Pool Delivery Dataset (PDD) Implementation Guide

Document Version 1.3

Date: August 31, 2015

Revision Log

Version	Date	Additions / Modifications
1.0	3/31/2014	Initial Version
1.1	6/30/2014	Incorporated updates for full specification release
1.2	1/31/2015	Added a column description for Business Name
1.3	8/31/2015	Amended data point names and descriptions to maintain consistency with MISMO standards Amended column sequences to maintain consistency with MISMO standard sequences Added clarity to Sort ID description to reflect appendix changes Added MISMO Data Points Export Only tab description to reflect Appendix D changes Added fourth option for PDD Conditionality data point to Appendix D in accordance with Data Point Export Only tab Added Section 6.10 to aid Issuers in preparing XML files for submission

Table of Contents

LIST OF FIGURES

LIST OF TABLES

1 Introduction and Purpose

The Mortgage Industry Standards Maintenance Organization (MISMO), an industry-supported standards development body, has developed a data standard for the exchange of mortgage related data. Ginnie Mae seeks to align with the mortgage industry and adopt the MISMO standard for its single family at issuance pool delivery data for forward mortgages. Accordingly, Ginnie Mae has leveraged the MISMO standard to create the Pool Delivery Dataset (PDD). The PDD follows a similar structure as other MISMO compliant datasets (such as the Government Sponsored Enterprises' (GSEs) Uniform Loan Delivery Dataset (ULDD)), but is unique to Ginnie Mae's business model and data needs and is therefore distinct.

The PDD Implementation Guide is a tool for Issuers to leverage in order to meet the new data requirements for single family at issuance pool delivery data.

2 Implementation Guide Overview

The PDD Implementation Guide assists Ginnie Mae Issuers in submitting pool and loan data in Extensible Markup Language (XML) format based on MISMO Version 3.3. This new file format will replace the existing Ginnie*NET* Single Family Import File Layout that is currently submitted to Ginnie Mae. This guide provides an introduction to MISMO, XML data formats and structure, and a description of required data points specific to Ginnie Mae's business needs. This Implementation Guide is applicable to single family forward mortgages only; it does not apply to reverse mortgages in HMBS pools.

Ginnie Mae's PDD leverages the MISMO Residential Specifications Version 3.3 Reference Model[1]. Ginnie Mae's PDD is a subset of the MISMO reference model data points and provides a comprehensive list of data points for single family at issuance pool delivery data. This guide contains high level implementation details in addition to referencing detailed appendices that can be utilized by Issuers to transition to the new file formats.

[1] http://www.mismo.org/Specifications/ResidentialSpecifications.htm

3 Implementation Milestones

Ginnie Mae's implementation and rollout of the PDD XML data submission requirement will occur over an extended period of time, allowing Issuers to complete necessary development tasks and thoroughly test the file transfer processes.

Below are key tasks and milestones that must be completed in order to implement Ginnie Mae's PDD and adopt MISMO data standards.

- **Issuer PDD Testing (Date TBD):**
    - Ginnie Mae will arrange for Issuers to test PDD submission within the testing tool in preparation for the cutover to production. This will include validation of the XML document structure (using the XML Schema Definition) and validation against the Ginnie Mae Edits (Business Rules).
- **PDD Submission (Date TBD):**
    - Ginnie Mae will begin accepting the new PDD XML files; however, Issuers will have the option to continue to submit the Ginnie*NET* Legacy Single Family Import File.

4 Introduction to MISMO Version 3.3

According to MISMO.org:

> MISMO is the leading technology standards development body for the residential and commercial real estate finance industries, and is a wholly owned subsidiary of the Mortgage Bankers Association. The MISMO standards are grounded in an open process to develop, promote, and maintain voluntary electronic commerce procedures and standards that allow mortgage lenders, investors in real estate and mortgages, servicers, industry vendors, borrowers, and other parties to exchange real estate finance-related information and eMortgages more securely, efficiently and economically.[2]

In order to support effective data exchange, MISMO standards encompass the entire loan life cycle, from origination to servicing to loan delivery and investor reporting, thereby creating a holistic view of loan and pool delivery data. Along with promoting data exchange between business partners, MISMO standards improve the quality and accuracy of the data exchanged by providing a common set of business terms and definitions.

The use of MISMO standards to exchange data will enable Ginnie Mae to better capture consistent and accurate data for loan information submitted for pooling by:

A. Providing clearly defined data elements and requirements for loan and pool submission
B. Creating a baseline dataset with consistent naming conventions for Issuers to utilize for reporting purposes
C. Allowing Ginnie Mae to capture additional data elements to increase the granularity and value of the information captured
D. Enabling Ginnie Mae to easily increase the dataset in the future to match growing business needs

The PDD is based on the MISMO Version 3.3 Residential Specifications Reference Model.

[2] http://mismo.org/AboutMISMO

5 Technical Overview

This PDD Implementation Guide provides information and guidance to Issuers in order to adopt the new PDD XML file requirement for the Ginnie Mae Pool Delivery Dataset. The referenced appendices provide a higher level of detail including technical specifications and usage scenarios that will assist in the creation of the required XML files.

The following appendices are provided as separate documents[3]:

- PDD Implementation Guide: Appendix A - XML Data Requirements
- PDD Implementation Guide: Appendix B - Usage Scenarios
- PDD Implementation Guide: Appendix C - XML Samples
- PDD Implementation Guide: Appendix D - XML Data Reference
- PDD Implementation Guide: Appendix E - XML Schema Definition
- PDD Implementation Guide: Appendix F - Legacy to MISMO Translation

The appendices are all interrelated and should be used in tandem. Appendices A and D outline the key data points, the conditionality details, and any implementation notes. Appendix F supports Appendices A and D, as it provides the legacy data point mapping to the MISMO PDD data points. Alternatively, Appendices B and C provide specific scenarios to assist in determining the necessary elements for common Ginnie Mae business cases, and provide a reference point for the PDD XML file structure. Lastly, Appendix E can be utilized by the Issuers to validate the PDD XML files prior to submission. It is important to note that data points in Appendix A, B and D are sorted to aid in the understanding of the PDD, while the data points in Appendix C adhere to the XML container structure.

Summary information of each appendix is included in the following sections.

5.1 PDD Implementation Guide: Appendix A - XML Data Requirements

The PDD Implementation Guide: Appendix A - XML Data Requirements document contains details regarding the implementation of the Ginnie Mae PDD. Based on the MISMO 3.3

[3] Appendix D was initially released on March 31, 2014. All appendices (A, B, C, D, E, and F) were released on June 30, 2014.

