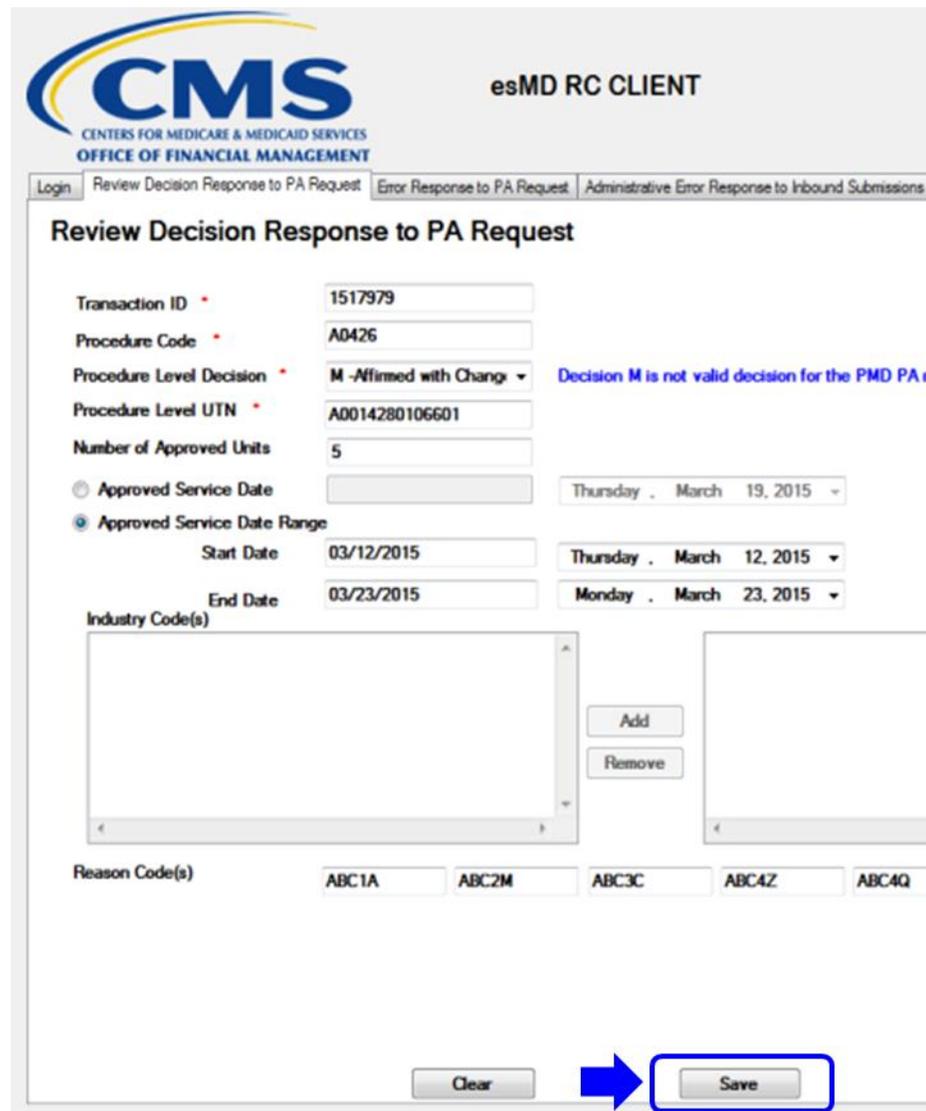
A blue arrow points to the 'Reason Code(s)' field at the bottom of the form, which displays a table with the following structure:

Reason Code(s)	ABC1A	ABC2M	ABC3C	ABC4Z	ABC4Q	Add

Step 7.
 Entering a
**M-Affirmed
 with Change**
 Decision

Select **Save** to save the M-Affirmed with Change decision for submission.

 **Technical Note:** After selecting Save, an Extensible Markup Language (XML) message will be created to be sent to the esMD system and will be packaged into a compressed zip file. The zip file will be placed in a directory specified in the OutboundConfig/outputDirectory of the esmd-rc-client-config.xml. The outbound thread running on the RC Client will push the file to the TIBCO Managed File Transfer (MFT) server.



CMS
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 OFFICE OF FINANCIAL MANAGEMENT

esMD RC CLIENT

Login | Review Decision Response to PA Request | Error Response to PA Request | Administrative Error Response to Inbound Submissions

Review Decision Response to PA Request

Transaction ID * 1517979

Procedure Code * A0426

Procedure Level Decision * M - Affirmed with Change Decision M is not valid decision for the PMD PA n

Procedure Level UTN * A0014280106601

Number of Approved Units 5

Approved Service Date Thursday . March 19, 2015

Approved Service Date Range

Start Date 03/12/2015 Thursday . March 12, 2015

End Date 03/23/2015 Monday . March 23, 2015

Industry Code(s)

Add

Remove

Reason Code(s) ABC1A ABC2M ABC3C ABC4Z ABC4Q

Clear  Save

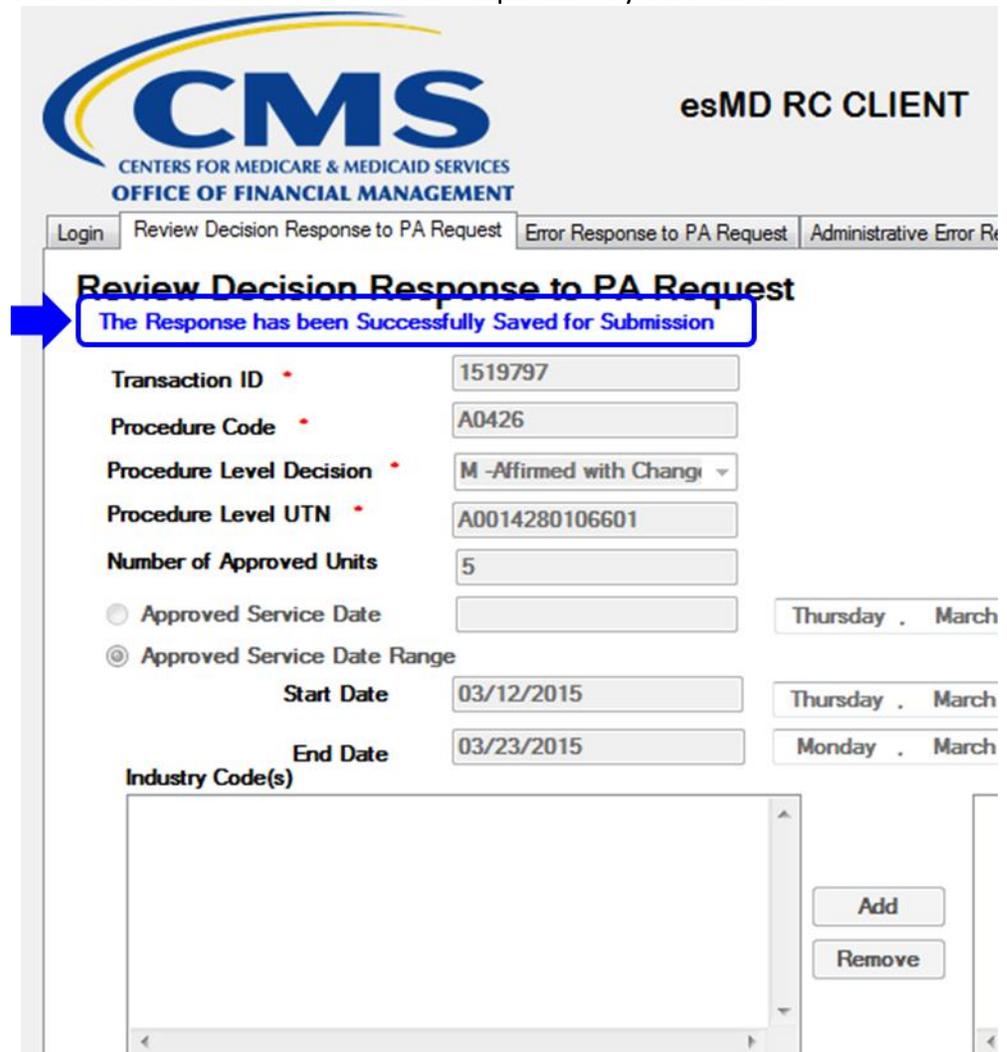
Step 8.
Entering a
**M-Affirmed
with Change
Decision**

After selecting Save, the **“The Response has been Successfully Saved for Submission”** message is displayed.

 **Technical Note:** After selecting Save, the RC Client validates the data entered and displays errors messages, as applicable.

If the data validation is successful, the M-Affirmed with Change decision is created, and the **“The Response has been Successfully Saved for Submission”** message is displayed.

Note: After successfully saving a decision for submission, all information in the fields are cleared and another response may be entered.



The screenshot displays the 'esMD RC CLIENT' interface for the 'Review Decision Response to PA Request' tab. A blue arrow points to a message box that reads 'The Response has been Successfully Saved for Submission'. Below this message, the form fields are populated with the following data:

Transaction ID *	1519797	
Procedure Code *	A0426	
Procedure Level Decision *	M -Affirmed with Change	
Procedure Level UTN *	A0014280106601	
Number of Approved Units	5	
<input type="radio"/> Approved Service Date		Thursday . March
<input checked="" type="radio"/> Approved Service Date Range		
Start Date	03/12/2015	Thursday . March
End Date	03/23/2015	Monday . March
Industry Code(s)	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Remove"/>	

4.3 How to Enter a N-Non Affirmed Decision

This section provides step-by-step instructions on how to enter a N-Non Affirmed decision on the **Review Decision Response to PA Request** tab.

Step 1.

Entering a
N-Non
Affirmed
Decision

Select the **Review Decision Response to PA Request** tab.

❖ After a successful log in, another log in is not required to navigate to and use the Review Decision Response to PA Request tab.



Step 2.
Entering a
**N-Non
Affirmed
Decision**

The fields for the **Review Decision Response to PA Request** tab are displayed.

❖ **Before You Begin:** If you need a brief description of any of the fields on the tabs, see Appendix A: [Description of Fields on RC Client Tabs](#) on page 85.

Enter the **Transaction ID** and the **Procedure Code**.

The screenshot shows the 'esMD RC CLIENT' interface for the 'Review Decision Response to PA Request' tab. A blue arrow points to the 'Transaction ID' field, which contains the value '1542313'. The 'Procedure Code' field contains 'K0802'. Other visible fields include 'Procedure Level Decision' (a dropdown menu set to 'Select'), 'Procedure Level UTN', 'Number of Approved Units', 'Approved Service Date' (with a radio button), and 'Approved Service Date Range' (with a radio button and sub-fields for 'Start Date' and 'End Date'). The 'Industry Code(s)' section has an empty list box with 'Add' and 'Remove' buttons. At the bottom, there are 'Reason Code(s)' fields and 'Clear' and 'Save' buttons.

Step 3.
 Entering a
**N-Non
 Affirmed
 Decision**

Select the **N-Non Affirmed** decision from the **Procedure Level Decision** drop down menu and enter the **Procedure Level Universal Tracking Number (UTN)**.

The screenshot shows the 'esMD RC CLIENT' interface for 'Review Decision Response to PA Request'. The form contains the following fields and options:

- Transaction ID:** 1542313
- Procedure Code:** K0802
- Procedure Level Decision:** N -Non Affirmed (highlighted with a blue box and arrow)
- Procedure Level UTN:** A0014280106710
- Number of Approved Units:** [Empty field]
- Approved Service Date:** Thursday, March 19, 2015
- Approved Service Date Range:**
 - Start Date:** Thursday, March 12, 2015
 - End Date:** Monday, March 23, 2015
- Industry Code(s):** [Empty field]
- Reason Code(s):** [List of codes with 'Add' and 'Remove' buttons]

At the bottom of the form are 'Clear' and 'Save' buttons.

Step 4.
 Entering a
 N-Non
 Affirmed
 Decision

Select an **Industry Code** from the list of Industry Codes available and then select **Add**. This will move the selection to the list of Industry Codes to be included in the response. Continue to select an **Industry Code** and then **Add**, until all of the Industry Codes have been added for this N-Non Affirmed decision.

In the example below, the “Not Medically Necessary” Industry Code will be the Industry Code added to this N-Non Affirmed decision.

Note: The Appendix C: Industry Codes provides a list all of the Industry Codes available in esMD. A maximum of five Industry Codes can be selected for a Review Decision Response to PA Request.

Step 5.
Entering a
N-Non
Affirmed
Decision

After selecting Add, the Industry Code is added to the N-Non Affirmed decision, as illustrated below.

Enter the **Reason Code** or **Reason Codes** and then select **Save** to save the N-Non Affirmed decision for submission. You may enter a maximum of 25 Reason Codes.

For information on how to access an up-to-date list of PA Reason Codes, see Appendix D: PA Reason Codes.

 **Technical Note:** After selecting Save, an Extensible Markup Language (XML) message will be created to be sent to the esMD system and will be packaged into a compressed zip file. The zip file will be placed in a directory specified in the OutboundConfig/outputDirectory of the esmd-rc-client-config.xml. The outbound thread running on the RC Client will push the file to the TIBCO Managed File Transfer (MFT) server.

The screenshot displays the 'esMD RC CLIENT' interface, version 4.0. The main window is titled 'Review Decision Response to PA Request'. It contains several input fields: Transaction ID (1542313), Procedure Code (K0802), Procedure Level Decision (N-Non Affirmed), and Procedure Level UTN (A0014280106710). There are also date pickers for 'Approved Service Date' (Thursday, March 19, 2015) and 'Approved Service Date Range' (Start Date: Thursday, March 12, 2015; End Date: Monday, March 23, 2015). A list of industry codes is visible, with 'Net Medically Necessary' selected. At the bottom, the 'Reason Code(s)' field contains 'PMD2B' and 'PMD3A', and the 'Save' button is highlighted with a blue arrow.

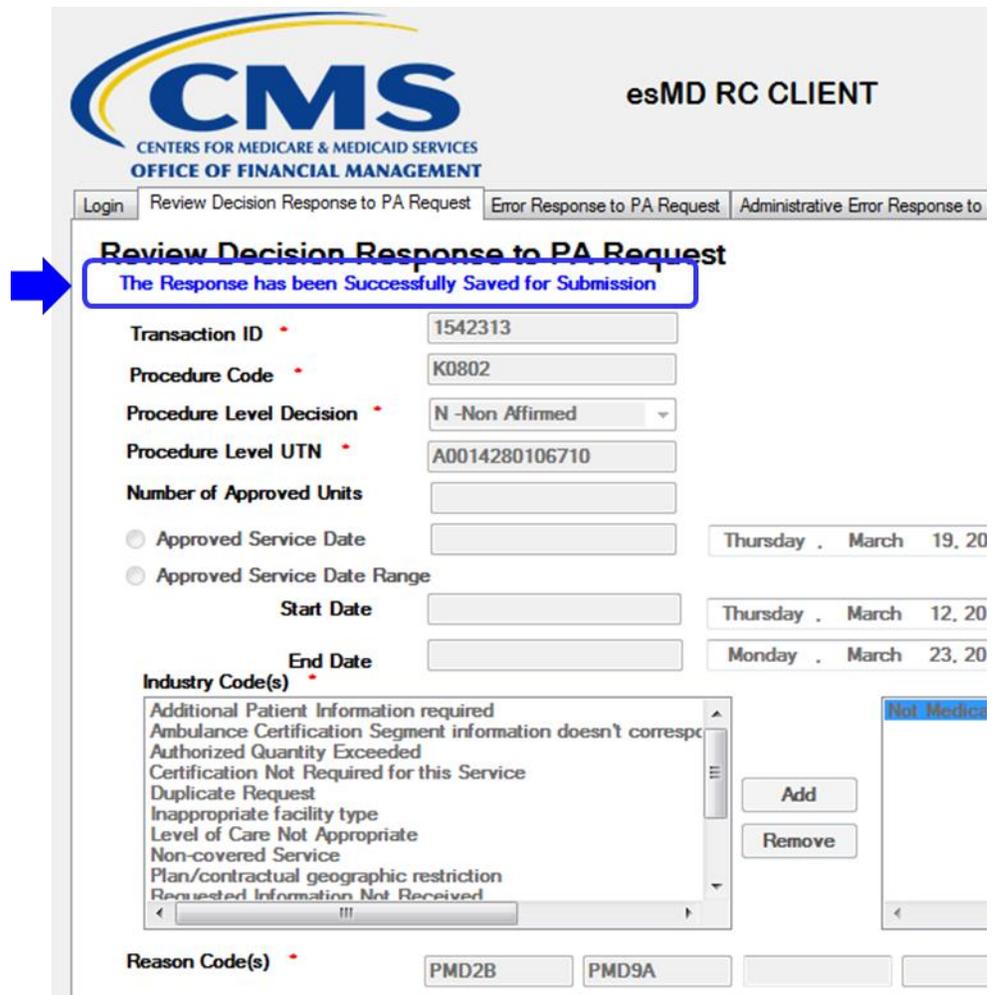
Step 6.
Entering a
**N-Non
Affirmed**
Decision

After selecting Save, the **“The Response has been Successfully Saved for Submission”** message is displayed.

 **Technical Note:** After selecting Save, the RC Client validates the data entered and displays errors messages, as applicable.

If the data validation is successful, the N-Non Affirmed decision is created, and the **“The Response has been Successfully Saved for Submission”** message is displayed.

Note: After successfully saving a decision for submission, all information in the fields are cleared and another response may be entered.



