PDD XML Validation and Testing Tool (VTT) User Manual

U.S. Department of Housing and Urban Development (HUD)

Ginnie Mae, Office of Securities Operations (OSO)

V 2.0

Application Details

Application Information	Description
Application Name	PDD XML Validation and Testing Tool
Application Acronym	VTT
Application Developer	Deloitte
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Document History

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1.0	3/9/2021		Ginnie Mae Deloitte	Initial Publication
2.0	3/11/2024		Deloitte	Updates following Ginnie Mae's transition to the PDD and SFPDM for Single Family [Forward] and Manufactured Housing Program pooling

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1   INTRODUCTION

This manual is written for users looking to use Ginnie Mae's Validation and Testing Tool (VTT) in the MyGinnieMae portal. **The purpose of this document is to familiarize users with the VTT and show how users can leverage this tool to efficiently develop and test their business data before submitting to Ginnie Mae.**

A core function of Ginnie Mae's business is the process for Issuers to submit pool and loan data to be assembled and issued as a Ginnie Mae Mortgage-Backed Security (MBS). For single family at issuance pool delivery data, this process is currently initiated by Issuers utilizing the Single Family Pool Delivery Module (SFPDM) application to electronically submit required information, after the transition from the Ginnie*NET* application. Ginnie Mae sought to align with the mortgage industry for submission of its pool and loan data. Accordingly, Ginnie Mae identified an opportunity to move towards a standardized, industry-accepted format for data submission, initially focusing on its single family at issuance pool delivery data.

The Mortgage Industry Standards Maintenance Organization (MISMO), an industry-supported standards development body, has developed a data standard using Extensible Markup Language (XML) for the exchange of mortgage servicing data from loan delivery to investor reporting, thereby creating a holistic view of loan and pool delivery data. Through the integration of MISMO standards into their business processes, Ginnie Mae seeks to promote a common platform for data exchange between its business partners while using these standards as guidance to improve the accuracy, consistency, and quality of the data using a common set of business terms and definitions.

Ginnie Mae has leveraged the MISMO standard to create the Pool Delivery Dataset (PDD). The PDD is based on the MISMO Version 3.3 Residential Specifications Reference Model. This dataset currently only encompasses data submitted for single family forward pools at issuance. A key aspect of implementing the PDD using the MISMO standard required a technical transition from the use of flat files for single family data transmission in the Ginnie*NET* application to the use of XML files via the SFPDM. Pool and loan data are currently submitted using PDD XML files or manual data entry. Ginnie Mae completed the transition of Single Family [Forward] and Manufactured Housing Program pooling from Ginnie*NET* to SFPDM in MyGinnieMae on December 1, 2023. Details regarding this milestone can be found in Modernization Bulletin No. 32 on GinnieMae.gov.

The VTT is a component of the SFPDM that allows earlier and independent validation of the PDD. The VTT provides a user with the opportunity to upload the PDD, perform validations, and view the results.

Please note that successfully submitting a PDD through VTT is not required before submitting pools through SFPDM. However, VTT will help as users adopt and create the PDD file format, better positioning users to be successful in using SFPDM.

1.1   Application Overview

1.1.1   Features

The VTT runs a series of validation checks to provide users valuable feedback on the state of their PDD. The tool provides errors and warnings to ensure the user is aware of any current issues their file contains.

The validations are separated into two steps: **Structural Validations and Business Rule Validations.** The data submitted in the PDD to the VTT will not be automatically migrated to SFPDM for pool delivery; to submit the PDD through SFPDM, the user will need to upload or enter pool details directly into SFPDM. Upon completion of the validation in VTT, all pool and loan data are purged. The core validation steps the VTT performs are shown in **Table 1.1** below.

Component	Input	Process Description	Output / Post-Condition
Step 1: XML Structural Validation	User Submitted ZIP file	Validate PDD against XML Schema Definition (XSD) as noted in the PDD Implementation Guide: Appendix E	Alert to User for successful completion OR Table of Structural Validation results (exportable)
Step 2: Business Rule Validation	XML Schema/Structural Validated PDD File	Validate PDD data against Ginnie Mae's Business Rules / Edits	Alert to User for successful completion OR Table of Business Rule Validation results (exportable) OR Alert to User for successful completion with Warnings (exportable)

Table 1.1 Core Validation and Testing Tool Features

Please Note: The PDD Validation and Testing Tool (VTT) will result in slightly different results than when uploading the same files to the Single Family Pool Delivery Module (SFPDM). The VTT does <u>not</u> perform cross-checks on the following business data shown below:

- eNote Indicator
    - *For eIssuers*, eNote Indicator must be provided as 'true' or 'false'
    - *For non-eIssuers*, eNote Indicator must be 'false' if provided
- Assigned or available Pool Identifier
- Bank Account information
- Consolidated Pool Identifier
- Consolidated Pool Security Interest Rate
- Consolidated Pool UPB
- Document Custodian ID
- Issuer ID
- Pool Employer Identification Number
- Subservicer information

1.1.2 Configuration

The VTT is a web-based application and can be accessed through the MyGinnieMae Portal. The user will need to meet the minimum system and browser requirements necessary to access the MyGinnieMae Portal as well as log-in credentials with the appropriate user role to access the VTT.

1.1.3 Data Flows

The high-level flow of the VTT is shown in the figure below. The flow begins with a user uploading data. Next, XML

structural validations are performed on the file, and the initial validation results are shown. If the file passes the first set of validations, Business Rule validations can be performed. Once the results are available, the user is notified and can
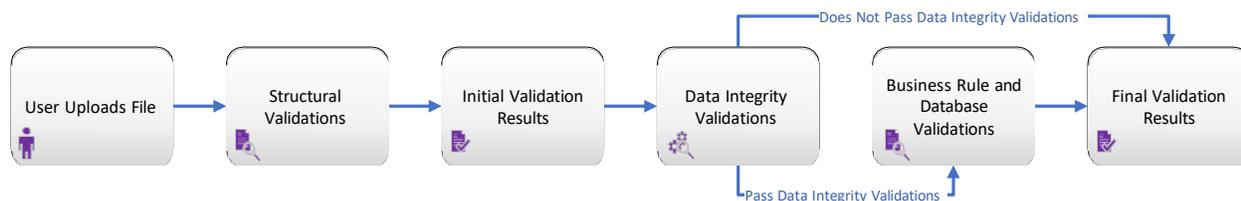
view the results.

Figure 1.1 High Level Data Flow

A more detailed flow of the data can be seen in **Figure 1.2** below. This figure further depicts the process if there are errors found during validations. Specifically, it outlines the route that the user takes to fix the errors after a validation results report is generated. After the user receives the results report and fixes necessary errors, the corrected XML file must be uploaded into the system again from the initial screen, regardless of the validation step at which the errors were found. The detailed data flow illustrates each of the paths that the user may follow as determined by the validation step at which errors are found. The user steps, shown in blue and requiring user input, are defined below:

- **User Uploads File:** The user uploads the file to the initial VTT screen as explained in the Structural Validation of Submission Files section.

- **User Fixes Structural Errors:** After receiving the validation results report for file structure, the user fixes the given errors as explained in the Structural Validation Results section.

- **Decision— Proceed to Business Rule Validations:** The user decides if there is a need to continue to Business Rule validations or if it is only necessary to successfully complete structural validations at this point.

