GOVERNMENT OF PUERTO RICO

Department of Health
Medicaid Program

ICD for Hacienda - Batch Deliverable 1.4.4.d.1

MEDITI3G Project
Government of Puerto Rico

Version 1.1
March 1, 2023

Contract #2019-DS-0574

Document Revision History

Version Number	Date	Description
0.1	07/21/2022	Initial Draft
0.5	08/12/2022	QC Review
0.8	08/12/2022	Initial Draft for Review
1.0	08/19/2022	Approved
1.1	03/1/2023	Changes made to Batch Scenarios due to PRMO-2818 Changes made due to PRMO-2819

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Purpose of Interface Control

This Interface Control Document (ICD) documents and tracks the necessary information required to effectively define MEDITI 3G's interface, including communication rules, to provide the development team guidance on the architecture of the interfaces to be developed. The purpose of this ICD is to clearly communicate all possible inputs and outputs for all potential actions whether they are internal to the system or transparent to system users.

This ICD is created during the Planning and Design Phases of the project. Its intended audience is the project manager, project team, development team, and stakeholders interested in interfacing with the system. This ICD helps ensure compatibility between system segments and components.

Introduction

This ICD describes the relationship between MEDITI3G (the source system), the Trusted Data Source (Department of Hacienda local agency), and the State Hub, and the requirements that must be met. It describes the concept of operations for the interface, defines the message structure and protocols that govern the interchange of data, and identifies the communication paths along which the project team expects data to flow.

This ICD covers the requirements for MEDITI3G's implementation of the HACIENDA batch interface and details the system implementation for internal use by the case worker. It details the use of the interfaces by the MEDITI 3G system for both outbound data transfer to, and the processing completed on inbound data transferred from the State Hub.

For each interface, the ICD provides the following information:

A description of the data exchange format and protocol for exchange.

A general description of the interface.

Assumptions and Constraints where appropriate.

Estimated size and frequency of data exchange.

Scope

The Scope of this ICD document and the interfaces that it covers are outlined in the table below. This scope table only represents this ICD and does not represent the scope of the MEDITI3G project and its interfaces.

The MEDITI3G data elements that will be validated by this interface are:

Table 1: HACIENDA Scope

Category	Evidence	Scope
Income	Self Employment Evidence	In Scope
Income	Lottery	Not in Scope

Please note that the details of how each of the above-mentioned data elements are used in MEDITI 3G, is defined in *Section 6.2.7.5 Detailed Scenarios*.

Team Members

In Table 2: Team Members is a list of all members involved in the discussions of the HACIENDA interface.

Table 2: Team Members

Attendees	Organization
Evelyn Santos	PRMP
Irma Aviles-Colon	PRMP
Jesus Ayala	PRMP
Ryon Johnson	RedMane
Stephanie Nieves	RedMane
Ivan Galloza	RedMane
Blake Hansard	PMO
Greg Charles	PMO
Miguel Ruiz	Wovenware
Aixa Boothby	Wovenware

Glossary of Terms

In Table 3: Acronym Definitions is a list of Acronyms and their corresponding descriptions.

Table 3: Acronym Definitions

Acronym /Term	Definition
ACK	Acknowledgement
BSD	Business Service Definition

Acronym /Term	Definition
CHIP	Children's Health Insurance Program
CMS	Centers for Medicare & Medicaid Services
DB	Database
DOB	Date of Birth
FDD	Functional Design Document
FUNC	Function
GB	Gigabytes
HIPAA	Health Insurance Portability and Accountability Act
ICD	Interface Control Document
ID	Identification
IDD	Interface Design Document
IL	Integration Layer
JAD	Joint Application Design
JDBC	Java Database Connectivity
MARS-E	Minimum Acceptable Risk Standards for Exchanges
MB	Megabytes
MOU	Memorandum of Understanding
NACK	Negative Acknowledgement
NIEM	National Information Exchange Model
OIAT	Puerto Rico Department of Health's System Information Department. In Spanish means: "Oficina de Informática y Avances Tecnológicos"

Acronym /Term	Definition
OSI	Open Systems Interconnection model
PDC	Product Delivery Case
PGP	Pretty Good Privacy
PII	Personally Identifiable Information
PMO	Project Management Office
MEDITI 3G	Puerto Rico Eligibility and Enrollment systems
PRMP	Puerto Rico Medicaid Program
RRV	Renewal and Redetermination Verification
SDSH	State Data Services Hub
SFTP	Secure File Transfer Protocol
SHA	Secure Hash Algorithm
SSA	Social Security Administration
SSN	Social Security Number
TCP/IP	Transmission Control Protocol/Internet Protocol
TDS	Trusted Data Source
XML	eXtensible Markup Language

The document "MEDITI 3G Glossary", is available consisting of common terminology used, to describe system components in MEDITI 3G.

Overview

PRMP's goal is to verify information required to determine the factors of eligibility for Medicaid and CHIP, thus allowing case workers to improve customer service for citizens in Puerto Rico. To the extent possible, such verification should be done electronically using data verification sources available Federally or locally or through private entities.

Applicants who are enrolled in Medicaid/CHIP remain enrolled as long as they meet eligibility standards and have a redetermination every 12 months. When an individual is due for redetermination of eligibility, MEDITI 3G attempts renewal based on available information.

This ICD documents the annual electronic verification of evidences for all active beneficiaries, not in an auto-eligibility category, via the State Hub. This service will specifically help verify the following eligibility factor in the beneficiary's active Product Delivery Case (PDC):

Self Employment – Gross Receipt

This electronic verification is available from the State Hub, allowing the verification of the Benefit evidence by providing a pre-defined set of input information of the applicant. The verification for this service is made through the Trusted Data Source – HACIENDA.

Using this HACIENDA Batch interface, MEDITI3G will exchange information with the State Hub through batch processes. MEDITI3G will submit one ZIP file (one batch) via Secure File Transfer Protocol (SFTP) to the SFTP Inbound folder with an SFTP-compliant filename. The number of ZIP files that will be uploaded depends on the constraint of records each request can include.

The State Hub, after getting a response from the TDS, zips the manifest file and the response from the TDS with an SFTP-compliant filename and places it in MEDITI 3G-designated SFTP Outbound (Response) Folder for MEDITI3G to retrieve.

The subsequent Sections and Sub-Sections of this document provide all relevant information in sufficient detail on various different aspects of this HACIENDA Batch interface, which will allow the development, testing, and implementation of this interface as part of the MEDITI3G solution.

Audience

The intended audience of the HACIENDA Batch ICD is composed of all project stakeholders, including the project sponsor, senior leadership, and the project team.

Assumptions/Constraints/Risks

Assumptions

The following assumptions apply to the HACIENDA Batch Service:

The basis for this document is the Hacienda Batch Participant Information ICD v2.1 published in July 2022.

All transactions between MEDITI3G, the IL and the State Hub described in this ICD, will be implemented through batch processes.

There will be a signed Memorandum of Understanding (MOU) agreement in place between PRMP and Hacienda to allow the sharing of Hacienda System information. This MOU shall define the terms and conditions for the exchange of information.

Azure Government shall maintain its current offerings of services and components. The inclusion of new offerings later shall not negatively impact compatibility and compliance with HIPAA and MARS-E.

> Before being able to use the MEDITI3G, the users will be verified by PRMP's verification mechanisms as detailed in the PRMP's user management and user provisioning guidelines.

Puerto Rico Department of Health's System Information Department (OIAT, in Spanish: "Oficina de Informática y Avances Tecnológicos"), which is responsible for the development and implementation of technological services for all the Department of Health dependencies in Puerto Rico, shall establish the necessary procedures to grant access to the real time request endpoint.

There is an account (user ID and password) in place to use the SFTP for the transfer of files.

The SDSH SFTP Inbound folder is available to receive Hacienda Batch request files at any time.

The SDSH SFTP provided folder's technical specifications, documentation and access will be provided by Wovenware at the time of testing and development.

The Hub expects to forward all accepted batch files to TDS immediately once the files pass Hub validations.

The State Hub shall provide the SourceID to be used before the interface is developed.

Constraints

MEDITI3G shall use the interface on a monthly basis to determine renewal eligibility of PRMP beneficiaries.

The interface shall only be dedicated to connecting to a single Trusted Data Source (TDS) for requesting data.

Hacienda Request file will be sent to the State Hub in a zip folder. Each zip folder will contain one request file and a manifest file.

The XML request file within the ZIP file shall not be greater than 100MB.

The State Hub, the environment that will contain the Local Interface, shall not manage files greater than 100 GB.

The maximum response time for batch shall be nine (9) calendar days.

The maximum number of concurrent batch requests shall be five (5)

Upon receipt of a valid response for a Beneficiary, MEDITI3G will not send a subsequent request for that same Beneficiary to TDS within a given renewal/redetermination time period.

Availability of the State Data service hub and local agency (Section 0 Interface Processing Time Requirements / Service Availability).

> Full Names (First Name, Last Names) used in MEDITI3G might include special characters, therefore technical transformations shall be done.
> Full Names almost always include a Second Last Name.
> Production Data shall not be used for testing.

The Interface call to the HACIENDA Service will be made using the approved architecture as detailed in the deliverable I.2.2 System Architecture plan.

There is no limit to the number of batches MEDITI3G can submit in a given period; however, the BatchID field in the manifest Schema (timestamp) must increment by at least 1 minute.

Risks

There are no risks identified at this time.

General Interface Requirements

This section describes the functional decomposition process for verifying the corresponding data elements through the HACIENDA Batch Interface as well as an overview process on how MEDITI3G will interact with other components of the transaction.

It will cover the security and integrity requirements needed for the call to be considered successful and achievable.

Interface Overview

When an applicant is due for renewal, MEDITI3G will create a ZIP file based on the established constraint with the appropriate content and will transfer this information through SFTP to the State Hub so that it can be verified. The individuals in the file are matched using personal identifiable information such as SSN, Name and Date of Birth. Upon receipt and verification of this information, the State Hub will then forward the specific files to HACIENDA.

Once HACIENDA verifies and matches with the applicants list provided by MEDITI3G, they will send a response back to the State Hub. Once the responses have been received from HACIENDA, the State Hub will pack the response(s) in a ZIP folder and pass through to MEDITI 3G via the State Hub SFTP Server.

A high-level depiction of the interaction between MEDITI 3G-Integration Layer-State Hub-HACIENDA systems can be seen in section 0 Transactions.

Functional Allocation

HACIENDA Request

<PRMO-2819> The Annual Recertification Process applies to all active beneficiaries and is conducted during the recertification period. ~~last 4 months of a 12-month certification period~~. ~~The Ex Parte batch will identify all beneficiaries who are not in an Auto-Eligibility category and whose certification period ends in 4 months.~~ For more information on the Ex Parte batch please refer to the Renewals FDD Deliverable I.4.2.n.i.

This process will trigger the HACIENDA Outbound batch which activates the HACIENDA Batch Service described in this ICD. For more information regarding the HACIENDA Outbound Batch, please refer to the IDD.

MEDITI 3G will attempt to electronically verify the verification items on the Self Employment evidence as defined in this ICD, that expire at the end of the current certification period using HACIENDA Service.

<PRMO-2819> **Error! Reference source not found.** ~~outlines the business process for when Hacienda Service is triggered.~~

Based on the individuals that have been identified as part of the recertification process, MEDITI3G will populate the outbound staging tables with data and send a trigger to the Integration Layer. The Integration Layer will then read the data from the staging tables, perform the applicable technical transformations, and create the HACIENDA request file based on the established constraints as well as the manifest file. The Integration Layer will then zip the files together into one file and transfer the file through SFTP to the State Hub so that it can be verified. The individuals in the file are matched using personal identifiable information such as SSN, Name and Date of birth. Upon receipt and verification of this information, the State Hub will then forward the specific files to HACIENDA.

Once HACIENDA verifies and matches with the applicants list provided by MEDITI3G, they will send a response back to the State Hub.

Alternatively, HACIENDA may instead determine to return a negative acknowledgement (NACK) back in the scenarios where they cannot process the submitted batch request file, such as, scenarios where the batch request file fails validation.

Once the responses have been received from Hacienda, the State Hub will pack the response(s) in a ZIP folder and pass through to MEDITI3G via the State Hub SFTP Server. The State Hub may return a negative acknowledgement (NACK) back to MEDITI 3G in a scenario where the batch request file fails validation.

Once the response is confirmed, if there are additional request files that need to be sent to Hacienda, the process will restart with the Integration Layer reading the data from the staging tables, performing the applicable technical transformations, and creating the DOL request and the manifest files.

A high-level depiction of the interaction between MEDITI3G-Integration Layer-State Hub-Hacienda systems can be seen in section 0 Transactions.