Reference Model, this appendix outlines the necessary data points that Issuers must transmit in XML format for new pool issuance. The primary table in Appendix A, MISMO Data Points, has all the necessary information regarding data transmission.

The columns supported in Appendix A are described in Table 1.

Table 1: Columns in MISMO Data Points Table in Appendix A

Column Name	Description
Sort ID	This column lists the unique data point identifier assigned to the MISMO data point by Ginnie Mae and does not reflect sequence. Note: Numeric-only Sort ID values refer to Chapter 5 MISMO Data Points; Sort ID values beginning with “E” refer to Chapter 6 MISMO Data Points Export Only. Note: Sort ID sequences have been amended but actual Sort IDs have not changed; subsequently, data point sequences no longer directly follow Sort ID sequences. Actual sequences are defined in the XSD (Appendix E) and shown through scenarios in Appendices B and C.
XPath	This column lists the XPath used to navigate through the XML document to the corresponding data point.
Parent Container	This column lists the parent container name of the corresponding data point.
MISMO Data Point Name	This column lists the MISMO term name for a corresponding data point.
Business Name	This column lists the business name of the corresponding data point. Data points with repeated terms may be grouped together when being represented on screens and reports. The repeated term is represented in brackets. Highest level groupings are represented in RED, with second level grouping represented in BLUE. For example, [GROUP NAME] [GROUP NAME] DATA POINT NAME.
MISMO Definition	This column lists the MISMO definition for the corresponding data point.

Column Name	Description
Loan Role Type	This column only applies to data points in the LOAN container and lists the following LoanRoleType values: • SubjectLoan The cell specifies N/A when the data point is not in the LOAN container. All data points have a LoanRoleType of SubjectLoan or N/A, as RelatedLoan does not apply to Ginnie Mae business.
Loan State Type	This column only applies to data points in the LOAN container and lists the following LoanStateType values: • AtClosing (Non-Mods) OR AtModification • AtModification • AtClosing (Non-Mods) • AtClosing (Mods) • Current The cell specifies N/A when the data point is not in the LOAN container.
Party Role Type	This column only applies to data points in the PARTY container and lists the following PartyRoleType values: • Borrower • DocumentCustodian • Investor • LoanOriginator • PoolIssuer • PoolIssuerTransferee • Servicer • Trust The cell specifies N/A when the data point is not in the PARTY container.
Net New / XML Context / Legacy (Direct OR Indirect)	This column identifies the Ginnie Mae data points as one of the following: • **Net New**: Data that is not included in the current legacy flat file record set for pool and loan delivery to Ginnie Mae. • **XML Context:** Provides meaning to other data points

Column Name	Description
	within a CONTAINER or provides XML messaging information. • **Legacy (Direct):** Data that is included in the Ginnie Mae Forms 11705 and 11706 loan delivery file (includes all automated flat file record formats supporting Pool Issuance data and Loan data found in the 11705 & 11706 files) that is submitted into the Ginnie*NET* system. Direct mappings do not exist for every legacy data point. Issuers should carefully review the PDD to legacy mapping to understand the impact of the new dataset on the Issuers' business requirements. • **Legacy (Indirect):** Data that is adapted from existing Ginnie Mae Legacy data and does not have a direct mapping to a single MISMO data point.
PDD Conditionality	This column lists the Ginnie Mae conditionality of the corresponding data points for the Pool Delivery Dataset. The column lists one of four indicators: • **Required (R):** The corresponding data point must be included in the Pool Delivery Dataset XML file for all pool issuance transactions. • **Conditionally Required (CR):** The corresponding data point must be included in the Pool Delivery Dataset XML file for all pool issuance transactions when defined business conditions exist; these conditions are identified in the PDD Conditionality Details and PDD Implementation Notes columns within the MISMO Data Points tab. • **Optional (O):** The corresponding data point is optional at this time. • **Export Only (E):** The corresponding data point is exported by Ginnie Mae and is optional.
PDD Conditionality Details	This column provides the criteria for the conditionality of the corresponding data point. To be used by Issuers in validation

Column Name	Description
	checks.
PDD Implementation Notes	This column provides additional instructions or clarification to support the corresponding data point for Pool Delivery Data.
PDD Accepted Data Format	This column lists the data format types specified by the MISMO data standards to support the Ginnie Mae Pool Delivery Dataset: • Amount (decimal point) • Boolean • YYYY-MM-DD (Date) • YYYY-MM-DDThh:mm:ssZ (Date, time, and time zone) • Enumerated • Numeric • Percent • String
PDD Supported Enumerations	This column only applies to data points with Enumerated or Boolean data formats and lists the Ginnie Mae supported enumerations (allowable valid values) for the corresponding data point. The cell specifies N/A when the data point does not have valid allowable values.

This appendix differs from Appendix D because it does not include any Ginnie Mae legacy information and is in a Microsoft Word format.

Additional information on the following columns can be found in the PDD Implementation Guide: Appendix D - XML Data Reference document:

- PDD to Legacy Data Point Relationship Notes
- Legacy Electronic Source
- Corresponding Legacy Data Point (Record Type, Position, and Data Point Name)
- Legacy Additional Data Point Occurrences
- Legacy Data Point Definition
- Legacy Data Point Format and Length/Precision

Ginnie Mae will periodically review the PDD and make appropriate modifications to support necessary business or regulatory needs.

5.2 PDD Implementation Guide: Appendix B - Usage Scenarios

The following usage scenarios have been created in order to provide examples of frequently utilized Ginnie Mae business cases. These scenarios explicitly demonstrate the required data points for the described case in an easy to read format. However, these usage scenarios have been developed using fictitious data and do not relate to real people. These scenarios should be used in conjunction with the PDD Implementation Guide: Appendix C - Ginnie Mae XML Samples to develop XML files for the PDD. It is important to note that Scenarios 1, 6, and 8 contain an example of a three loan pool, while the remaining scenarios contain one to two loan samples per scenario.