- **User Fixes Business Rule or Data Integrity Errors:** After receiving the validation results report for Business Rule or Data Integrity validations, the user fixes the given errors as explained in the Business Rule Validation Results section.
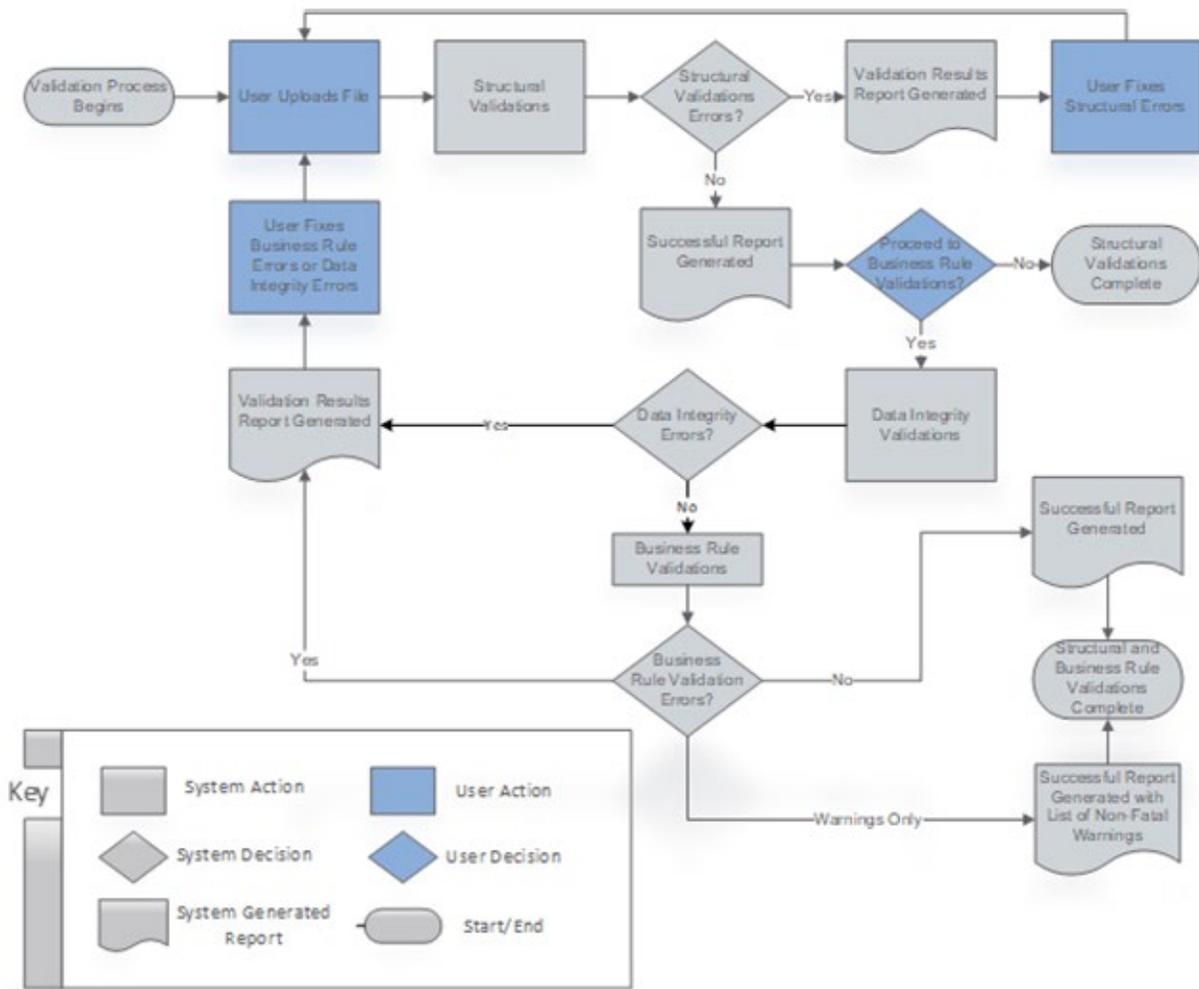
Figure 1.2 Detailed Data Flow

1.2   Contingencies and Alternate Modes of Operation

The web and content servers in the production environment are replicated on the Disaster Recovery Environment. If an alternate mode of operation is necessary, the Disaster Recovery Environment can be designated as an interim Production Environment.

1.3   Security Protocols

Refer to *Section 1.2: Security Protocols* of the MyGinnieMae Portal Getting Started Manual for descriptions of several security features in MyGinnieMae including Multifactor Authentication, Single Sign-On, SecurID Token, Automatic Logout and more.

1.4   Authorized Use/Permission

Refer to *Section 1.2.6: Authorized Use/Permission* of the MyGinnieMae Portal Getting Started Manual for descriptions of MyGinnieMae User Types, including Operations Administrator, Organization Administrator, and End User.

2   SYSTEM PREREQUISITES

Before being granted access to the MyGinnieMae Portal to use the VTT, the user must complete the registration process. Organization Administrators facilitate the registration and access provisioning process within each organization.

Refer to *Section 2: System Prerequisites* of the MyGinnieMae Portal Getting Started Manual for information on web browser compatibility and descriptions of each MyGinnieMae Functional Role.

3   GETTING STARTED

The VTT is available for use through the MyGinnieMae Portal. The sections below outline the necessary information to access MyGinnieMae and begin using the VTT.

3.1   Access Information

Issuer access to the MyGinnieMae portal affords a user with access to the VTT and SFPDM. There are multiple application roles within the SFPDM; however, all users that are granted access to the SFPDM will have the ability to upload and test files in the VTT.

3.2   Logging On to MyGinnieMae

Refer to the Logging into MyGinnieMae & Accessing Business Applications QRC for step-by-step instructions on how to log into the portal or *Section 3.7: Logging into MyGinnieMae* of the MyGinnieMae Portal Getting Started Manual.

3.3   Accessing the Validation and Testing Tool

1. The VTT can be processed from the banner at the top of the page by selecting the "Tools" drop down and choosing "PDD Validation and Testing Tool" under "Applications". This path can be seen in **Figure 3.1**.
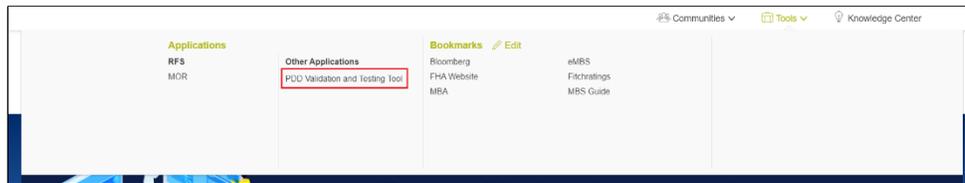

Figure 3.1 Locating the VTT

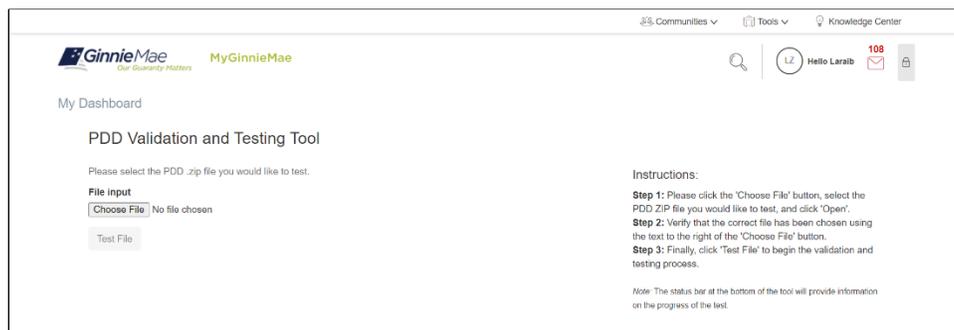2. The VTT Home Screen will appear as shown in **Figure 3.2**.

Figure 3.2 VTT Appearance

3.4   Exiting the Validation and Testing Tool

When exiting the VTT, you may choose to either leave the portal completely or return to My Dashboard in the MyGinnieMae portal to continue working in other Ginnie Mae business applications. To exit the MyGinnieMae Portal at any point during the process, select the small lock icon in the corner of the screen as displayed in **Figure 3.3**.