The screenshot displays the esMD RC CLIENT interface. At the top, the CMS logo is visible, along with the text "CENTERS FOR MEDICARE & MEDICAID SERVICES" and "OFFICE OF FINANCIAL MANAGEMENT". The user is logged in as "esMD RC CLIENT". The main navigation tabs include "Login", "Review Decision Response to PA Request", "Error Response to PA Request", and "Administrative Error Response to". The "Review Decision Response to PA Request" tab is active, and a blue arrow points to a message box that says "The Response has been Successfully Saved for Submission". Below this message, the form contains the following fields:

- Transaction ID: 1542313
- Procedure Code: K0802
- Procedure Level Decision: N -Non Affirmed
- Procedure Level UTN: A0014280106710
- Number of Approved Units: (empty)
- Approved Service Date: Thursday, March 19, 20
- Approved Service Date Range:
 - Start Date: Thursday, March 12, 20
 - End Date: Monday, March 23, 20
- Industry Code(s): (empty)
- Reason Code(s): PMD2B, PMD9A

A list of error messages is displayed in a scrollable area, including "Additional Patient Information required", "Ambulance Certification Segment information doesn't correspond", "Authorized Quantity Exceeded", "Certification Not Required for this Service", "Duplicate Request", "Inappropriate facility type", "Level of Care Not Appropriate", "Non-covered Service", "Plan/contractual geographic restriction", and "Requested Information Not Received". There are "Add" and "Remove" buttons next to this list. A "Not Medical" button is also visible on the right side of the form.

5. How to Enter an Error Code on the Error Response to PA Request Tab

This section provides step-by-step instructions on how to enter an error code on the **Error Response to PA Request** tab.

Step 1. Select the **Error Response to PA Request** tab.

Entering an
Error Code

❖ After a successful log in, another log in is not required to navigate to and use the Error Response to PA Request tab.



Step 2.
Entering an
Error Code

The fields for the **Error Response to PA Request** tab are displayed.

❖ **Before You Begin:** If you need a brief description of any of the fields on the tabs, see Appendix A: [Description of Fields on RC Client Tabs](#) on page 85.

Enter the **Transaction ID** and select a **Reject Error Category**.

The screenshot shows the 'Error Response to PA Request' form in the esMD RC CLIENT interface. The form is titled 'Error Response to PA Request' and includes the following fields and controls:

- Transaction ID:** A text box containing the value '1542314'.
- Reject Error Category:** A dropdown menu with 'Select' as the current selection.
- Reject Error Code(s):** A list box containing the following options: Beneficiary, Facility, Medical-Info, Ordering MD, Rendering MD/Supplier, and Requester. The 'Requester' option is currently selected.
- Reason Code(s):** A series of five empty text boxes.
- Request Level UTN:** A single empty text box.
- Buttons:** 'Add' and 'Remove' buttons are located to the right of the 'Reject Error Code(s)' list box. 'Clear' and 'Save' buttons are located at the bottom of the form.

Step 3.
Entering an
Error Code

Select a **Reject Error Code** and then **Add** to add the Reject Error Code.

For information on how to access an up-to-date list of Reject Error Codes, see Appendix B: Reject Error Codes.

The screenshot displays the 'esMD RC CLIENT' interface for 'Error Response to PA Request'. The form includes the following fields and options:

- Transaction ID:** 1542314
- Reject Error Category:** Requester
- Reject Error Code(s):** A dropdown menu is open, showing a list of error codes. The code 'NPI is missing or invalid' is selected and highlighted with a blue box. An arrow points from this box to the 'Add' button. Other visible codes include 'First and/or Last name is/are missing', 'An address component is missing or invalid', and 'NPI does not match the Name of the Physician'. The 'Add' button is also highlighted with a blue box and an arrow.
- Reason Code(s):** Five empty input boxes with an 'Add' button to the right.
- Request Level UTN:** An empty input box.

At the bottom of the form are 'Clear' and 'Save' buttons. The top of the window shows the CMS logo, 'esMD RC CLIENT', 'Version 4.0', and an 'Exit' button. A navigation bar at the top contains links for 'Login', 'Review Decision Response to PA Request', 'Error Response to PA Request', 'Administrative Error Response to Inbound Submissions', and 'Advanced/Debugging'.

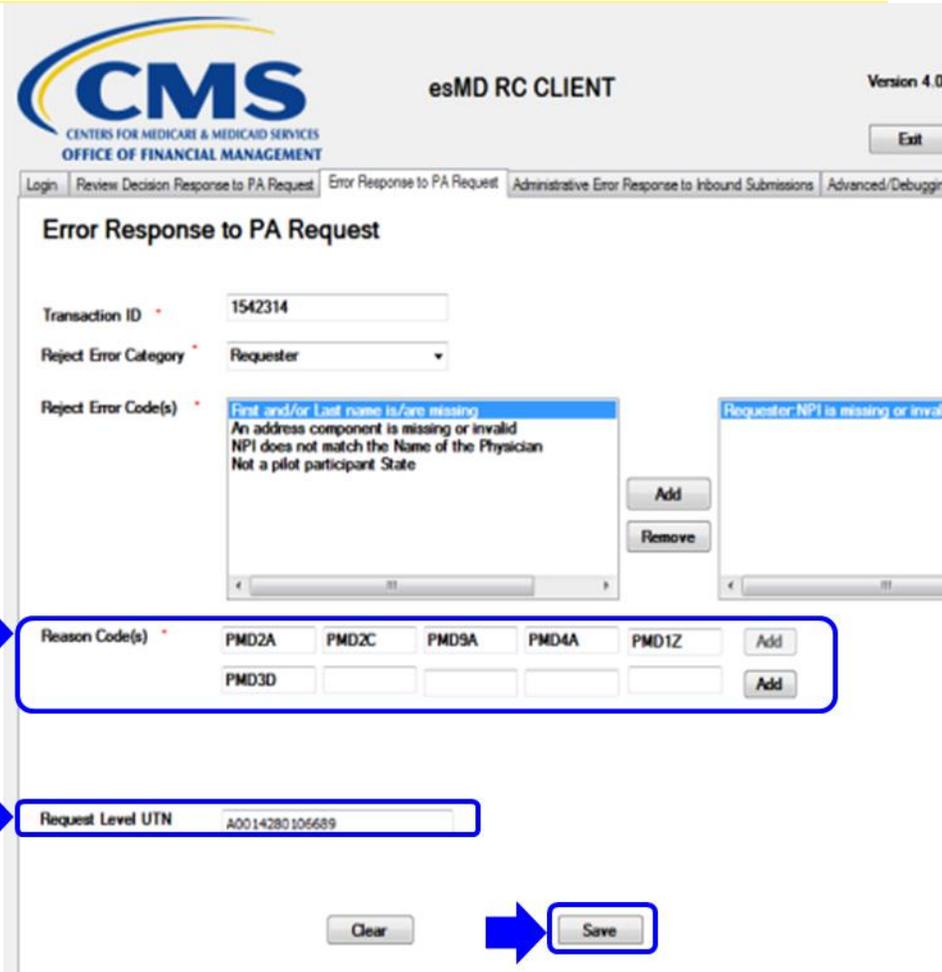
Step 4.
Entering an
Error Code

Enter the **Reason Code** or **Reason Codes**. Select Add at the end of the row of Reason Code fields to add additional rows of Reason Codes, as needed.

Enter the **Request Level UTN** and then select **Save** to submit the Error Code for submission.

For information on how to access an up-to-date list of Reason Codes, see Appendix D: PA Reason Codes.

 **Technical Note:** After selecting Save, an Extensible Markup Language (XML) message will be created to be sent to the esMD system and will be packaged into a compressed zip file. The zip file will be placed in a directory specified in the OutboundConfig/outputDirectory of the esmd-rc-client-config.xml. The outbound thread running on the RC Client will push the file to the TIBCO Managed File Transfer (MFT) server.



The screenshot displays the 'esMD RC CLIENT' interface, specifically the 'Error Response to PA Request' tab. The interface includes the following elements:

- Transaction ID:** 1542314
- Reject Error Category:** Requester
- Reject Error Code(s):** A list of error codes is displayed, including 'First and/or Last name is/are missing', 'An address component is missing or invalid', 'NPI does not match the Name of the Physician', and 'Not a pilot participant State'. The code 'PMD2A' is highlighted in blue, and 'PMD3D' is also visible.
- Request Level UTN:** A0014280106689
- Buttons:** 'Add', 'Remove', 'Clear', and 'Save' buttons are present. The 'Save' button is highlighted with a blue arrow.

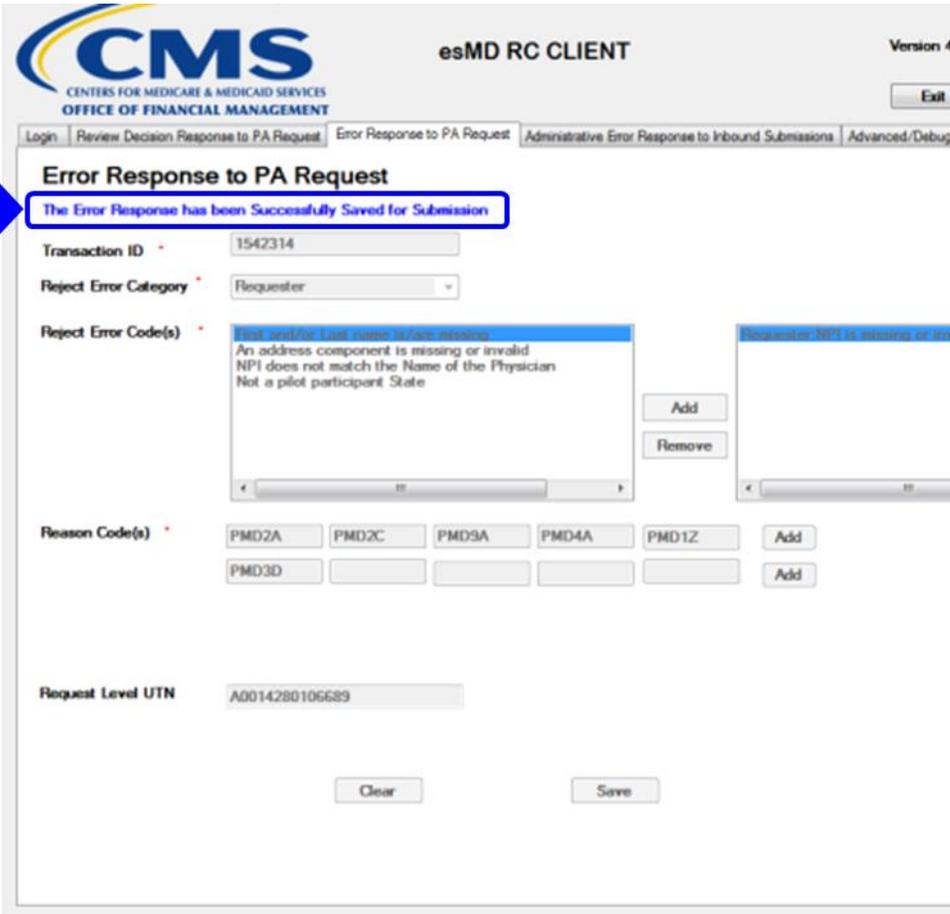
Step 5.
Entering an
Error Code

After selecting Save, the “**The Error Response has been Successfully Saved for Submission**” message is displayed.

 **Technical Note:** After selecting Save, the RC Client validates the data entered and displays errors messages, as applicable.

If the data validation is successful, the Error Code is created, and the “**The Error Response has been Successfully Saved for Submission**” message is displayed.

Note: After successfully saving a decision for submission, all information in the fields are cleared and another response may be entered.



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esMD RC CLIENT Version 4

Exit

Login | Review Decision Response to PA Request | **Error Response to PA Request** | Administrative Error Response to Inbound Submissions | Advanced/Debug

Error Response to PA Request

The Error Response has been Successfully Saved for Submission

Transaction ID * 1542314

Reject Error Category * Requester

Reject Error Code(s) *

First and/or Last name is missing
An address component is missing or invalid
NPI does not match the Name of the Physician
Not a pilot participant State

Add Remove

Reason Code(s) *

PMD2A PMD2C PMD3A PMD4A PMD1Z Add
PMD3D Add

Request Level UTN A0014280106689

Clear Save

6. How to Submit an Inbound Submission Error on the Administrative Error Response to Inbound Submissions Tab

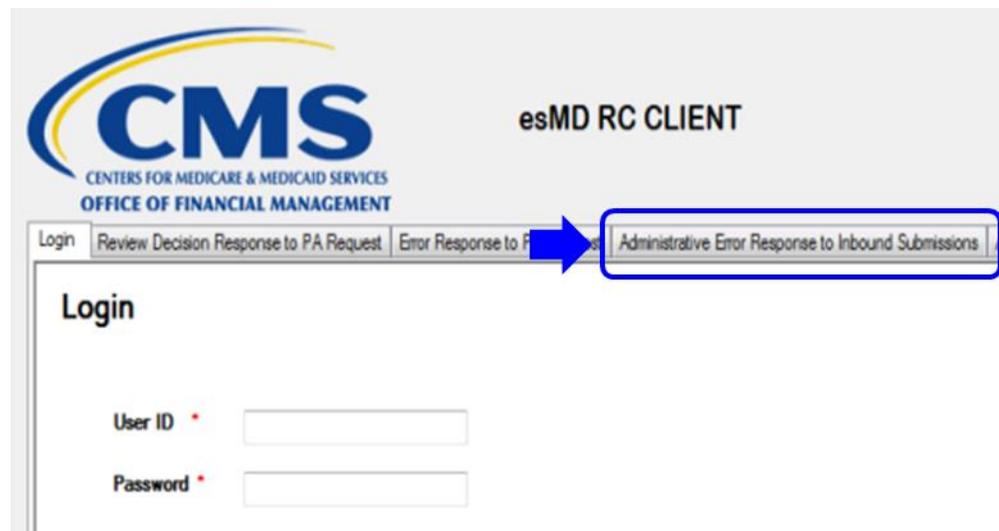
This section provides step-by-step instructions on how to enter an inbound submission error on the **Administrative Error Response to Inbound Submissions** tab.

Step 1.

Entering an
Inbound
Submissions
Error

Select the **Administrative Error Response to Inbound Submissions** tab.

❖ After a successful log in, another log in is not required to navigate to and use the Administrative Error Response to Inbound Submissions tab.



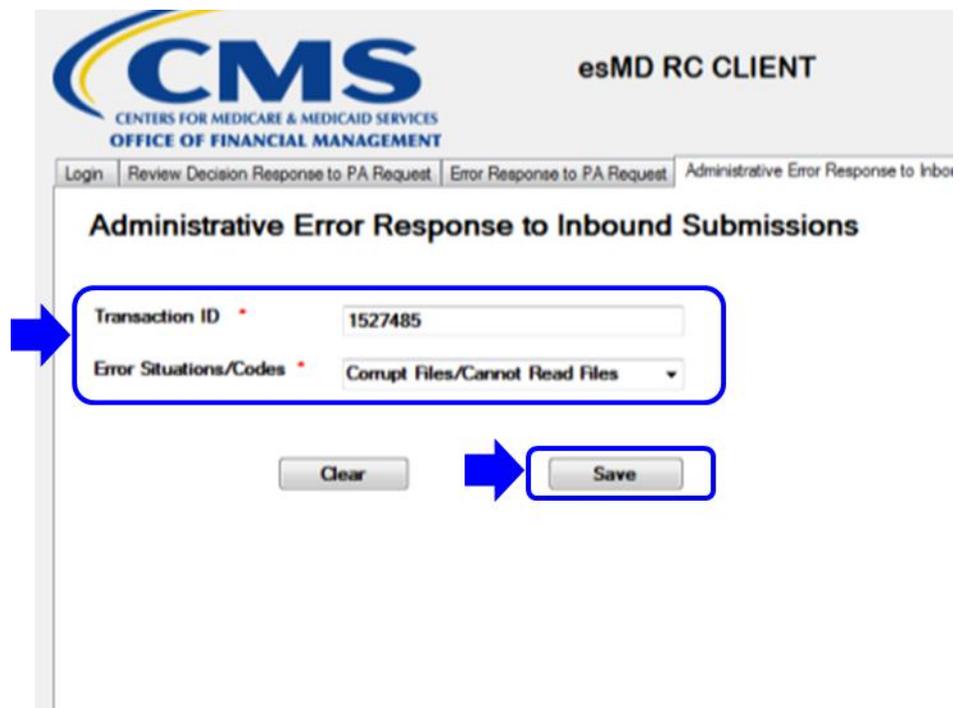
Step 2.
Entering an Inbound Submissions Error

The fields for the **Administrative Error Response to Inbound Submissions** tab are displayed.

❖ Before You Begin: If you need a brief description of any of the fields on the tabs, see Appendix A: [Description of Fields on RC Client Tabs](#) on page 85.

Enter the **Transaction ID**, select an **Error Situation** or **Error Code** from the Error Situations/Codes drop down menu, and then select **Save** to submit the Inbound Submissions error for submission.

🔗 Technical Note: After selecting Save, an Extensible Markup Language (XML) message will be created to be sent to the esMD system and will be packaged into a compressed zip file. The zip file will be placed in a directory specified in the OutboundConfig/outputDirectory of the esmd-rc-client-config.xml. The outbound thread running on the RC Client will push the file to the TIBCO Managed File Transfer (MFT) server.