Hacienda Response

Figure 1: Hacienda Response depicts how MEDITI3G processes the Hacienda batch response and the verifications that happens after a response is received from the SDSH.
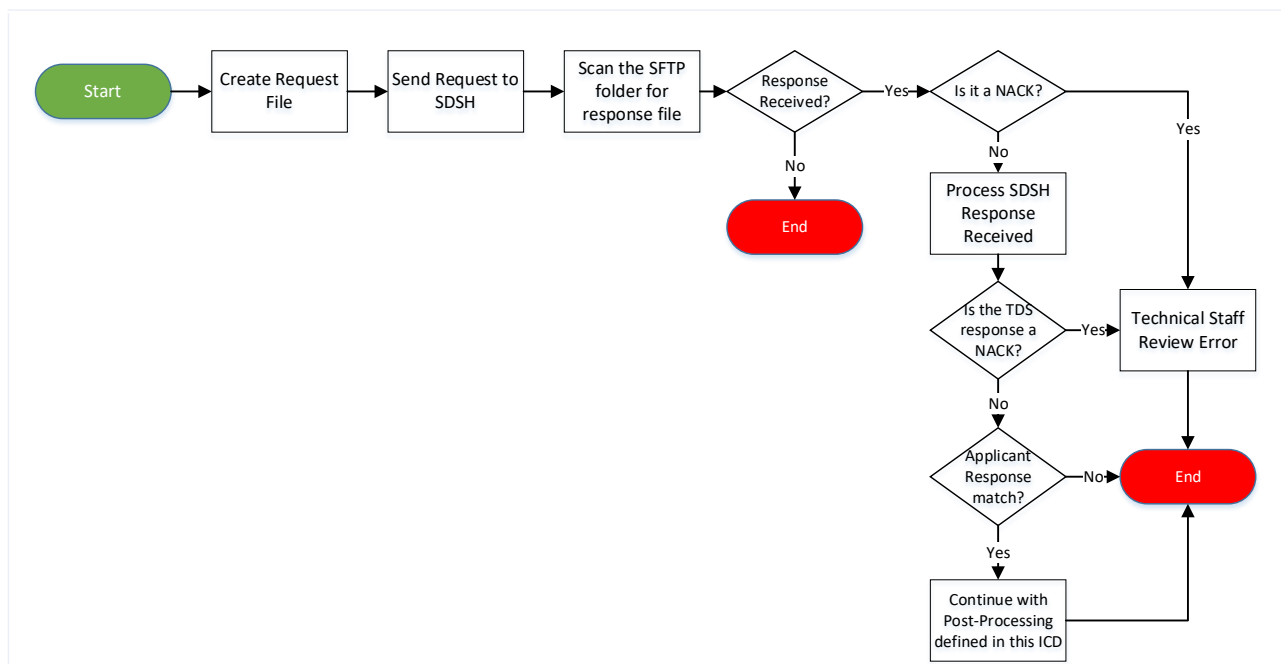

Figure 1: Hacienda Response

Once the request has been made to the SDSH, which can have multiple Hacienda Request file, the Integration Layer will attempt to retrieve the response from the SFTP folder on the 10th day of the month. If a ZIP file is detected which was uploaded by the SDSH, it will collect it. This file(s) will then be forwarded to MEDITI3G for further processing.

The interface shall monitor the response files left in the SFTP folder and if a response file is left in the folder for more than thirteen (13) days then a business process shall take place to remove the file.

The business operation to process the requests against the Hacienda System to gather the participant information shall end before processing the complete batch transaction if one of the following conditions is met:

• The interface reaches the maximum response time,

• The interface starts receiving sequential errors in the responses from the Local Agency and the quantity of those errors exceeds 20% of the complete batch, or

• The interface loses connection to the Local Agency during a batch transaction and the connection is not re-established within twenty-four (24) hours.

Shall it end by one of these conditions, the interface collects the partial responses to the batch request, along with the unprocessed requests, and sends them to MEDITI3G. If there are no partial responses available, the interface shall return a NACK file.

Given that the SDSH does not aggregate responses and directly forwards each response that is received from Hacienda, the Integration layer will not verify if the response ZIP files received from the SDSH match the number of ZIP request files sent. It will process each one as they are uploaded to the SFTP folder.

If a NACK file is received after initial verification from the SDSH in the ZIP file, then a communication will be sent to the Technical Support staff member to review the error and provide the appropriate troubleshooting. Another attempt to send the request for that month will not be sent from MEDITI3G. Subsequent steps and processing for when evidences are not re-verified are described in the Completed Renewals FDD Deliverable I.4.2.n.ii.

MEDITI3G will then unzip the file received from the SDSH. If a NACK has been received from Hacienda, then a communication will be sent to the Technical Support staff member to review the error and provide the appropriate troubleshooting. As with the NACK received after initial verification, MEDITI3G will not attempt to request the same information again from Hacienda.

If a successful response is received from Hacienda, the process will continue as with the Response processing sections defined in this ICD.

Data Transfer

MEDITI3G will create the TDS request file along with the manifest file, according to the guidelines provided. Once this is done MEDITI3G will ZIP the file and forward it to the IL.

The IL then exchanges this data with the State Hub using the pre-established SFTP folder.

Table 4: File Naming Convention for State Hub ZIP Files describe the file naming conventions, attributes of the compressed ZIP file, and the folder name where the MEDITI 3G System will place each request file to be processed against the Hacienda System.

Notes:

The FUNC attribute for the Hacienda Batch Interface is **HACIENDABPII**.

Table 4: File Naming Convention for State Hub ZIP Files

SFTP Folder	Filename
Inbound folder **For Inbound (Requester to State Hub)**	SOURCEID.FUNC.DATE.TIME.ENV.IN e.g., MEDITI3G.HACIENDABPII.D191114.T065423325.T.IN.zip
Outbound (Response) Folder **For NACK (State Hub to Requester)**	SOURCEID.FUNC.DATE.TIME.ENV.OUT e.g., MEDITI3G.NAK.D191114.T065423325.T.OUT.zip
Outbound (Response) Folder **For Response (State Hub to Requester)**	SOURCEID.FUNC.DATE.TIME.ENV.OUT e.g., MEDITI3G.OUT.D191114.T065423325.T.OUT.zip

Table 5: Descriptions of File Naming Standard for SFTP File Naming Conventions defines the specific information for each attribute in the Inbound and Outbound State Hub SFTP ZIP filenames.

Table 5: Descriptions of File Naming Standard for SFTP File Naming Conventions

Attribute	Description
AgencyID	The Local Agency identification given to the Local Agency to identify file destined to the Requestor.
SourceID	The source identification given to the Requestor to identify State Hub request match file.
Func	The specific data function that is requested to the State Hub.
Date	The date of the file submitted identified by the following format DYYMMDD
Time	The timestamp of the file submitted identified by the following format THHMMSSNNN (if milliseconds are not available, any three digits shall be used, as long as the resultant filename is unique)
Env	The environment in which the file is being submitted (P for Production Environment (PROD), T for non-PROD)
In	File extension mandated for files Inbound to EFT

	Note: This is only applicable for the Inbound folder.	
Out	Transfer direction	
	Note: This is only applicable for the Outbound folder.	

Figure 2: Inbound Hacienda ZIP file with batch requests illustrates a batch request in the designated Local Interface Inbound folder with one manifest and one Hacienda batch request file. The manifest file contains metadata information about the files within the ZIP file. See section **Error! Reference source not found. Error! Reference source not found.** for more details.

Figure 2: Inbound Hacienda ZIP file with batch requests
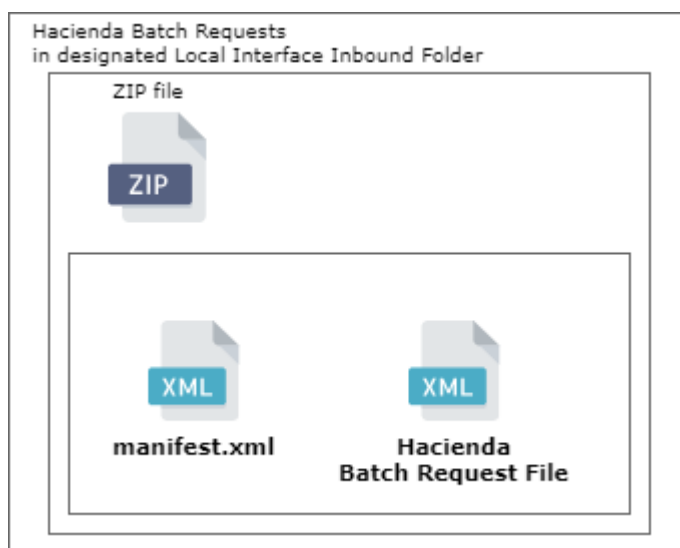
The interface will request the information from Hacienda using the Hacienda Batch Request XML file passed via the established SFTP folder. The requests and the response(s) received from the Hacienda Local Agency are processed in XML format.

After the interface has received in XML format the response(s) from the Hacienda System, a response file and a manifest file are created in XML format following NIEM standards, the resulting files are compressed into a ZIP file and uploaded to the established SFTP folder for the Requestor System to download them.

Figure 3: Outbound Hacienda ZIP file with responses illustrates a batch response in the designated Local Interface Outbound folder with one manifest and one Hacienda batch response file.

Figure 3: Outbound Hacienda ZIP file with responses
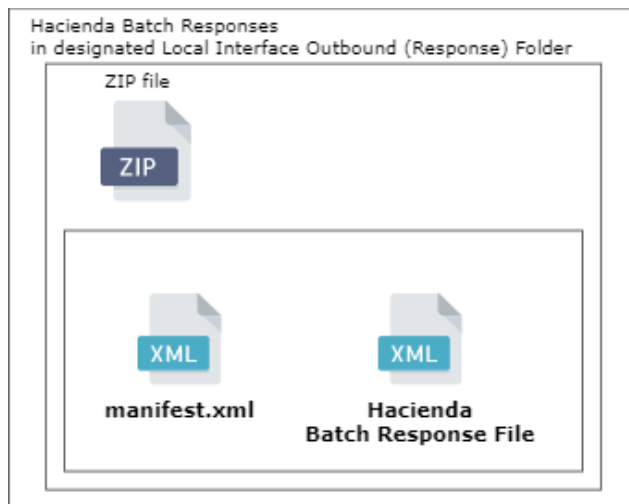
When a validation error of the whole batch request file has occurred at the TDS, the TDS will create and return to the interface a NACK file containing information about the batch that generated the error and an error code to identify the type of error. The interface will prepare and send a NACK file to the Requestor System.

Figure 4: Outbound Hacienda Zip file with NACK illustrates a NACK in the designated Outbound folder with one manifest. A NACK only contains one manifest file within the ZIP file. The manifest file in this scenario is the nack.xml file.

Figure 4: Outbound Hacienda Zip file with NACK
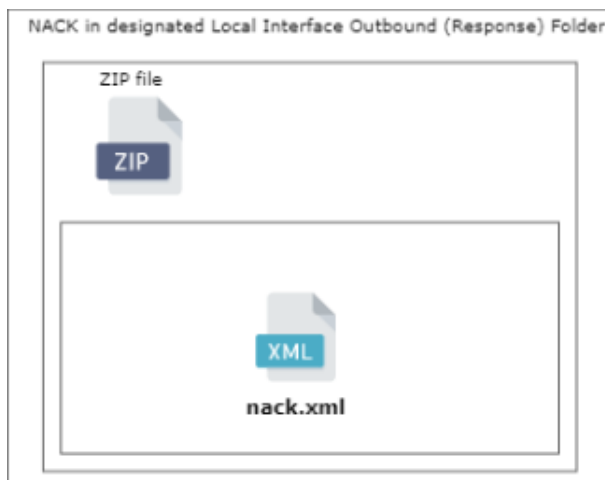
Transactions

The SDSH processes batches based on individual TDS-destined request files that MEDITI3G initiates on a schedule. The transaction round-trip is described below:

Leg 1 - MEDITI3G-to-Integration Layer request

MEDITI3G will load populate the outbound staging tables with the applicable data and send a trigger to the Integration Layer/

The Integration Layer will connect to MEDITI3G using a secure Java Database Connectivity (JDBC) connection.

Leg 2 – Integration Layer-to-State Hub

The Integration Layer will read the data from the outbound staging tables and perform the applicable transformations; these steps are defined in section 0 Request Pre-Conditions.

The Integration layer creates the request and the manifest files, then creates a ZIP file to compress both files.

The Integration Layer then uploads the ZIP file to the SFTP Inbound folder for the State Hub to collect.

Leg 3 – State Hub-to-TDS

This is part of the state hub internal processing and is out of scope of this document. The steps are outlined in the Hacienda Batch Participant Information ICD v2.0.

