



**Centers for Medicare & Medicaid Services
CMS eXpedited Life Cycle (XLC)**

**Electronic Submission of Medical Documentation
(esMD)**

HH Onboarding/Offboarding Process

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1. Introduction

The purpose of this document is to describe the process for Centers for Medicare and Medicaid Services (CMS) and or the onboarding contractor to enable Health Information Handlers (HIHs) to effectively onboard and existing Centers for Medicare and Medicaid Certified HIHs to offboard the Electronic Submission of Medical Documentation (esMD) system to submit medical documentation.

The following sections outline instructions the HIHs will follow in order to onboard the esMD system. The offboarding process is detailed in Section 7 Offboarding Process.

1.1 Requirements

Each HIH is responsible to provide the resources required to complete its tasks.

2. Getting Started

The following subsections detail requirements for Onboarding.

2.1 CONNECT Gateway

The CMS esMD Gateway supports CONNECT or a CONNECT-compatible software.

Each HIH is responsible for ensuring proper software installation and performing of any associated troubleshooting. HIHs should run any self-tests associated with the software they choose to ensure a successful installation.

Note: This document does not provide processes to install CONNECT or CONNECT-compatible software. Obtain the CONNECT software from the CONNECT Community Portal, www.connectopensource.org, which also provides procedures for installing the software, and any issues with CONNECT.

Notes:

- The CMS esMD system uses CONNECT 4.2, but supports CONNECT 3.1/CONNECT compatible for External Data Representation (XDR) submissions; and
- With the esMD system Release 4.0 in 2015, the CMS esMD system will support CONNECT 4.4/CONNECT compatible for X12 submissions.

2.2 Health Level 7 OIDs

HIHs are required to use Health Level 7 (HL7)-registered OIDs. HIHs only need to obtain one OID. The same HIH OID will be used for validation and production environments by adding “.2” (for validation) or “.1” (for production) as a suffix to the original OID. This helps esMD identify the HIH gateway environment from which the request is submitted to the CMS esMD Gateway.

2.3 Internet Protocol Addresses

A public-facing Internet Protocol (IP) address is the address that identifies the HIH network and allows the CMS esMD Gateway to connect to the HIH network from the internet. The HIH will hide its internal private esMD Gateway (or server) IP address with Network Address Translation

(NAT) to the public-facing IP address. The HIH technical team will contact its network team to assign or assign a public-facing IP address to the internal private IP. If an HIH uses multiple esMD servers, the HIH will only submit one IP address for both inbound and outbound. The onboarding contractor recommends that the HIH use load balancing and NAT to convert/submit the request from multiple servers to one IP address.

2.4 Transport Layer Security Certificates

HIHs acquire a Transport Layer Security (TLS) server certificate from a Certificate Authority (CA) that conforms to the esMD security standards for the onboarding process. CMS does not enforce the procurement of any particular CA certificate.

2.5 HIH Application

HIHs should build an HIH application interface as a mechanism to move Portable Document Format (PDF) files to their gateway for transport via esMD. The CMS esMD Onboarding Process does not include HIH application support. HIHs may use the Simple Object Access Protocol (SOAP) User Interface (UI) tool or their application to perform testing; however, any HIH application issues must be resolved by the HIH or its Information Technology (IT) vendor.

2.6 esMD HIH Onboarding Request Form

1. Complete an [esMD HIH Onboarding Request Form](http://cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/index.html) located on the CMS esMD Website (<http://cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/index.html>) page in the Downloads section; and
2. Submit the completed form to the onboarding contractor at the following email address: esMD_Support@cms.hhs.gov.

Upon receipt of the completed form, the onboarding contractor will:

1. Process the information;
2. Confirm acceptance to the onboarding process; and
3. Enter the HIH organizational name, Object Identifier (OID), and Line(s) of Business in the CMS esMD system database.

3. Validation Integration Testing

This section outlines the steps to conduct Validation Integration testing.

3.1 Telnet Testing in Validation

Perform the following steps to conduct telnet testing in Validation:

1. The HIH telnets (inbound to CMS) or ping to the CMS IP address (for example: XX.XXX.XXX.X @ 443) as noted in the Validation Configuration Document;
2. The HIH forwards a screenshot to the onboarding contractor for verification;
3. After confirmation of a successful inbound telnet from the onboarding contractor, the HIH ensures ports are open at port 8191, and the onboarding contractor will have CMS telnet (outbound) to the HIH IP address; and

4. Upon successful inbound and outbound telnet tests, the HIH may proceed to connectivity testing.

3.2 Connectivity Testing in Validation

3.2.1 Overview

Tests in this phase are to establish connectivity in the Validation Environment between the CMS Gateway and HIH Gateway. Performing Connectivity testing requires the following:

1. The HIH must complete the configuration according to the esMD Validation Configuration Document provided by the onboarding contractor;
2. The onboarding contractor must have confirmed the HIH IP address and TLS certificates are configured at the CMS esMD Validation Gateway;
3. The HIH must install the SOAP UI Tool; and
4. The HIH must run the sample SOAP message (provided by the onboarding contractor prior to testing).