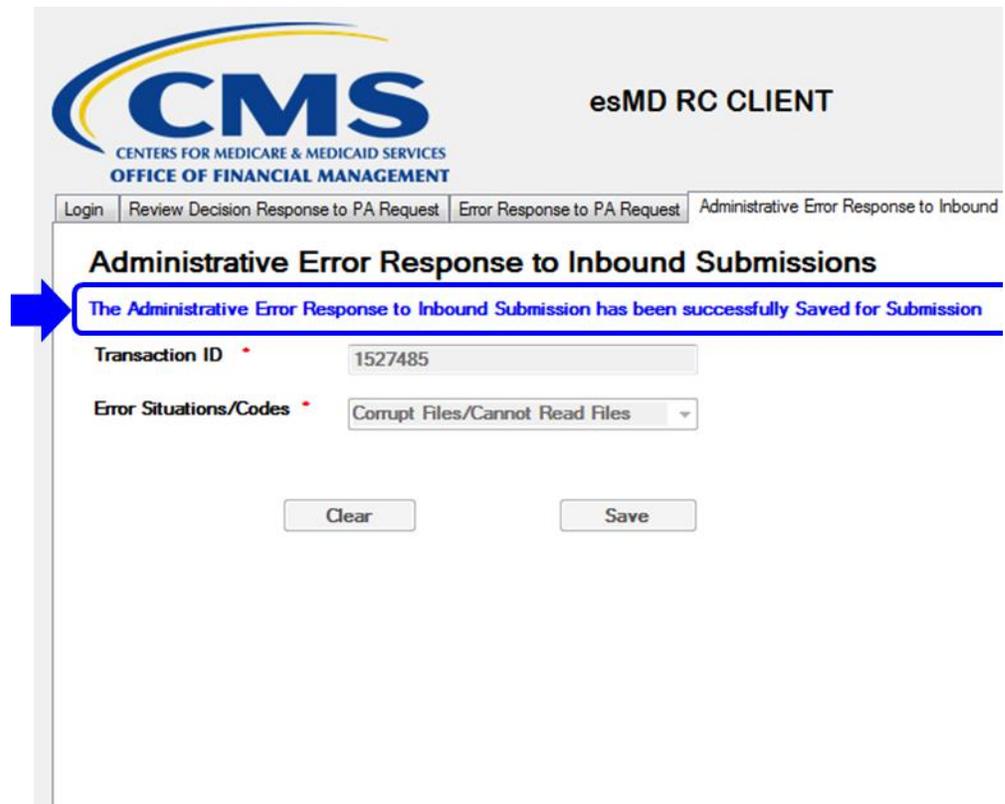
Step 3.
Entering an
Inbound
Submissions
Error

After selecting Save, the **“The Administrative Error Response to Inbound Submission has been successfully Saved for Submission”** message is displayed.

 **Technical Note:** After selecting Save, the RC Client validates the data entered and displays errors messages, as applicable.

If the data validation is successful, the Inbound Submissions Error is created, and the **“The Administrative Error Response to Inbound Submission has been successfully Saved for Submission”** message is displayed.

Note: After successfully saving a decision for submission, all information in the fields are cleared and another response may be entered.



The screenshot shows the esMD RC CLIENT interface. At the top, there is a navigation bar with the CMS logo and the text "esMD RC CLIENT". Below the navigation bar, there are several tabs: "Login", "Review Decision Response to PA Request", "Error Response to PA Request", and "Administrative Error Response to Inbound". The "Administrative Error Response to Inbound Submissions" tab is selected and highlighted. A blue arrow points to a success message: "The Administrative Error Response to Inbound Submission has been successfully Saved for Submission". Below the message, there are two input fields: "Transaction ID" with the value "1527485" and "Error Situations/Codes" with the value "Corrupt Files/Cannot Read Files". At the bottom, there are two buttons: "Clear" and "Save".

7. How to Verify Connection to TIBCO MFT Server, Using the Advanced/Debugging Tab

This section provides step-by-step instructions on how to verify connection to the TIBCO MFT server, using the **Advanced/Debugging** tab.

Step 1. Select the **Advanced/Debugging** tab.

Checking
Connection
to TIBCO
MFT Server

The Advanced/Debugging tab fields are displayed.

On the Advanced/Debugging tab, enter your EIDM **User ID** and **password**.
(This is required on the Advanced/Debugging tab.)

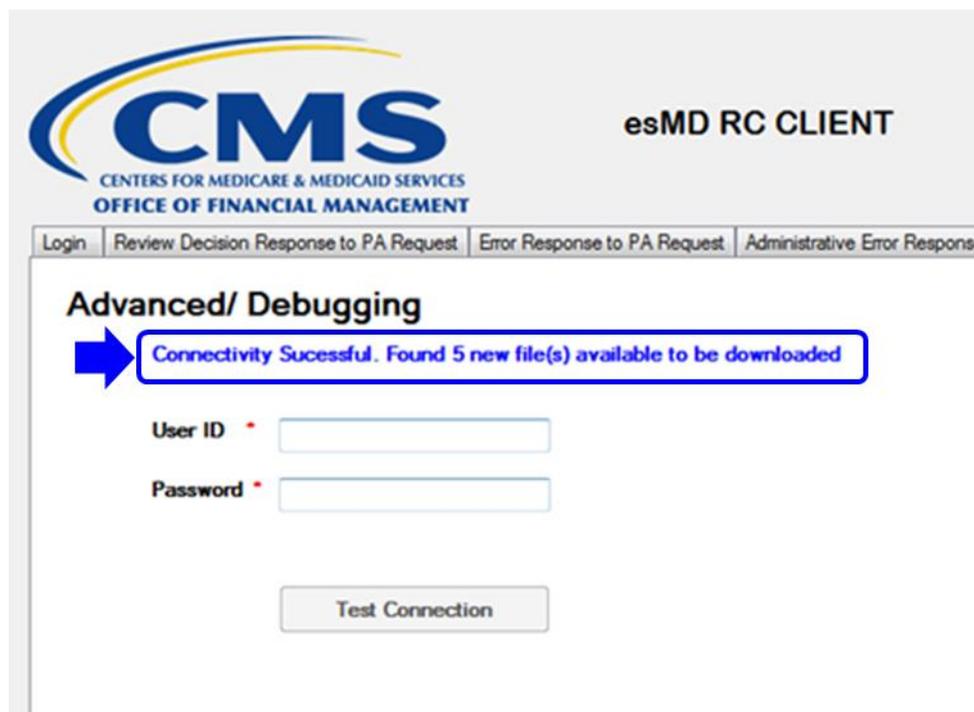
Select **Test Connection**.

The screenshot displays the esMD RC CLIENT software interface. At the top left is the CMS logo (Centers for Medicare & Medicaid Services, Office of Financial Management). To the right of the logo, it says "esMD RC CLIENT" and "Version 4.0". There is an "Exit" button in the top right corner. Below the header is a menu bar with several options: "Login", "Review Decision Response to PA Request", "Error Response to PA Request", "Administrative Error Response to Inbound", and "Advanced/Debugging". The "Advanced/Debugging" tab is selected and highlighted with a blue box and an arrow. Below the menu bar, the "Advanced/ Debugging" section contains two input fields: "User ID" with the value "PKSL947" and "Password" with masked characters. Both fields are highlighted with a blue box and an arrow. Below the input fields is a "Test Connection" button, also highlighted with a blue box and an arrow.

Step 2.
Checking
Connection
to TIBCO
MFT Server

After selecting Test Connection, the “**Connectivity Successful. Found 5 new file(s) available to be downloaded**” message is displayed.

Note: After successfully testing your connection, you may select another tab.



8. System Requirements

The following are the system requirements for installing a Microsoft .NET version of the RC Client.

8.1 Processor

The RC Client requires a Pentium 2 266-Megahertz (MHz) processor or greater.

8.2 Disk Space

The disk requirement for the RC .NET Client is 50 Megabytes (MB) for the RC Client itself. The documents that the RC Client pulls from the TIBCO MFT server may require additional disk space.

8.3 Memory

The RC .NET Client requires a minimum of 128 MB of free memory.

8.4 Permissions

The RC Client must have read, write, and execute permissions on all the directories under the installation home.

8.5 Network

The RC Client requires internet connectivity that supports more than 32-Kilobits Per Second (Kbps) transfer speeds.

8.6 Microsoft .NET Framework

The RC .NET Client requires Microsoft .NET Framework 4.5 to run properly.

8.7 Libraries

The Table 2: Libraries lists all the third-party libraries used by the RC Client along with their corresponding versions and a brief description of how the RC Client uses them.

Table 2: Libraries

Library	Version	Description
Common.Logging.dll	2.1.1	Logging Framework
Common.Logging.Log4Net1211.dll	2.1.1	Logging Framework
edtFTPnetPRO.dll	8.6.4	SFTP Library
Ionic.Zip.dll	1.9.1.8	Compression Library
log4net.dll	1.2.11.0	Logging Framework

9. How to Install and Configure a Microsoft .NET Version of RC Client

Review the System Requirements in Section 8, System Requirements, to make sure the machine that will host the RC Client meets the necessary requirements.

You can install the RC Client in two ways:

1. Out of the box; or
2. Custom RC Client (.NET).

9.1 Out-of-the-Box

The RC .NET Client API comes packaged with a sample client. To run this sample client out-of-the-box, the RCs must follow the procedures in the following sections.

9.1.1 Keystore Set Up

Important: The RC .NET Client uses asymmetric encryption to store the EIDM user credentials securely. For this encryption to work, the RC must use the machine-level Rivest, Shamir & Adleman (RSA) key container provided by Microsoft Windows. Please refer to Section 15.1 Security for more details on the Security framework used by the RC Client.

9.1.1.1 Microsoft Windows Machine-Level RSA Key Container

Microsoft Windows provides machine-level RSA key containers to all users who can log in to a computer by default. RSA key containers are used to encrypt or decrypt protected configuration sections while logged in with an administrator account. You can use a machine-level RSA key container to protect information for a single application, all the applications on a server, or a group of applications on a server that runs under the same user identity. Although machine-level RSA key containers are available to all users, they can be secured with New Technology File System (NTFS) Access Control Lists (ACLs) so that only required users can access them. You can use the `aspnet_regiis.exe` tool to create, export, import, or delete an RSA key container:

1. Type the command below at a command console to create a new RSA key container.

```
Cd C:\Windows\Microsoft.NET\Framework64\<v4.xxxxxxx>  
  
aspnet_regiis -pc <yourKeyName>
```

Note: Replace `<v4.xxxxxxx>` with the actual .NET framework version on your machine, and the `<yourKeyName>` with a name for your key so that you can retrieve it later.

9.1.1.2 Key Handling

The RC .NET Client delegates the key handling to the Windows Operating System environment.

9.1.2 Configuring the RC Client

Once the keystore is created, the RC Client is ready to be configured to use the keystore.

1. Update the keystore information in the configuration file (this is required).

Note: The `certAlias` name in the configuration file should be unique for each instance running on the same machine to avoid any encryption errors.

Important: The XML configuration file (i.e., config/esmd-rc-client-config.xml) is used by the RC Client to retrieve important configuration parameters necessary for its operation.

2. Use the comments for each configuration parameter shown in Table 3: Sample RC Client Configuration File as a guide for entering your data.

Table 3: Sample RC Client Configuration File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:ESMDCConfig xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc/config"
xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
xsi:schemaLocation="http://esmd.ois.cms.hhs.gov/v1/rc/config esmd-config.xsd"
">

  <!--The TIBCO MFT Server Configuration-->
  <ESMDSFTPServer>
    <!--TIBCO MFT Sever host name or IP -->
    <host>eftp2.cms.hhs.gov</host>
    <!--The TIBCO SFTP PORT-->
    <port>11022</port>
    <!--Update: Use T for VAL, P for PROD-->
    <environmentId>T</environmentId>
    <!--The EFT File Name Prefix-->
    <eftFilePrefix>#EFT</eftFilePrefix>
  </ESMDSFTPServer>
  <!--The Keycontainer Settings-->
  <KeyStoreInfo>
    <!--N/A for .NET-->
    <keyStoreLocation></keyStoreLocation>
    <!--N/A for .NET-->
    <encKeyInfo></encKeyInfo>
    <!--N/A for .NET-->
    <encKeyInfoExt></encKeyInfoExt>
    <!-- Update: The Key container Name-->
    <certAlias>yourKeyName</certAlias>
  </KeyStoreInfo>
  <!--The Inbound Process Configuration-->
  <InboundConfig>
    <!--Enable the Inbound Process? true/false-->
    <enabled>true</enabled>
    <!--The Pull Frequency for the Inbound Process in minutes; the
default is 240 minutes i.e. 4 hours-->
    <checkFrequency>30</checkFrequency>
    <!-- Update: The RC Client installation/home directory-->
    <rcHomeDirectory>c:\RCClient</rcHomeDirectory>
    <!-- Update: The target directory to extract the downloaded inbound
files before routing-->
    <targetDirectory>c:\RCClient\data\download</targetDirectory>
    <!-- Update: The input directory where the inbound payloads and the
metadata will be routed after the extraction-->
    <inputDirectory>c:\RCClient\data\input</inputDirectory>
    <!-- Update: The temp directory where the files are pulled from
TIBCO-->
    <tempDirectory>c:\RCClient\data\temp</tempDirectory>
```

```

    <!-- Update: The Error directory for routing the inbound error
notifications from esMD/HIH-->
    <errorDirectory>c:\RCClient\data\error\</errorDirectory>
    <!-- Update: The configuration directory for RC Client-->
    <configDirectory>c:\RCClient\data\conf\</configDirectory>
    <!-- Update: The notifications directory for routing the inbound
notifications from esMD/HIH-->