Each of the following scenarios is described in depth in Appendix B:

GNMA I

- Scenario 1: GNMA I - Fixed Rate Mortgage (Modified Loan)
- Scenario 2: GNMA I - Graduated Payment Mortgage
- Scenario 3: GNMA I - Buydown Mortgage

GNMA II Custom (Single Issuer)

- Scenario 4: GNMA II – Manufactured Home Mortgage
- Scenario 5: GNMA II - Fixed Rate Mortgage (HAMP Modified Loan)
- Scenario 6: GNMA II - 3 Year Hybrid LIBOR Mortgage (Immediate Transfer upon Issuance)
- Scenario 7: GNMA II - Growing Equity Mortgage

GNMA II Multiple Issuer

- Scenario 8: GNMA II - 3 Year Hybrid Constant Maturity Treasury Mortgage
- Scenario 9: GNMA II - Fixed Rate Mortgage (Secondary Borrower)
- Scenario 10: GNMA II - Fixed Rate Mortgage with Refinance (with and without Cash-Out)

5.3 PDD Implementation Guide: Appendix C - XML Samples

The PDD Implementation Guide: Appendix C - XML Samples are XML files based on the scenarios listed in the PDD Implementation Guide: Appendix B - Usage Scenarios document. These XML files contain the required data for each scenario and can be referenced in the testing and validation process. It is important to note that Scenarios 1, 6, and 8 contain an example of a full pool and as such are the only scenarios that can be validated against Appendix E.

Samples are provided in Appendix C for the following scenarios:

GNMA I

- Scenario 1: GNMA I - Fixed Rate Mortgage (Modified Loan)
- Scenario 2: GNMA I - Graduated Payment Mortgage
- Scenario 3: GNMA I - Buydown Mortgage

GNMA II Custom (Single Issuer)

- Scenario 4: GNMA II - Manufactured Home Mortgage
- Scenario 5: GNMA II - Fixed Rate Mortgage (HAMP Modified Loan)
- Scenario 6: GNMA II - 3 Year Hybrid LIBOR Mortgage (Immediate Transfer upon Issuance)
- Scenario 7: GNMA II - Growing Equity Mortgage

GNMA II Multiple Issuer

- Scenario 8: GNMA II - 3 Year Hybrid Constant Maturity Treasury Mortgage
- Scenario 9: GNMA II – Fixed Rate Mortgage (Secondary Borrower)
- Scenario 10: GNMA II - Fixed Rate Mortgage with Refinance (with and without Cash-Out)

5.4 PDD Implementation Guide: Appendix D - XML Data Reference

The PDD Implementation Guide: Appendix D - XML Data Reference document provides the data contained within the PDD Implementation Guide: Appendix A - XML Data Requirements document in a Microsoft Excel format, along with additional legacy details. Not all legacy data points will be reported in Appendix D as some legacy data points have been deprecated and are not included in the PDD. To account for the complete listing of legacy data points, see the PDD Implementation Guide: Appendix F - Legacy to MISMO Translation document. This format allows for increased ability to sort and filter information as Issuers develop the required XML format. Appendix D is a reference tool listing the PDD data points along with implementation and conditionality details required for submission of new pool delivery data. Appendix D contains the following worksheets:

- **Read Me** - provides the purpose and an overview of Appendix D
- **Revision Log** - provides a list of updates made to the Appendix D after the 1.0 release
- **Column Descriptions** - provides detailed definition of each column found within the MISMO Data Point tab

- **MISMO Data Points** - provides data point details, XPaths, conditionality, parent containers and all associated information for each data point needed to support pool issuance
- **MISMO Data Points Export Only** - provides data point details, Xpaths, conditionality, parent containers and all associated information for each export only data point needed to support pool issuance
- **Enumerations** - provides the enumerations that Ginnie Mae will support using the MISMO standards for all types found within the MISMO Data Points tab
- **Cardinality** - provides the cardinality between parent and child containers

The columns supported by the MISMO Data Points worksheet in Appendix D are described in Table 2.

Table 2: Columns in MISMO Data Points Table in Appendix D

Column Name	Description
Sort ID	This column lists the unique data point identifier assigned to the MISMO data point by Ginnie Mae and does not reflect sequence. Note: Numeric-only Sort ID values refer to Chapter 5 MISMO Data Points; Sort ID values beginning with “E” refer to Chapter 6 MISMO Data Points Export Only. Note: Sort ID sequences have been amended but actual Sort IDs have not changed; subsequently, data point sequences no longer directly follow Sort ID sequences. Actual sequences are defined in the XSD (Appendix E) and shown through scenarios in Appendices B and C.
XPath	This column lists the XPath used to navigate through the XML document to the corresponding data point.
Parent Container	This column lists the parent container name of the corresponding data point.
MISMO Data Point Name	This column lists the MISMO term name for a corresponding data point.
Business Name	This column lists the business name of the corresponding data point. Data points with repeated terms may be grouped together when being represented on screens and reports. The repeated term is represented in brackets. Highest level groupings are represented in RED, with second level grouping represented in

Column Name	Description
	BLUE. For example, [GROUP NAME] [GROUP NAME] DATA POINT NAME.
MISMO Definition	This column lists the MISMO definition for the corresponding data point.
Loan Role Type	This column only applies to data points in the LOAN container and lists the following LoanRoleType values: • SubjectLoan The cell specifies N/A when the data point is not in the LOAN container. All data points have a LoanRoleType of SubjectLoan or N/A, as RelatedLoan does not apply to Ginnie Mae business.
Loan State Type	This column only applies to data points in the LOAN container and lists the following LoanStateType values: • AtClosing (Non-Mods) OR AtModification • AtModification • AtClosing (Non-Mods) • AtClosing (Mods) • Current The cell specifies N/A when the data point is not in the LOAN container.
Party Role Type	This column only applies to data points in the PARTY container and lists the following PartyRoleType values: • Borrower • DocumentCustodian • Investor • LoanOriginator • PoolIssuer • PoolIssuerTransferee • Servicer • Trust The cell specifies N/A when the data point is not in the PARTY container.
Net New / XML Context /	This column identifies the Ginnie Mae data points as one of the

Column Name	Description
Legacy (Direct OR Indirect)	following: • **Net New:** Data that is not included in the current legacy flat file record set for pool and loan delivery to Ginnie Mae. • **XML Context:** Provides meaning to other data points within a CONTAINER or provides XML messaging information. • **Legacy (Direct):** Data that is included in the Ginnie Mae Forms 11705 and 11706 loan delivery file (includes all automated flat file record formats supporting Pool Issuance data and Loan data found in the 11705 & 11706 files) that is submitted into the Ginnie*NET* system. Direct mappings do not exist for every legacy data point. Issuers should carefully review the PDD to legacy mapping to understand the impact of the new dataset on the Issuers' business requirements. • **Legacy (Indirect):** Data that is adapted from existing Ginnie Mae Legacy data and does not have a direct mapping to a single MISMO data point.
PDD Conditionality	This column lists the Ginnie Mae conditionality of the corresponding data points for the Pool Delivery Dataset. The column lists one of four indicators: • **Required (R):** The corresponding data point must be included in the Pool Delivery Dataset XML file for all pool issuance transactions. • **Conditionally Required (CR):** The corresponding data point must be included in the Pool Delivery Dataset XML file for all pool issuance transactions when defined business conditions exist; these conditions are identified in the PDD Conditionality Details and PDD Implementation Notes columns within the MISMO Data Points tab. • **Optional (O):** The corresponding data point is optional at this time.