The State Hub returns a NACK to the Requester if a complete batch fails Hub validation or if a TDS-destined file fails Hub validation.

Leg 4 - TDS-to-State Hub response

This is part of the state hub processing and is out of scope of this document. The steps are outlined in the Hacienda Batch Participant Information ICD v2.0.

The response time is defined in section 0 Interface Processing Time Requirements / Service Availability.

Leg 5 – State Hub-to-Integration Layer response

State Hub places the ZIP response file in the SFTP response outbound folder, and the integration layer picks up the file.

The Integration unzips the file and writes the data within the file out to the inbound staging tables.

Leg 6 – Integration Layer-to-MEDITI3G

The Integration Layer will connect to MEDITI3G using a secure Java Database Connectivity (JDBC) connection.

A MEDITI3G Inbound Batch will run to read the data from the inbound staging tables for post-processing as defined in section 0 Response Processing.

Figure 5: MEDITI3G-Hub-TDS Sequence shows at a high level the full end to end interactions from MEDITI3Gs initial request to the IL and then to the State Hub for the renewal and redetermination process. This diagram also shows the response steps, how the State Hub processes the request, and the response from the State Hub to MEDITI 3G. For additional details on the State Hub processing of the Hacienda Batch service see the Hacienda Batch Participant Information ICD v1.0.
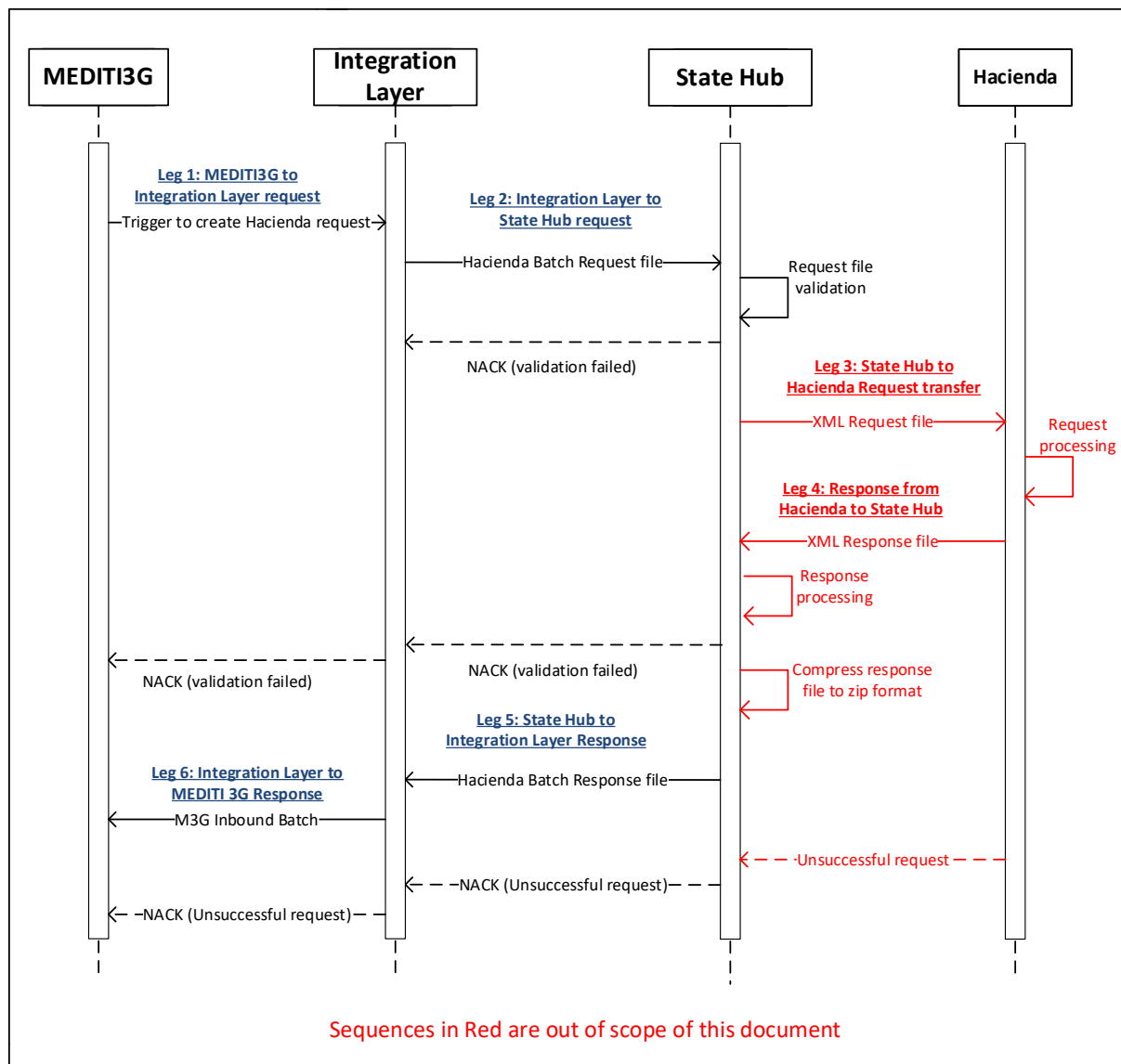
Figure 5: MEDITI3G-Hub-TDS Sequence

Security and Integrity

The Daily file is transmitted using the Hacienda File Transfer process over a secure connection. Below are further details on the security measures taken in each connection:

- Leg 1 – The integration layer will reach out to the MEDITI3G DB, authenticate and then establish a JDBC connection to read records off the outbound staging table.

- Leg 2 - Once the integration layer has created the request file, it will encrypt it using PGP before sending. Then it will authenticate using an electronic certificate to create a secure connection with state hub server and drop the file in the share file location for collection.

The Daily Error response file transfer is processed over a secure connection, which details are described below:

- Leg 1 – The Integration layer will authenticate against the State Hub SFTP using an electronic certificate and poll the location to see if the Daily Error Response file has been returned. When it detects the file in this location it will retrieve it and then decrypt it for consumption.

- Leg 2 – The integration layer will reach out to the MEDITI3G database, authenticate, and then establish a JDBC connection to write out records to the inbound staging table.

In addition to the security measures specified for each of the data transfers outlined above, the interfaces will rely on security from MEDITI3G's configuration of networks and firewalls to protect data at rest and in transit. For additional information on these configurations see the i.2.2 System Architecture plan.

Detailed Interface Requirements

This section describes in depth the interaction between MEDITI3G, the State Hub and the Hacienda local agency, using batch process for electronic verification of an applicant's benefit information during redetermination and renewal for beneficiaries.

Department of Hacienda is a local Puerto Rico agency responsible for administering and regulating all aspects of taxable revenue for the citizens of Puerto Rico. Therefore, it is the trusted source of information about residents that are currently receiving income due to self employment. This interface thus aims at receiving this information from the TDS and utilizing it to verify elements of applicant's data.

The State Hub receives a response from the TDS (Hacienda) and immediately returns the response to the Requester (within a ZIP file containing a manifest file describing the response file or TDS error response) via SFTP.

The process will follow the preconditions established as well as the proposed processing steps. If all the steps are successful, then the renewal will be successful, and the applicant's benefits will be extended.

Requirements for Hacienda Batch File Submission

This section presents the requirements for the interaction between MEDITI3G and the Hacienda Batch Service.

This interface supports the verification of benefit information using the batch process for an applicant undergoing renewal process. This business service retrieves the validation of the applicant or qualified individual's benefit information from Hacienda local agency via the State Hub. Full details on this end-to-end process are outlined in the sections below.

Hacienda Batch Request Process Flow

Figure 6: Request Process Flow describes the actions taken by MEDITI3G when the recertification is triggered. The Renewal FDD outlines the respective overarching business processes that occur before the Hacienda Batch is triggered.
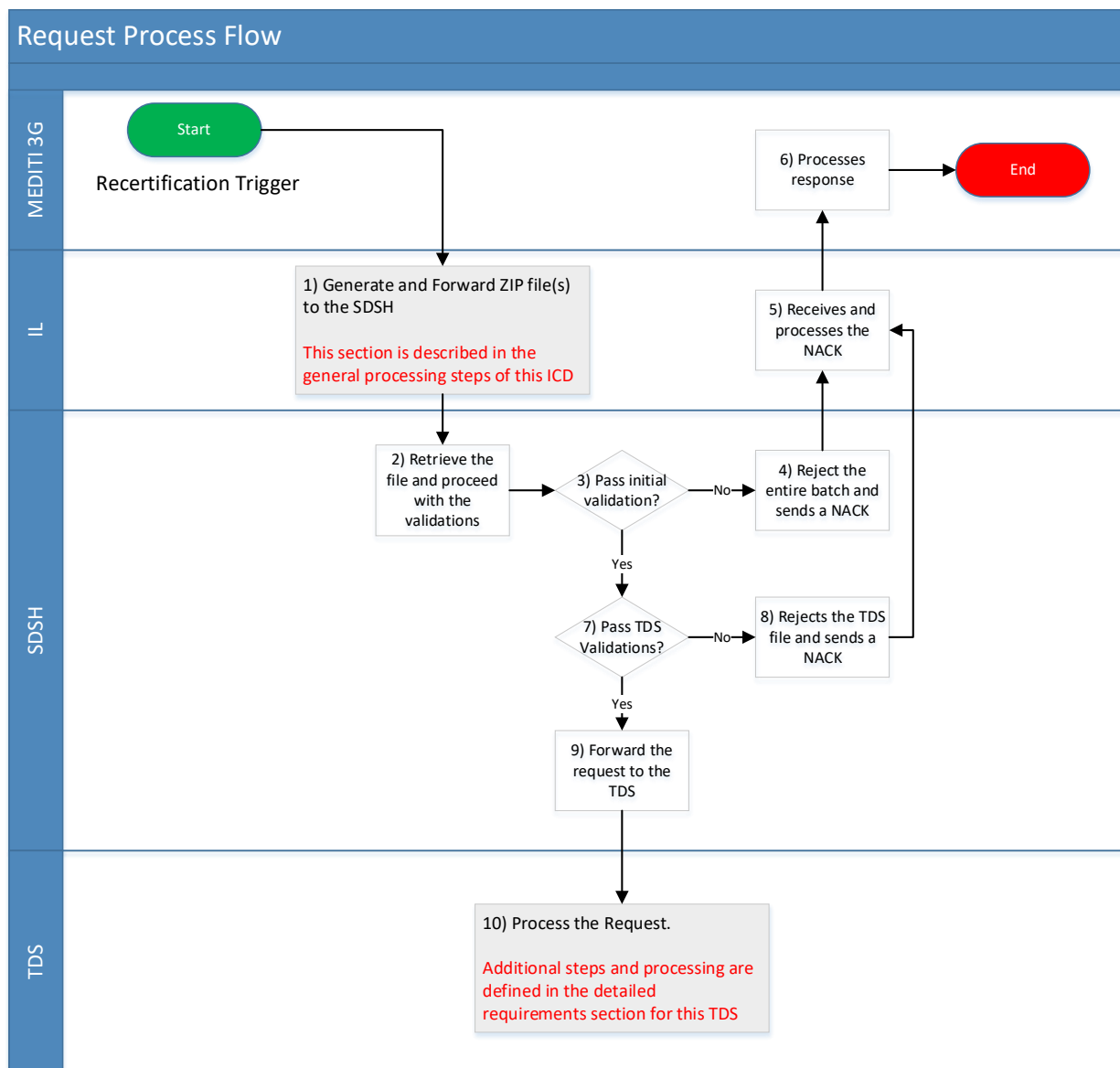
Figure 6: Request Process Flow

Request Process Flow Detailed Steps

Generate and forward ZIP file to the SDSH.

After the Ex Parte batch identifies all beneficiaries who are not in an Auto-Eligibility category and whose certification period ends in 3 months, MEDITI3G will collect these beneficiaries and populate the Outbound Staging Tables. When all cases and beneficiaries are identified, MEDITI3G will send a trigger to request the IL generate the Hacienda file. The IL then performs technical transformations on the data, creates the Hacienda file(s) and prepares a request manifest schema to describe the file(s) that have been prepared for the SDSH.

The request manifest Schema specifies the size of the request file and references the document filename that corresponds with the TDS-specific filename for which the request manifest Schema and file pair.

The IL will ZIP the request Manifest file as well as the Hacienda file and upload to the assigned inbound SFTP Folder for the SDSH to retrieve it.

For more information on this step review section 0 Trigger Point.

Retrieve the file and proceed with the validations

Upon receipt, the SDSH retrieves, unzips, and validates the request manifest for compliance, and the content file for checksum and file size validations.