Figure 3.3 Selecting the Lock Icon

After selecting the lock icon, click "LOG OUT" to end the session, as displayed in **Figure 3.4.**

Figure 3.4 Logging off of MyGinnieMae

Additionally, clicking any other Global header items will take the user to that respective module while still maintaining the user's current MyGinnieMae Portal session. To return to the VTT, the user will need to go through the process defined in Accessing the Validation and Testing Tool.

4   USING THE APPLICATION

4.1   Application Menu

After successfully logging into the MyGinnieMae Portal, the user will be able to interface with the VTT in two ways, which are detailed in the sections below.

4.1.1   PDD Testing in the Validation and Testing Tool

Users can directly access the VTT as outlined in the Accessing the Validation and Testing Tool section to test new or updated PDD files prior to processing in the SFPDM. The first step in this process involves choosing the pool and loan file for testing, selecting the "Test File" button, and then viewing the initial Structural Validation results. After the file has been successfully verified for technical competency, the validation process will continue to ensure the file adheres to Ginnie Mae's Business Rules. Once Business Rule validations are complete, a message indicator will appear on the screen.

Detailed instructions on how to test the file and successfully complete these steps are available in the detailed PDD Testing in the Validation and Testing Tool section.

4.1.2   Reviewing Previous Business Rule Validation Attempts

Previous Business Rule validation results, both successful and unsuccessful, can be accessed via the MyGinnieMae Portal Message Center. Further information on how to access the Message Center can be located in the detailed Reviewing Previous Business Rule Validation Attempts section.

Note: Structural validation results cannot be accessed with this functionality. To view instructions on preserving structural validation results, please refer to the Standard Reports section.

4.2   PDD Testing in the Validation and Testing Tool

The VTT is available for Issuers to test PDD files prior to processing by the SFPDM. Before submitting test files to VTT, note the following prerequisite criteria for your PDD to ensure your test data is properly uploaded:

1.   PDD data must be stored in XML format, stored in a .zip file. Each .zip file can only contain **one** PDD XML file.
2.   Only one .zip file can be uploaded at a time.

The VTT validates uploaded PDD files in a two-step process: first for XML Structural Validation and second for Ginnie Mae's Business Rule Validation. These validations are completed in chronological order and walkthroughs for each are provided in the subsections below.

4.2.1   Structural Validation of Submission Files

This section provides a walkthrough of structural validations beginning with how to select the file through viewing the initial results. The first step begins with the initial VTT home screen shown below. For detailed instructions on how to get to this page, please refer to the Accessing the Validation and Testing Tool section.

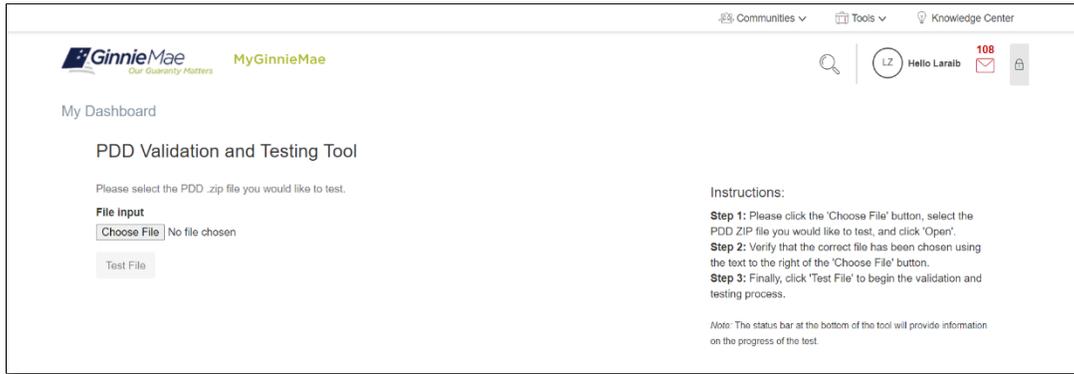1. Select "Choose File" on the Initial Screen.

Figure 4.1 Selecting Choose File

2. Select the appropriate zipped PDD XML file to test and select "Open" as shown.

Note: XML files must be properly prepared in order to successfully upload to the VTT. Multiple pools may be submitted simultaneously, but they must be submitted within a single XML file compressed into one zip file. Only one zip file can be uploaded at one time.
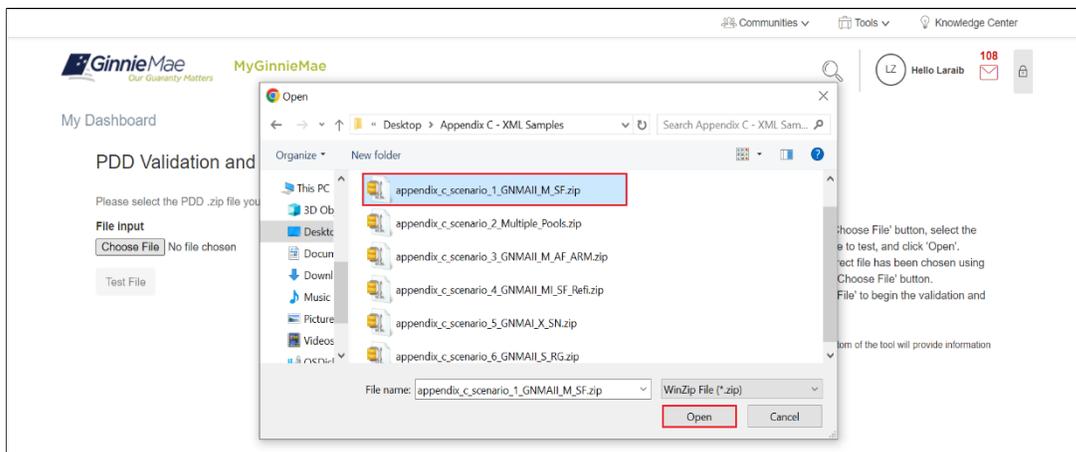

Figure 4.2 Selecting the File

3. Verify that the correct file has been chosen using the text next to the "Choose File" button as shown.

Figure 4.3 Verification of the File

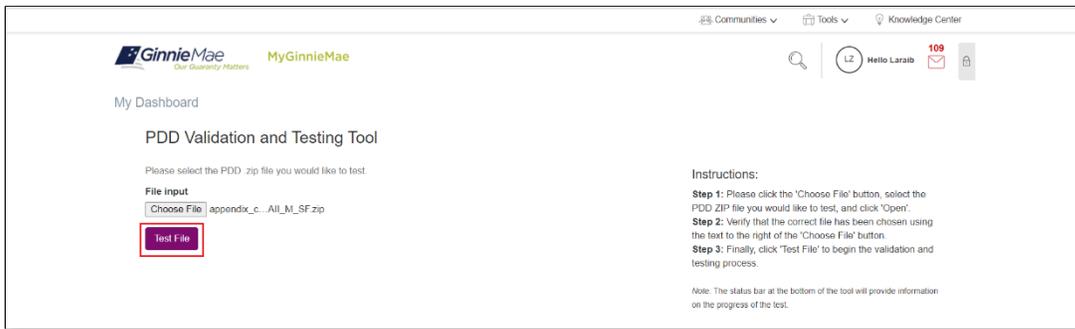4. Select the purple "Test File" button to begin the validation and testing process.