Column Name	Description
	• **Export Only (E):** The corresponding data point is exported by Ginnie Mae and is optional.
PDD Conditionality Details	This column provides the criteria for the conditionality of the corresponding data point. To be used by Issuers in validation checks.
PDD Implementation Notes	This column provides additional instructions or clarification to support the corresponding data point for Pool Delivery Data.
PDD Accepted Data Format	This column lists the data format types specified by the MISMO data standards to support the Ginnie Mae Pool Delivery Dataset: • Amount (decimal point) • Boolean • YYYY-MM-DD (Date) • YYYY-MM-DDThh:mm:ssZ (Date, time, and time zone) • Enumerated • Numeric • Percent • String
PDD Supported Enumerations	This column only applies to data points with Enumerated or Boolean data formats and lists the Ginnie Mae supported enumerations (allowable valid values) for the corresponding data point. The cell specifies N/A when the data point does not have valid allowable values. Additionally, the list of enumerations and definitions can be found on the “Enumerations” worksheet.
PDD to Legacy Data Point Relationship Notes	This column provides additional clarification to support the corresponding mapping between the PDD data point and the legacy data point.
Legacy Electronic Source	The column lists the form name (11705 or 11706) or indicates the Master Agreement in which the current data point appears.

Column Name	Description
Corresponding Legacy Data Point (Record Type, Position, and Data Point Name)	The column provides the name of the primary record type inclusive of the start and end positions ["Record Type (start, end)"] found within the record for the legacy data point and the data point name used in flat file record layouts; Ginnie Mae rationalized the existing data points found within the Flat File record layouts and created a unique set of data used to develop the MISMO compliant list of data points.
Legacy Additional Data Point Occurrences (Record Type, Position, and Data Point Name)	Secondary and subsequent record names that also support data points found within a primary record found in the Ginnie Mae Legacy Record Type and Position column.
Legacy Data Point Definition	The Ginnie Mae definition for the data point as it appears in the automated flat file format.
Legacy Data Point Format and Length/Precision	The Ginnie Mae data point format and length as listed in the automated record layout.

5.5 PDD Implementation Guide: Appendix E - XML Schema Definition

The XML validation process involves checking an XML document to confirm that the XML document follows XML syntax rules and a defined structure. Structure definition and further restrictions on the XML file can be imposed using an XML Schema Definition (XSD).

The PDD Implementation Guide: Appendix E - XML Schema Definition can be used to validate Ginnie Mae's PDD, which is based on the MISMO Version 3.3 Reference Model. However, Appendix E does not contain the cardinality restrictions from Appendix D. Appendix E contains the following underlying XML schema documents:

- GNMA_MISMO_B1.xsd
- ArcRoles.xsd
- ExtensionDetails.xsd
- GNMA_ComplexTypeExtensions_B1.xsd
- GNMA_ComplexTypes_B1.xsd
- GNMA_DataTypes_B1.xsd

- GNMA_EnumeratedTypes_B1.xsd
- GNMA_SimpleTypes_B1.xsd
- xlink.xsd

All of these files are needed to validate the PDD XML file to ensure that the file contains the correct XML structure and that all data points adhere to the defined MISMO data type. It is important to note that Scenarios 1, 6, and 8 contain an example of a full pool and as such are the only scenarios that can be validated against Appendix E.

The MISMO Version 3.3 Reference Model can be found on the MISMO website (www.mismo.org).

5.6 PDD Implementation Guide: Appendix F - Legacy to MISMO Translation

The PDD Implementation Guide: Appendix F - Legacy to MISMO Translation document provides a mapping of the legacy Ginnie Mae fields from Form 11705 and Form 11706 to the MISMO standard data points. This gives Issuers the ability to better understand how the legacy fields translate to the PDD and provides additional support as Issuers develop the required XML files.

Appendix F contains the following worksheets:

- **Read Me** - provides the purpose and an overview of Appendix F
- **Revision Log** - provides a list of updates made to Appendix F after the 1.0 release
- **Column Descriptions** - provides detailed definition of each column found within the Legacy Data Points tab
- **Legacy Data Points** - provides legacy record type, position, and all associated information for each legacy point needed to support pool issuance and the corresponding mapping to MISMO data points
- **Enumerations** - provides the enumerations that Ginnie Mae will support using the MISMO standards for all types found within the Legacy Data Points tab

The columns supported by the Legacy Data Points worksheet in Appendix F are described in Table 3.

Table 3: Columns in Legacy Data Points Table in Appendix F

Column Name	Description
Legacy Record Type	The column provides the name of the record type for the legacy

Column Name	Description
	data point.
Legacy Record Position	The column provides start and end positions ["Record Type (start, end)"] found within the record for the legacy data point.
Legacy Data Point Name	The data point name used in flat file record layouts; Ginnie Mae rationalized the existing data points found within the Flat File record layouts and created a unique set of data used to develop the MISMO compliant list of data points.
Legacy Data Point Format and Length/Precision	The Ginnie Mae data point format and length as listed in the automated record layout.
Legacy Data Point Definition	The Ginnie Mae definition for the data point as it appears in the automated flat file format.
Legacy Enumerations	This column lists the Ginnie Mae supported flat file enumerations (allowable valid values) for the corresponding data point.
Corresponding MISMO Data Point Name	This column lists the MISMO term name for a corresponding legacy data point.
PDD Accepted Data Format	This column lists the data format types specified by the MISMO data standards to support the Ginnie Mae Pool Delivery Dataset: • Amount (decimal point) • Boolean • YYYY-MM-DD (Date) • YYYY-MM-DDThh:mm:ssZ (Date, time, and time zone) • Enumerated • Numeric • Percent • String
MISMO Definition	This column lists the MISMO definition for the corresponding data point.
PDD Supported Enumerations	This column lists the Ginnie Mae supported MISMO enumerations (allowable valid values) for the corresponding data point. Additionally, the list of enumeration and definitions can be found

Column Name	Description
	on the “Enumerations” worksheet.
Legacy to MISMO Mapping	This column captures the logic for mapping the legacy data point and enumerations to the MISMO data point and supporting enumerations.
Captured in Appendix D	This column tracks whether the Ginnie Mae legacy data point is captured in Appendix D or deprecated.
Additional Notes	This column provides additional instructions or clarification to support the corresponding legacy data point.