For more details on the request manifest file review section 0 Hacienda Request Manifest File.

Pass initial validation?

This step refers to a decision path that depends on the request manifest batch-level elements being successfully generated from the IL.

No: A common batch-level element in the request manifest Schema did not pass validations. The SDSH performs manifest Schema validations by ensuring the manifest Schema populates correctly and describes the batch appropriately, the BatchID is unique from each source, and the attachments match what the manifest Schema describes. Proceed with step 4.

Yes: The SDSH will move to perform validations for each TDS specific requirement. Proceed to step 8.

Reject the entire batch and sends a NACK.

The SDSH does not store the files. When any of the validations fails, the SDSH rejects the entire batch and generates a negative acknowledgement (NACK). The NACK will be populated with a BatchCategoryCode of **HACIENDA_NACK_RESP**. As well, the SDSH will populate in the Service Specific Data section the Response Metadata fields to show the reason the batch has been rejected. The full list of Response codes and descriptions can be found in Table 8: NACK Response Codes.

After this step, the SDSH will zip the response manifest file into a file with an SFTP-compliant filename and place it in the designated SFTP Outbound (Response) folder for MEDITI 3G to retrieve. For more information on the filename review section 0 Data Transfer. For more information on the Hacienda NACK File review section 0 Hacienda NACK File.

Figure 7: Outbound Hacienda ZIP File (NACK) illustrates a NACK in the designated Outbound folder with one manifest. A NACK response only contains one manifest file within the ZIP file which is the nack.xml file.
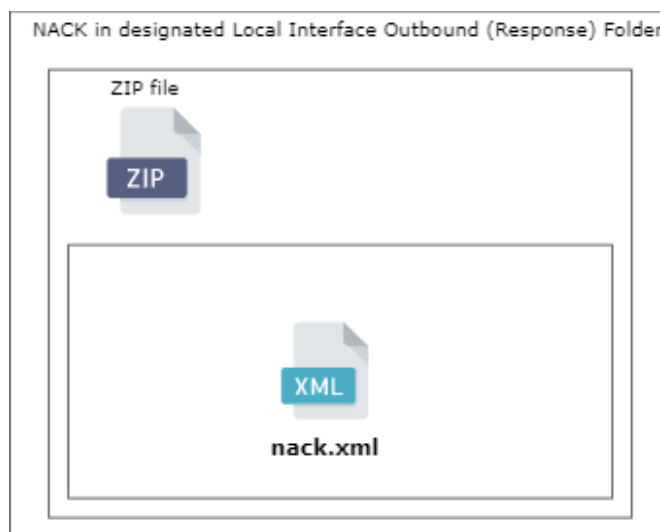
Figure 7: Outbound Hacienda ZIP File (NACK)

Receives and processes the NACK.

The IL will pull the SFTP Outbound folder and when a file is added it will download it and forward it to MEDITI3G for post processing. When the IL receives a NACK from the SDSH a note is written out to the logs so that the Technical Support staff can be notified of the NACK. If a NACK is received because the SDSH rejected the entire batch, there will not be an attempt to resend the information for those PDC. The Technical Support Staff will attempt to fix the error for the next monthly batch.

Receive and Process the NACK.

For the PDC's that were not able to electronically re-verify the information the process will continue as defined in the Renewal FDD.

Pass TDS(s) Validations?

This step refers to a decision path where the SDSH will start validating each TDS request that has been sent. During this step and after it, the Hub will review each TDS file independently. Therefore, if a validation fails for any of the TDS requests the SDSH will not reject the entire batch, it will only send a NACK for the TDS request that failed the validation.

No: The unique TDS-specific requirement and the request manifest Schema that describes the TDS-destined file attributes were not generated accordingly. Proceed with step 8.

Yes: Validations are successful. Proceed with step 9.

Rejects the TDS file and sends a NACK.

The SDSH does not store the file that failed; the Hub generates a NACK manifest file by populating the response manifest Schema and populating the Attachment/ResponseMetadata section of the response manifest Schema with all filenames in the batch with their corresponding success or error ResponseCode and ResponseDescriptionText as detailed in Table 8: NACK Response Codes.

If a TDS-destined file validation fails, the Hub returns a NACK for each TDS-destined validation failure with the following BatchCategoryCode for each TDS, in the response manifest file:

Table 6: TDS NACK Batch Code

TDS	BatchCategoryCode
Hacienda	HACIENDA_NACK_RESP

If more than one agency-destined set of files fails TDS-specific request manifest Schema validations, the Hub returns the BatchCategoryCode in the NACK as **HACIENDA_NACK_RESP** with the ServiceSpecificData/ResponseMetadata section of the manifest Schema populated with *SHE005000 - One or more files failed validation*, and the Attachment/ResponseMetadata section of the manifest Schema populated to show the status of each file in the batch. All validations thus far produce a single NACK.

The Hub zips the manifest file into a file with an SFTP-compliant filename and places it in the MEDITI 3G-designated SFTP Outbound (Response) Folder for IL to retrieve. The NACK manifest filename is nack.xml. The nack.xml file is the only file the Hub returns within the SFTP-compliant ZIP file. For more information on the filename review section 0 Data Transfer.

Forward the request to the TDS(s)

If validations are successful, the Requester does not receive a success ACK or a NACK. In this case, a response from a TDS is the first communication MEDITI3G receives after the request is forwarded from the SDSH to the TDS and a response is received.

Process the Request

For additional information on the processing from Hacienda, review section 0 Requirements for Hacienda.

Trigger Point

The process to verify applicant's verification items through the Hacienda Batch service is triggered monthly by the Hacienda Outbound Batch process that is initiated within MEDITI3G.

The Hacienda Outbound Batch includes the processes in MEDITI3G to obtain the list of applicants up for renewal, perform technical transformations and create TDS request file. It also included the processes to perform the verifications and validations to the request file and manifest file before they are zipped into one file so that it can be forward to the IL.

Further details related to the scheduling of this batch job can be found in the IDD.

Alternate Trigger Point

If the scheduled Hacienda Outbound Batch job fails to run as expected or loads erroneous data into the Hacienda manifest file and/or TDS request file, then the batch job can be manually executed by technical support staff.

If done so, the Filename and the BATCHID should be different.

Hacienda Pre-Transfer Verifications

In order to prevent unsuccessful calls to the SDSH and determine if there are internal processing error while generating the files needed, IL will implement the following verifications before the file is sent to the SDSH:

File Size: Hacienda service has a constraint on the file size for each TDS. The IL will verify the file size before it is sent to comply with the constraint imposed.
The file shall be encrypted using Pretty Good Privacy (PGP) encryption public key before uploading the file to the State Hub SFTP.

If this validation fails, the batch job will not run and it will be manually executed by technical support staff as described in section 0 Alternate Trigger Point.

General Processing Steps Hacienda – Request

Figure 8: Hacienda Batch Request Flow outlines the process that is completed by MEDITI3G on a monthly basis to make a request to the Hacienda Batch service. This process will be the same for every monthly request that is made to the SDSH.

For every request, MEDITI3G initiates the same scheduled Hacienda Batch request to the SDSH. If the batch validations and the TDS specific validations done by the SDSH are successful, the SDSH forwards the request to the TDS.
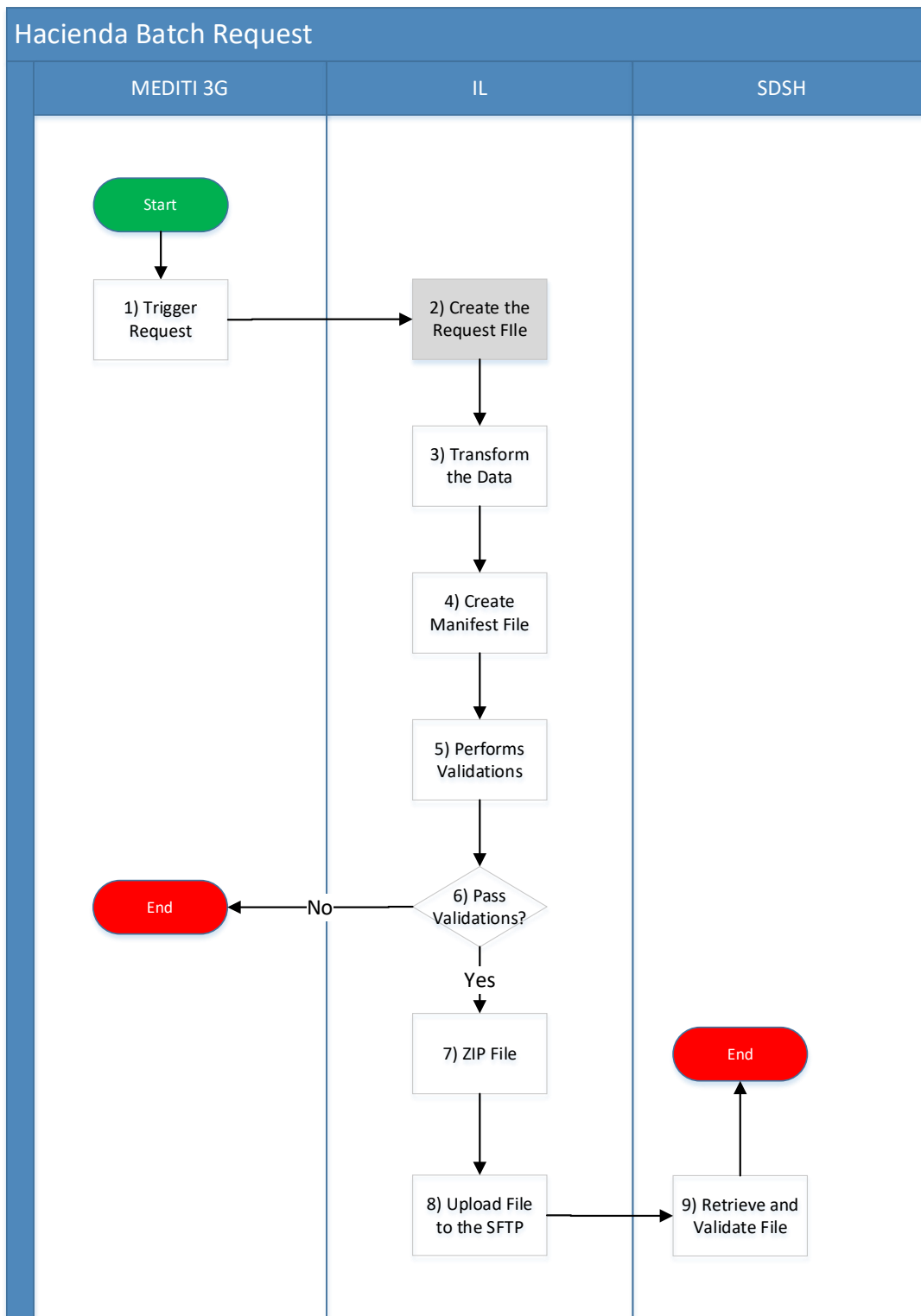
Figure 8: Hacienda Batch Request Flow

Start

The request for the TDS, in this case Hacienda, starts when a recertification is triggered for all active non-auto category beneficiaries on the 1st day of the 8th month of the certification period.

Trigger Request

MEDITI3G will collect and load the necessary data within the outbound staging tables. The data is required to prepare the TDS-destined file with the appropriate schema as defined in section 0 Hacienda File Layout.

Create the Request File

The Integration Layer reads the data from the outbound staging table to begin creating the request file. For additional information related to the process and generation of the request file review Section 6.2 Requirements for Hacienda.

Transform the Data

Transforms the data on the request file to the format accepted by the interface as described in Section **Error! Reference source not found.** Technical Transformations.

Create Manifest File

Prepares a request manifest Schema file to describe the file prepared for the State Hub. Additional information on how the IL populates the manifest file is described in Section 0 Hacienda Request Manifest File.

Perform Validations

In this step the IL will performs the integrity and verifications checks in order to prevent schema validation errors and TDS errors as defined in section 0 Hacienda Pre-Transfer Verifications.

Pass Validations?

Decision: This is a decision step where alternate paths are taken depending on whether the validations were successful or not

If the validations passed, then the process will continue as defined in step 6.

If the validations failed, then a support ticket will be raised so that the root cause of the validation failure can be identified and solved.

ZIP File

In this step the request manifest file and the TDS file are zipped together with the corresponding file name as defined in section 0 Data Transfer.