<notificationsDirectory>c:\RCClient\data\notification\</notificationsDirecto
ry>
    <!-- Update: The Remote Inbound Directory path on the TIBCO Server--
>
    <remoteInboundDir>/ES####</remoteInboundDir>
    <!-- Update: The routing id for the inbound files used to pick the
inbound files to pull-->
    <inboundRoutingId>ES####</inboundRoutingId>
</InboundConfig>
<!--The Outbound Process Configuration-->
<OutboundConfig>
    <!-- Update: Enable the Outbound Process? true/false-->
    <enabled>true</enabled>
    <!--The push frequency for the Outbound process in minutes default
is 15 minutes-->
    <pushFrequency>15</pushFrequency>
    <!-- Update: The temp directory to use for the outbound process for
creating the PMPDA/Notification files-->
    <tempDirectory>c:\RCClient\data\temp\</tempDirectory>
    <!-- Update: The local outbound directory to push the outbound files
from-->
    <outputDirectory>c:\RCClient\data\output\</outputDirectory>
    <!-- Update: The Remote Outbound directory to push files-->
    <remoteOutboundDir>/ES####_UPLOAD</remoteOutboundDir>
    <!-- Update: The Remote Outbound Routing ID to push files onto esMD
servers via TIBCO-->
    <outboundRoutingId>ESMD2</outboundRoutingId>
    <!--The Outbound File name prefix-->
    <outboundFilePrefix>ON</outboundFilePrefix>
</OutboundConfig>
</ns2:ESMDConfig>

```

9.1.3 Running the RC Client

Before you, as the RC, run the sample RC Client, you must double-check all the configuration parameters in the XML configuration file, especially the ones with the "Update" prefix in the comments of the sample XML configuration file, as shown in Table 3: Sample RC Client Configuration File.

1. To run the sample RC Client, run the "RcClientUI.exe" utility provided in the distribution package.
2. Start the RC Client by providing the EIDM login credentials (i.e. EIDM User ID and password) for the Login tab and select the "Login and Run RC Client" button.

9.2 Custom RC Client

The RC .NET Client provides an API, so the RC can extend the RC Client to fit the RC's environmental needs. The API enables the RC to perform the following functions:

- Log in to the TIBCO MFT server;
- Get Notifications from the TIBCO MFT server, using the Secure File Transfer Protocol (SFTP) (refer to Section 15.2.2 Inbound);
- Decrypt/encrypt and store the login credentials using a secure RSA algorithm (refer to Section 15.2.7 Utilities – Encryption);
- Pull medical documentation from the TIBCO MFT server (refer to Section 15.2.2 Inbound);
- Extract the downloaded packages (refer to Section 15.2.2 Inbound);
- Check the payloads using checksums in the metadata (refer to Section 15.2.2 Inbound);
- Push the outbound files from the output directory (refer to Section 15.2.3 Outbound); and
- Create custom files (for example, custom PMD PA files) (refer to Section 15.2.4 PA Review Decision Response).

Note: The procedures for customizing the RC Client API are beyond the scope of this document. (The source code that will be packaged along with the RC Client contains documentation needed for integrating the API.)

10. TIBCO® MFT File Transfers

The RC Client uses the TIBCO MFT server to interact with the esMD system. It uses SFTP to connect to the TIBCO MFT server and uses the `ls/get/put` commands to interact with the files. There are four types of inbound files that the RC Client pulls from the TIBCO MFT server, as described in Table 4: Inbound Files.

Note: “ES0001” is a sample mailbox number that the TIBCO MFT server uses to identify the RC, and “0977890” is a sample Transaction ID, which is shown in the Table 4: Inbound Files and Table 5: Outbound Files. The final two qualifiers in the file name that are prefixed with “D” and “T” are the Date and Timestamp, respectively. The Validation files will have a “T” prefix and the Production files will have a “P” prefix.

Only 1,022 files will be visible in the TIBCO MFT Server at one time, by the MFT Mailbox Routing number. As each file is pulled, the TIBCO MFT server will bring new files from the mainframe and place them at the bottom of the queue.

Table 4: Inbound Files

Type	Example File Name	Delivery Type Description
Inbound	T.ES0001.E0977890.D140116.T1033445	The E in prefix to the 0977890 Transaction ID indicates an esMD payload
Inbound	T.ES0001.A0977890.D140116.T1033445	Successful Acknowledgement that the HIH has received the pickup notification.
Inbound	T.ES0001.R0977890.D140116.T1033445	Validation Error received by the RC for the Pickup Notification sent to esMD
Inbound	T.ES0001.N0977890.D140116.T1033445	Successful Acknowledgement that the HIH has received the PA Review Response.
Inbound	T.ES0001.M0977890.D140116.T1033445	Validation Error received by the RC for the Administrative Error Response sent to esMD
Inbound	T.ES0001.V0977890.D140116.T1033445	Validation Error received by the RC for the PA Review Response sent to esMD
Inbound	T.ES0001.X0977890.D140116.T1033445	Virus Scan Failure Error received by the RC from the esMD on a file sent previously.
Inbound	T.ES0001.S0977890.D140116.T1033445	Successful Acknowledgement that the HIH has received the administrative error response.
Inbound	T.ES0001.Y0977890.D140116.T1033445	McAfee Gateway down Error for outbound processing received by the RC from the esMD on a file sent previously.

Table 5: Outbound Files

Type	Example File Name	Delivery Type Description
Outbound	T#EFT.ON.ESMD2.E0977890.D140116.T1033445	E indicates PA Review Response.
Outbound	T#EFT.ON.ESMD2.D0977890.D140116.T1033445	D indicates an Administrative Error.
Outbound	T#EFT.ON.ESMD2.P0977890.D140116.T1033445	P indicates an esMD pickup notification i.e. both and success and error.

11. XML Messages

This section describes the various XML messages transferred during the inbound and outbound processes.

11.1 Inbound

Note: Please refer to the Appendix F: Data Directories for details on how RC Client routes the inbound files once they are successfully processed into the data directories.

The RC Client transfers the following files during the inbound process:

- Payload Files;
- Flat File Rendering (FFR);
- Cover Sheet;

- Metadata File;
- Pickup HIH Status Response;
- Pickup Validation Error Response;
- Administrative Error HIH Status Response;
- Administrative Error Response Validation Error;
- Virus Scan Error Response;
- PA Review Result HIH Status Response; and
- PA Review Result Validation Error Response.

11.1.1 Payload Files

The RC Client will receive PDF files as payloads in the inbound documents with delivery type “E”. An example payload file name is E_185457-esmdQSSIVG0407141396893280928-0.pdf.

11.1.2 Flat File Rendering (FFR)

The RC Client will receive FFR files in the inbound documents along with the payload files for the X12N 278 request. An example FFR file is shown in Table 6: E_185457-flatfilerendering.ffr.

For more details on the layout of the FFR and X12N 278 requests, please see the X12N 278 Companion Guide under the esMD Downloads section, using the link below:

http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information_for_Review-Contractors.html

Table 6: E_185457-flatfilerendering.ffr

ST	2781523	005010X217		BHT	
0007013920394930203				200812081615	RUHL
1	201NM1	X3	2JOHNSON		
46111222333					
HL	2	1	211NM1	1P	1SMITH
MUFFY		M			PH.D
XX1111111112					
N3	PO BOX 123				
N4	CINCINNATI		OH43017		
PER	ICWILBER				
FX8189991234					
TE8187691304					
EXPRV	CO PXC208D00000X				
HL	3	2	221NM1	IL	1JONES
BARBARA		T		MR	M.D.
IIAA123456					
N3	PO BOX				123
N4	CINCINNATI		OH43017		
DMG	D8 19511204		FHL		4
3	EV1TRN	1	12345678900987654321768958473		
1311234567500			UM		
INI1 13A AA EM AP ONCA U 34Y1 PWK			77ELACATTACHMENT CONTROL		
NUMBER 1					
NM1	72	1JOHNSON			
BARBARA					
461111111111					
N3	PO BOX 123				
N4	CINCINNATI		OH43017		HL
5	4	SS0TRN	1	0001-201501150001UBERTEST-	
20141224-SVC1		9555555555UBERTESTHAPPYPATH			
UM	SCN3	SV1	HC27447		
36345.25	UN1		SE		27
1523					

11.1.3 Cover Sheet

The RC Client will receive cover sheets in the inbound documents along with the payload files for the X12N 278 request. An example cover sheet is shown in Figure 2: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 1, Figure 3: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 2, and Figure 4: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 3.

Figure 2: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 1

Facility/Agency :	
NPI :	1234567893
Last Name :	FACILITY ORG NAME
Address Line 1 :	AMBSTREET SERVICE PROVIDER 2010EA
Address Line 2 :	
City :	WINDSORMILL
State :	MD
Zip :	21244
Place of Service / Type of bill code :	13
Diagnosis codes :	
Diagnosis Code Qualifier (1) :	BK
Diagnosis Code (1) :	78809
Diagnosis Code Qualifier (2) :	BF
Diagnosis Code (2) :	85135
Diagnosis Code Qualifier (3) :	BF
Diagnosis Code (3) :	8488
Diagnosis Code Qualifier (4) :	BF
Diagnosis Code (4) :	8471
Diagnosis Code Qualifier (5) :	BF
Diagnosis Code (5) :	8472
Diagnosis Code Qualifier (6) :	BF
Diagnosis Code (6) :	84510
Diagnosis Code Qualifier (7) :	BF
Diagnosis Code (7) :	8481
Diagnosis Code Qualifier (8) :	BF
Diagnosis Code (8) :	8502
Diagnosis Code Qualifier (9) :	BF
Diagnosis Code (9) :	8500
Diagnosis Code Qualifier (10) :	BF
Diagnosis Code (10) :	85106
Diagnosis Code Qualifier (11) :	BF
Diagnosis Code (11) :	8489
Diagnosis Code Qualifier (12) :	BF
Diagnosis Code (12) :	8431
Requester Information :	
NPI :	111111112
Last Name :	REQUESTERLASTNAME
First Name :	REQUESTERFIRSTNAME
Address Line 1 :	REQUESTER STREET LOOP 2010B
Address Line 2 :	
City :	WINDSORMILL

Date: 2016-04-14T05:05:49PM EDT

Page: 2

Figure 3: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 2

Facility/Agency :	
NPI :	1234567893
Last Name :	FACILITY ORIG NAME
Address Line 1 :	AMBSTREET SERVICE PROVIDER 2010EA
Address Line 2 :	
City :	WINDGORMILL
State :	MD
Zip :	21244
Place of Service :	13
Diagnosis codes :	
Diagnosis Code Qualifier (1) :	BK
Diagnosis Code (1) :	78609
Diagnosis Code Qualifier (2) :	BF
Diagnosis Code (2) :	85135
Diagnosis Code Qualifier (3) :	BF
Diagnosis Code (3) :	8488
Diagnosis Code Qualifier (4) :	BF
Diagnosis Code (4) :	8471
Diagnosis Code Qualifier (5) :	BF
Diagnosis Code (5) :	8472
Diagnosis Code Qualifier (6) :	BF
Diagnosis Code (6) :	84510
Diagnosis Code Qualifier (7) :	BF
Diagnosis Code (7) :	8461
Diagnosis Code Qualifier (8) :	BF
Diagnosis Code (8) :	8502
Diagnosis Code Qualifier (9) :	BF
Diagnosis Code (9) :	8500
Diagnosis Code Qualifier (10) :	BF
Diagnosis Code (10) :	85106
Diagnosis Code Qualifier (11) :	BF
Diagnosis Code (11) :	8489
Diagnosis Code Qualifier (12) :	BF
Diagnosis Code (12) :	8431
Requester Information :	
NPI :	1111111112
Last Name :	REQUESTERLASTNAME
First Name :	REQUESTERFIRSTNAME
Address Line 1 :	REQUESTER STREET LOOP 2010B
Address Line 2 :	
City :	WINDGORMILL

Figure 4: Sample EDI Cover Sheet - E_1234567-coversheet.pdf Page 3

State :	MD
Zip :	21244
Requester/Contact :	
Contact Name :	DR.AMBULANCECONTACT
Contact Telephone # :	4035556789
Number of units requested :	
Units requested :	80
Service Period :	
Service Period Requested (ccymmdd):	20150930-20151030
Attachment Control Number :	KUMARPICKUP007

11.1.4 Metadata File

The metadata file accompanies the payload files, FFR, and X12N 278 request copy in the inbound documents with delivery type “E”. The metadata file contains information about the payloads like the Object Identifier (OID), Transaction ID, Submission metadata (includes Attachment Control Number and other information), and optional metadata. The Content Type Code will change for each line of business. See Table 7: E_123456-metadata.xml.

Note: The metadata file will remain the same for all lines of business including Additional Documentation Requests (ADRs), PMD PA Requests, Non-Emergent Ambulance Transport and HBO Prior Authorization requests, First Level Appeal Requests, Second level Appeal Requests, Recovery Auditor (RA) Requests, Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS), and Home Health Services (HHS).

Note: The Claim ID is optional for First Level Appeal Requests, Second Level Appeal Requests and Advance Determination of Medicare Coverage (ADMCs). For more information on the Content Type Codes, please refer to Appendix G: Content Type Codes.

Table 7: E_123456-metadata.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<ns0:RetrieveMedicalDocumentationResponse
xmlns:ns0="http://esmd.ois.cms.hhs.gov/v1/rc" returnCode="1"
serviceSuccessful="true">
  <statusDescription>The RetrieveMedicalDocumentationRequest processed
successfully.</statusDescription>
  <NumberOfDocuments>3</NumberOfDocuments>
  <ESMDPackage>
    <ESMDTransaction TransactionId="1191152" DeliveryType="E"/>
    <SendingOID>urn:oid:123.456.657.132</SendingOID>
    <TargetOID>urn:oid:2.16.840.1.113883.13.34.110.1.999.1</TargetOID>
    <CompleteSubmission>true</CompleteSubmission>
    <RequestType>X12-XDR</RequestType>
  </ESMDPackage>
</ns0:RetrieveMedicalDocumentationResponse>
```

```

    <SubmissionMetadata>
      <BusinessType>XDR X12</BusinessType>
      <CreationTime>2015-08-04T17:16:16.887-04:00</CreationTime>
      <SubmissionTime>2015-08-04T17:16:16.887-04:00</SubmissionTime>
      <EFTSubmissionTime>2015-08-04T17:16:16.887-
04:00</EFTSubmissionTime>
      <ContentTypeCode>13</ContentTypeCode>
      <NPI>111111112</NPI>
    </SubmissionMetadata>
    <Documentation DocumentUniqueIdentifier="E_1191152-
esmdQSSISKADRVALID14387229639241438722974661_0" MimeType="application/pdf"
FileName="E_1191152-esmdQSSISKADRVALID14387229639241438722974661_0.pdf">
      <OptionalMetadata>
        <FieldName>FileName</FieldName>
        <FieldValue>E_1191152-
esmdQSSISKADRVALID14387229639241438722974661_0.pdf</FieldValue>
      </OptionalMetadata>
      <OptionalMetadata>
        <FieldName>Description</FieldName>
        <FieldValue>From esMD</FieldValue>
      </OptionalMetadata>
      <OptionalMetadata>
        <FieldName>Checksum</FieldName>
<FieldValue>73d1ba48402985bac6ddab12f47c179dddbbe4c6</FieldValue>
      </OptionalMetadata>
    </Documentation>
    <Documentation DocumentUniqueIdentifier="E_1191152-
flatfilerendering" MimeType="text/xml" FileName="E_1191152-
flatfilerendering.ffr">
      <OptionalMetadata>
        <FieldName>AttachmentControlNumber</FieldName>
        <FieldValue>SRNKS005</FieldValue>
      </OptionalMetadata>
      <OptionalMetadata>
        <FieldName>Checksum</FieldName>
<FieldValue>30fecc47759d3220c52c6cd8cc14315907fe212a</FieldValue>
      </OptionalMetadata>
    </Documentation>
    <Documentation DocumentUniqueIdentifier="E_1191152-coversheet"
MimeType="application/pdf" FileName="E_1191152-coversheet.pdf">
      <OptionalMetadata>
        <FieldName>AttachmentControlNumber</FieldName>
        <FieldValue>SRNKS005</FieldValue>
      </OptionalMetadata>
      <OptionalMetadata>
        <FieldName>Checksum</FieldName>
<FieldValue>54bb0dee19b1965059eb00a028465419bdb1dc7b</FieldValue>
      </OptionalMetadata>
    </Documentation>
  </ESMDPackage>
</ns0:RetrieveMedicalDocumentationResponse>

```

11.1.5 Pickup HIH Status Response

When the RC Client sends a pickup notification to esMD, the esMD application processes the notification and sends the response to the HIH. Once the esMD application receives the acknowledgement for the pickup notification from HIH, then it generates the Pickup Status Response and sends it to the RC, indicating the response was sent to the HIH, as detailed in the code in Table 8: A_123456_Pickup_HIH_Status_Response.xml.

Note: The HIH Pickup Status Response will remain the same for all lines of business including ADRs, PMD PA Requests, Non-Emergent Ambulance Transport and HBO PA requests, ADMCs, DMEPOS Requests, HHS PA Requests, and Recovery RA Requests.

Table 8: A_123456_Pickup_HIH_Status_Response.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<ns2:RCPickupNotificationResponse
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc/config">
  <ESMDTransactionId>123456</ESMDTransactionId>
  <ErrorInfo xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:nil="true"/>
  <status>Success</status>
  <statusDesc>SENT PICKUP STATUS TO HIH</statusDesc>
</ns2:RCPickupNotificationResponse>
```

11.1.6 Pickup Validation Error Response

When the RC Client sends a Pickup Notification to esMD, the esMD application processes and sends the Pickup Notification to the HIH. If there is an error in processing the Pickup Notification submitted by the RC, the esMD application generates the Pickup Validation Error Response, as detailed in Table 9: R_123456_Pickup_Validation_Error.xml, and sends it to the RC. The RC will correct the pickup notification and resubmits the PA Results Result. Refer to the code located in Table 9: R_123456_Pickup_Validation_Error.xml.

Table 9: R_123456_Pickup_Validation_Error.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<ns0:RCPickupNotificationResponse
xmlns:ns0="http://esmd.ois.cms.hhs.gov/v1/rc/config">
  <ESMDTransactionId>28394</ESMDTransactionId>
  <ErrorInfo>
    <ErrorCode>614</ErrorCode>
    <ErrorName/>
    <ErrorDescription>Unable to parse RC response</ErrorDescription>
  </ErrorInfo>
  <Status>FAILED</Status>
  <StatusDesc>ESMD internal system error, please resubmit proper
file</StatusDesc>
</ns0:RCPickupNotificationResponse>
```

11.1.7 Administrative Error HIH Status Response

When the RC Client sends an administrative error for an inbound submission to esMD, the esMD application processes the administrative error and sends the response to the HIH. Once the esMD application receives the acknowledgement for the administrative error from HIH, then it generates the Administrative Error HIH Status Response and sends it to the RC, indicating the error was sent to the HIH, as detailed in the code in Table 10:

S_123456_Administrative_Error_HIH_Status_Response.xml.

Note: The Administrative Error HIH Status Response will remain the same for all lines of business including ADRs, PMD PA Requests, Non-Emergent Ambulance Transport, and HBO PA requests, DMEPOS Requests, HHS PA Requests, and ADMCs.

Table 10: S_123456_Administrative_Error_HIH_Status_Response.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<ns0:SubmitPADeterminationResponseResult
xmlns:ns0="http://esmd.ois.cms.hhs.gov/v1/rc" returnCode="1"
serviceSuccessful="true">
  <statusDescription>Sent administrative error response delivery to
  HIH</statusDescription>
  <ESMDTransaction TransactionId="32839" DeliveryType="S"/>
</ns0:SubmitPADeterminationResponseResult>
```

11.1.8 Administrative Error Response Validation Error

When the RC Client sends an Administrative Error Response to esMD, the esMD application processes and sends the Administrative Error Response to the HIH. If there is an error in processing the Administrative Error Response submitted by the RC, the esMD application generates the Administrative Error Response Validation Error, as detailed in Table 11: M_123456_Administrative_Response_Validation_Error.xml, and sends it to the RC. The RC will correct the administrative error response and resubmits it. Refer to the code located in Table 11: M_123456_Administrative_Response_Validation_Error.xml.

Table 11: M_123456_Administrative_Response_Validation_Error.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<ns0:SubmitPADeterminationResponseResult
xmlns:ns0="http://esmd.ois.cms.hhs.gov/v1/rc" returnCode="1"
serviceSuccessful="true">
  <statusDescription>ESMD internal system error (validation failure) for
  administrative error response, please resubmit</statusDescription>
  <ESMDTransaction TransactionId="28394" DeliveryType="M"/>
</ns0:SubmitPADeterminationResponseResult>
```

11.1.9 Virus Scan Error Response

When the RC Client sends any outbound file to esMD, the esMD application sends it to the Virus Scan Gateway for virus scanning. If there are any viruses detected in the file received, the

esMD application sends the message detailed in Table 12: X_123456_Virus_Scan_Error.xml to the RC. The RC Client will then pull this Virus Scan Error, stop the inbound and outbound processes, and lock down the RC Client to prevent RC Client from interacting with esMD. In this situation, the RC Client does not enable recovery, and the RC will contact esMD Help Desk. Refer to the code located in Table 12: X_123456_Virus_Scan_Error.xml.