3.2.2 Testing with SOAP UI Tool for Connectivity Testing

Connectivity testing involves the use of the SOAP UI tool. The HIH can obtain the sample message from the onboarding contractor, or visit the following site: <http://www.soapui.org/>.

Before each test is initiated, the unique ID and message ID (or select “Randomly generate message ID”) must be changed.

When the HIH has successfully passed Connectivity using the SOAP message, the HIH will notify the onboarding contractor for verification and status to move forward with testing.

3.3 Functionality Testing

Tests in this phase are performed to confirm that the HIH’s application will send proper metadata and payloads (PDFs) to the CMS esMD Gateway using the esMD application and esMD HIH Gateway. The esMD Gateway validates and processes the metadata, and will deliver the payload to the TIBCO Managed File Transfer (MFT) Enterprise File Transfer (EFT) system.

Functionality testing is completed and validated by the HIH. HIHs are not provided extra time during the validation integration testing timeline to complete functionality testing. After connectivity testing is complete, the HIH is expected to complete End-to-End testing.

The purpose of this phase of testing is to test different functionality case scenarios to ensure the HIH Gateway is receiving the proper acknowledgements, notifications, and error messages, if any, from the CMS esMD Gateway. Refer to Appendix C of the *esMD HIH Implementation Guide* for the functional test cases and verify the results against the listed “expected results.” The CMS *esMD HIH Implementation Guide* is located on the CMS website, under downloads, at the following link: [http://cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information for HIHs IT Vendors.html](http://cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Information%20for%20HIHs%20IT%20Vendors.html).

This step of testing requires no verification by the onboarding contractor and is the responsibility of the HIH to ensure gateway functionality.

3.4 Validation End-to-End Testing

Tests in this phase are performed to ensure the HIH's submitted metadata is validated and delivered to the TIBCO MFT EFT system and, ultimately, delivered to the Review Contractor (RC). In addition, this testing will ensure that after the RC picks up the submitted documents, the notification will be returned to the HIH regarding the pickup status, and the RC Pickup acknowledgement is returned successfully to the RC.

This test should be performed using the HIH application, but can be performed using the SOAP UI tool. HIHs are requested to use the recipient OID and sample test claim ID and case ID when submitting a test submission. The recipient OID is listed in Table 1: Test Claim and Case IDs for Validation Testing.

Refer to Section 5.3.37 of the *esMD HIH Implementation Guide* for the numeric length for claim and case IDs. When submitting tests, HIHs must prefix the numeric digits "8378" to any claim and case ID. Table 1: Test Claim and Case IDs for Validation Testing is an example of sample test data the HIH Coordinator will provide to the testing HIH.

Table 1: Test Claim and Case IDs for Validation Testing

RC	OID	Claim ID	Case ID
TEST RC 1	2.16.840.1.113883.13.34.110.1.999.1	8378CLAIMID<HIH>1	8378CASEID<HIH>1
TEST RC 1	2.16.840.1.113883.13.34.110.1.999.1	8378CLAIMID<HIH>2	8378CASEID<HIH>2

Upon successful completion of the Interoperability and Integration testing (i.e., transmission of 100% correctly formed payloads and receipt of the two asynchronous responses from the esMD Gateway) between the HIH and the Validation region esMD Gateway, the HIH will receive an email confirmation of successful testing results from the onboarding contractor. The HIH can then begin Production testing preparations.

4. HIH Gateway Configuration

After the HIH production configuration (e.g., IP address, TLS certificates, and OID) is complete at the CMS esMD Gateway, the onboarding contractor will send the esMD Production Configuration Document to the HIH. The HIH will have one week to complete the necessary configurations before production integration testing begins.

5. Production Integration Testing

This section outlines the steps to production integration testing.

5.1 Telnet Testing in Production

Perform the following steps to conduct telnet testing in Production:

1. The HIH telnets (inbound to CMS) or ping to the CMS IP address (for example: XX.XXX.XXX.X @ 443) as noted in the esMD Production Configuration Document

2. The HIH forwards a screenshot to the onboarding contractor for verification;
3. After confirmation of a successful inbound telnet from the onboarding contractor, the HIH must ensure the port is open at 8291;
4. The onboarding contractor will have CMS telnet (outbound) to the HIH IP address; and
5. Upon successful inbound and outbound telnet tests, the HIH may proceed on to connectivity testing.

5.2 Connectivity Testing in Production

5.2.1 Overview

Tests in this phase establish connectivity in the Production environment between the CMS Gateway and HIH Gateway. The SOAP UI tool is no longer required, but may be used. In order to perform Connectivity testing, the following is required:

1. The HIH must complete the configuration according to the esMD Production Configuration Document provided by the onboarding contractor; and
2. The onboarding contractor must confirm the HIH IP address and TLS certificates are configured at the CMS esMD PROD Gateway.