6 Creating an XML File

XML is a data exchange language that provides a way to transport and store data in a structured format. It provides a flexible way to share and submit data in a format that is robust and consumable by a variety of systems. Ginnie Mae's Pool Delivery Dataset format is outlined in the PDD Implementation Guide: Appendix A - XML Data Requirements and in the PDD Implementation Guide: Appendix D - XML Data Reference documents. The MISMO Version 3.3 Reference Model contains descriptions and paths of all data elements, attributes, and enumerated values. The PDD contains a subset of elements and attributes from the MISMO model and in certain cases only a subset of supported enumerations.

Appendices A and D describe the conditionality of each data point, as well as provide implementation notes to assist in determining the required data points for each business case.

The XML file must follow the specifications indicated in Appendices A and D, and should validate against the Ginnie Mae PDD XSD. The order of the elements in each container should match the XML Schema. Details on the Ginnie Mae PDD XSD can be found in Section 5.5.

6.1 XML Container Hierarchy

The MISMO Version 3.3 Reference Model is structured to support the entire lifecycle of mortgage industry data. Ginnie Mae's pool delivery data file only requires the usage of a subset of the complete MISMO dataset. The following graphics depict the high level container overview as well as more detailed data points required for party and loan data.

Figure 1 depicts the high-level container structure of the Ginnie Mae PDD, where MESSAGE is the root (highest) level container. The root container has children containers of ABOUT_VERSIONS, which contains the information regarding the XML versioning, and DEAL_SET which contains the pool and loan information. Descriptions of the high-level containers can be found in Table 4.

Figure 1: PDD High-Level Container Hierarchy

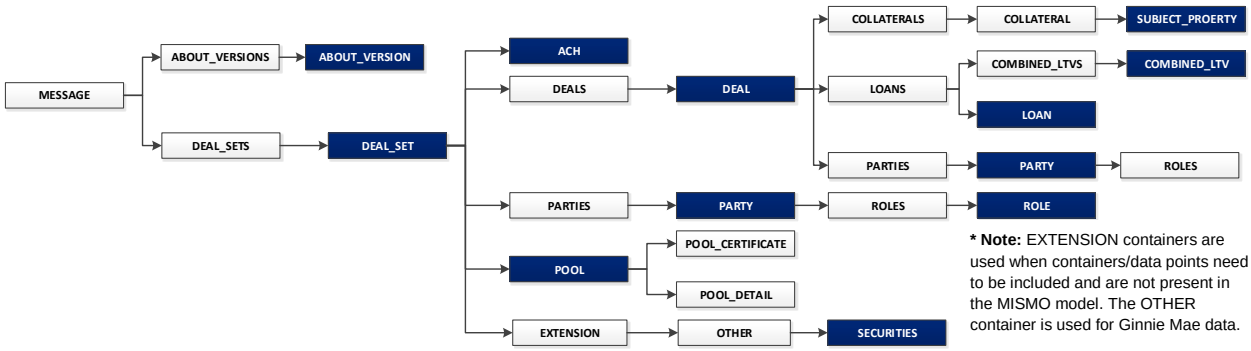


Figure 2 depicts the PARTY container hierarchy at the DEAL level. The PARTY container is also present at the DEAL_SET level. The diamonds in the figure below represent a choice group. For example, a PARTY can either be an INDIVIDUAL or LEGAL_ENTITY.

Figure 2: PDD High-Level PARTY Container Hierarchy at DEAL level

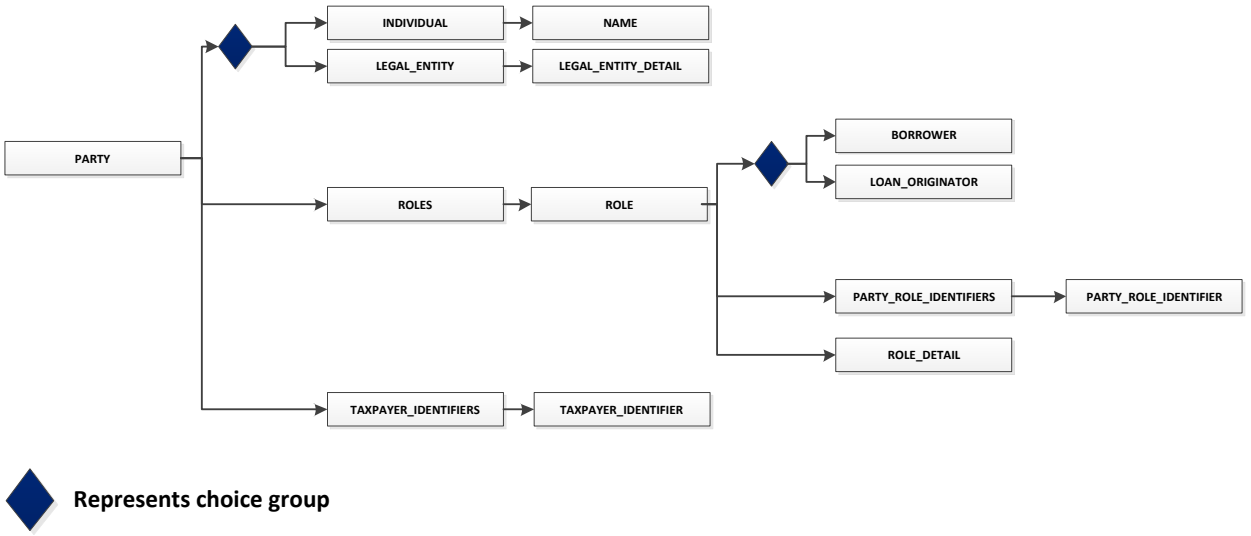


Figure 3 depicts the containers present within LOAN parent container. For Ginnie Mae's business, the LOAN container contains information related to one lien, and may repeat within the LOANS parent container based on Loan State Type. Additional information on container repeatability can be found in Section 6.3.