Table 12: X_123456_Virus_Scan_Error.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<tns:RCPickupNotificationResponse
xmlns:tns="http://esmd.ois.cms.hhs.gov/v1/rc/config"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://esmd.ois.cms.hhs.gov/v1/rc/config esmd-
config.xsd">
  <ESMDTransactionId>123456</ESMDTransactionId>
  <ErrorInfo>
    <ErrorCode>560</ErrorCode>
    <ErrorName>VirusFound</ErrorName>
    <ErrorDescription>ESMD validation error: Submission is infected with
virus</ErrorDescription>
  </ErrorInfo>
  <Status>FAILED</Status>
  <StatusDesc>Outbound Response File contains virus and so the response is
rejected.</StatusDesc>
</tns:RCPickupNotificationResponse>
```

11.1.10 PA Review Response HIH Status Response

When the RC Client sends a PA Review Result to esMD, the esMD application processes the file and sends the PA Review Result to the HIH. The esMD application submits the PA Review Result HIH Status Response, as detailed in Table 13:

N_123456_PA_Review_Result_HIH_Status_Response.xml, and sends it to the RC, indicating the result was sent to the HIH. Refer to the code located in Table 8:

A_123456_Pickup_HIH_Status_Response.xml.

Table 13: N_123456_PA_Review_Result_HIH_Status_Response.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<esmd:SubmitPADeterminationResponseResult
xsi:schemaLocation="http://esmd.ois.cms.hhs.gov/v1/rc ../../config/esmd-
rc.xsd "
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:esmdl="http://esmd.ois.cms.hhs.gov/v1/rc/transaction"
xmlns:esmd="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:cmsbt="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <statusDescription>PA Review Decision Response results - Successfully
delivered to HIH</statusDescription>
  <ESMDTransaction DeliveryType="N" TransactionId="123456"/>
</esmd:SubmitPADeterminationResponseResult>
```

11.1.11 PA Review Response Validation Error Response

When the RC Client sends a PA Review Result to esMD, the esMD application processes and sends the PA Review Result to the HIH. If there is an error in processing the PA Review Result submitted by the RC, the esMD application generates the PA Results Response Error, as detailed in Table 14: V_123456_PA_Review_Response_Validation_Error.xml, and sends it to the RC. The RC will correct the response and resubmits the PA Results Result. Refer to the code located in Table 14: V_123456_PA_Review_Response_Validation_Error.xml.

Table 14: V_123456_PA_Review_Response_Validation_Error.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<esmd:SubmitPADeterminationResponseResult
xsi:schemaLocation="http://esmd.ois.cms.hhs.gov/v1/rc/config/esmd-rc.xsd "
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:esmdl="http://esmd.ois.cms.hhs.gov/v1/rc/transaction"
xmlns:esmd="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:cmsbt="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <statusDescription>statusDescription</statusDescription>
  <ESMDTransaction DeliveryType="R" TransactionId="123456"/>
  <ValidationFailure>
    <FailureCode>556</FailureCode>
    <FailureReason>ESMD validation error: Decision Indicator must be A,
N, or M</FailureReason>
  </ValidationFailure>
</esmd:SubmitPADeterminationResponse>
```

11.2 Outbound

Note for API users: Please refer to the properties files packaged with the source code for more details on the reference data needed to populate the outbound XMLs described in this section.

The RC Client transfers the following messages during the outbound process:

- Pickup Notification;
- Error Pickup Notification;
- Review Decision Response to PA Request;
- Error Response to PA request; and
- Administrative Error Response to Inbound Submissions.

11.2.1 Pickup Notification

The RC Client generates pickup notifications for all inbound files with delivery type “E” pulled from the TIBCO MFT server and processed successfully, as detailed in Table 15:

P_186303_Pickup_Notification.xml. Refer to the code located in Table 15:

P_186303_Pickup_Notification.xml.

Table 15: P_186303_Pickup_Notification.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:RCPickupNotification
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc/config">
  <ESMDTransactionId>186303</ESMDTransactionId>
  <RoutingId>ES9999</RoutingId>
  <PickupTime>2015-03-18T14:42:35.292-04:00</PickupTime>
  <SubmissionTime>2015-03-12T22:51:09.632-04:00</SubmissionTime>
</ns2:RCPickupNotification>
```

11.2.2 Error Pickup Notification

The RC Client generates pickup error notifications for all inbound files pulled from TIBCO MFT and processed unsuccessfully, as detailed in Table 16:

P_186303_Pickup_Error_Notification.xml. The processing errors are generated in two scenarios:

1. Checksum verification failed (i.e., the payload file received by the RC client does not match the file sent by esMD); and
2. Extraction was unsuccessful (i.e., the RC client could not successfully unzip the file received from the server).

Refer to the code located in Table 16: P_186303_Pickup_Error_Notification.xml.

Refer to the section 16.2: Errors: RC to esMD for more details on the errors sent from RC to esMD for an inbound submission processing error.

Table 16: P_186303_Pickup_Error_Notification.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:RCPickupNotification
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc/config">
  <ESMDTransactionId>186303</ESMDTransactionId>
  <RoutingId>ES9999</RoutingId>
  <PickupTime>2015-03-18T14:42:35.292-04:00</PickupTime>
  <SubmissionTime>2015-03-12T22:51:09.632-04:00</SubmissionTime>
  <ErrorInfo>
    <ErrorCode>53</ErrorCode>
    <ErrorName>ERROR VERIFYING PAYLOAD CHECKSUM</ErrorName>
    <ErrorDescription> ESMD_535 - RC Client processing error (Checksum
issue). Please resubmit </ErrorDescription>
  </ErrorInfo>
</ns2:RCPickupNotification>
```

11.2.3 Review Decision Response to PA Request

The Review Decision Response Result to PA Request is the XML message from the RC to the HIH to inform the HIH of the review decision.

11.2.3.1 PA Review Response with Decision Indicator ‘Affirmed’

Table 17: E_1523121_PA_Review_Response.xml shows the XML message generated for a review response with decision indicator as “Affirmed”.

The RC process for entering an A-Affirmed decision, which creates the XML indicated below, is detailed in Section 4.1 How to Enter an A-Affirmed Decision.

Table 17: E_1523121_PA_Review_Response.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:SubmitPADeterminationResponse
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:ns3="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <ESMDTransaction RoutingId="ES9999" DeliveryType="E"
TransactionId="1523121"/>
  <PAReviewResponse>
    <CreationTime>2015-03-17T23:06:27.637-04:00</CreationTime>
    <SubmissionTime>2015-03-17T23:07:28.048-04:00</SubmissionTime>
    <ProcedureLevelRecordList>
      <ProcedureLevelRecord>
        <ProcedureCode>K0802</ProcedureCode>
        <DecisionIndicator>A</DecisionIndicator>
        <UniqueTrackingNumber>A0014280106700</UniqueTrackingNumber>
      </ProcedureLevelRecord>
    </ProcedureLevelRecordList>
  </PAReviewResponse>
</ns2:SubmitPADeterminationResponse>
```

11.2.3.2 PA Review Response with Decision Indicator ‘Affirmed’ with Change

Table 18: E_1523124_PA_Review_Response.xml shows the XML message generated for a review response with decision indicator as “Affirmed” with changes.

The RC process for entering a M-Affirmed with Change decision, which creates the XML indicated below, is detailed in the Section 4.2 How to Enter a M-Affirmed with Change Decision.

Please refer to the Appendix D: PA Reason Codes for more information on the reason codes used in the PA Review Response.

Table 18: E_1523124_PA_Review_Response.xml

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:SubmitPADeterminationResponse
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:ns3="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <ESMDTransaction RoutingId="ES9999" DeliveryType="E"
TransactionId="1523124"/>
  <PAReviewResponse>
    <CreationTime>2015-03-17T23:03:29.861-04:00</CreationTime>
    <SubmissionTime>2015-03-17T23:05:18.938-04:00</SubmissionTime>
    <ProcedureLevelRecordList>
      <ProcedureLevelRecord>
        <ProcedureCode>A0426</ProcedureCode>
        <DecisionIndicator>M</DecisionIndicator>
        <UnitsDateRangeRecord>
          <ApprovedUnits>9</ApprovedUnits>
          <ApprovedDateRange>
            <StartDate>2015-03-18</StartDate>
            <EndDate>2015-03-26</EndDate>
          </ApprovedDateRange>
        </UnitsDateRangeRecord>
        <UniqueTrackingNumber>A0014280106621</UniqueTrackingNumber>
        <ReasonCodeList>
          <ReasonCode>ADB23</ReasonCode>
          <ReasonCode>WVYZ1</ReasonCode>
        </ReasonCodeList>
      </ProcedureLevelRecord>
    </ProcedureLevelRecordList>
  </PAReviewResponse>
</ns2:SubmitPADeterminationResponse>

```

11.2.3.3 PA Review Response with Decision Indicator 'Non Affirmed'

Table 19: E_1541233_PA_Review_Response.xml shows the XML message generated for a review response with decision indicator as "Non Affirmed".

The RC process for entering a N-Non Affirmed decision, which creates the XML indicated below, is detailed in the Section 4.3 How to Enter a N-Non Affirmed Decision.

Please refer to the Appendix D: PA Reason Codes for more information on the reason codes used in the PA Review Response.

Please refer to the Appendix C: Industry Codes for more information on the Industry Codes to be used in the N-Non Affirmed response.

Note for API users: For the XDR PA Responses, the IndustryCodeRecordList will be discarded if RC sends the list, when the esMD system processes the PA Review Response.

Table 19: E_1541233_PA_Review_Response.xml

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:SubmitPADeterminationResponse
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:ns3="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <ESMDTransaction RoutingId="ES9999" DeliveryType="E"
TransactionId="1541233"/>
  <PAReviewResponse>
    <CreationTime>2015-03-17T23:07:32.455-04:00</CreationTime>
    <SubmissionTime>2015-03-17T23:08:40.451-04:00</SubmissionTime>
    <ProcedureLevelRecordList>
      <ProcedureLevelRecord>
        <ProcedureCode>K0802</ProcedureCode>
        <DecisionIndicator>N</DecisionIndicator>
        <UniqueTrackingNumber>A0014280106680</UniqueTrackingNumber>
        <IndustryCodeRecordList>
          <IndustryCodeRecord>
            <IndustryCode>04</IndustryCode>
            <IndustryCodeDescription>Authorized Quantity
Exceeded</IndustryCodeDescription>
          </IndustryCodeRecord>
          <IndustryCodeRecord>
            <IndustryCode>16</IndustryCode>
            <IndustryCodeDescription>Inappropriate facility
type</IndustryCodeDescription>
          </IndustryCodeRecord>
        </IndustryCodeRecordList>
        <ReasonCodeList>
          <ReasonCode>PMD1A</ReasonCode>
          <ReasonCode>PMD3A</ReasonCode>
          <ReasonCode>PMD2B</ReasonCode>
        </ReasonCodeList>
      </ProcedureLevelRecord>
    </ProcedureLevelRecordList>
  </PAReviewResponse>
</ns2:SubmitPADeterminationResponse>

```

11.2.4 Error Response to PA Request

The Error Response to PA Request is the XML message from the RC to the HIH, to inform the HIH of the error response as detailed in Table 20: E_1521342_PA_Review_Response.xml. Refer to the code located in Table 20: E_1521342_PA_Review_Response.xml.

Please refer to the Appendix B: Reject Error Codes for more information on the error codes used in the Error Review Response for a PA Request.

Table 20: E_1521342_PA_Review_Response.xml

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:SubmitPADeterminationResponse
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:ns3="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <ESMDTransaction RoutingId="ES9999" DeliveryType="E"
TransactionId="1521342"/>
  <PAReviewResponse>
    <CreationTime>2015-03-17T23:10:22.327-04:00</CreationTime>
    <SubmissionTime>2015-03-17T23:11:46.176-04:00</SubmissionTime>
    <ErrorResponseDetail>
      <DecisionIndicator>R</DecisionIndicator>
      <RejectErrorCodeRecordList>
        <RejectErrorCodeRecord>
          <ErrorCategoryName>Medical-Info</ErrorCategoryName>
          <ErrorCodeRecordList>
            <ErrorCodeRecord>
              <ErrorCode>15</ErrorCode>
              <ErrorCodeDescription>Number of Units is missing
or invalid</ErrorCodeDescription>
            </ErrorCodeRecord>
            <ErrorCodeRecord>
              <ErrorCode>33</ErrorCode>
              <ErrorCodeDescription>Place of Service code is
missing or invalid</ErrorCodeDescription>
            </ErrorCodeRecord>
          </ErrorCodeRecordList>
        </RejectErrorCodeRecord>
        <RejectErrorCodeRecord>
          <ErrorCategoryName>Beneficiary</ErrorCategoryName>
          <ErrorCodeRecordList>
            <ErrorCodeRecord>
              <ErrorCode>64</ErrorCode>
              <ErrorCodeDescription>HIC Number is missing or
invalid</ErrorCodeDescription>
            </ErrorCodeRecord>
          </ErrorCodeRecordList>
        </RejectErrorCodeRecord>
      </RejectErrorCodeRecordList>
      <ReasonCodeList>
        <ReasonCode>PMD1A</ReasonCode>
        <ReasonCode>PMD2C</ReasonCode>
        <ReasonCode>PMD3A</ReasonCode>
        <ReasonCode>PMD3B</ReasonCode>
      </ReasonCodeList>
      <UniqueTrackingNumber>A0014280106600</UniqueTrackingNumber>
    </ErrorResponseDetail>
  </PAReviewResponse>
</ns2:SubmitPADeterminationResponse>

```

11.2.5 Administrative Error Response to Inbound Submissions

The Administrative Error Response is the XML message from the RC to the HIH to inform the HIH of the administrative error response to inbound submissions.

Note: Section 6 How to Submit an Inbound Submission Error on the Administrative Error Response to Inbound Submissions Tab describes the process of creating an XML message, using the RC Client.

The Administrative Error Response to Inbound Submissions xml is detailed in Table 21: D_1532432AdministrativeErrorResponse.xml.

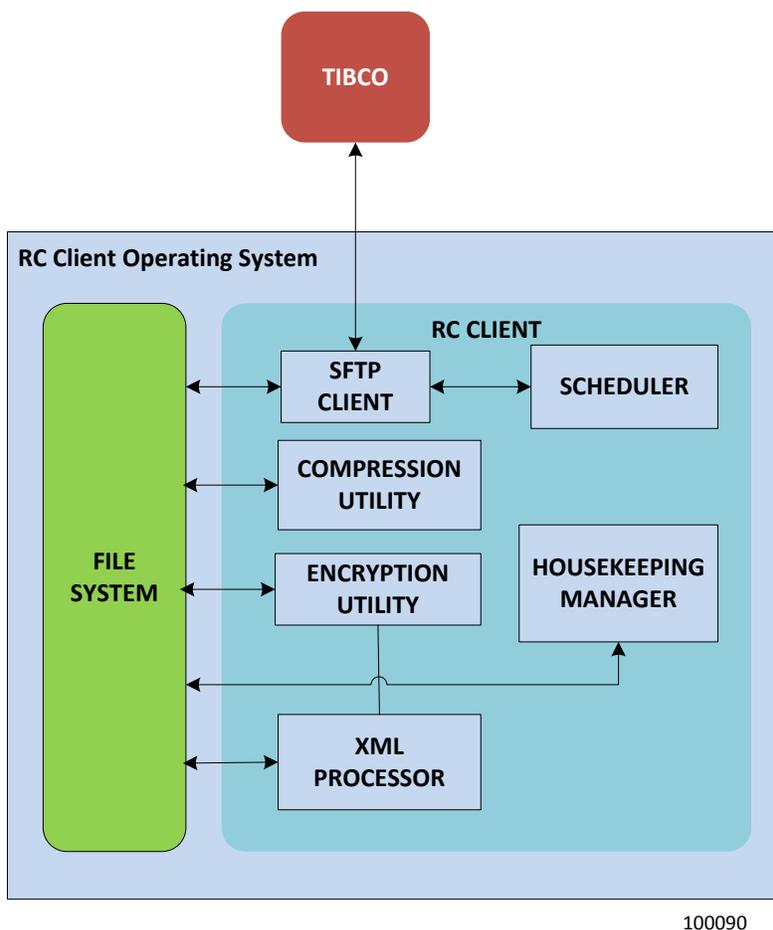
Table 21: D_1532432AdministrativeErrorResponse.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:SubmitAdministrativeErrorResponse
xmlns:ns2="http://esmd.ois.cms.hhs.gov/v1/rc"
xmlns:ns3="http://esmd.ois.cms.hhs.gov/v1/rc/cmsbt">
  <ESMDTransaction RoutingId="ES9999" DeliveryType="D"
TransactionId="1532432"/>
  <AdministrativeErrorResponse>
    <CreationTime>2015-03-17T23:11:57.521-04:00</CreationTime>
    <SubmissionTime>2015-03-17T23:12:10.931-04:00</SubmissionTime>
    <ErrorResponseList>
      <ErrorResponseRecord>
        <ErrorCode>ESMD_410</ErrorCode>
        <ErrorName>Cannot Read Files / Corrupt Files</ErrorName>
      </ErrorResponseRecord>
    </ErrorResponseList>
  </AdministrativeErrorResponse>
</ns2:SubmitAdministrativeErrorResponse>
```

12. RC Client Components

Figure 5: RC Client Components shows the internal components of RC Client application. The following sections describe each component in detail.

Figure 5: RC Client Components



12.1 SFTP Client

The SFTP Client is an internal component of the RC Client. It provides the following functionality:

- Connects to the TIBCO MFT server using EIDM ID;
- Lists the available documents on the TIBCO MFT server;
- Pulls the documents to the RC Client; and
- Pushes the outbound documents from the RC Client to the TIBCO MFT server.

12.2 Compression Utility

The Compression utility allows the RC Client to extract the payload, metadata file, and messages from the compressed file downloaded from the TIBCO MFT server. The RC Client uses the zip file format.

The same utility is used to create compressed file logs for extraction.