5.2.2 esMD-Specific Configurations for Connectivity Production Testing

The esMD specifications for Production are as follows

1. The HIH will add a “.1” as a suffix to the existing OID to indicate the Production environment; and
2. The HIH will configure its gateway with the esMD Gateway Production region OID.

Once configurations are complete, the HIH can proceed with End-to-End testing.

5.3 Production End-to-End Testing

In this final phase, submissions are sent to ensure the HIH's submitted metadata is validated and delivered to the TIBCO MFT EFT system and, ultimately, delivered to the RC. In addition, this testing ensures that after the RC picks up the submitted documents, the notification is returned to the HIH regarding the pickup status, and the RC Pickup Acknowledgement notification is sent successfully to the RC.

This test should be performed using the HIH's application. The HIH is requested to use the recipient OID, sample test claim ID, and case ID when submitting a test submission.

Refer to Section 5.3.8 of the *CMS esMD HIH Implementation Guide* for the numeric length for claim and case IDs. When submitting tests, HIHs must use the numeric digits “8378” as a prefix to any claim and case ID to indicate this is a test submission. If using the sample format in the Table 1, do not exceed 23 characters for claim ID or 32 characters for case ID.

Upon successful completion of the interoperability and integration testing (i.e., transmission of 100% correctly formed payload and receipt of the two asynchronous responses from the esMD Gateway) between the HIH and the Production region esMD Gateway, the HIH will receive email notification from the onboarding contractor that they are now able to offer esMD services.

Note: The HIH Onboarding Process gives HIHs 23 weeks to set up and complete their validation and production environments.

6. Communication

Upon successful onboarding, CMS will announce to the Medical Community, the start date on which the HIH will begin submitting through esMD. Communication will occur by:

1. The CMS esMD Website will be updated with the HIH organizational name and Uniform Resource Locator (URL);
2. CMS esMD presentations, brochures, and literature will be updated with the HIH information;
3. An announcement will be made on the CMS esMD Certified HIH Call and the CMS esMD Monthly RC Call; and
4. The newly onboarded HIH will receive an invite for the CMS esMD Monthly Certified HIH Calls

6.1 Support

Table 2: Support POCs provides the Points of Contact (POCs) for HIH Onboarding and Production-related support.

Table 2: Support POCs

Contact Organization	Email	Role
CMS/Onboarding contractor	esMD_Support@cms.hhs.gov	Provides support to HIHs and RCs, and facilitates onboarding activities and the processing of TLS certificate renewals and environment detail changes for all HIHs.
esMD Helpdesk	esMD_Support@cms.hhs.gov	Handles esMD transaction transport issues for Certified HIHs and RCs.

7. Offboarding Process

This section outlines the steps to offboard an HIH who has already completed the process of Onboarding the CMD esMD System. The same steps apply to an HIH involved in the onboarding process whose Environment Details have already been configured within the CMS esMD Gateway.

7.1 Offboarding Procedure

Perform the following steps:

1. The HIH informs the onboarding contractor of the decision to discontinue using the CMS esMD system or CMS identifies an HIH to be offboarded
2. The onboarding contractor removes the HIH's Environment Detail configurations from both the CMS Validation and Production Environments including the IP address, TLS certificates, and OID;
3. The onboarding contractor makes the HIH's organizational OID inactive; and
4. The onboarding contractor removes the HIHs information and URL from the CMS Website, brochures, and presentations relating to the CMS esMD Program.

Acronyms

Table 3: Acronyms

Acronym	Literal Translation
CA	Certificate Authority
CMS	Centers for Medicare & Medicaid Services
DB	Database
EFT	Enterprise File Transfer
esMD	Electronic Submission of Medical Documentation
HIH	Health Information Handler
ID	Identifier
IP	Internet Protocol
MFT	Managed File Transfer
NAT	Network Address Translation
OID	Object Identifier
PDF	Portable Document Format
POC	Point of Contact
RC	Review Contractor
SOAP	Simple Object Access Protocol
TLS	Transport Layer Security
UI	User Interface
URL	Uniform Resource Locator

Referenced Documents

Table 4: Referenced Documents

Document Name	Document Number and/or URL	Issuance Date
<i>CMS esMD HIH Implementation Guide v6.2</i>	http://cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/ESMD/Downloads/R_3_1_HIHImplementationGuide_V_6_2.pdf	10/02/2014

Record of Changes

Table 5: Record of Changes

Version Number	Date	Author/Owner	Description of Change
1.0	11/11/2014	Melony Stehlik	Initial iteration.
1.1	12/11/2014	Melony Stehlik	Updated content throughout document.

Approvals

The undersigned acknowledge that they have reviewed the User Manual and agree with the information presented within this document. Changes to this User Manual will be coordinated with, and approved by, the undersigned, or their designated representatives.

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