Figure 3: PDD LOAN Container Hierarchy

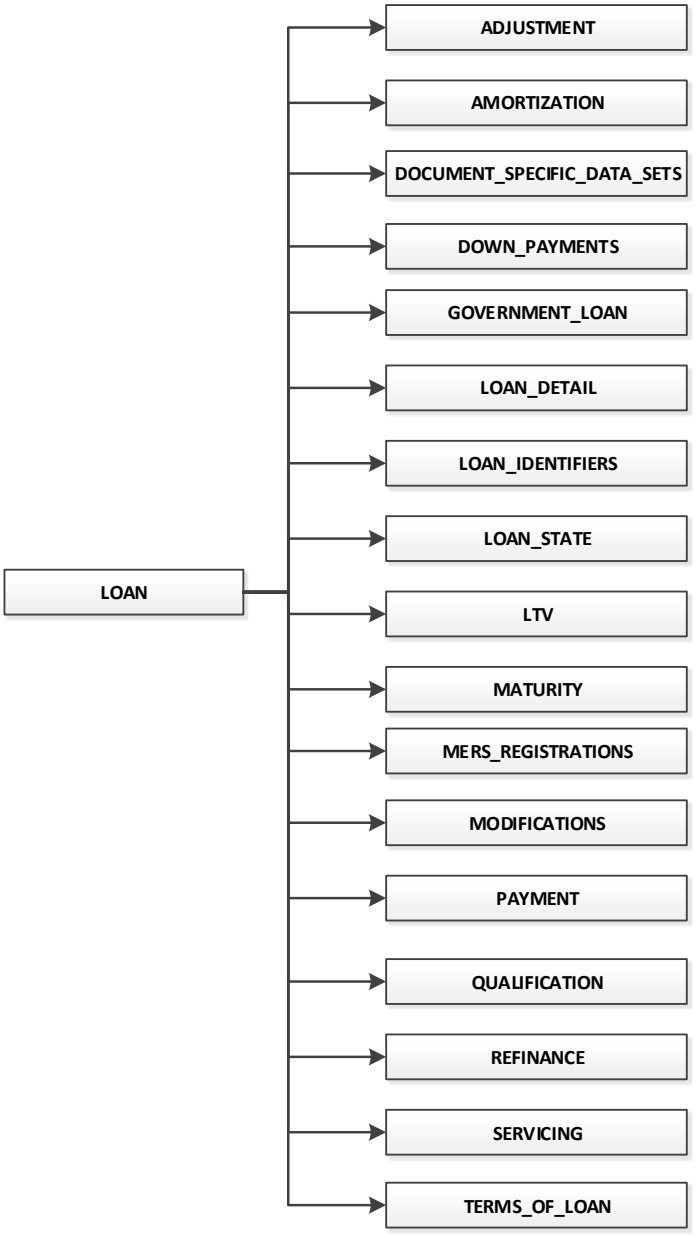
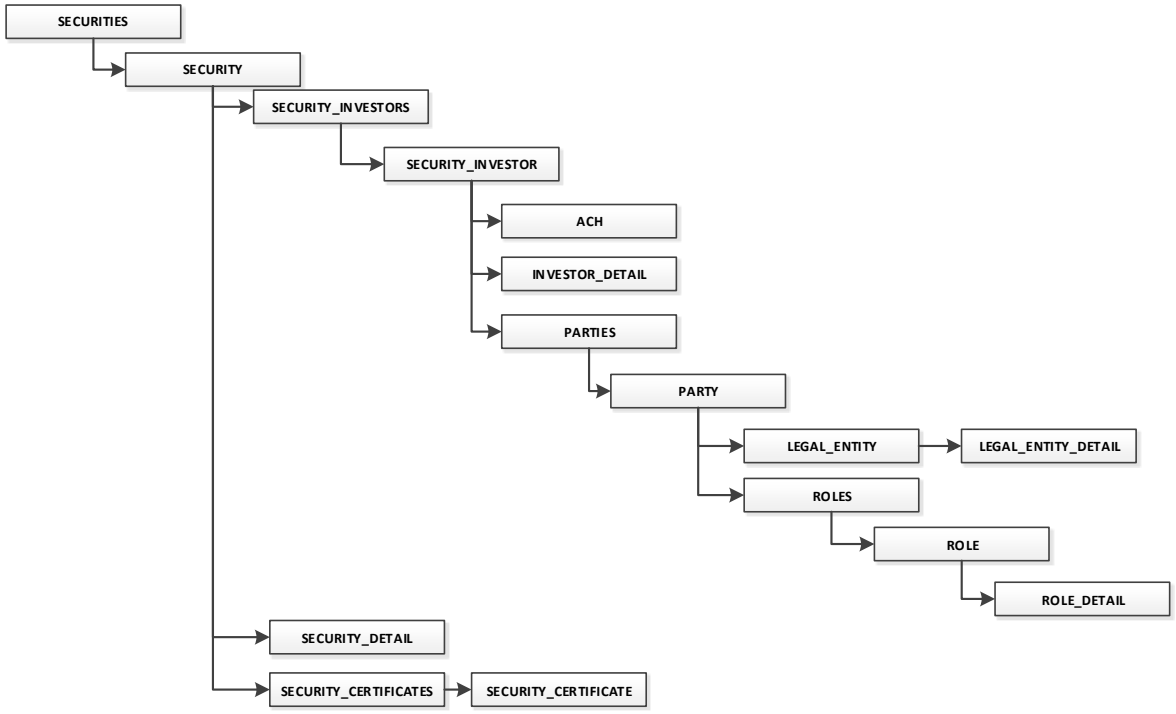


Figure 4 depicts the container hierarchy present within SECURITIES parent container, which is specific to Ginnie Mae business needs and thus resides in an OTHER container under an EXTENSION container under DEAL_SETS. The SECURITY container is repeatable within the

SECURITIES parent container. Additional information on container repeatability can be found in Section 6.3.

Figure 4: SECURITIES Container Hierarchy



6.2 XML Container Description

Ginnie Mae's PDD utilizes the container structure built into XML in order to organize the data. All delivery information for the PDD begins within the MESSAGE container and follows a path until a data point is provided in the corresponding element. The MISMO structure allows for multiple instances of a particular container to represent repeated data points. This feature is highlighted by the plural container followed by the singular child container that can be repeated. For example, within a single DEALS container, multiple DEAL containers exist to convey multiple instances of single data points. Additional information on container repeatability can be found in Section 6.3.

Table 4 gives an overview of the high-level containers supported in the PDD.