12.3 Encryption Utility

The Encryption utility encrypts the login credentials that will be stored in memory for the duration of the RC Client program execution. The Encryption utility is described in detail in Section 15.1 Security.

12.4 XML Processor

The XML Processor supports creating XML messages to send to esMD as well as loading the configuration files for the RC Client.

12.5 Scheduler

After the RC Client starts, the polling cycle begins. The poll is a redundant cycle; you can configure the interval (e.g., 1 hour or 4 hours) through the RC Client property file. The Scheduler component controls the RC Client threads and ensures the RC Client runs in regular intervals determined by the “checkFrequency” parameter in the XML Configuration File.

13. RC Client Workflow

Figure 5: RC Client Components illustrates the internal components of RC Client application.

Figure 6: RC Client Workflow illustrates how the RC Client connects to the TIBCO MFT server using EIDM login credentials.

13.1 Start RC Client

The RC Client starts on the RC machine or server. It loads the XML Configuration File.

13.1.1 Login and Encryption

The RC Client prompts the user for the following details:

1. EIDM User ID; and
2. EIDM Password.

After successful login, TIBCO login credentials are encrypted in memory and used when needed to log in to the TIBCO MFT server. The RC Client initiates two threads, one for the inbound process and another one for the outbound process in sections 13.2 Outbound Process and 13.3 Inbound Processes, respectively.

13.2 Outbound Process

13.2.1 Outbound Start

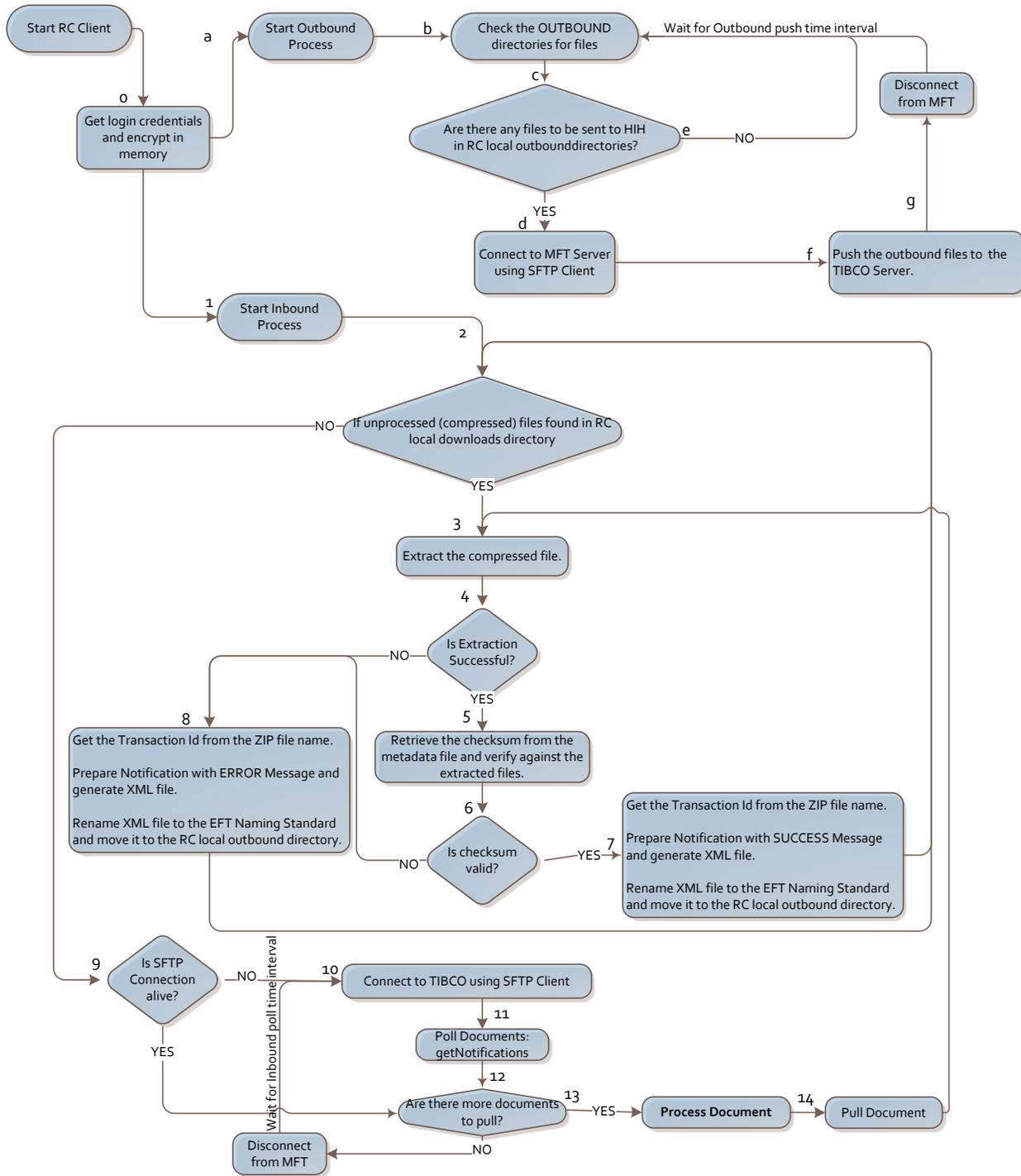
The RC Client loads configuration parameters for the outbound process from the XML configuration file. The configuration parameters are as follows:

- Directories used by the RC Client to create the outbound files (`outputDirectory`);
- The remote outbound directory to push the files to (`remoteOutboundDir`);
- Push frequency (`pushFrequency`);
- The outbound file name prefix for the TIBCO MFT server (`outboundFilePrefix`); and
- SFTP server details for the chosen environment (`ESMDSFTPServer`).

13.2.2 Get Outbound Documents

The RC Client checks the output directory for any files to be sent to the H1H. If any such files exist, the process continues to Step D (Connect); otherwise, the outbound process thread sleeps for the time interval determined by the `pushFrequency` parameter in the XML Configuration file.

Figure 6: RC Client Workflow



100091

13.2.3 Connect

The RC Client connects to the TIBCO MFT server using EIDM login credentials. The Encryption utility decrypts the credentials in memory and logs in to the TIBCO MFT server. If the user password is expired, the connection fails, prompting the user to provide the login information again.

13.2.4 Push

The RC Client pushes outbound files to the TIBCO MFT server. After that, the outbound process thread sleeps. The sleep time interval is determined by the outbound push frequency configuration parameter in the XML Configuration file.

13.3 Inbound Processes

13.3.1 Inbound Start

The RC Client loads configuration parameters from the XML Configuration file. The configuration parameters are for the following inbound processes:

- Pull frequency; and
- SFTP server details for the chosen environment.

13.3.2 Extraction Failure

If the extraction process was interrupted during extraction during the run, then there will be files sitting in the local "temp" directory, which needs to be manually moved/deleted.

13.3.3 Extraction

When the RC Client runs the inbound process and downloads the files. It will then extract the downloaded file, if the extraction is successful, RC Client proceeds to "checksum verification"; otherwise, RC Client creates an error pickup notification.

13.3.4 Checksum Verification

After the extraction is complete, the RC Client uses the XML Processor to parse the metadata file from the zip package. This metadata file contains the checksums for all payloads in the package. The RC Client verifies the checksum for each file in the package against the checksum in the metadata file. If the checksum is valid for all files, the RC Client will create a pickup notification; otherwise, the RC Client will create an error pickup notification.

13.4 Acknowledgements

13.4.1 Pickup Notification

If the RC Client successfully extracts and verifies compressed files, the RC Client sends a SUCCESS notification through esMD to inform the HIH that the document has been received and successfully processed.

To generate this SUCCESS notification, the RC Client should:

1. Get the Transaction ID from the compressed file name;
2. Prepare the notification with a SUCCESS message and generate an XML notification file; and
3. Rename the XML notification file to the EFT naming standard and move it to the outbound directory. Refer to Section 13.2 Outbound Process for more information.

13.4.2 Error Pickup Notification

If the RC Client encounters an error indicating a failure, while either extracting the compressed file or verifying the checksum for the contents of the package, the RC Client sends an error notification through the esMD system, asking the HIH to resubmit the package. In order to generate this error notification, the RC Client must:

- Obtain the Transaction Identifier(TID) from the compressed file name;
- Prepare the notification with an Error message;
- Generate an XML notification file; and
- Rename the XML notification file to the EFT naming standard and move it to the outbound directory. This file will be handled by the outbound process.

13.5 Connect

The RC Client checks for an active connection to the TIBCO MFT server. If a connection is active, the RC Client uses this connection. If the connection is inactive, the RC Client uses the Encryption utility to decrypt the login credentials from memory and connect to the TIBCO MFT server.

13.6 Get Notifications

The RC Client uses the SFTP Client to get a list of the available inbound documents for the RC on the TIBCO MFT server.

13.7 Process Document

If any documents are available for the RC Client to pull from the TIBCO MFT server, the RC Client will go through the list to pull each document.

13.8 Pull Document

The RC Client uses the SFTP Client to pull each inbound document from the TIBCO MFT server. The RC Client then extracts the contents of the zip file and continues processing.

14. Release 4.0 Changes in the API

The following Client methods are modified as part of RC Client 4.0 version for the inbound flow.

Table 22: Inbound Client Methods compares similar methods in the Release 3.1 RC Client and Release 4.0 RC Client.

Table 22: Inbound Client Methods

Method	Description
LoginProcess()	<ul style="list-style-type: none"> Collects the EIDM login credentials provided in the login prompt or by decrypting the encrypted login details in memory. Calls getNotifications() with the login credentials to get list of available downloads from TIBCO. Calls processMedicalDocumentation() for each available document from TIBCO. Calls acknowledge() each document processed with a success/error XML response message. <p>Sleeps for the checkFrequency time interval before next pull.</p>
getNotifications()	<ul style="list-style-type: none"> Connects to TIBCO MFT server with EIDM Login and Password. Retrieves the list of files available for download for that environment.
processMedicalDocumentation()	<ul style="list-style-type: none"> Pulls the zip file from the TIBCO MFT server using the pullDocument() method based on the name passed to it. Extracts the zip file into the download directory using the extractDocument() method. If extraction fails, calls the acknowledge method with an error event and exits. After successful extraction, verifies the extracted payloads against the checksum in the metadata file using the checkPayloads() method. If checksum fails, calls the acknowledge method with an error event. <p>If checksum passes, calls the acknowledge method with a success event.</p>

Method	Description
acknowledge()	<ul style="list-style-type: none"> This generates the pickup notification based on the rcPickupNotification. If the rcPickupNotification has errorInfo, it will generate an error notification. Otherwise, it will generate a pickup notification.
ManualSubmitReviewResponseToPARequest()	<ul style="list-style-type: none"> CreateCompressedTIBCOFileForErrorResponse- Takes Error Response object and creates XML response file in the output directory. CreateCompressedTIBCOFileForPAReviewResponse - Takes Review Decision Response object and creates XML response file in the output directory.
ManualSubmitAdministrativeErrorToInboundSubmissions ()	<ul style="list-style-type: none"> CreateCompressedTIBCOFileForAdministrativeErrorResponse - Takes Administrative Error Response to Inbound Submission Decision Response object and creates XML response file in the output directory.

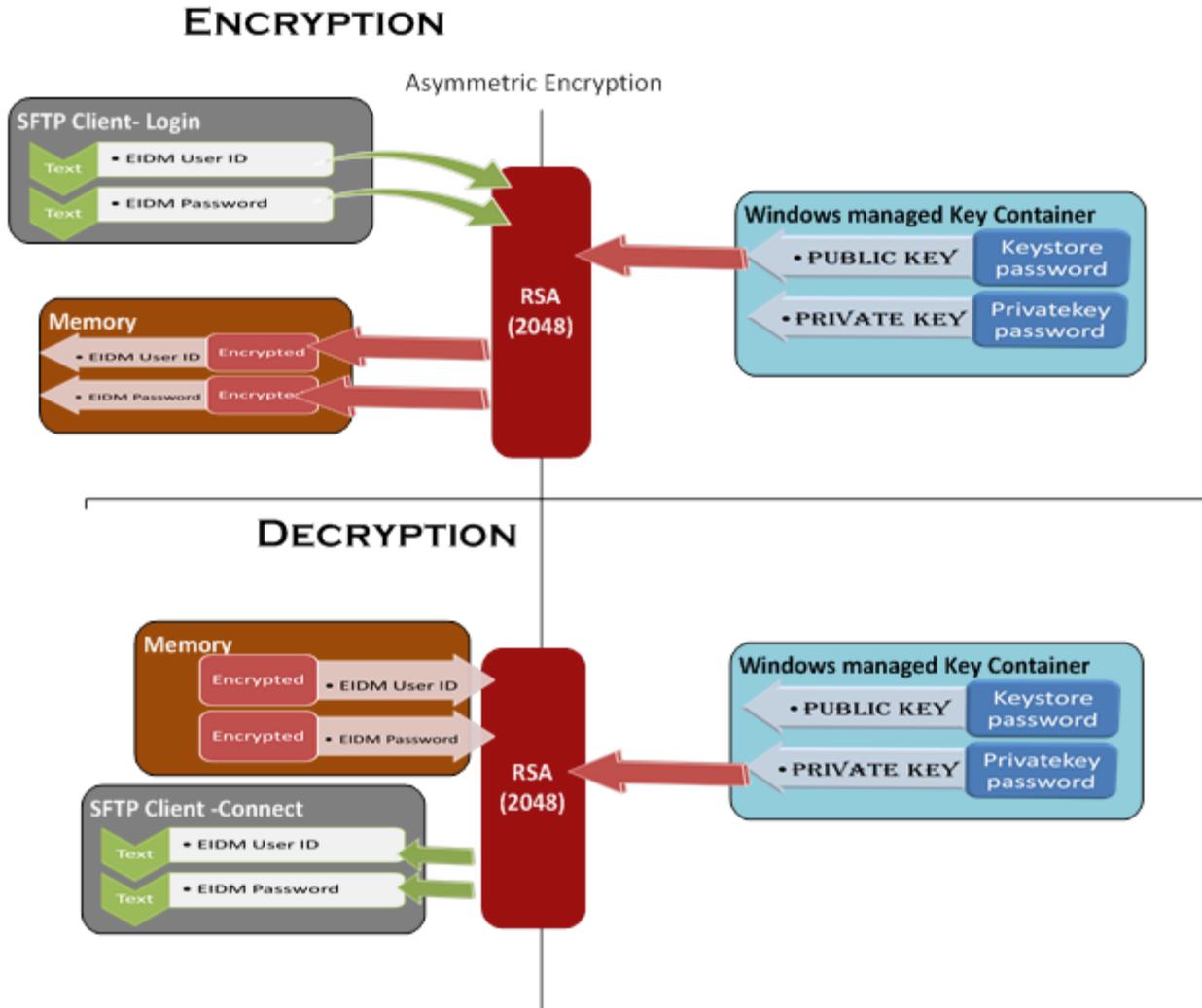
15. .NET Client API

15.1 Security

When the RC Client starts, the user credentials are provided because they are stored in encrypted form in memory. Figure 7: Encryption and Decryption Process shows the processes used to safeguard the EIDM user credentials from exposure.

The RC .NET Client uses RSA asymmetric encryption algorithms to secure the login credentials.

Figure 7: Encryption and Decryption Process



15.2 .NET API Documentation

This section discusses API methods that can be called for a custom solution to interface with the TIBCO MFT server. If you, as the RC, choose to use the RC .NET client out-of-the-box, skip this section.

15.2.1 Login

Table 23: The esMD.RcClient.Login.LoginProcess Methods describes the RC Client Login process.

Table 23: The esMD.RcClient.Login.LoginProcess Methods

No.	Method	Description
1.	public bool Authenticate()	User login procedure. The username and password properties are encrypted and set only when this method returns TRUE. Returns: TRUE if the user logs in successfully.

No.	Method	Description
2.	<pre>MessageDTO ValidateLogin(LoginDTO logindto);</pre>	<p>This method validates the User ID and Password For Login Tab</p> <p>Returns: FALSE if error Messages are found, returns with a list of Error Messages</p>
3.	<pre>MessageDTO LoginProcessAPI(LoginDTO logindto);</pre>	<p>This method does the Login Process.</p> <p>Returns: TRUE if the user logs in successfully.</p> <p>Returns: FALSE if the user fails to login with an Error Message.</p>

15.2.2 Inbound

Table 24: The esMD.RcClient.Inbound.Inbound Methods details the RC Client Inbound process.