Figure 2: Inbound Hacienda ZIP file with batch requests illustrates a batch request in the designated Local Interface Inbound folder with one manifest and one Hacienda batch request file. The manifest file contains metadata information about the files within the ZIP file.
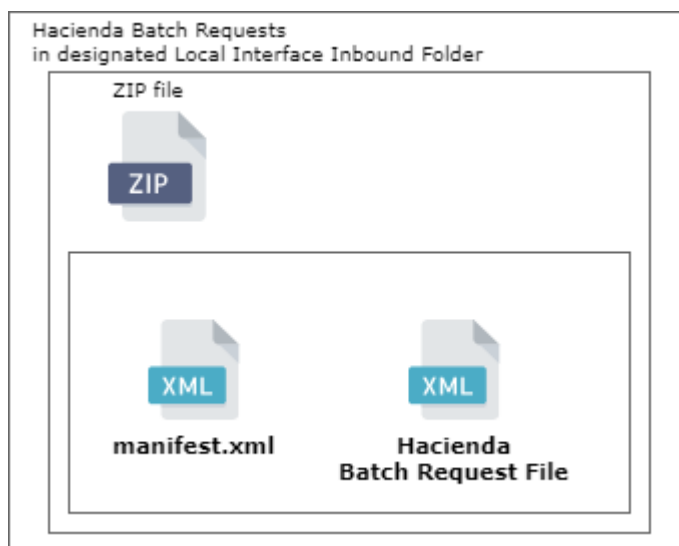
Figure 9: Inbound Hacienda ZIP file

Forward File

Forwards the zip file to the integration layer.

Upload File to the SFTP

Submit one ZIP file (one batch) via SFTP to the SFTP Inbound folder with an SFTP-compliant filename. Details on the filename and SFTP Folder are described in section 0 Data Transfer.

Retrieve and Validate File

SDSH retrieves, unzips, and validates the manifest for compliance, and the content file for checksum and file size validations.

Additional details describing the alternate flows and outcomes are described in the 0 Hacienda Batch Request Process Flow.

End

The Hacienda batch request process ends once the file has been submitted to the SFTP folder. For additional steps related to the response received refer to section **Error! R eference source not found.** Response Processing and section 0 General Processing Steps.

Hacienda Request Manifest File

The IL populates the Hacienda request manifest Schema to describe the batch of files MEDITI 3G is submitting to the SDSH.

Request Manifest File Naming

The request manifest name is manifest.xml.

Request Manifest Data Elements

Figure 10: MEDITI 3G (IL) to SDSH Inbound File lists and defines the request manifest data elements MEDITI3G submits to the SDSH. These data elements identify the attributes of the TDS-destined files MEDITI3G submits to the SDSH.

RequestManifestData
Elements.xlsx

Figure 10: MEDITI 3G (IL) to SDSH Inbound File

Optional fields in the request will only be included if they are part of the scope of the interface.

Hacienda NACK File

A NACK file is sent from the SDSH to MEDITI3G IL if one of the following situations occur:

The SDSH performs manifest Schema validations by ensuring the manifest Schema populates correctly and describes the batch appropriately, the BatchID is unique from each source, and the attachments match what the manifest Schema describes. If any of these validations fail, the SDSH rejects the entire batch and returns a NACK.

After the batch passes manifest Schema validations, the SDSH performs TDS-destined file validations. If the files do not meet unique TDS-specific requirements, the SDSH returns a NACK for each TDS-destined file.

If the connection to the Local Agency is not established within twenty-four (24) hours, the local interface shall stop the batch transaction and the partial results available are returned. If there no partial results available, a NACK file is returned.

NACK File Naming

The SDSH populates the Hacienda response manifest Schema to return NACKs to the IL. The NACK manifest filename is nack.xml.

NACK Data Elements

Figure 11: SDSH to MEDITI 3G NACK File lists and defines NACK manifest Schema data elements the SDSH returns to the MEDITI3G's IL.

Nack Response Data
Elements.xlsx
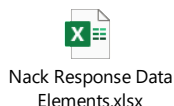
Figure 11: SDSH to MEDITI 3G NACK File

NACK Batch Category Codes

The service Schema uses BatchCategoryCodes in conjunction with ResponseCodes to categorize the NACK the TDS and/or the SDSD returns to the IL.

Table 7: BatchCategoryCodes provides a consolidated list of BatchCategoryCodes and notes to describe expected actions and requirements for each BatchCategoryCode for NACKs.

Table 7: BatchCategoryCodes

Agency	BatchCategoryCode	Note
SDSH	NACK_RESP	If the State Hub rejects entire batch or if more than one agency-destined set of files fail TDS-specific request manifest Schema validations.

Agency	BatchCategoryCode	Note
		No attachment with response. See Figure 12: Response Manifest Data Elements for more details.
HACIENDA	HACIENDA_NACK_RESP	Returned with Service-SpecificData/ResponseMetadata populated with SHE005000 (one or more files failed validation) and Attachment/ResponseMetadata section of manifest Schema populated to show status of each file in batch. Returned if any validation fails or the State Hub incurs exception when communicating with the TDS No attachment with response. See Figure 11: SDSH to MEDITI 3G NACK File for more details.

NACK Response Codes

Table 8: NACK Response Codes provides details about the manifest Schema ResponseCodes the SDSH returns to the IL if the SDSH returns a NACK in cases where the SDSH rejects the TDS files or Batch due to manifest Schema and file comparison validation failures.

Table 8: NACK Response Codes

Response Code	Response Description Text	Validations/Expectations
SHE005000	One or More Files Failed Validation	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of response manifest Schema if the error in the request occurs at file level. Note: When the State Hub returns SHE005000, the State Hub also returns a ResponseCode in the Attachment/ResponseMetadata section of the response manifest Schema to describe the file-level error.
SHE005001	Schema Validation Failure	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema if the request manifest Schema fails State Hub validations. The State Hub also returns this code in the ServiceSpecificData/ResponseMetadata section of the

| | | response manifest Schema if the Hacienda file Schema fails State Hub Schema validations.

The Requester evaluates and corrects the condition before resubmitting the batch (for manifest Schema validation failure) or file (for Hacienda file Schema validation failure). |
|---|---|---|
| **SHE005002** | Batch ID Invalid | The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the Requester-provided BatchID is not unique for the Requester.

Note: The SourceID and BatchID combination shall be unique. |
| **SHE005003** | Batch Requester ID Invalid | The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the BatchRequesterID does not match the ZIP filename Source ID or if the BatchRequesterID in the manifest does not match to a State Hub assigned BatchRequesterID. |
| **SHE005004** | Transmission Attachment Quantity Invalid | The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the Requester-provided TransmissionAttachmentQuantity value in the manifest does not match the actual count of request content files in the ZIP file.

Note: The State Hub allows only one manifest.xml file in the ZIP file and the actual quantity of Hacienda content XML 1.0 request files within the ZIP file shall match the TransmissionAttachmentQuantity value the Requester specifies in the manifest. |
| **SHE005005** | File Quantity Invalid | The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the number of files within the ZIP file does not match the BatchAttachmentTotalQuantity.

The State Hub also returns this code in the Attachment/ResponseMetadata section of the response manifest Schema when the Hacienda file quantity does not match the number of Hacienda filename attachments. |
| **SHE005006** | Binary Size Value Invalid or Exceeds Maximum | The State Hub returns this code in the Attachment/ResponseMetadata section of the response manifest Schema when the value in the request manifest |

		Schema exceeds the maximum, or when a file does not match an actual attachment size.
SHE005007	Document File Name Invalid or Missing	The State Hub returns this code in the Attachment/ResponseMetadata section of the response manifest Schema when the DocumentFileName in the manifest does not match an actual attachment filename within a ZIP file.
SHE005008	Batch Attachment Total Quantity Invalid	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the BatchAttachmentTotalQuantity value in the manifest does not match the TransmissionAttachmentQuantity value in the manifest.
SHE005009	File Record Count Invalid	The State Hub returns this code in the Attachment/ResponseMetadata section of the response manifest Schema when record count in the request manifest Schema does not match actual record count within the Hacienda file. Note: The State Hub does not validate record count the Requester lists in the manifest with the actual number of records in the Hacienda destined files.
SHE005010	Document Record Count Missing	The State Hub returns this code when the DocumentRecordCount in the manifest is blank.
SHE005011	Unexpected Response Code	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the Hacienda system returns a code not previously defined by or expected. Note: In these situations, the TDSResponseDescriptionText field describes the condition; the code Hacienda returns appends to the ResponseDescriptionText.
SHE005012	Too Many Errors	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema when the Hacienda system returns error for more than 20% of the requests.
SHS00000	Success	The State Hub returns this code in the Attachment/ResponseMetadata section of the response manifest Schema for the Hacienda-destined file(s) that did not cause the State Hub to reject the batch. This

		response identifies files in the batch that contain no errors.
SHX005500	File Integrity Failure	The State Hub returns this code in the Attachment/ResponseMetadata section of the response manifest Schema when the value in the request manifest Schema does not match the SHA-256 Checksum the State Hub generates to validate the file.
SHX005501	ZIP File Content Error	The State Hub returns this code in the ServiceSpecificData/ Response Metadata section of the response manifest Schema when there is no manifest file within the ZIP file, file compression is other than .zip, file size is 0 bytes, or if there are unexpected items within the ZIP file such as files within a folder.
SHX005502	Unexpected System Exception	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema in situations when the State Hub accepts a file transmission but incurs an unexpected State Hub error prohibiting the State Hub from communicating with the TDS.
SHX005503	Unable to Connect to the Local Agency System	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema in situations when the State Hub is unable to connect to the Local Agency to process the request file. A transaction with this error is retriable, the Requester shall retry when the Local Agency connectivity is established.
SHX005505	Requested file not retrieved	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema in situation when the TDS does not retrieve the request file.
SHX005506	Maximum response time reached	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema in situation when the maximum response time has reached.
SHX005507	File validation error at TDS.	The State Hub returns this code in the ServiceSpecificData/ResponseMetadata section of the response manifest Schema in situation when the file does not comply with the TDS validation process.

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Response Manifest File

The SDSH populates the Hacienda response manifest Schema to return responses from the TDS to MEDITI 3G.

Response Manifest File Naming

The response manifest filename is manifest.xml.

Response Manifest Data Elements

Figure 12: Response Manifest Data Elements lists and defines the response data elements in the manifest Schema the SDSH sends to MEDITI 3G. These data elements identify the attributes of the bulk file the SDSH returns to MEDITI 3G's IL.

Response Manifest
Data Elements.xlsx
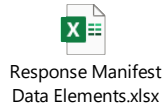
Figure 12: Response Manifest Data Elements

Response Manifest Response Codes

Table 9: State Hub to Requester Manifest Response Codes presents the file-level ResponseCodes the TDS returns to the SDSH and the SDSH translates and forwards to MEDITI 3G in the manifest Schema. In these situations, the BatchCategoryCode also populates to categorize the response type. The SDSH returns the file-level ResponseCode in the ServiceSpecificData/ResponseMetadata section of the manifest response Schema.

Table 9: State Hub to Requester Manifest Response Codes

ResponseCode	ResponseDescriptionText	BatchCategoryCode
SHE005009	File Record Count Invalid Note: This response returns when the record count in the request manifest Schema does not match the actual record count within the Hacienda file. The Local Interface expects the Requester to correct the condition and resubmit the file with a new BatchID.	HACIENDA_FILE_REJECTED_RESP
SHE005011	Unexpected Response Code Note: In these situations, the TDSResponseDescriptionText field describes the condition; the code the State Hub returns appends to the ResponseDescriptionText.	HACIENDA_FILE_REJECTED_RESP

ResponseCode	ResponseDescriptionText	BatchCategoryCode
SHS000000	Success	HACIENDA_RESP Note: Record level errors shall exist within the file responses; however, since the TDS data is used to produce a file for the State Hub to return to the Requester, the result is Success. Note: Hacienda request and response record counts always match.
SHX005502	Unexpected System Exception Note: This condition can occur for an Hacienda file containing null or spaces in required fields. The Team expects the Requester to correct the condition and resubmit the file with a new BatchID.	HACIENDA_FILE_REJECTED_RESP
SHX005504	Partial Results	HACIENDA_RESP
SHX005507	File validation error at TDS.	HACIENDA_FILE_REJECTED_RESP
SHX003001	Unexpected Exception Occurred at Trusted Data Source Note: This condition can occur for an Hacienda file containing disallowed XML 1.0 characters or if the file is not prettyprinted (properly formatted) XML 1.0. The Local Interface expects the Requester to correct the condition and resubmit the file with a new BatchID.	HACIENDA_FILE_REJECTED_RESP

The TDS includes a response file in responses with a BatchCategoryCode of HACIENDA_RESP. In these cases, there may be errors within the file that the TDS returns.

However, the TDS was able to process the request file and return a response file to MEDITI 3G's IL. The FILE_REJECTED BatchCategoryCodes indicates the TDS was not able to process the file.