Table 4: High-Level Containers in the PDD

Container Name	Container Description
ABOUT_VERSION	Contains information regarding the XML version.
ACH	Contains specific information about the drafting of automatic or regular payments.
DEAL_SET	Contains a collection of deals with information about the loans and pools transmitted. Many DEALS may be submitted in one DEAL_SET.
DEAL	The root element for all transactions that apply to the use cases of a single deal. A DEAL contains information related to one loan application.
COLLATERAL	An instance of assets that will be used as collateral for the loans of this deal.
COMBINED_LTV	Contains the combined loan-to-value (CLTV) ratios.
LOAN	A collection of information about a single loan in a pool.
POOL	Holds data on multiple loans transmitted as a pool.
PARTY	A collection of information about a single party to a transaction. Included direct participants like the borrower and seller as well as indirect participants such as the flood certificate provider.
ROLE	Contains information about the role each party plays.
SECURITIES	A collection of information about securities and associated investors.
SUBJECT_PROPERTY	Information specific to the property acting as collateral for the loan. There is one SUBJECT_PROPERTY container per COLLATERAL container.

6.3 Container Repeatability

When submitting the Pool Delivery Dataset, Ginnie Mae requires specific data points at different points of the loan lifecycle. For Ginnie Mae's business one DEAL will only have information pertaining to one loan application. However, each loan application will have multiple instances of the LOAN container depending on the type of loan and point in time the loan data is referencing. The Loan Role and Loan State attributes are used to define each of these characteristics. The description of these two data points along with accepted enumerations is included in Sections 6.3.2 and 6.3.3.

Additional conditionality and requirements are included in the PDD Implementation Guide: Appendix A - XML Data Requirements and the PDD Implementation Guide: Appendix D - XML Data Reference.

In the case of multiple instances of a data point, there may be repeatable data points in unique containers or repeatable data points in repeatable containers. If the data point is repeated in uniquely named containers, as is the case with AdjustmentRuleType in the example below, then the unique parent container name accurately identifies all of the repeated data points.

Figure 5: Example 1-Repeatable Data Points in Unique Container (AdjustmentRuleType)

- INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE: **AdjustmentRuleType** -- Specifies whether the occurrence of the adjustment is the first change or a subsequent change.
- PRINCIPAL_AND_INTEREST_PAYMENT_PER_CHANGE_ADJUSTMENT_RULE: **AdjustmentRuleType** -- Specifies whether the occurrence of the adjustment is the first change or a subsequent change.

Notes: Indication of the unique parent container is enough to accurately define these types of repeatable data points.

If the data point is within a repeatable container, then the data point can appear multiple times and the full XPath of the data point along with another data point may need to be used together to properly convey the intended meaning, as depicted in the two cases below. The need to use one or more data points together is indicated in the definition, conditionality, or implementation notes.

Figure 6: Example 1-Repeatable Data Point (LoanIdentifierType)

For example the LOAN_IDENTIFIER CONTAINER can have **LoanIdentifier** and **LoanIdentifierType** repeated multiple times.

Parent Container: LOAN_IDENTIFIER

- LoanIdentifier = 987654321
- LoanIdentifierType =MERS_MIN

Parent Container: LOAN_IDENTIFIER

- LoanIdentifier = 1234323789
- LoanIdentifierType = AgencyCase

Notes: Using a supporting data point like LoanIdentifierType with LoanIdentifier is enough to accurately define these types of repeatable data points.

For example, PartyRoleType exists on the DEAL level and on the DEAL_SET level, which is captured in the XPath for the data point, as seen in Figure 7. In addition a PartyRoleType might have a corresponding indicator. For example, in Figure 7 the PartyRoleType of DocumentCustodian has the corresponding PartyRoleIdentifier of 1234.

Figure 7: Example 2-Repeatable Data Point (PartyRoleType)

For the **PartyRoleType** the full XPath along with the unique enumerations are needed to properly convey the intended meaning

XPath: MESSAGE/DEAL_SETS/DEAL_SET/DEALS/DEAL/PARTIES/PARTY/ROLES/ROLE/ROLE_DETAIL

- **PartyRoleType** = Borrower
- **PartyRoleType** = LoanOriginator

In addition to the full XPath, some data points also need the **PartyRoleIdentifier** to provide context.

XPath: MESSAGE/DEAL_SETS/DEAL_SET/PARTIES/PARTY/ROLES/ROLE/ROLE_DETAIL

- **PartyRoleType** = DocumentCustodian

Cor
ME
LE

6.3.1 Container Cardinality

Cardinality specifies the frequency with which one container may appear within a parent container. If a container name is plural (i.e. DEAL_SETS), its singular child can repeat multiple times within it. For example, DEAL can repeat many times within DEALS. This establishes a one-to-many relationship between the plural and singular containers (see Table 5).

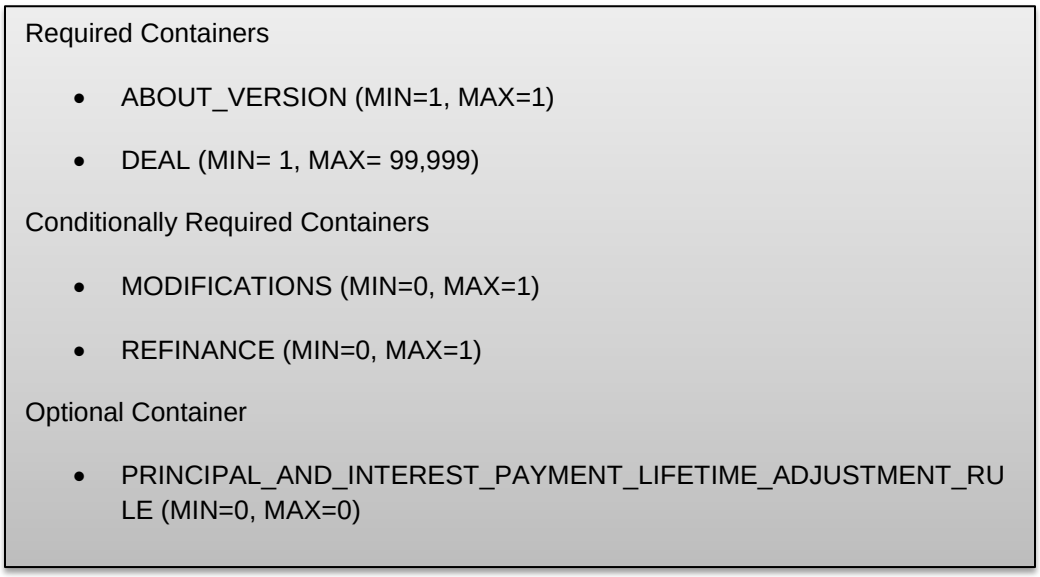
Table 5: One-to-Many Relationships between Containers

MISMO CONTAINER NAME	MIN	MAX
...DEALS	1	1
....DEAL	1	99,999*
*Note: MAX values are greater than zero and will be determined based on business requirements of the new SF module.		