Table 24: The esMD.RcClient.Inbound.Inbound Methods

No.	Method	Description
1.	<pre>public SortedList<long, string> GetNotifications(string remoteDownloadDirectoryPath, string filePattern)</pre>	<p>This method connects to the TIBCO MFT server and checks for any available notifications.</p> <p>Parameters:</p> <ol style="list-style-type: none"> 1. remoteDownloadDirectoryPath – The remote directory path to download from as a String; and 2. filePattern – The File Name Pattern to look for as a String. <p>Returns: A list for file names sorted by last modified time, oldest first.</p>
2.	<pre>public string PullDocument(string remoteDocName, string localDocName)</pre>	<p>This method is used to pull the document (i.e., zip file) from the TIBCO MFT server using the remoteDocName and saves it locally in the “temp” directory as the localDocName.</p> <p>Parameters:</p> <ol style="list-style-type: none"> 1. remoteDocName – The remote file to pull as a String; and 2. localDocName – The local file name to save as a String. <p>Returns: Error message if any errors. A null return value means downloading succeeded.</p>
3.	<pre>public string ExtractDocument(string zipFileName, string targetDirectory)</pre>	<p>Extracts the zip file that was downloaded from the TIBCO MFT server.</p> <p>Parameters:</p> <ol style="list-style-type: none"> 1. zipFileName – The local zip file to extract; and 2. targetDirectory – The target directory to place the extracted contents. <p>Returns: The directory name – the location where the extracted file(s) stored in the local file system.</p>

No.	Method	Description
4.	public bool ProcessMedicalDocumentation(string remoteDocumentName)	<p>This is the “housekeeping” method. It does the following:</p> <ol style="list-style-type: none"> 1. Pulls the zip file from the TIBCO MFT server using the PullDocument() method based on the name passed to the “temp” directory; 2. Extracts the zip file into the “download” directory using the ExtractDocument() method; 3. If extraction fails, calls the Acknowledge() method with an error event; 4. After successful extraction, verifies the extracted payloads against the checksum in the metadata file using the CheckPayloads() method; 5. If checksum fails, calls the Acknowledge() method with an error event; and 6. If checksum passes, calls the Acknowledge() method with a success event. <p>Parameter:</p> <ol style="list-style-type: none"> 1. remoteDocumentName – The remote document name to pull and process. <p>Returns: The Boolean status of the processing for that document.</p>
5.	public string Acknowledge(RCPickupNotification rcPickupNotification)	<p>Generates the pickup notification for a downloaded document. If the ErrorInfo object is populated, it generates an error pickup notification. If the ErrorInfo object is null, it generates a pickup notification.</p> <p>Parameter:</p> <ol style="list-style-type: none"> 1. rcPickupNotification – The RCPickupNotification object. <p>Returns: The compressed file name (in TIBCO naming conventions) created in the output directory as a String.</p>
6.	public bool CheckPayloads(string localExtractedDirectory, ESMDDocument[] esmdDocuments)	<p>Checks the payload files against the metadata from the package.</p> <p>Parameters:</p> <ol style="list-style-type: none"> 1. localExtractedDirectory – The directory in which the payloads were extracted to as a File; and 2. esmdDocuments – The payloads metadata captured in ESMDDocument objects. <p>Returns: The status of the checksum verification.</p>

15.2.3 Outbound

Table 25: The esMD.RcClient.Outbound.Outbound Methods details the esMD RC Client Outbound Process.

Table 25: The esMD.RcClient.Outbound.Outbound Methods

No.	Methods	Description
1.	public SortedList<long, string> GetOutboundDocuments(string outboundDir, string filePattern)	This method is used to retrieve the list of outbound documents in the “output” directory to be pushed. Parameters: 1. outboundDir – The local “output” directory to push files from as a String; and 2. filePattern – The file name pattern to push as a String. Returns: A list of file names (without a directory path).
2.	public string PushDocument(string localDocName, string remoteDirectory)	This method used to push a local compressed document from the “output” directory to the TIBCO MFT server. Parameters: 1. localDocName _ – The name of the file to push as a String; and 2. remoteDirectory – The remote directory name to push to as a String. Returns: An error message if any. A null return value means uploading succeeded.

15.2.4 PA Review Decision Response

Table 26: Manual Submission of PA Result details the methods to submit the PMD PA Result.

Table 26: Manual Submission of PA Result

No.	Methods	Description
1.	MessageDTO ValidateReviewResponse(ReviewDecisionResponseToPARequestDTO reviewresponsedto)	This method takes ReviewDecisionResponseToPARequestDTO object as input, which has the review decision response information provided by user and validates all information before generating the XML response. Parameter: ReviewDecisionResponseToPARequestDTO – The ReviewDecisionResponseToPARequestDTO object to use. Returns: The Message Object which has status of validations result and also the list of Validation Failure DTO object if there is any validation failure with the data provided by the user.
2.	string CreateReviewResponseAPI(ReviewDecisionResponseToPARequestDTO reviewresponsedto);	This method takes ReviewDecisionResponseToPARequestDTO object as input which has the review decision response information and creates the SubmitPADeterminationResponse object.
3.	public string CreateCompressedTIBCOFileForPARReviewResponse(SubmitPADeterminationResponse submitPADeterminationResponse)	This method is used create the XML file and compress it into a TIBCO MFT server file. Parameter: 1. submitPADeterminationResponse_ – The SubmitPADeterminationResponse object to use. Returns: The compressed outbound file name ready to be pushed by the outbound process.

15.2.5 PA Error (Rejected Decision) Response

Table 27: Manual Submission of PA Error (Rejected Decision) Response details the methods to submit the PA Error (Rejected Decision) Response.

Table 27: Manual Submission of PA Error (Rejected Decision) Response

No.	Methods	Description
4.	<code>MessageDTO validateErrorResponse(ErrorResponseToPARequestDTO ErrorRespDTO);</code>	<p>This method takes <code>ErrorResponseToPARequestDTO</code> object as input, which has the review decision response information provided by user and validates all information before generating the XML response.</p> <p>Parameter: <code>ErrorResponseToPARequestDTO</code>– The <code>ErrorResponseToPARequestDTO</code> object to use.</p> <p>Returns: The Message Object which has status of validations result and also the list of Validation Failure DTO object if there is any validation failure with the data provided by the user.</p>
5.	<code>string CreateErrorResponseAPI(ErrorResponseToPARequestDTO ErrorRespDTO);</code>	<p>This method takes <code>ErrorResponseToPARequestDTO</code> object as input which has the review error (rejected decision) response information provided by user and creates the <code>SubmitPADeterminationResponse</code> object.</p> <p>Parameter:</p> <ol style="list-style-type: none"> 1. <code>ErrorResponseToPARequestDTO</code> – The <code>ErrorResponseToPARequestDTO</code> object to use. <p>Returns: The <code>SubmitPADeterminationResponse</code> object populated with the data provided by the user.</p>
6.	<code>public string CreateCompressedTIBCOFileForErrorResponse(SubmitPADeterminationResponse submitPADeterminationResponse)</code>	<p>This method is used create the XML file and compress it into a TIBCO MFT server file.</p> <p>Parameter:</p> <ol style="list-style-type: none"> 1. <code>submitPADeterminationResponse</code> – The <code>SubmitPADeterminationResponse</code> object to use. <p>Returns: The compressed outbound file name ready to be pushed by the outbound process.</p>

15.2.6 Administrative Error Response to Inbound Submissions

Table 28: Administrative Error Response to Inbound Submissions details the methods to submit the Administrative Error Response to inbound submission.

Table 28: Administrative Error Response to Inbound Submissions

No.	Methods	Description
7.	<p><code>MessageDTO</code> <code>ValidateAdminResponseAPI(AdministrativeErrorPropertiesDTO adminErrDTO);</code></p>	<p>This method takes <code>AdministrativeErrorPropertiesDTO</code> object as input which has the administrative error response information provided by user and validates all those information before generating the response XML</p> <p>Parameter:</p> <ol style="list-style-type: none"> <code>AdministrativeErrorPropertiesDTO</code>– the <code>AdministrativeErrorPropertiesDTO</code> object to use. <p>Returns: The Message Object which has status of validations result and also the list of Validation Failure DTO object if there is any validation failure with the data provided by the user.</p>
8.	<p><code>public string</code> <code>CreateAdministrativeErrorResponseAPI(AdministrativeErrorPropertiesDTO adminErrDTO)</code></p>	<p>This method takes <code>AdministrativeErrorPropertiesDTO</code> object as input which has the administrative error response information provided by user and creates the <code>AdministrativeErrorPropertiesDTO</code> object.</p> <p>Parameter:</p> <ol style="list-style-type: none"> <code>AdministrativeErrorPropertiesDTO</code> – The <code>AdministrativeErrorPropertiesDTO</code> object to use. <p>Returns: The <code>SubmitAdministrativeErrorResponse</code> object populated with the data provided by the user.</p>
9.	<p><code>public</code> <code>ManualSubmitAdministrativeErrorToInboundSubmissions(SubmitAdministrativeErrorResponse AdminErrResponse)</code></p>	<p>This method is used create the XML file and compress it into a TIBCO MFT server file.</p> <p>Parameter:</p> <ol style="list-style-type: none"> <code>submitAdministrativeErrorResponse_</code> – The <code>SubmitAdministrativeErrorResponse</code> object to use. <p>Returns: The compressed outbound file name ready to be pushed by the outbound process.</p>

15.2.7 Utilities – Encryption

Note: The .NET Client release from April 28, 2014 does not include the encryption of login credentials. This section depicts the planned design and is subject to change. This guide will be updated as required when the security implementation is completed.

Refer to Table 29: `EMSD.RcClient.Encryption.EncryptionUtil` Methods for details on the `EMSD.RcClient.Encryption.EncryptionUtil` methods.

Table 29: `EMSD.RcClient.Encryption.EncryptionUtil` Methods

No.	Methods	Description
1.	<p><code>public string</code> <code>EncryptCredential(string credential)</code></p>	<p>This method is used to encrypt the EIDM login credentials using an RSA Public Key from the key container.</p> <p>Parameter:</p> <ol style="list-style-type: none"> <code>credential</code> – User’s login name or password to encrypt as a String. <p>Returns: The encrypted credential.</p>

No.	Methods	Description
2.	public string DecryptCredential(string credential)	<p>This method is used to decrypt the EIDM login credentials using an RSA Private Key from the key container.</p> <p>Parameter:</p> <ol style="list-style-type: none"> credential – User’s encrypted login name or password. <p>Returns: The decrypted credential.</p>

15.2.8 Advanced / Debugging API

Refer to Table 30: Remote Troubleshooting for details on the ExecuteHandshake method.

Table 30: Remote Troubleshooting

No.	Methods	Description
1.	public bool ExecuteHandshake()	<p>This sample method invokes a call to the TIBCO MFT server to pass login information to assist in remote troubleshooting.</p> <p>Returns: TRUE if handshake succeeded.</p>
2.	<p>MessageDTO ValidateTestConnection(TestConnectionDTO TestConnDTO);</p>	<p>This method takes TestConnectionDTO object as input which has the Advanced/Debugging information provided by user and validates all those information before Testing the connection to TIBCO.</p> <p>Parameter:</p> <ol style="list-style-type: none"> TestConnectionDTO– the TestConnectionDTO object to use. <p>Returns: The Message Object which has status of validations result and also the list of Validation Failure DTO object if there is any validation failure with the data provided by the user.</p>

15.2.9 Validation API

Refer to Table 31: Validation Methods used for validating fields on the Review Response screen.

Table 31: Validation Methods

No.	Methods	Description
1.	ValidationUtil <ul style="list-style-type: none"> • public bool ValidFormatAlphaNumeric(string TextToValidate) • public bool ValidFormatNumeric(string TextToValidate) • public void validateReasonCodesInPAErrorResponse(List<String> ReasonCodesList, ref List<ValidationFailureDTO> validationFailureListDTO) • private bool validateIndividualReasonCodes(List<String> ReasonCodesList, ref List<ValidationFailureDTO> validationFailureListDTO) • private bool validateReasonCodesExceedsMax(List<String> reasonCodesList, ref List<ValidationFailureDTO> validationFailureListDTO) • private bool isDuplicatesReasonCodesExists(List<String> ReasonCodesList, ref List<ValidationFailureDTO> validationFailureListDTO) 	ValidationUtil Class has two methods <ul style="list-style-type: none"> • public bool ValidFormatAlphaNumeric(string TextToValidate)- This method will be used Validate the input for Alphanumeric characters(Used for Procedure Code & UTN) Returns True , if the string is alphanumeric or else returns False • public bool ValidFormatNumeric(string TextToValidate) - This method will be used Validate the input for Numeric characters(Used for Transaction ID and Number of units), Returns True, if the string is Numeric or else returns False • This method will be used to validate the missing reason codes for PA Review response (Decision 'N' only) and for PA Error response. • This method will be used to validate the length of a reason code for PA review response (Decision 'M' and 'N') and PA Error Response. • This method validates if more than 25 reason codes are provided. • This method validates if Duplicate reason codes are provided.

15.3 Logs

The RC .NET Client Sample application is a Windows desktop application. All log messages are written to the RcClient.log file.

16. Error Codes

16.1 Errors: esMD to RC

Table 32: Error Codes Sent from the esMD to RC lists all the error codes sent from the esMD to the RC.

Table 32: Error Codes Sent from the esMD to RC

Error Code	Error Description
305	esMD validation error: Review Contractor PickUp Timestamp is not a valid Timestamp. Correct and resubmit.
306	esMD validation error: esMD Delivery Timestamp is not a valid Timestamp. Correct and resubmit.
539	esMD internal system error (Unzip failure). Resubmit.
544	esMD validation error: Reason Code is required when Decision Indicator is N or R. Correct and resubmit.
545	esMD validation error: Total number of Reason Codes cannot exceed 25. Reduce the number of Reason Codes and resubmit.
556	esMD validation error: Decision Indicator must be A, N, M or R. Correct and resubmit.
557	esMD validation error: Review Contractor Unique Tracking Number must be 1 - 50 alphanumeric characters with no special characters. Correct and resubmit.
558	esMD validation error: Reason Code does not exist in the esMD database. Correct and resubmit.
560	esMD validation error: Submission is infected with virus. Correct and resubmit.
562	esMD validation error: Unique Tracking Number is required when Decision Indicator is A, N, or M. Correct and resubmit.
565	esMD Internal System Error: Unable to process your response. Correct and resubmit.
566	esMD validation error: A required element is either missing, has an invalid element format, or has an invalid length. Correct and resubmit.
567	esMD validation error: A Decision Indicator of 'M' is invalid for PMD PA response. Provide a valid Decision Indicator and resubmit.
569	esMD validation error: Number of Approved Units; and/or Approved Service Date or Approved Service Date Range are not required elements for this PA response and Procedure Level Decision. Correct and resubmit.
572	esMD validation error: Approved Service End Date is less than or equal to Approved Service Start Date. Correct and resubmit.
576	esMD validation error: Number of Approved Units, Approved Service Date, Approved Service Date Range, Industry Code(s), and Reason Code(s) are not allowed for this response. Correct and resubmit.
577	esMD validation error: Unable to parse response XML file. Correct XML and resubmit.
600	esMD validation error: Duplicate Reason Codes found. Correct and resubmit.
601	esMD validation error: Procedure Code in response not equal Procedure Code in request. Correct and resubmit.
602	esMD validation error: Approved Service Date must be greater than or equal to current system date.

Error Code	Error Description
603	esMD validation error: Decision Indicator = R; response is missing at least one combination of Error Category Code: Error Code. Add the combination(s) of Error Category Code: Error Code and resubmit.
604	esMD validation error: More than 9 Error Codes were reported for a single Error Category Code. Reduce the number of errors for each Error Category Code to 9 and resubmit.
605	esMD validation error: Decision Indicator = R; Category Code is invalid for the combination of Error Category Code: Error Code. Correct the Error Category Code and resubmit with correct combination(s) of Error Category Code: Error Code.
606	esMD validation error: Decision Indicator = R; invalid Error Code for the combination of Error Category Code: Error Code. Correct the Error Code and resubmit with correct combination(s) of Error Category Code: Error Code
607	esMD validation error: Invalid Industry Code. Correct and resubmit.
608	esMD validation error: Invalid Reason Code. Correct and resubmit.
609	McAfee Gateway is unavailable. Retry later.
610	esMD validation error: Empty File Received in the Response. Correct and Resubmit.
611	esMD validation error: Multiple Files Received in the Response
612	esMD validation error: Approved Service Date and Approved Service Date Range and Approved Unit should not be provided for this response. Correct and Resubmit
613	esMD validation error: Administrative Error Code is invalid. Correct and Resubmit
614	esMD validation error: Approved Service End Date is less than the Current Date. Correct and resubmit
615	esMD validation error: Invalid error in the pickup notification
616	esMD validation error: Intended Recipient OID is deactivated and cannot accept response. Correct and resubmit.
617	esMD validation error: Mailbox ID in the response does not match with the Mailbox ID that the request was sent. Correct and resubmit.
618	ESMD validation error: Error occurred while storing the Review Contractor Status Pickup.
619	ESMD validation error: Error occurred while validating the Review Contractor Pickup Status Data.
620	esMD validation error: Invalid Review Response Creation Time format
621	esMD validation error: Invalid review Response Submission Time Format
622	esMD validation error: This Decision Indicator is not valid for this response
623	esMD validation error: Both Approved Service Date and Approved Service Date range cannot exist in same response. Correct and Resubmit.
624	esMD validation error: Approved Service Start Date cannot be greater than the Approved Service End Date. Correct and Resubmit
625	esMD validation error: Reason code is not required for decision Indicator A. Correct and Resubmit
626	esMD validation error: Unable to parse RC response
627	esMD validation error: Error encountered while saving ReviewContractorPickUpStatus data
628	esMD validation error: Failure in sending the Administrative error response to HIH
629	esMD validation error: Failure in sending the Administrative PA response to HIH
630	esMD validation error: Failure in sending the Pickup notification to HIH
640	esMD validation error: Intended recipient OID and Procedure Code is not a valid combination. Correct and resubmit

16.2 Errors: RC to esMD

There are two types of Error Codes sent by the RC to the esMD. They are:

1. Administrative Errors; and
2. Pickup Errors.

16.2.1 Administrative Errors:

Table 33: Administrative Error Codes lists the error codes used to report unexpected errors related to the payload received in a downloaded file from the esMD system. For more details, please refer to section 11.2.5 Administrative Error Response to Inbound Submissions.

Table 33: Administrative Error Codes

Administrative Error	Error Code	Description
corrupt files/cannot read files	ESMD_410	ESMD_410- Administrative Error (corrupt files/cannot read files).
Submission Sent to Incorrect RC	ESMD_411	ESMD_411- Administrative Error (Submission Sent to Incorrect RC).
Virus Found	ESMD_412	ESMD_412- Administrative Error (Virus Found).
Other	ESMD_413	ESMD_413- Administrative Error (Other).