Figure 4.4 Testing the File

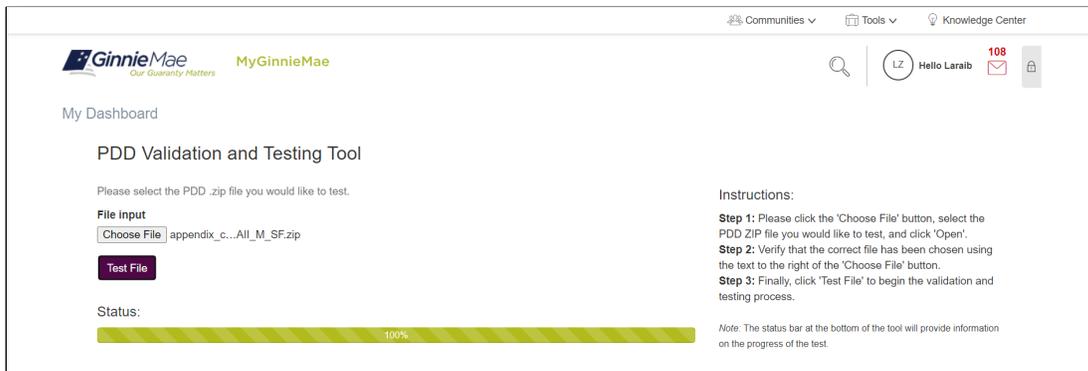5. View the current progress of the file by looking at the status bar displayed on the screen.

Figure 4.5 Viewing Structural Validation Status

6. Upon successful structural validation of the file, the screen shown below will appear. If an error screen appears, please reference the Structural Validation Results section for further instructions.

Figure 4.6 Successful Structural Validation Results

7. To continue to Business Rule validations, select "Continue Validation." Instructions to complete these validations will be continued in the [Business Rule Validation of Submission Files](#) section. The user can also choose to end the validation process after structural validations have been completed by selecting "Exit Validation."

4.2.2 Business Rule Validation of Submission Files

This section provides a walkthrough of the Business Rule validations, which test PDD files to determine if they meet Ginnie Mae's Business Rule requirements.

1. After structural validations have been completed, select "Continue Validation" to continue Business Rule validations on the same file.
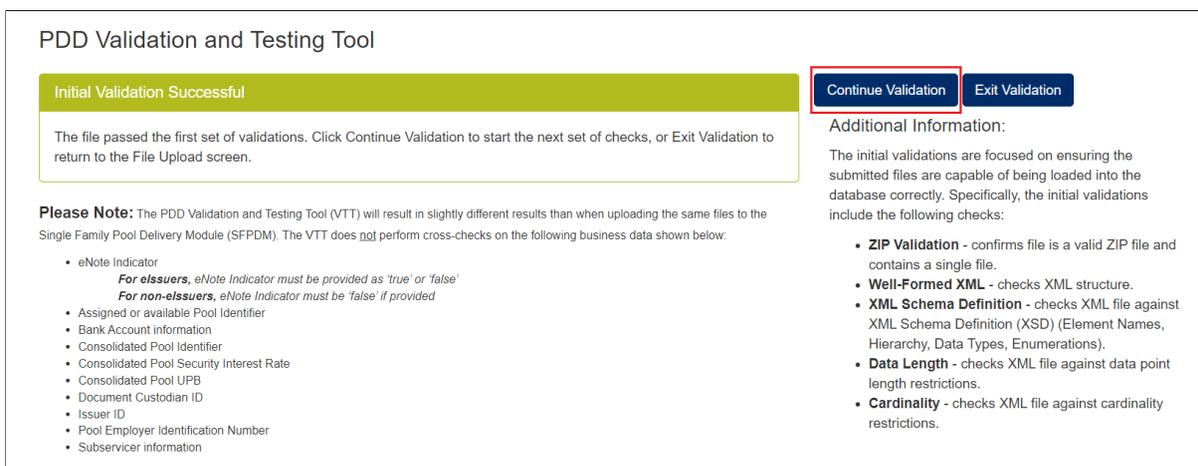

Figure 4.7 Continue Business Rule Validations

2. A banner will appear signifying that the file has been passed on for Business Rule validations. Once the file has continued to Business Rule validations, you can begin structural validations for a new file while awaiting Business Rule validation results.
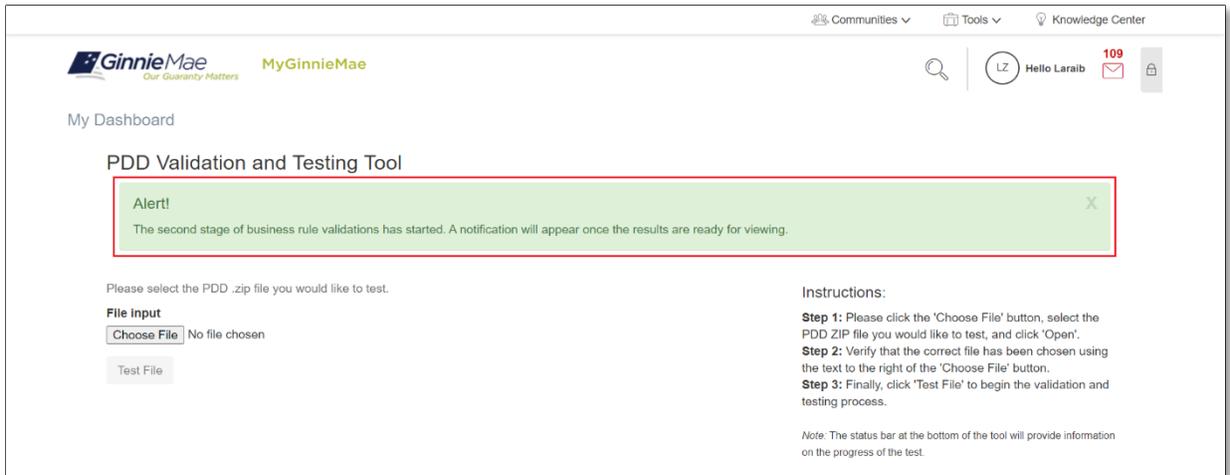
Figure 4.8 File Sent to Business Rule Processing

3. When processing is finished, a message will appear in the message center to signal that processing is complete. Click on the messages icon to access your MyGinnieMae notifications, which will contain your Business Rule Validation results.
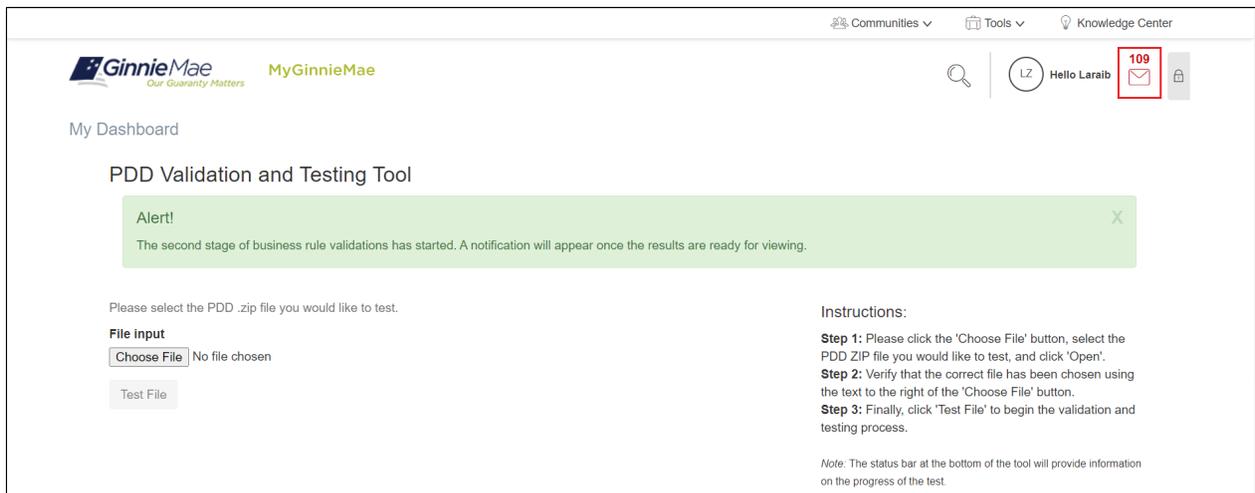