Response Manifest Batch Category Codes

The Hacienda service uses BatchCategoryCodes in conjunction with ResponseCodes to categorize responses.

Table 10: Summary for Hacienda Response BatchCategory Codes provides a consolidated list of BatchCategoryCodes and notes to describe expected actions and requirements for each Hacienda response BatchCategoryCode.

Table 10: Summary for Hacienda Response BatchCategory Codes

BatchCategoryCode	Notes
HACIENDA_NACK_RESP	Returned if there is any error related to processing the Hacienda file in the Local Agency. No attachment with response See **Error! Reference source not found.** for ResponseCodes examples.
HACIENDA_RESP	Attachment returned with response ResponseCode in manifest SHS000000

Request/Response Message Format

Figure 13: Hacienda Manifest Request/Response Manifest Schema contains the Hacienda Batch Service manifest XML Schemas for submitting and receiving files. The samples in each ZIP file display examples of manifest Schemas. The source of this zip file is the Hacienda Batch Participant Information ICD version 1.0.

Hacienda Request and Response Manifest Schemas v1.0.zip

Figure 13: Hacienda Manifest Request/Response Manifest Schema

Requirements for Hacienda

This section presents the requirements for the interaction between MEDITI3G and Hacienda agency information service.

It covers the maximum file size for each Hacienda-destined request file. It also covers the business process for when a response is received from the SDSH.

Assumptions

The following assumptions are to be considered for the information being sent to the SDSH:

SSN format has been previously validated in the intake process based on the guidelines provided by the SSA Composite Interface BSD.

First Name and Last Name 1 are sent to the SDSH without any spaces in each data element, numbers, hyphens, slashes or any other special characters. Only alpha characters will be accepted.

MEDITI3G shall prepare the Hacienda-destined file to ensure the Extensible Markup Language (XML) payload validates to the specifications of the Hacienda-provided Schema. (see Section 0 Hacienda File Layout).

The SDSH validates the Hacienda file against the request manifest Schema and performs file Schema validations to ensure the State Hub can proceed with the request for Hacienda.

MEDITI 3G is responsible for preparing Hacienda-destined content files correctly and for populating request manifest Schema according to the specifications provided in the Hacienda Batch Participant Information ICD v2.1 (dated 07/2022).

The Hacienda Batch Environment shall be available 24 hours a day, 7 days a week.

Additional assumptions for the interactions between the State Hub and the TDS are identified in the Wovenware Labor Batch Participant Information ICD.

Constraints

The following constraints apply to the interactions between MEDITI 3G and the SDSH:

> The response codes returned by the SDSH will drive the processing actions taken by MEDITI 3G system. For more information see Section 6.2.5 General Processing Steps.

SDSH requires properly formatted XML payloads for Hacienda-destined files.

The maximum file size limit for a Hacienda request file inside the ZIP file is 104,857,600 bytes (100 megabytes), which is roughly 125,000 individual requests.

The Federal Hub implements NIEM 2.0 and has not indicated if and when they would upgrade. Since newer versions are not backward compatible with older versions, the State Hub and the Local Interfaces shall also use NIEM 2.0.

The maximum response time for batch, shall be nine (9) calendar days.

Only one (1) request file can be sent to Hacienda at a time.

MEDITI3G must wait until the response is provided by Hacienda on a previous request file prior to sending a new request file.

Additional constraints for the interactions between the State Hub and the TDS are identified in the Wovenware Labor Batch Participant Information ICD.

Reasonable Compatibility

Reasonable Compatibility refers to an allowable difference or discrepancy between the benefit income an applicant self attests and the amount of benefit income reported by an electronic data source.

The attestation and data source are considered "reasonably compatible" if they are both below, equal to, or above the eligibility threshold, even if the amount of benefit income in the attestation is different from the amount provided in the response from the electronic data source.

The CMS guideline recommends reasonable compatibility threshold to 10% variation and is what PRMP agreed to use.

Trigger Points

The SDSH validates the Hacienda file against the request manifest Schema and performs file Schema validations to ensure the SDSH can proceed with the request to Hacienda database.

If any validation fails or the SDSH incurs an exception when transforming the XML file, the SDSH rejects the Hacienda-destined file.

The SDSH does not store the file and returns an error to MEDITI3G by zipping the **LABOR_NACK_RESP** nack.xml manifest file with an SFTP-compliant filename and placing it in MEDITI3G-designated SFTP Outbound (Response) Folder for MEDITI3G to retrieve.

For more information, refer to step 9 in the 0 Hacienda Batch Request Process Flow.

If the file and request manifest Schema pass validation, the SDSH sends the Hacienda-destined file in XML file format to Hacienda.

Alternate Trigger Point

There is no alternate trigger point since the Hacienda Batch service does not retry to create the XML file or validate again the manifest/TDS file.

The process should continue as defined in 0 Hacienda Batch Request Process Flow.

General Processing Steps

Figure 14: Hacienda Batch Interface General Processing Steps outlines the full process that is completed monthly to verify the information and receive a response from Hacienda. It continues the steps that are completed as part of the initial exchange of information through the SDSH as described in Figure 8: Hacienda Batch Request Flow.
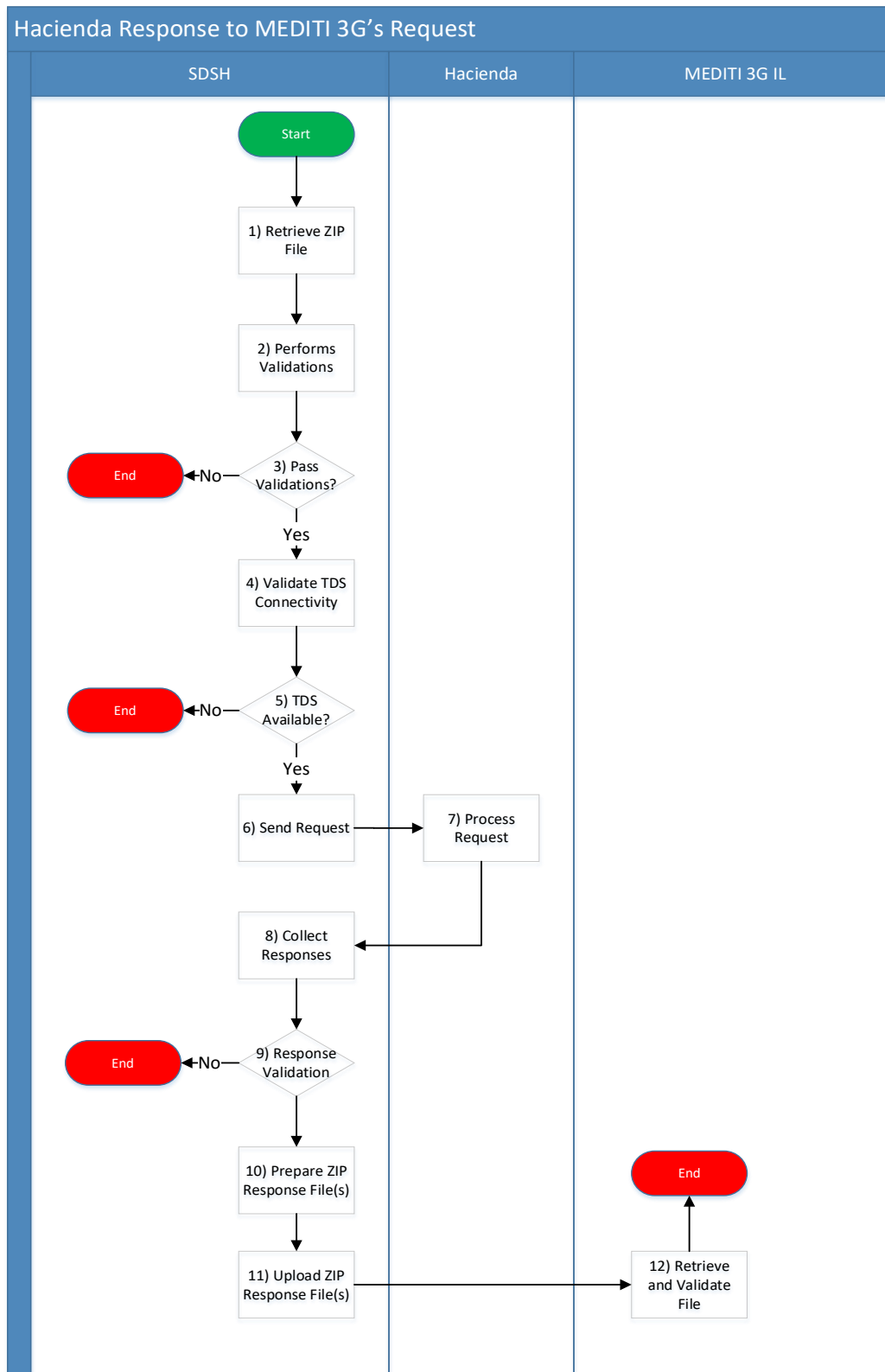
Figure 14: Hacienda Batch Interface General Processing Steps

Start

The process starts once the ZIP file from MEDITI3G is uploaded to the designated SFTP folder.

Retrieve ZIP File

The MEDITI3G IL deposits the PGP encrypted ZIP file containing the batch requests to the Hacienda System in the State Hub SFTP server. The SFTP server encrypts the file right after the upload is completed.

The SDSH detects that a new file has been deposited in the SFTP and will proceed to decrypt the file using the PGP private key. After this step is executed the decrypted ZIP file is decompressed.

Perform Validations

The manifest file is read and validated, as well as the Hacienda request file. The Hacienda batch request file is an XML 1.0 format file it is then validated with NIEM 2.0 standards.

Pass Validations?

Decision: based on the outcome of the second step the following paths are taken:

If the file has passed the validations, then the process continues as defined in step 4.

If the interface detects an error in validation or the file does not meet the NIEM 2.0 Standards, then a NACK file is sent to the Requestor System. The process ends and the next steps are as defined in Figure 6: Request Process Flow.

Validate TDS Connectivity

The Local Interface shall check if the Local Agency System is available.

TDS Available

Decision: based on the outcome of the connectivity test done in step 4 the following steps will be followed:

If the connection to the Local Agency is not established within twenty-four (24) hours, the local interface shall stop the batch transaction and the partial results available are returned. If there are no partial results available, a NACK file is returned. The process ends and the next steps are as defined in Figure 6: Request Process Flow.

If the connection is established the process will continue as defined in step 6.

Send Request

The validated Hacienda requests are segmented into groups of thousand (1,000) and sent to the local agency system.

Process Request

Hacienda will work on the requests received and send a response to the State Hub.

Collect Responses

The responses are collected until all the requests has been made to the local agency system and the responses has been received.

Response Validation

Decision: Based on the following validations the process will continue as defined:

If the Local Interface receives 20% (of the complete batch) or more sequential errors, or reaches the maximum response time, the batch transaction is stopped and the partial results available are returned. If there no partial results available, a NACK file is sent. The process ends and the next steps are as defined in Figure 6: Request Process Flow.

If the validations are complete and there are no errors in the validations, the process will continue as defined in step 10.

Prepare ZIP Response File(s)

The response manifest file is generated, and the files are compressed. This compressed file is encrypted with PGP.

Each response ZIP file will contain one manifest response file and one Hacienda response file. If based on the record limit constraint more than one ZIP file should be produced, the State Hub will upload all these ZIP files.

Upload ZIP Response File(s)

The resulting file is placed in the State Hub SFTP Outbound folder where the file is encrypted while the file is at rest in the server.

Retrieve and Validate File

The MEDITI3G IL retrieves and deletes the response file from the Outbound SFTP folder.

End

The process of retrieving the file is completed and further steps are followed as defined in section 0

Request Pre-Conditions

The following pre-conditions should be met before the ZIP file can be sent to the SDSH. These pre-conditions consider technical transformations as well as integrity checks in order to prevent errors associated to the validation and integrity of the file on the SDSH side.

Transmission Pre-Conditions

The following conditions should be met before the request is sent to the Hacienda Service:

Request must be according to the predefined schema. *See 0 Hacienda File* Layout*.*

Identical data in a file is not being resubmitted to the SDSH unless the maximum response time has been passed.

Technical Transformations

For the Hacienda interface be able to validate the beneficiary information, it needs to be in the format acceptable by Hacienda. The following steps are followed to transform the data before it is sent to the State Hub:

PersonGivenName:

Remove all special characters and periods.

Example, O'NEILL becomes ONEILL

Replace all diacritical marks.

- Spanish letters such as (ñ, ü, á, é, í, ó, ú) will be translated to English alphabet (ñ = n, ü = u, á = a, é = e, í = i, ó = o, ú = u)

- Example, MARTÍN becomes MARTIN

PersonSurName:

Remove all special characters and periods.