16.2.2 Pickup Errors

Table 34: Pickup Error Codes lists the pickup error codes and their descriptions. These codes are used to populate the ErrorInfo object inside the error pickup notification XML (e.g., R_TID_Pickup_Error_Request.xml). Please refer to section 11.2.2 Error Pickup Notification for more details.

Table 34: Pickup Error Codes

Error Type	Error Code	Description
UNZIP ERROR	534	ESMD_5-4 – RC Client processing error (Unzip failure). Please resubmit.
CHECKSUM ERROR	535	ESMD_5-5 – RC Client processing error (Checksum issue). Please resubmit.
METADATA ERROR	536	ESMD_5-6 – RC Client processing error (Metadata issue). Please resubmit.

17. Contacts

Table 35: Support Points of Contact provides the contact list for esMD.

Table 35: Support Points of Contact

Contact	Phone	Email	Hours of Operation
CMS esMD Help Desk	(443) 832-1856	esMD_Support@cms.hhs.gov	Regular Business Hours: 8 a.m. to 8 p.m. Eastern Time (ET).

Appendix A: Description of Fields on RC Client Tabs

Table 36: Descriptions of Fields on Review Decision Response to PA Request Tab lists the descriptions of the fields on the Review Decision Response to PA Request tab.

Table 36: Descriptions of Fields on Review Decision Response to PA Request Tab

Name of Field	Description
Transaction ID	Transaction Identifier of the request this response is being sent for. Required Element. Minimum Length should be 7 and Maximum Length should be 7. Format of this element is Numeric.
Procedure Code	Procedure Code for the Review Response. It should be same as the one that was sent in the request. Required Element. Length should be 1 – 48 Alpha – Numeric.
Procedure Level Decision	Decision provided for the Review Response; can be one of the following: <ul style="list-style-type: none"> • “A” for Affirmed; • “M” for Affirmed With Change; or • “N” for N-Non Affirmed.
Number of Approved Units	Number of Approved Units for the request service; entered only when Procedure Level Decision is M-Affirmed with Change decision. Maximum Length should be 10. It should be Numeric.
Approved Service Date	Approved Service Date for approving the requested service if the response is for M - Affirmed with Change Decision; the format is mm-dd-yyyy; can be selected from the calendar with Start Date and End Date; and is entered only when Procedure Level Decision is M - Affirmed with Change decision.
Approved Service Date Range	Approved Service Date Range is the new date the RC is approving for the requested service if the response is for M-Affirmed with Change Decision; the format is mm-dd-yyyy and the date must be same or later than the current date; can be selected from the calendar; and is entered only when Procedure Level Decision is M-Affirmed with Change decision.
<ul style="list-style-type: none"> • Start Date 	Start Date is the approved service start date for approving the requested service if the response is for M-Affirmed with Change Decision; the format is mm-dd-yyyy; can be selected from the calendar; can be past, current or Future date; and is entered only when Procedure Level Decision is M-Affirmed with Change decision.
<ul style="list-style-type: none"> • End Date 	End Date is the approved service end date for approving the requested service if the response is for M-Affirmed with Change Decision; the format is mm-dd-yyyy; can be selected from the calendar; is greater than the Start Date provided and should be same or later than current date; and is entered only when Procedure Level Decision is M-Affirmed with Change decision.
Procedure Level UTN	Unique Tracking Number for review response. Required element for all decisions; format of the unique tracking number is 1 – 50 Alpha Numeric characters.
Industry Code	Industry Code(s) if the decision is N-Non Affirmed for the response; minimum one and maximum of five industry code(s).

Name of Field	Description
Reason Code	Reason code required only when Procedure Level Decision is N-Non Affirmed; optional when Procedure Level Decision is M-Affirmed with Change; format is five character alpha numeric characters; and a minimum of 1 and up to maximum of 25 reason codes can be provided.

Table 37: Descriptions of Fields on Error Response to PA Request Tab lists the descriptions of the fields on the Review Decision Response to PA Request tab.

Table 37: Descriptions of Fields on Error Response to PA Request Tab

Name of Field	Description
Transaction ID	Transaction Identifier of the request this response is being sent for. Required Element. Minimum Length should be 7 and Maximum Length should be 7. Format of this element is Numeric.
Reject Error Category	One or multiple Reject Error Category is selected for each Response; each Reject Error Category has number of Reject Error Codes associated with it. Required Element.
Reject Error Code	Under Each Reject Error Category, either one or multiple Reject Error Codes are selected. Required Element. Minimum 1 and maximum 9 reject error codes can be selected for each category.
Reason Code	5-character reason code is provided. Minimum of 1 and up to maximum of 25 reason codes can be provided. Required Element.
Request Level UTN	UTN is provided for each response. Optional Element. Format of the unique tracking number is 1 – 50 Alpha Numeric Characters.

Table 38: Descriptions of Fields on Administrative Error Response to Inbound Submissions Tab lists the descriptions of the fields on the Administrative Error Response to Inbound Submissions tab.

Table 38: Descriptions of Fields on Administrative Error Response to Inbound Submissions Tab

Name of Field	Description
Transaction ID	Transaction Identifier of the request this response is being sent for. Required Element. Minimum Length should be 7 and Maximum Length should be 7. Format of this element is Numeric.
Error Situation	Error code/situation; can be one of the following: <ul style="list-style-type: none"> • Corrupt Files/Cannot read file; • Virus found; • Submission sent to incorrect RC; or, • Other. Required Element.

Table 39: Descriptions of Fields on Advanced/Debugging Tab lists the descriptions of the fields on the Advanced/Debugging tab.

Table 39: Descriptions of Fields on Advanced/Debugging Tab

Name of Field	Description
User ID	EIDM User ID is a Required Element for testing the connectivity to TIBCO.
Password	EIDM password is a Required Element for testing the connectivity to TIBCO.

Appendix B: Reject Error Codes

For an up-to-date list of Reject Error Codes, please refer to the esMD Downloads section, using the link below:

http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information_for_Review-Contractors.html

(Note: An up-to-date list of Reject Error Codes will be added to this web site by CMS.)

Appendix C: Industry Codes

For an up-to-date list of Industry Codes, please refer to the esMD Downloads section, using the link below:

http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information_for_Review-Contractors.html

(Note: An up-to-date list of Industry Codes will be added to this web site by CMS.)

Appendix D: PA Reason Codes

For an up-to-date list of PA Reason Codes, please refer to the esMD Downloads section, using the link below:

http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information_for_Review-Contractors.html

(Note: An up-to-date list of PA Reason Codes will be added to this web site by CMS.)

Appendix E: PA Procedure Codes

Table 40: Procedure Codes for the PA Programs lists the Procedure Codes for the PA programs for the X12 requests and responses.

Table 40: Procedure Codes for the PA Programs

Procedure Code	PA Program
K0800	Power Mobility Device
K0898	Power Mobility Device
K0891	Power Mobility Device
K0890	Power Mobility Device
K0855	Power Mobility Device
K0854	Power Mobility Device
K0853	Power Mobility Device
K0852	Power Mobility Device
K0851	Power Mobility Device
K0850	Power Mobility Device
K0849	Power Mobility Device
K0848	Power Mobility Device
K0843	Power Mobility Device
K0842	Power Mobility Device
K0841	Power Mobility Device
K0840	Power Mobility Device
K0839	Power Mobility Device
K0838	Power Mobility Device
K0837	Power Mobility Device
K0836	Power Mobility Device
K0835	Power Mobility Device
K0802	Power Mobility Device
K0812	Power Mobility Device
K0813	Power Mobility Device
K0814	Power Mobility Device
K0815	Power Mobility Device
K0816	Power Mobility Device
K0817	Power Mobility Device
K0818	Power Mobility Device
K0819	Power Mobility Device
K0820	Power Mobility Device
K0821	Power Mobility Device
K0822	Power Mobility Device
K0823	Power Mobility Device
K0824	Power Mobility Device
K0825	Power Mobility Device
K0826	Power Mobility Device
K0827	Power Mobility Device

Procedure Code	PA Program
K0828	Power Mobility Device
K0829	Power Mobility Device
G0277	Hyperbaric Oxygen (HBO) Therapy
A0426	Non-Emergent Ambulance Transport
A0428	Non-Emergent Ambulance Transport
K0856	Durable Medical Equipment Prosthetics Orthotics and Supplies
K0861	Durable Medical Equipment Prosthetics Orthotics and Supplies
G0161	Home Health Services
G0153	Home Health Services
G0160	Home Health Services
G0158	Home Health Services
G0152	Home Health Services
G0159	Home Health Services
G0157	Home Health Services
G0151	Home Health Services
G0156	Home Health Services
G0299	Home Health Services
G0300	Home Health Services
G0162	Home Health Services
G0163	Home Health Services
G0155	Home Health Services
G0164	Home Health Services

Appendix F: Data Directories

Table 41: Inbound File Names and Data Directories lists out all the files received by the RC and the corresponding data directories these files will reside in along with a brief description.

Note: "TID" indicates a "Transaction ID" in the table below.

Table 41: Inbound File Names and Data Directories

Data Directory	Folder	File Name	Description
acknowledgements	A_TID	A_TID_Pickup_HIH_Status_Response.xml	Successful Acknowledgement that the HIH has received the pickup notification.
error	M_TID	M_TID_Administrative_Response_Validation_Error.xml	Validation Error received by the RC for the Administrative Error Response sent to esMD
error	R_TID	R_TID_Pickup_Validation_Error.xml	Validation Error received by the RC for the Pickup Notification sent to esMD
error	V_TID	V_TID_PA_Review_Response_Validation_Error.xml	Validation Error received by the RC for the PA Review Response sent to esMD
error	X_TID	X_TID_Virus_Scan_Error.xml	Virus Scan Failure Error received by the RC from the esMD on a file sent previously.
input	E_TID	E_TID-UniqueIdDateTimestamp_sequence.pdf	Documentation received as part of the inbound submission i.e. PDF
input	E_TID	E_TID-flatfilerendering.ffr	Flat File Rendering of the X12N 278 PA Request received by the RC from esMD
input	E_TID	E_TID-coversheet.pdf	Coversheet PDF of the X12N 278 PA Request received by the RC from esMD
Input	E_TID	E_TID-metadata.xml	Metadata XML for the payloads received by the RC in the inbound submission from esMD
notifications	N_TID	N_TID_PA_Review_Result_HIH_Status_Response.xml	Successful Acknowledgement that the HIH has received the PA Review Response.
notifications	S_TID	S_TID_Administrative_Error_HIH_Status_Response.xml	Successful Acknowledgement that the HIH has received the administrative error response.

Table 42: Outbound File Names and Data Directories lists all the outbound files sent from the RC to the esMD along with a brief description and the data directory where they are created.

Note: "TID" indicates a "Transaction ID" in the table below.

Table 42: Outbound File Names and Data Directories

Data Directory	Folder	File Name	Description
output	P_TID	P_TID_Pickup_Notification.xml	Successful pickup notification being sent to esMD inside the zip file.
output	P_TID	P_TID_Pickup_Error_Notification.xml	Error pickup notification (i.e. unzip, checksum etc.) being sent to esMD inside the zip file.
output	D_TID	D_TID_Administrative_Error_Response.xml	Administrative Error Response being sent to esMD inside the zip file.
output	E_TID	E_TID_PA_Review_Response.xml	PA Review Response being sent to esMD inside the zip file.

Appendix G: Content Type Codes

Table 43: Content Type Code Descriptions provides the description of the Content Type Code used in the esMD Release 4.0.

Table 43: Content Type Code Descriptions

Content Type Code	Description	Comment
1	Response to Additional Documentation Request(ADR)	N/A
8	PMD PA	N/A
9	First Level Appeal Requests	N/A
9.1	Second Level Appeal Requests	N/A
10	ADMC	N/A
11	RA Requests	N/A
12	Supporting Documentation for the unsolicited X12N 278 Request	N/A
13	Supporting Documentation for the X12N 278 Request	N/A
8.1	Non-Emergent Ambulance Transport	Will accept 8.1 Content Type Codes until a time period determined by CMS.
8.2	HBO Therapy	Will accept 8.2 Content Type Codes until a time period determined by CMS.

Table 44: Content Type Codes and Business Types provides the description of the Content Type Codes and the Business Type associated with each Content Type Code.

Table 44: Content Type Codes and Business Types

Content Type Code	Business Type
1	Response message for additional documentation request
8	Requesting PMD PA
9	Requesting a First Level Appeal
9.1	Requesting a Second Level Appeal
10	ADMC
11	RA Requests
8.1 or 81	Requesting Non-Emergent Ambulance Transport
8.2 or 82	Requesting HBO Therapy
12	Unsolicited supporting documentation using XDR Profile
13	XDR X12

Appendix H: Record of Changes

Table 45: Record of Changes

Version Number	Date	Author/Owner	Description of Change
1.0	04/22/2016	Srini Eadara, Vijayalakshmi Muthukrishnan	Updated for Release AR2016.07.0
1.1	05/09/2016	Vijayalakshmi Muthukrishnan	Addressed CMS comments for the 1.0 version.

Appendix I: Acronyms

Table 46: Acronyms

Acronym	Literal Translation
ADMC	Advance Determination of Medicare Coverage
API	Application Programming Interface
CMS	Centers for Medicare & Medicaid Services
DPD	Detailed Product Description
EFT	Enterprise File Transfer
EIDM	Enterprise Identity Management
esMD	Electronic Submission of Medical Documentation
FFR	Flat File Rendering
FFS	Fee-For-Service
HBO	Hyperbaric Oxygen
HIH	Health Information Handler
ID	Identifier
LCD	Local Coverage Determination
LCMP	Licensed/Certified Medical Professional
MB	Megabytes
MFT	Managed File Transfer
MRADL	Mobility Related Activities of Daily Living
NPI	National Provider Identifier
OID	Object Identifier
PA	Prior Authorization
PDAC	Pricing, Data Analysis, and Coding
PDF	Portable Document Format
PMD	Power Mobility Device
PMD PA	Power Mobility Device Prior Authorization
RA	Recovery Auditor
RC	Review Contractor
RSA	Rivest, Shamir & Adleman
SFTP	Secure File Transfer Protocol
URL	Universal Resource Locator
UTN	Universal Tracking Number
XDR	Cross-Enterprise Document Reliable Interchange
XML	Extensible Markup Language

Appendix J: Glossary

Table 47: Glossary

Glossary	Description
Additional Documentation Request (ADR)	Official letters sent to Providers from CMS RCs requesting additional documentation that is needed to process claims.
Advanced Determination of Medical Coverage (ADMC)	A voluntary program that allows Suppliers and Beneficiaries to request prior approval of eligible items (e.g., wheelchairs) before delivery of the items to the beneficiary.
CONNECT	CONNECT implements a flexible, open-source gateway solution that enables healthcare entities - Federal agencies or private-sector health organizations or networks - to connect their existing health information systems to the eHealth Exchange. CONNECT is fully functional out-of-the-box, while at the same time configurable and flexible to allow organizations to customize it to meet their needs and those of their existing health information systems.
Electronic Submission of Medical Documentation (esMD)	A new mechanism for submitting medical documentation via a secure internet gateway connecting Providers to the Centers for Medicare & Medicaid Services (CMS). In its second phase, esMD will allow Medicare RCs to electronically submit claim related Additional Document Request (ADR) letters, and other use case requests, to Providers when their claims are selected for review.
Health Information Handler (HIH)	A Health Information Handler (HIH) is defined as an organization that oversees and governs the exchange of health-related claim reviewer information from Provider to CMS esMD Gateway according to nationally recognized standards.
Interface	A well-defined boundary where direct contact between two different environments, systems, etc., occurs, and where information is exchanged.
Power Mobility Device (PMD) Prior Authorization (PA)	The CMS implemented a Prior Authorization process for scooters and power wheelchairs for people with Fee-For-Service Medicare who reside in seven states with high populations of fraud- and error-prone Providers (CA, FL, IL, MI, NY, NC, and TX). This demonstration will help ensure that a beneficiary's medical condition warrants their medical equipment under existing coverage guidelines. Moreover, the program will assist in preserving a Medicare beneficiary's ability to receive quality products from accredited suppliers.
Security	The physical, technological, and administrative safeguards used to protect individually identifiable health information.
SOAP	Simple Object Access Protocol is a message exchange format for web services.
TLS	Transport Layer Security (TLS) and its predecessor, Secure Sockets Layer (SSL), are cryptographic protocols that "provide communications security over the Internet". TLS and SSL encrypt the segments of network connections above the Transport Layer, using symmetric cryptography for privacy and a keyed message authentication code for message reliability. TLS is an IETF standards track protocol, last updated in RFC 5246, and based on the earlier SSL specifications developed by Netscape Corporation.
Transaction	Event or process (such as an input message) initiated or invoked by a user or system, regarded as a single unit of work and requiring a record to be generated for processing in a database.

Appendix K: Referenced Documents

Table 48: Referenced Documents

Document Name	Document Location and/or URL	Issuance Date
None.		

Appendix L: Approvals

The undersigned acknowledge that they have reviewed the Review Contractor (RC) Client Microsoft .NET User Guide and Installation Handbook, Version 1.1 Final, and agree with the information presented within this document. Changes to this Guide will be coordinated with, and approved by, the undersigned, or their designated representatives.

Signature: _____ Date: 05/12/2016

Print Name: Maureen Hoppa

Title: Contracting Officer's Representative

Role: CMS Approving Authority