Figure 4.9 Message Indicating Completed Processing

4. Select the validation attempt from your MyGinnieMae notifications drop-down.
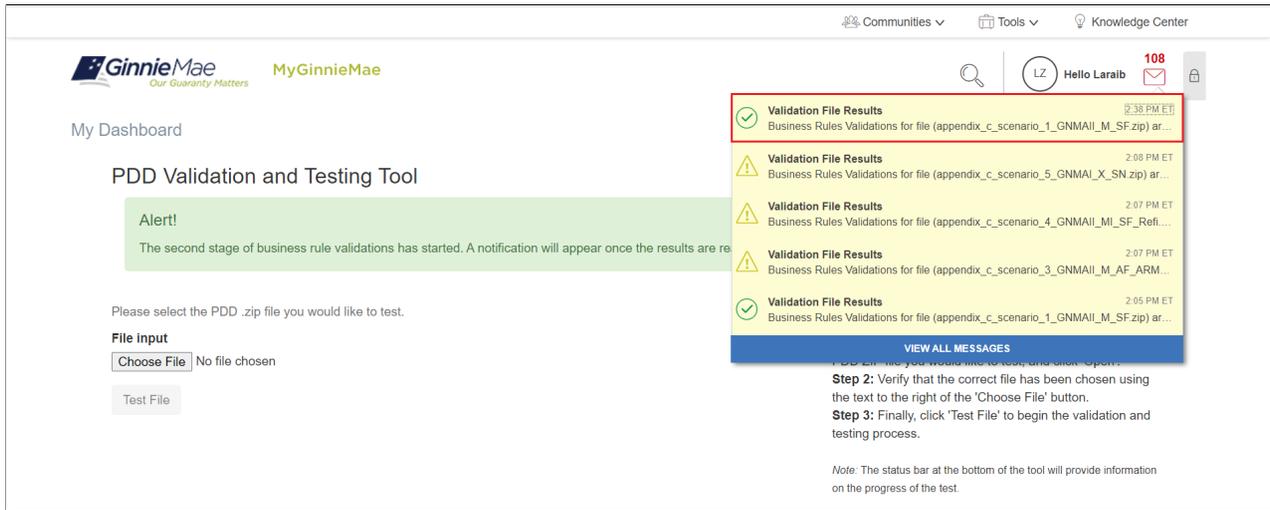
Figure 4.10 View Message Center/Inbox

Note: These results are for a file that passes Business Rule Validations with no Errors or Warnings. The Business Rule Validation Results section contains more information on scenarios in which files do not pass Business Rule Validations.

5. Final Results of the validation attempt are displayed. This concludes the validation process for your PDD.
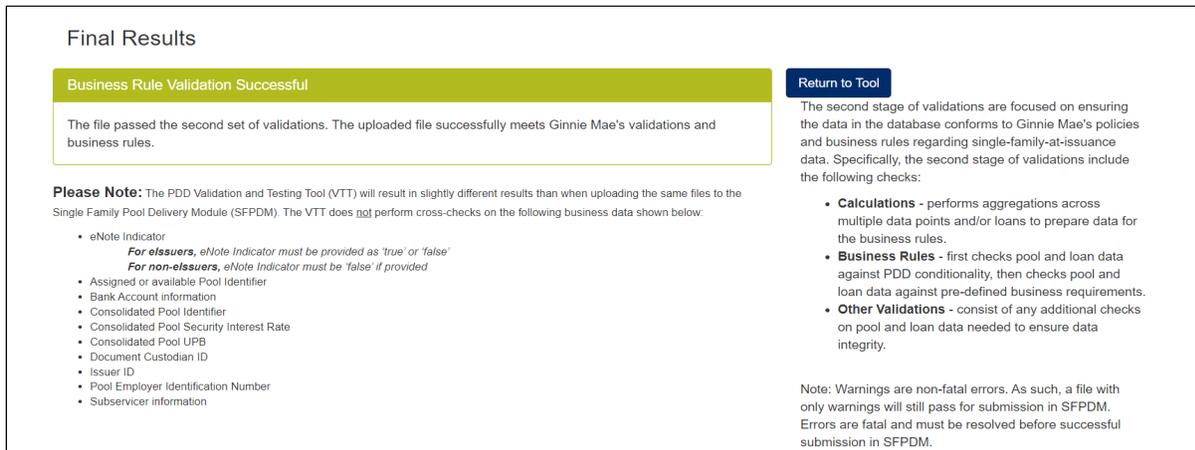

Figure 4.11 View Validation Attempt

4.3   Reviewing Previous Business Rule Validation Attempts

Results from all completed Business Rule Validations, both successful and unsuccessful, are accessible later from your MyGinnieMae Message Center to ensure any user can access both current and previous validation attempts. These messages can be located by selecting "VIEW ALL MESSAGES" from the message toolbar as shown below. This will redirect the user to an inbox with all of the MyGinnieMae messages.
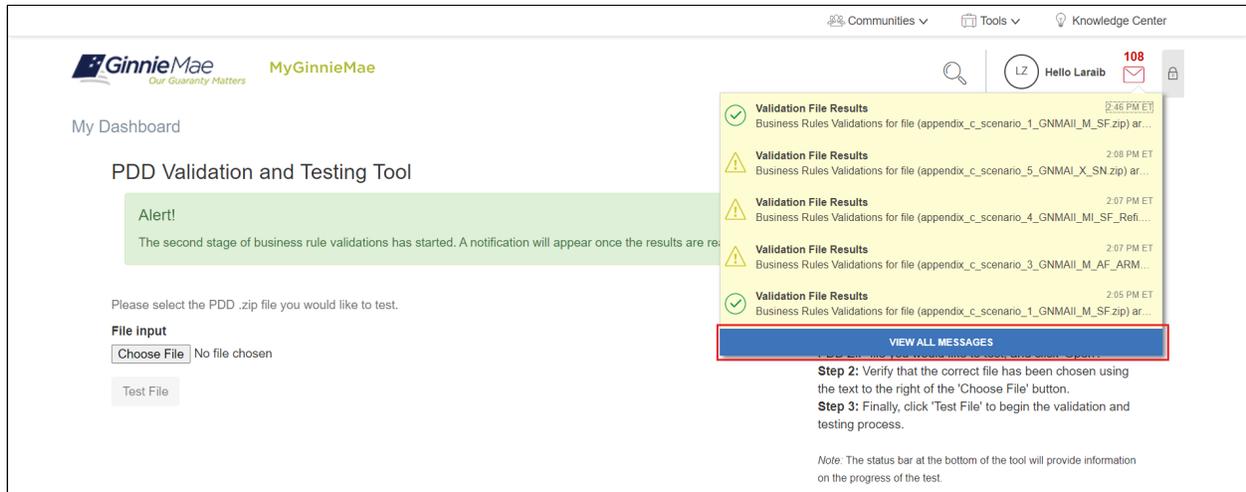

Figure 4.12 View Message Center/Inbox

4.4   Addressing Common PDD Validation Results

The purpose of this section is to help users troubleshoot common errors with their PDD file that the VTT returns during normal processing. For assistance in troubleshooting issues with the VTT system itself, please refer to the Troubleshooting section or reach out to the appropriate resources in the Ginnie Mae Customer Support section. There are a number of errors that may occur throughout the validation process. The VTT helps users find and correct those errors prior to uploading the file to the SFPDM. These errors will likely occur in one of the two validation steps. The error screens are described in detail in the subsections below.

4.4.1   Structural Validation Results

Structural validations will determine the technical compatibility of the XML file by checking it against the XSD. The error screen will appear after Step 5 in the Structural Validation of Submission Files walkthrough. An example of this error screen is shown below. For more information on reporting capabilities, please refer to the Standard Reports section.