Example, O'NEILL becomes ONEILL

Replace all diacritical marks.

- Spanish letters such as (ñ, ü, á, é, í, ó, ú) will be translated to English alphabet (ñ = n, ü = u, á = a, é = e, í = i, ó = o, ú = u)

- Example, MARTÍN becomes MARTIN

Date:

- MEDITI3G will convert the date format to the interface acceptable format which is CCYY-MM-DD.

Post technical transformation if the value to be send in request file is not valid for SSN, Date of Birth OR is NULL First Name, Last Name then they will be defaulted as per details below:

First Name: "desconocida"
Last Name: "desconocida"
SSN: '999999999'
Date Of Birth: '01/01/0001'

Create Hacienda request files

The naming convention of the DOL request file should be as follows:

AGENCYNAME_INTERFACE_REQUEST_DATETIME.Extension

AGENCYNAME: HACIENDA
INTERFACE: BPII
REQUEST: REQUEST
DATETIME: filename format must be yyyyMMdd'T'HHmmssSSS'Z'

The value of DATETIME should be the same of the BATCHID timestamp

Any colons (:) should be removed from the File Creation Timestamp portion of the filename.

Extension: .xml

Example of HACIENDA Request File:

HACIENDA_BPII_REQUEST_ 20210430T0046131174.xml

Response Processing

Once the IL detects that the SDSH response file is available in the SFTP location it will collect the file, extract the corresponding files and populate the inbound staging tables. Further details on this processing are described in the below sub-sections.

Review Response File

Once the SDSH sends the ZIP file to the outbound SFTP folder, the IL will collect the response, unpack the file, transform the data and populate the inbound staging tables. The response manifest file will be analyzed and processed as follows:

If the field "TransmissionAttachmentQuantity" in the response manifest file is different than "0" and the response BatchID is the same as the request BatchID, the IL will proceed with the following steps and detailed scenarios to verify the information for renewals.

Otherwise, the process will continue as defined in step 3 of the Response process flow in section 6.2.7.2 Hacienda Response Process Flow.

Hacienda Response Process Flow

Figure 15: Hacienda Response Process Flow illustrates the response process flow for when a response is received from the Hacienda through the SDSH. It also covers the expected response and actions from the caseworker once the initial verification and matches of information has been done.

Below are also described with more detailed information each step on the response process.
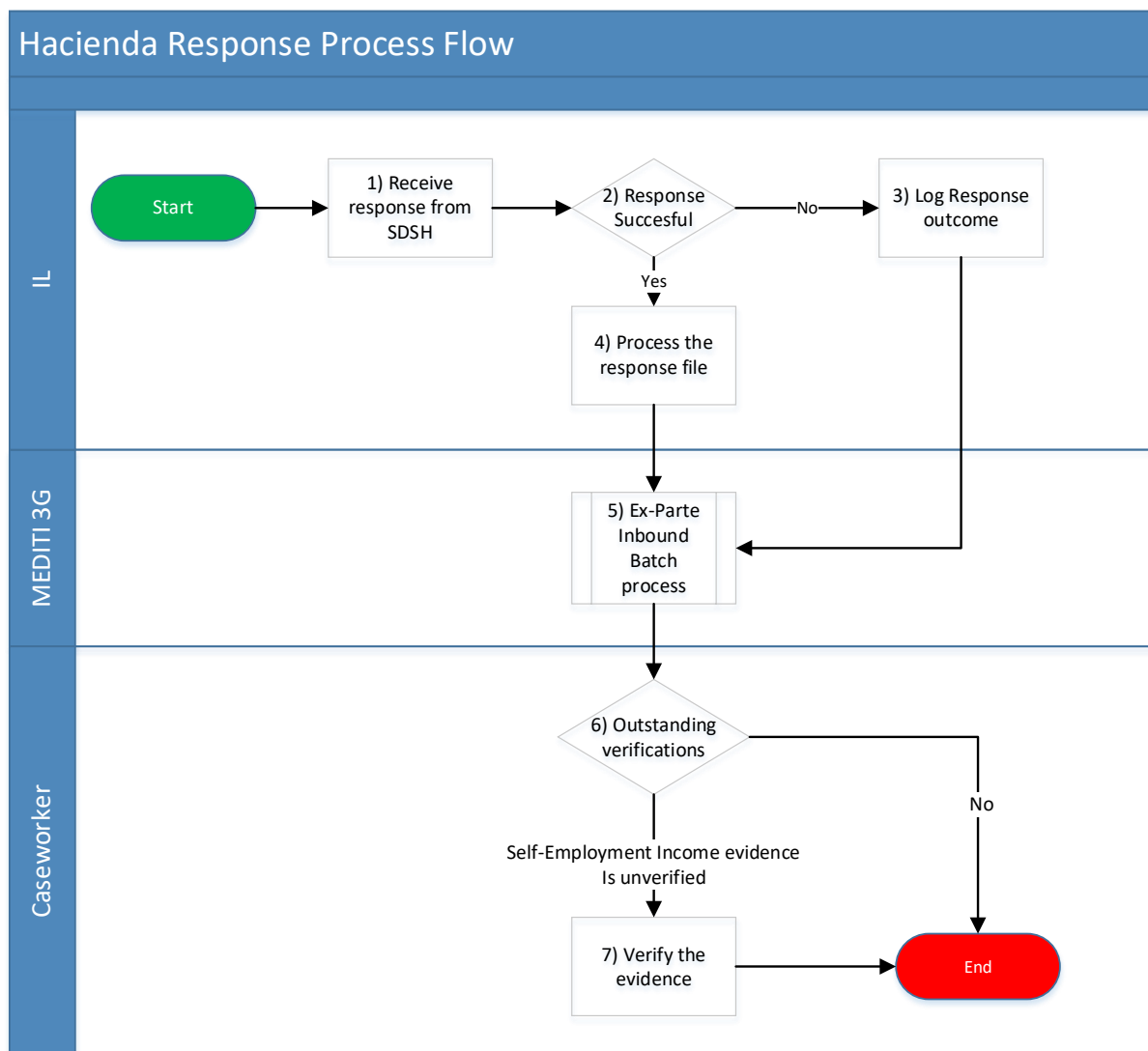
Figure 15: Hacienda Response Process Flow

Process Flow Steps

Receive response from SDSH

Once the IL detects there is a file on the SFTP outbound response folder. It will download it and the unzip file. The IL will then review the response manifest file and the BatchCategoryCode field. Proceed to step 2.

Response Successful

This is a decision path where the BatchCategoryCode is reviewed in the response manifest file in order to determine the next steps.

If the BatchCategoryCode is "HACIENDA_NACK_RESP" then there was an error processing the Hacienda file from the TDS. Therefore, no file will be returned from the SDSH. Proceed to step 3.

If the BatchCategoryCode is "HACIENDA_RESP" then it was a successful response, and a file is included in the ZIP file for MEDITI3G to process. Proceed with step 4.

Log Response outcome

The reasons why a file could be rejected from the TDS are detailed in Table 9: State Hub to Requester Manifest Response Codes.

Once the rejected response and code has been received this will be written out to the logs so that the Technical Support staff can be notified and act upon that to correct it so that the next batch does not have the same error. MEDITI3G will not attempt to send the same file again to the SDSH. The process will continue as defined in step 5.

Process the response file.

After the MEDITI3G IL receive a successful response from Hacienda, first it will match the BatchID from the response to the BatchID request. If it matches, then the IL will load the inbound staging tables.

Ex-Parte Batch Process

The MEDITI3G Ex-Parte Batch process will begin with a review of each response received and match it against the correct beneficiary. After that the processing will continue as defined in the 0 MEDITI3G will use a combination of the applicant's SSN and DOB data elements in the returning Hacienda response file to identify which matches are for which applicants in MEDITI 3G. Following this match, the processing steps outlined in the detailed scenarios below will be completed.

Detailed Scenarios.

As part of this step and as identified in the scenarios, Case Notes may be created as well as entries in the transaction history section.

If it does not match, then MEDITI3G will not verify or use the information provided from Hacienda. Once all the verifications attempts have been done by comparing the information received to the evidence in the application the process will continue as defined in the Renewals FDD.

Outstanding verifications

This is a decision path that depends on the outcome of the Ex-Parte batch process and the attempt to verify the evidences on the application.

If there are no outstanding evidences and all the information has been confirmed, then the application will be renewed for another period of coverage.

If there are outstanding evidences or verifications, then the process will continue to step 7.

Verify the Self-Employment Income evidence

Review the 'Response Code' and 'Local Agency Batch Response Code' in the Hacienda Transaction Results and confirm the applicant's information in MEDITI3G associated to the 'Response Code'.

The caseworker must attempt to verify the individual's Self-Employment income evidence using a different method as per the methods outlined in the 'PRMP State verification plan'

NOTE: Job aid(s) will provide additional information.

Tech Notes: This process step is associated to the scenarios described in the 0 MEDITI3G will use a combination of the applicant's SSN and DOB data elements in the returning Hacienda response file to identify which matches are for which applicants in MEDITI 3G. Following this match, the processing steps outlined in the detailed scenarios below will be completed.

Detailed Scenarios*.*

Hacienda Response File Naming Convention

The naming convention of the Hacienda response file should be as follows:

AGENCYNAME_INTERFACE_RESPONSE_DATETIME.Extension

> **AGENCYNAME:** HACIENDA
> **INTERFACE:** BPII
> **RESPONSE:** RESPONSE
> **DATETIME:** filename format must be yyyyMMdd'T'HHmmssSSS'Z'
>
> The value of DATETIME should be the same of the BATCHID timestamp

Any colons (:) should be removed from the File Creation Timestamp portion of the filename.

> **Extension:** .xml

Example of Hacienda Request File:

HACIENDA_BPII_RESPONSE_ 20210430T0046131174.xml

Matching MEDITI3G applicants against response Hacienda file

MEDITI3G will use a combination of the applicant's SSN and DOB data elements in the returning Hacienda response file to identify which matches are for which applicants in MEDITI 3G. Following this match, the processing steps outlined in the detailed scenarios below will be completed.

Detailed Scenarios

Figure 16: Detailed Scenarios presents the Hacienda detailed scenarios that define the actions to be taken once the response is received from Hacienda.

PRMO2818 Hacienda
Batch Scenarios.xlsx

Figure 16: Detailed Scenarios

Transaction Results Notes for Hacienda Batch

When the Hacienda Batch interface is called it may generate Transaction Results Notes based on the Detailed Scenarios. See IDD for more Details

Special Processing

There is no special processing identified or analyzed outside the processing defined in this ICD or on the detailed scenarios.

Interface Processing Time Requirements / Service Availability

SDSH and Hacienda Local Agency Availability

The State Hub is available to send and receive transactions at any time except for State Hub service maintenance windows.

Hacienda Request timeframe

The Hacienda Local Agency shall be available Monday thru Friday from 6:00 am to 8:00 am and from 4:30 pm thru 10:00 pm and shall monitor every day from 8:00 pm to 10:00 pm to check if there is any file pending for processing.

MEDITI 3G will be able to send a Batch request file in the above available time.

Hacienda Response Timeframe

Table 11: Hacienda Response Times presents the expected response time for MEDITI3G to receive a response from the TDS.

Table 11: Hacienda Response Times

TDS	Minimum Response Time	Maximum Response Time
Hacienda	Within 1 (one) hour	Nine (9) calendar days

Processing Times

The execution of this interface is based on batch execution by MEDITI3G's scheduler. This batch is run as per the scheduled frequency and picks up applicants whose benefits are due for recertification. For more information on frequency of the batch, please refer to the Interface Design Document.

MEDITI3G Response Fallback

If MEDITI3G does not receive a response within the maximum time agreed with the TDS, MEDITI3G can send a new request file to the Hacienda Batch Service, if necessary. The State Hub does not differentiate between new and retry requests to Hacienda. If MEDITI3G submits a subsequent request including the same data within the file, MEDITI3G must specify a new BatchID. Regardless of whether the request is new or a retry with a new BatchID, the State Hub processes the request the same way and does not differentiate between the two types of requests (initial or retry).

Hacienda Message Format (or Record Layout) and Required Protocols

Hacienda File Layout

Figure 17: Hacienda Request and Response File Schema contain the XML Schemas MEDITI3G populates for TDS-destined files and XML Schemas that return to MEDITI3G from the TDS via the SDSH.

Hacienda Batch Request and Response Schemas.zip

Figure 17: Hacienda Request and Response File Schema

Data Assembly Characteristics

Reference the file layout file in section 0 Hacienda File Layout.