Figure 4.13 Structural Validation Results Failure

For solution references to common structural errors, see **Table 4.1** below.

Validation Type	Attribute Tested	Description	Solution
ZIP Validation	ZIP Validation	Confirms the file is a valid ZIP file and contains a single .XML file	Refer to Section 6.10 of the PDD Implementation Guide for compression and submission instructions
XML Schema Definition	XML File Structure	Checks that the XML file is well-formed, following syntax rules and a defined structure	Refer to Appendix E for XML schema definition
	XML Header Information	Checks that the XML file contains information required by the VTT, including the name of the XML Schema Definition (XSD) file used to validate the XML structure	Refer to the sample XML scenarios in Appendix C, and the ComplexTypes.xsd in Appendix E
	Element Names	Checks each data element name for accuracy	Refer to the Appendix D tab entitled "MISMO Data Points" for appropriate container and data point names
	Hierarchy	Validates container and element sequence	Refer to the Appendix D tab entitled "MISMO Data Points" for appropriate XPaths for each data point name
	Data Types	Validates appropriate data type is used for each data point	Refer to the Appendix D tab entitled "MISMO Data Points," Column N titled "PDD Accepted Data Format" for appropriate data point lengths and types
	Enumerations	Validates accuracy of chosen data point against allowable values	Refer to the Appendix D tab entitled "Enumerations" for allowable values
	Data Pattern	Validates data types, lengths, minimums and maximums and their appropriate sequence	Refer to the Appendix D tab entitled "MISMO Data Points," Column N titled "PDD Accepted Data Format" for appropriate data point lengths and types or refer to the results report specifying file line with error; match specified line against acceptable pattern in Appendix E
	Maximum Cardinality	Checks that an element does not exceed the maximum number of occurrences	Refer to the Appendix D tab entitled "Cardinality" to determine the maximum cardinality for each data point

Validation Type	Attribute Tested	Description	Solution
	Minimum Cardinality	Checks that 'Required' elements are provided. For some structures within the data, checks that 'Conditionally Required' are provided when appropriate	Refer to the Appendix D tab entitled "Cardinality" to determine the minimum cardinality for each data point
No Category Provided	Valid XML Character Usage	Ensures that no XML-invalid characters have been entered in the PDD data element values (error indicated by keywords "Unexpected character" in error description)	Refer to Table 4.2 for a list of XML-invalid characters and remove/replace them in the PDD data element values with the listed escape characters to allow them to render properly.

Table 4.1 Solution References to Common Structural Errors

Additionally, see **Table 4.2** below for a list of invalid characters that may not be entered as values in the PDD XML file. If any of these characters need to be included, please use the corresponding equivalent string in the "Valid Replacement" column.

Invalid Character	Valid Replacement
&	&
<	<
>	>
"	"
'	'
XML-Restricted Characters	These are invalid characters and **must be removed** from the PDD. Although they are invisible/blank in the XML document, the corresponding structural validation message returns the offending data element value with a **"¿" symbol** where the XML-restricted character is located, allowing the user to find and delete the character in the XML document.

Table 4.2 List of Invalid Characters in XML Documents

4.4.2   Business Rule Validation Results

Business Rule validations will determine the document's compatibility with Ginnie Mae's Business Rules by running the file against the Business Rule Engine (BRE). Error messages will appear in the message window as shown below. This screen will appear in the sequence that is described in the Business Rule Validation of Submission Files walkthrough.
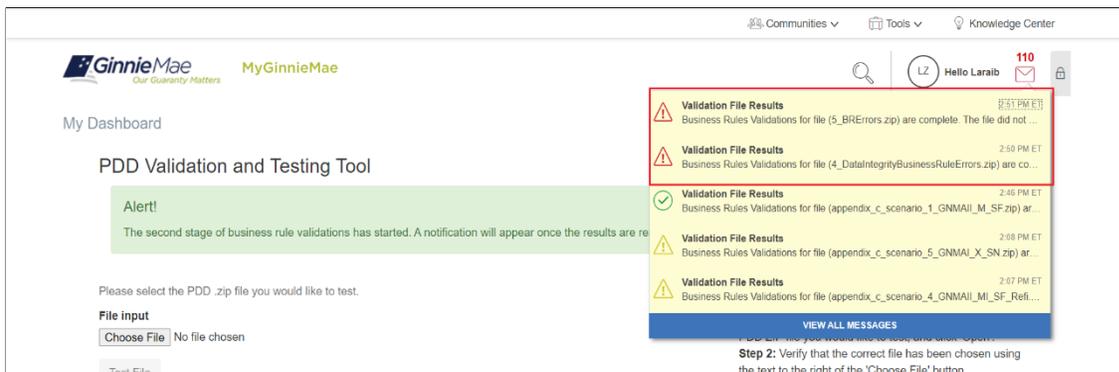

Figure 4.14 Accessing Rule Validation Errors

Note that the BRE can return both Errors (fatal) and Warnings (non-fatal). Although files with any Errors will fail Business Rule validations and return the notification type shown above, files with only Warnings will pass Business Rule validations. In the latter scenario, the VTT will indicate to the user that the file passed, but with warnings.

To ensure that the data submitted will be processed correctly, the VTT performs a series of Data Integrity checks. Therefore, two different types of errors can be returned during Business Rule Validation: **Data Integrity Errors and Business Rule Errors**.

The purpose of Data Integrity checks is to ensure that PDD data is evaluated as the user expects, and that the VTT only returns relevant results to the issuer. **As such, if Data Integrity Errors are found with any loan / pool information in the PDD, the VTT will only return the Data Integrity Errors and skip Business Rule validations for that loan or pool.** Once Data Integrity Errors are resolved for a given loan or pool, the VTT will proceed normally and display the Business Rule errors for the loan / pool, if any.

This functionality works on a *loan-by-loan* and *pool-by-pool* basis, meaning it is possible for some loans or pools in a PDD to pass Data Integrity checks and return Business Rule Errors while others only return Data Integrity Errors. This is illustrated in the figure below, which shows an example VTT error log for a PDD that failed Business Rule Validations. Note that the VTT UI also indicates which errors are Data Integrity errors by referencing their error codes.

Figure 4.15 Business Rule and Data Integrity Validation Errors

For a list of Data Integrity rules that VTT checks the PDD against, refer to the Single Family Pooling Business Rules and Errors Guide on GinnieMae.gov.

For solution references to common Business rule errors, see **Table 4.3** below.

Validation Type	Attribute Tested	Description	Solution Reference
Business Rules	Empty Fields	Checks that all required fields contain values	Refer to the Ginnie Mae Business Rules and Errors Guide to determine which field is missing a value
	Formatting	Checks that a reported value is in the proper format	Refer to the Ginnie Mae Business Rules and Errors Guide to determine the proper format for the conflicting data point
	Validity	Checks that a reported value is valid	Refer to the Ginnie Mae Business Rules and Errors Guide to determine why the data point's value is invalid
	Duplication	Checks that data points which cannot be duplicated are not duplicated	Refer to the Ginnie Mae Business Rules and Errors Guide to determine which data point is improperly duplicated
	Range	Checks that the reported value is within the acceptable range	Refer to the Ginnie Mae Business Rules and Errors Guide to determine the acceptable range for the conflicting data point
	Calculations	Checks that the reported value matches the value calculated from the values of other reported data points	Refer to the Ginnie Mae Business Rules and Errors Guide to determine which data point is improperly reported

Table 4.3 Solution References to Common Business Rule Errors

5   REPORTING

5.1   Standard Reports

The VTT has the ability to export the Validation Results Reports to a comma separated value (CSV) file. This provides the ability to send the results report to other users for file correction purposes.

Validation Results Reports can be exported from either validation stage (1st Round Structural or 2nd Round Business Rule Validation), depending on which validation stage errors were found. The Validation Results Report will contain line by line error information that matches the line items shown in the VTT UI for the given validation stage.

5.2   Standard Report Procedures

The error report can be exported into a CSV file by selecting the "Export to CSV" button, as shown in the figure below. A user will presented with this option in either of the following scenarios:

1.   1st Round Structural Validations are encountered after step 5 of Structural Validation of Submission Files.
2.   2nd Round Business Rule Validations are encountered after step 4 of Business Rule Validation of Submission Files.

Note that while the screenshot shown below displays 2nd Round Validation results, the export function is available for 1st Round Validation results in the same manner.

Figure 5.1 Export File

6   GETTING HELP

This section provides the user with information on where to search for information and resources to assist with their account, navigating the portal and its applications, and troubleshooting issues.

6.1   Troubleshooting System Errors

The VTT is meant to provide error results to help the user create a valid PDD XML file. Additional errors are not expected. Please refer to the Addressing Common PDD Validation Results section for more information on any common PDD errors that occur during normal VTT processing.

If the VTT encounters an unexpected error, or if validation services are not available, users may encounter the message shown in the figure below to alert them of an internal system error. It is also possible that the user does not receive a 2nd round notification at all.

Figure 6.1 Internal System Error Alert

If a user encounters this error message or if a user does not receive a portal notification upon submitting a file successfully to the Business Rule Validation, they should contact Ginnie Mae Customer Support and provide the following information:

1. Their MyGinnieMae User ID

2. Approximate time they received the error (or ran the file that did not return a notification)

3. The file that received the error or that did not return a notification, scrubbed of any Personally Identifiable Information (PII)

6.2   MyGinnieMae Self-Help Tools

Users should first reference the appropriate section of the MyGinnieMae Portal Getting Started Manual for information on creating a user account, requesting functional roles, and managing a user account. Some functions a user may complete without the assistance of a system administrator such as:

- Changing a password every 90 days – [Changing a Password in MyGinnieMae QRC](#)
- Resetting a forgotten password – [Forgot Password in MyGinnieMae QRC](#)
- Updating profile information – [Managing My Profile in MyGinnieMae QRC](#)
- Registering for mobile delivery of the OTP – [Registering with the Oracle Mobile Authenticator QRC](#)
- Troubleshooting Errors in MyGinnieMae – [Troubleshooting and Common Errors in MyGinnieMae QRC](#)

Easy reference tools like [Quick Reference Cards (QRCs)](#) and the Portal Help link at the bottom of each portal page, can be used to help answer common questions. To get more help, users may access the training sessions and materials on the [Modernization Initiatives page](#) under Issuer Training on GinnieMae.gov.

6.3   Organization Administrators

Organization Administrators, formerly known as Security Officers and Enrollment Administrators, are privileged users inside each Ginnie Mae business partner organization that are responsible for creating and managing End User accounts in Ginnie Mae systems on behalf of their organization. Organization Administrators are responsible for the following functions:

- Create an End User Account
- Update Account Attributes such as an RSA Token
- Reset Password
- Add/Remove Functional Roles for an End User Account
- Disable/Enable an End User Account
- Lock/Unlock an End User Account

End Users that need their One-Time PIN (OTP) reset or have questions about how to use portal applications should seek assistance from [Ginnie Mae Customer Support.](#)

6.4   PDD Resources

Resources for the PDD can be found on GinnieMae.gov within the [Modernization Initiatives page](#) under Issuer Training. The resources highlighted below provide information on PDD specifications, which will assist in developing the PDD and interpreting validation results from the VTT:

- Introduction to the PDD – [PDD Implementation Guide](#)
- Details and requirements for PDD data points in PDF format – [PDD Implementation Guide: Appendix A](#)
- PDD example business scenarios – [PDD Implementation Guide: Appendix B](#)
- Example PDD XML files (corresponding to scenarios in Appendix B) – [PDD Implementation Guide: Appendix C](#)
- Data contained within Appendix A, plus legacy information, in Microsoft Excel format – [PDD Implementation Guide: Appendix D](#)
- PDD XML schema and formatting guidance – [PDD Implementation Guide: Appendix E](#)
- Mapping of legacy data points to MISMO compliant PDD data points – [PDD Implementation Guide: Appendix F](#)
- Solution references to errors encountered in the VTT and SFPDM – [Single Family Pooling Business Rules and Errors Guide](#)
- Breakdown of PDD Appendices - [Tips for Leveraging PDD Resources](#)
- Additional PDD guidance – [Frequently Asked Questions (FAQs)](#)

6.5   Ginnie Mae Customer Support

For questions regarding PDD development, help understanding PDD validation errors, or VTT technical support, Ginnie Mae Customer Support may be reached at:

> askGinnieMae@hud.gov
>
> 1-833-GNMA HELP / 1-833-466-2435
> *For support relating to PDD development or using the VTT, please press 2 to reach the Ginnie Mae Issuer Support Hotline. Then, please press 6 to reach a representative.*

6.5.1   Help with System Access

The Operations Administrators for the MyGinnieMae portal may be reached via Ginnie Mae Customer Support. The Operations Administrators are responsible for creating and managing Organization Administrator accounts. The Operations Administrator is not authorized to create or otherwise manage End User accounts for Ginnie Mae business partners but may support Organization Administrators in their role to manage End User accounts on behalf of their organization.

End Users are encouraged to utilize their Organization Administrators, the information found in the MyGinnieMae Portal Getting Started Manual and other Tools and Resources found on GinnieMae.gov. End Users are invited to utilize Ginnie Mae Customer Support for additional guidance and support.

7   APPENDIX

7.1   Functional Role Matrix

Functional Roles are a system access profile based on business activities used to ensure End Users have the appropriate level of access to be able to perform their job functions and responsibilities. Functional roles are grouped and vary by type (refer to the Functional Role Matrix on GinnieMae.gov).

7.2   MyGinnieMae Portal Dictionary

The MyGinnieMae Portal Dictionary on GinnieMae.gov is a reference resource for all portal users. The dictionary contains definitions for terms that provide clarification around portal pages, applications, processes, and general functionality pertaining to the MyGinnieMae portal.

7.3   Acronyms and Abbreviations

Term	Definition
BRE	Business Rule Engine
CSV	Comma Separated Value
MBS	Mortgage-Backed Security
MISMO	Mortgage Industry Standards Maintenance Organization
OTP	One Time Pin
PDD	Pool Delivery Dataset
QRC	Quick Reference Card
SFPDM	Single Family Pool Delivery Module
VTT	Validation and Testing Tool
XML	Extensible Markup Language
XSD	XML Schema Definition

Table 7.1 Application Acronyms and Abbreviations

7.4   References

The table below summarizes the documents or resources referenced in this user manual.