Field/Element Definition

The following section defines the Hacienda-destined file data elements, and DOL and State Hub Response Codes. This information is what MEDITI3G submits or receives, depending on the circumstance, when using the Hacienda Batch Service.

MEDITI3G Request Data Mapping

Figure 18: Hacienda Batch Request File outlines the composition of the request file, the data elements that are required by Hacienda, how MEDITI3G will populate these elements, and where in the MEDITI3G system the data is stored.

Hacienda Batch
Request Data Element

Figure 18: Hacienda Batch Request File

MEDITI 3G Response Data Mapping

Figure 19: Hacienda Batch Response File outlines the file layout and data elements that is returned by Hacienda, and what data elements MEDITI3G will use to verify evidences in MEDITI3G.

Hacienda Batch
Response Data Eleme

Figure 19: Hacienda Batch Response File

Communication Methods

The following subsections along with Appendix A – Interface Controls outline the communication requirements for all aspects of the communication stack to which both systems participating in the interface shall conform. This includes hand-shake messages, timing of the exchanges, and steps taken to handle errors.

Interface Initiation

This service initiates when the SDSH receives a request to verify all active applicants whose eligibility period is about to end based on the trigger point defined in section 0 Trigger Point.

Flow Control

When a request is triggered there are two level of response codes that the State Hub returns that determines if the call has been successful or not as shown in *Figure 20: Hacienda Response Codes.*

The first level refers to the 'LocalAgencyBatchResponseCode'. This code will return the response code that determines whether the transaction to Hacienda has been successful or not.

The second level refers to the 'ResponseCode'. This level will provide the response code for each of the individual requests for the members that have been included as part of the request to Hacienda.

Depending on the response on each level, a process will be followed by the Local Interface system, to either retry the request or review the technical issues that might be preventing a successful transaction.

For additional information regarding the orchestration of real time interfaces refer to the IDD.
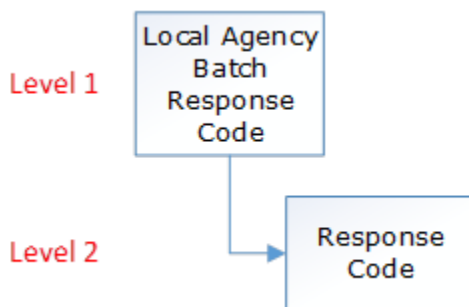
Figure 20: Hacienda Response Codes

Figure 21: Hacienda Flow Control details the flow control and the steps that are followed based on the outcome of the response received for the transaction sent to Hacienda.
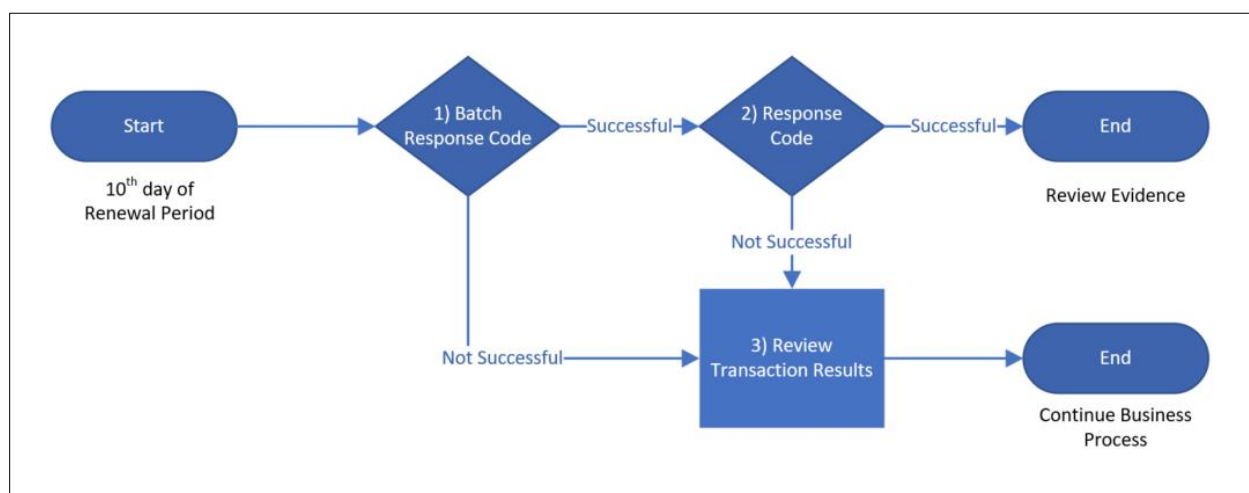
Figure 21: Hacienda Flow Control

Start

The process starts when the application is due for renewal. When a response is received a new external system evidence for Hacienda will be created as well as a transaction record in the Transaction History page in the IC.

Batch Response Code

This decision step refers to the codes returned in the field LocalAgencyBatchResponseCode within the response records on the inbound staging table.

Decision: Proceed to the following step based on the following condition and information in the external system evidence:

If the return code is '0000', then the request was Successful. Proceed with the next step.

If the return code is one of the values in Table 12: ResponseCode: Hacienda System LocalAgencyIndividualResponse/ResponseCode, then the call was not successful. Proceed to step 3.

Table 12: ResponseCode: Hacienda System LocalAgencyIndividualResponse/ResponseCode

| LocalAgencyBatch ResponseCode	Description	Note
0003	Authentication Issues	The process did not complete because of an authentication issue to Hacienda System. A transaction with this error is retriable.
0004	Cannot process request. Not enough resources to process.	The process did not complete because Hacienda System does not have the resources. A transaction with this error is retriable.
0005	Unable to process this request due to an exception in parsing your XML message.	The process shall not complete because an exception occurs trying to parse the XML. **Note**: Request file validation error at the TDS.
0006	Unable to process request because of an internal system error.	The process could not complete because an error occurs internally. A transaction with this error is retriable.
0007	The service is currently busy.	The Hacienda System is having some difficulties executing the process and did not complete since resources are limited. A transaction with this error is retriable.
0009	Cannot process request. Too many operations in progress.	The service is busy processing multiple requests. Requests are currently blocked for resource optimization. A transaction with this error is retriable.
0101	Interface Unavailable	The Interface is not available at the time of request.

LocalAgencyBatchResponseCode	Description	Note
0102	Internal State Hub	An error occurred in the State Hub's internal processing.
0103	Invalid Request Schema	Request validation failed.
0104	Invalid Response Schema	Response validation failed.
9999	Unsuccessful	If the LocalAgencyBatchResponseCode is 9999, no data is returned on the response record. This error is intended when no other code exists to describe an error.

Response Code

This decision step refers to the codes returned in the field ReturnCode within the response records on the inbound staging table.

Decision: Proceed to the following step based on the following condition and information in the external system evidence:

• If the return code is '0000', then the request was Successful, and the process is completed. For additional steps review *section 6.1.3 General Processing Steps*.

• If the return code is one of the values in Table 13: ResponseCode: Hacienda System ResponseCode**Error! Reference source not found.**, then the call was successful, but no values were returned. Proceed to step 3.

Table 13: ResponseCode: Hacienda System ResponseCode

LocalAgencyIndividualResponse /ResponseCode	Description	Note
9999	Unsuccessful	If the ResponseCode is 9999, no data is returned on the response record. This error is intended when no other code exists to describe an error.
0001	More than one record found.	The lookup found more than one match. The interface just supports one return for each participant information request.
0002	Record not found.	The lookup does not find a match with the participant information provided in the request.
0010	SSN does not exist.	This error occurs when there is no match at the agency by the supplied SSN.

0011	SSN exists, but no match on the Name or DOB.	This error occurs when there is a match at the agency by the supplied SSN, but the Name and DOB do not match the supplied one on the request file.
0012	SSN exists, match on the Name but not on the DOB.	This error occurs when there is a match at the agency by the supplied SSN and Name, but the DOB does not match the supplied one on the request file.
0013	SSN exists, match on the DOB but not on the Name.	This error occurs when there is a match at the agency by the supplied SSN and DOB, but the Name does not match the supplied one on the request file.
0050	Unprocessed	This error occurs when the Local Interface is unable to communicate with the Local Agency and the individual request was not sent to the Local Agency. This code is used in cases where there are partial results to be returned to the Requester, but the individual request was not sent to the Local Agency because the Local Interface was unable to communicate with the Local Agency. A transaction with this error is retriable. The individual request can be resubmitted "as is" to retry processing, shall cause for not processing the request be addressed.

Review Transaction Results

If value is other than '0000' in the Batch Response Code, then there was a technical failure or an error in the processing of the transaction originated in the State Hub. The caseworker can retry the request and if the same error is occurring then a support ticket will need to be raised for further review.

If value is other an '0000' in the Response Code, then the caseworker will need to review the description of the error and perform the necessary actions to correct the error received.

End

Once the review of the response received from Hacienda is finalized, the caseworker will continue with the business defined process for the scenario that triggered an electronic verification of evidences.

Security Requirements

The Interface will rely on the security of Networks and firewalls configured as per the I.2.2 system architecture document to protect the files created and transferred by this interface. The files created, encrypted, and transferred by this interface contain Personally Identifiable Information (PII) and will be secured in transit and at rest.

For additional details on the security applied to transfers between the component systems see section 0 Security and Integrity.

Qualification Methods

This Hacienda Batch ICD represents the delivery outcome of the evidence validation and interface analysis that has been gathered. Input from Puerto Rico Medicaid Program experts and WovenWare team had been considered for this document during the continue JAD sessions.

Step 1: The Analysis and Inspection phase will be completed by Intervoice. As part of the oversight on behalf of PRMP, Intervoice will analyze and inspect the documents provided in order to provide guidance if the requirements from CMS are met according to federal guidelines and from the Project Manager Office perspective.

Step 2: Following the acceptance of the ICD and relevant documentation the webservice will be developed as per the specifications outlined in this ICD and internal testing will be completed (Unit testing and functional testing) prior to testing in compliance with the project MTS.

Step 3: Testing Phase will commence once Intervoice confirms all the entry criteria defined in the MTS have been met.

Related Documents

Table 14: Related Documents

Document	Reference	Link
Renewal and Redetermination Verification (RRV) Composite (bulk) Business Service Definition (BSD)	Table layouts, error codes, XML Schemas, Data elements requirements	link
Data Integration and Interface Control Document	Master deliverable for all interfaces and content definition for all ICD documents	This is not available yet
MEDITI 3G Glossary	Glossary that serves as a reference document for the Puerto Rico Eligibility & Enrollment (MEDITI 3G). It defines common terms used to describe system components.	Link
i.2.2 System Architecture plan	Master document for information about system architecture	Link

Document	Reference	Link
Renewals FDD	The purpose of the Renewals Functional Design Document (FDD) is to present the design components that outline the process to renew a recipient's 12-month benefit period.	[Link](#)
Hacienda Batch Participant Information ICD v2.0	Table layouts, error codes, XML Schemas, Data elements requirements	[Link](#)
Hacienda Batch High Level Design Document v2.0	High Level Design Document for Hacienda Batch interface	[Link](#)

Requirements Matrix

For requirement traceability purposes, the following requirements are met and mapped to this design document.

Table 15: Requirements Matrix

Requirement Number	Requirement Description	Fit-Gap	Implementation Details
G7-IL-024	The Solution shall include an interface with the Departamento de Hacienda (Puerto Rico Revenue Service).	Gap	Met Modify system to be able to interface with the Departamento de Hacienda(Puerto Rico Revenue Service).

Issue Register

No issues have been identified at the time of documenting this ICD.

Appendix A – Interface Controls

Table 16: OSI Application Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
MEDITI 3G System	MEDITI 3G	Federal Data Hub	SSH and FTP (the two components that make up sftp) both live on the application layer and are responsible for encryption and	

Interface Type	Interface From	Interface To	Description of Interface	Other Information
			decryption of information being transferred.	

Table 17: OSI Presentation Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
Translation from network format to application format	MEDITI 3G	Federal Data Hub	This layer is passthrough	

Table 18: OSI Session Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
Establishing session	MEDITI 3G	Federal Data Hub	This layer is passthrough	

Table 19: OSI Transport Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
Web Service	MEDITI 3G	Federal Data Hub	A raw web socket is used by SSH and FTP	

Table 20: OSI Network Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
Web Service	MEDITI 3G	Federal Data Hub	Interface communication will user regular internet protocol (TCP/IP) for general purpose	

Table 21: OSI Data Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
Web Service	MEDITI 3G	Federal Data Hub	Interface communication will	

Interface Type	Interface From	Interface To	Description of Interface	Other Information
			user regular internet protocol (TCP/IP) for general purpose	

Table 22: OSI Physical Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
Web Service	MEDITI 3G	Federal Data Hub	Interface communication will user regular internet protocol (TCP/IP) for general purpose	