Document Name	Description	Location on GinnieMae.gov
Frequently Asked Questions (FAQs)	Provides additional PDD guidance under "MISMO" Category	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO

Modernization Bulletin No. 32	Describes milestone of successful transition of Single Family [Forward] and Manufactured Housing Program pooling from Ginnie*NET* to SFPDM	Issuers – Program Guidelines – Modernization Bulletins
MyGinnieMae Functional Role Matrix	Lists system access profiles based on business activities for end users	Issuers – Issuer Training – Tools and Resources – Other Aids
MyGinnieMae Portal Dictionary	Contains definitions for terms pertaining to the MyGinnieMae portal	Issuers – Issuer Training – Tools and Resources – Other Aids
MyGinnieMae Portal Getting Started Manual	Provides detailed information on using the MyGinnieMae Portal and its functionalities	Issuers – Issuer Training – Tools and Resources – User Manuals
PDD Implementation Guide	Assists Issuers in submitting pool and loan data in XML format for Ginnie Mae's PDD	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
PDD Implementation Guide: Appendix A – XML Data Requirements	Outlines the necessary data points that Issuers must transmit in XML format for new pool issuance	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
PDD Implementation Guide: Appendix B – Usage Scenarios	Outlines PDD example business scenarios	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
PDD Implementation Guide: Appendix C – XML Samples	Provides corresponding XML samples for the usage scenarios found in Appendix B	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
PDD Implementation Guide: Appendix D – XML Data Reference	Outlines the necessary data points that Issuers must transmit in XML format for new pool issuance (data contained within Appendix A, along with additional legacy details)	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
PDD Implementation Guide: Appendix E – XML Schema Definition	Provides information that can be utilized by the Issuers to validate the PDD XML files prior to submission	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
PDD Implementation Guide: Appendix F – Legacy to MISMO Translation	Mapping of the legacy data points from Form 11705 and Form 11706 to the MISMO compliant data points	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
Quick Reference Cards (QRCs)	Step-by-step instructions on executing Ginnie Mae's business processes. Specific QRCs referenced in this user manual are listed under the Quick Reference Cards (QRCs) section	Issuers – Issuer Training
Single Family Pooling Business Rules and Errors Guide	Provides solution references to errors encountered in the VTT and SFPDM	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO
Tips for Leveraging PDD Resources	Breakdown of PDD Appendices	Issuers – Issuer Training – Modernization Initiatives – SFPDM-MISMO

Table 7.2 References

7.5 Error Mapping

The table below provides the category description associated with an Error Category returned by the VTT.

XML Error	Code Detail	Business Error Description
cvc-accept		Element Sequence Accepted (Particle)
cvc-assertion		Assertion Satisfied
cvc-assess-attr		Schema-Validity Assessment (Attribute)
cvc-assess-elt		Schema-Validity Assessment (Element)
cvc-attribute	3	Invalid Enumeration or Pattern
cvc-au		Attribute Locally Valid (Use)
cvc-complex-content		Element Sequence Locally Valid (Complex Content)
cvc-complex-type.2.1	2-1	Invalid Container Content
cvc-complex-type.2.2	2-2	Invalid Element Content
cvc-complex-type.2.3	2-3	Invalid Container Content
cvc-complex-type.2.4.a	2-4-a	Invalid Element Name or Sequence
cvc-complex-type.2.4.b	2-4-b	Missing Element
cvc-complex-type.2.4.c	2-4-c	Invalid Elements Provided
cvc-complex-type.2.4.d	2-4-d	Invalid Container Choice
cvc-complex-type.3.1	3-1	Invalid Element Content
cvc-complex-type.3.2.2	3-2-2	Invalid Attribute Name
cvc-complex-type.4	4	Missing Attribute
cvc-datatype-valid.1.2.1	1-2-1	Invalid Data Type
cvc-datatype-valid.1.2.3	1-2-3	Invalid Data Type
cvc-elt.1	1	Invalid Namespace
cvc-elt.2	2	Invalid Abstract Content
cvc-elt.3.1	3-1	Invalid Nil Declaration
cvc-elt.3.2.1	3-2-1	Invalid Nil Element Content
cvc-elt.4.1	4-1	Invalid Type Declaration
cvc-elt.4.2	4-2	Invalid Type Declaration
cvc-elt.4.2	4-3	Invalid Type Extension
cvc-enumeration-valid		Invalid Enumeration or Pattern
cvc-facet-valid		Facet Valid
cvc-fractionDigits-valid		Invalid Decimal Value
cvc-id.1	1	Validation Root Valid (ID/IDREF)
cvc-identity-constraint		Identity-constraint Satisfied
cvc-length-valid		Length Valid
cvc-maxExclusive-valid		MaxExclusive Valid

cvc-maxInclusive-valid		MaxInclusive Valid
cvc-maxLength-valid		MaxLength Valid
cvc-maxScale-valid		MaxScale Valid
cvc-minExclusive-valid		MinExclusive Valid
cvc-minInclusive-valid		MinInclusive Valid
cvc-minLength-valid		MinLength Valid
cvc-minScale-valid		MinScaleValid
cvc-model-group		Element Sequence Valid
cvc-particle		Element Sequence Locally Valid (Particle)
cvc-pattern-valid		Invalid Data Element Pattern
cvc-resolve-instance		Qname Resolution (Instance)
cvc-simple-type		String Valid
cvc-totalDigits-valid		TotalDigits Valid
cvc-type		Element Locally Valide (Type)
cvc-wildcard		Item Valid (Wildcard)
cvc-wildcard-name		Wildcard Allows Expanded Name
cvc-wildcard-namespace		Wildcard Allows Namespace Name
cvc-xpath		Xpath Evaluation
vr-cta-substitutable		Conditional Type Substitutable in Restriction

Table 7.3 Structural Error Details

7.6   Common MISMO Data Element Patterns

The table below lists common data patterns, which are represented as regular expressions, as well as explanations on how to interpret those examples. Basic information on accepted data formats is also provided in plaintext within the PDD Implementation Guide: Appendix D tab entitled "MISMO Data Points," Column N titled "PDD Accepted Data Format". However, it is also helpful to develop a basic understanding of regular expressions, as they are shown in Appendix E, "GNMA_Simple_types_B1.xsd" and provide additional details on requirements for Ginnie Mae's MISMO-compliant data formats.

Data Element Name	Accepted Pattern	Pattern Interpretation
GovernmentAnnualPremiumPercent	([0-9]+)\.[0-9]{2}	**Appendix D Accepted Data Format:** Amount 7,2 (Max of 7 digits followed by 2 decimal places) The pattern indicates that this element must contain one or more digits from 0-9, indicated by the segment ([0-9]+), followed by a decimal point ("\" is a special character and is not part of the pattern), followed by exactly two digits from 0-9, indicated by the segment [0-9]{2}. **Example:** 30000.00
ACHBankAccountIdentifier	([A-Z]|[0-9]){20}	**Appendix D Accepted Data Format:** String 20 The pattern indicates that this element must contain only uppercase letters from A-Z OR

Data Element Name	Accepted Pattern	Pattern Interpretation
		(The character "|" is used as an OR symbol) digits from 0-9, and there must be 20 characters total. **Example:** 1EABC1234B9Q034AB312
PoolIdentifier	((([A-LN-OQ-Z][A-Z])|([1-9] [0-9]))[0-9][0-9][0-9][0-9]	**Appendix D Accepted Data Format:** String 6 The pattern indicates that the first two characters of this element can either both be letters OR both be numerical digits (notice how the "|" character separates two sets of parentheses, each containing two sets of brackets specifying character types). If using two letters, the first letter must conform to the range requirements specified (A-L, N-O, Q-Z). If using two numerical digits, the first digit must be between 1 and 9, inclusive. The remaining 4 characters in this element must be numerical digits from 0-9. **Example:** BZ1642

Table 7.4 Common MISMO Data Element Patterns

8   QUICK REFERENCE CARDS (QRCS)

Quick Reference Cards (QRCs), posted to GinnieMae.gov, are abbreviated one to two-page reference documents with step-by-step instructions on how to complete a specific action. Below is a list of QRCs for the content mentioned in this user manual.

QRC#	QRC Name
QRC-VTT	Using VTT to Test PDD Files
QRC-GS:3.4	Logging into MyGinnieMae & Accessing Applications
QRC-GS:3.6.1	Changing a Password in MyGinnieMae
QRC-GS:3.2.2	Forgot Passwords in MyGinnieMae
QRC-GS:4.3	Managing My Profile in MyGinnieMae
QRC-GS:3.3.3	Registering with the Oracle Mobile Authenticator
QRC-GS:4.4	Troubleshooting MyGinnieMae

Table 8.1 QRCs