In the Cardinality sections of Appendix A and Appendix D, there is a number corresponding to MIN and MAX respectively, which specifies the cardinality for each container. The MIN value specifies the minimum number of occurrences allowed, while the MAX value specifies the maximum number of occurrences allowed (see Table 5). If the MIN number is greater than or equal to one, the container is required for all transactions (see Figure 8). If the MIN is equal to zero and the MAX is greater than or equal to one, the container is conditionally required. If the

MIN value is zero and the MAX value is also zero, the container is optional. The conditionality of the data points within the container determines the minimum cardinality of the container. Therefore, if a data point is required at all times within the container, then MIN will be set to 1 (i.e. MIN=1). While if MAX equals 1 (i.e. MAX = 1), then the container does not repeat, but if MAX is greater than 1 (i.e. MAX=5) then the container may repeat up to the specified number.

Figure 8: Container Requirement and Cardinality



6.3.2 Loan Role

The LoanRoleType is an identifier attribute that can distinguish between multiple loans in a particular DEAL container. The Ginnie Mae PDD requires the LoanRoleType to have the enumerated value of SubjectLoan only. Additional LoanRoleType enumerations may be included in future releases if information regarding other associated loans is required.

A LOAN container with a LoanRoleType of SubjectLoan (i.e. LoanRoleType = “SubjectLoan”) is always required and identifies the LOAN container that holds the characteristics of the loan being delivered.

6.3.3 Loan State

The LOAN_STATE container is a child container of the LOAN container and determines the type and date of the information transmitted. The LoanStateDate element specifies at what point in time the information provided is applicable. The LoanStateType is an enumerated attribute used to define a particular state of the loan and, in some cases, it also references the population of loans applicable. The following are acceptable values for LoanStateType:

- **AtClosing:** A snapshot of specific loan data at the completion of the closing process.
    - At Closing (Non-Mods) - Only for loans without modifications, a snapshot of specific loan data at the completion of the closing process.
- **At Closing (Mods)** - Only for loans with modifications, a snapshot of specific loan data at the completion of the closing process for the original loan, prior to any modifications taking place. This LoanStateType enumeration relates to the Ginnie Mae legacy pre-modification data points.
- **Current:** A snapshot of specific loan data as of the date deemed "current" and represents the date that the data is retrieved from the lender's delivery system.
- **AtModification:** For loans with modifications, a snapshot of specific loan data at the time the modification becomes effective.

The LoanStateType of AtClosing and Current are required for all loans, while the LoanStateType of AtModification is required for modified loans only.

Table 6 contains additional information on LoanStateType and LoanStateDate.

Table 6: Loan State Types and Description

LoanStateType	Conditionality	LoanStateDate	Comments
AtClosing	A single instance is required for all loans	Date of closing (Original/Note Date)	AtClosing LOAN container is always required, but in the submission of a modified loan, the AtClosing LOAN container will have a subset of fields
Current	A single instance is required for all loans	The date the data is retrieved from the Issuer's delivery system	A Current LOAN container is required for all loans and will contain information regardless of modification status
AtModification	Required for loans that have been modified	Loan Modification Effective Date (data point in the PDD)	An AtModification LOAN container will contain information pertinent to the modification terms

6.4 XLink

The XLink feature of XML is not currently supported with Ginnie Mae's Pool Delivery Dataset.

6.5 Uniform Resource Identifier (URI)

The Uniform Resource Identifier (URI), which is a unique identifier for each data point within the dataset, is a feature that is supported by MISMO and required when using XLink. However, this functionality is not currently supported with Ginnie Mae's Pool Delivery Dataset.

6.6 UTF-8 Support

Ginnie Mae's Pool Delivery Dataset requires the support of the Unicode Transformation Format-8 (UTF-8) encoding. This must be specified in the XML file by encoding an attribute as follows:

<?xml version="1.0" encoding="UTF-8"?>

6.7 Special Characters

There are special characters that are not allowed to be included in the value of an XML attribute or element unless properly escaped. These special characters are reserved for other use within an XML. In order to transmit a reserved character, there is an accepted "escaped" value that can be substituted in the element. Please see Table 7 for a common list of special characters and properly escaped values.

Table 7: Common List of Special Characters

Character	Properly Escaped	Description
&	&amp;	Ampersand
<	&lt;	Less Than
>	&gt;	Greater Than
‘	&apos;	Apostrophe
“	&quot;	Quote

6.8 Data Format Types

The Pool Delivery Dataset provides specific guidelines for the format of required data points. These data types ensure that information is processed correctly and data integrity is maintained. Table 8 lists the data formats accepted in the PDD:

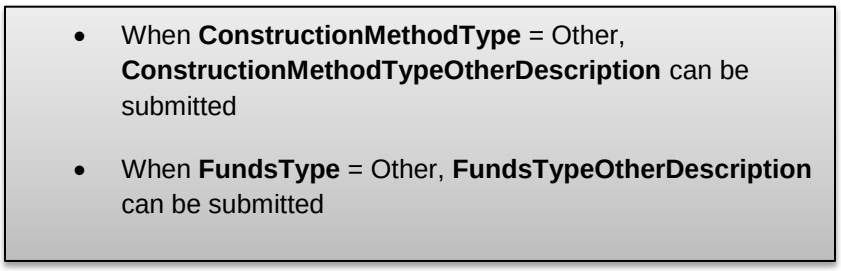
Table 8: Data Format Types

Data Format	Format	Comments
Amount	999999999.99	The amount data type represents a number for a dollar amount.
Boolean	true or false	The term names ending with Indicator have values of **true** or **false**. The **true** or **false** values must be provided in lower case or the

Data Format	Format	Comments
		loan delivery XML file will fail schema validation. Values of 0 and 1 or Yes and No are not supported. These are not defined on the Enumerations worksheet in Appendix D.
Date/ DateTime	YYYY-MM-DD YYYY-MM-DDThh:mm:ssZ	The date data type represents a specific date. The date must contain a dash (**-**) between the Year, Month, and Date - for example: **2010-03-25**. There are some instances in which the date value will be required as **YYYY** (year). There are other instances, when time and time zone are required, in which the date value will be required as **YYYY-MM-DDThh:mm:ssZ**. The expected date format is documented in Appendix A: Ginnie Mae XML Data Requirements.
Enumerated	See enumerations tab of Appendix D	The enumerated data type represents a list of predefined values and applies to term names ending in Type, Description, Code, and Identifier (in some cases).
Numeric	999999999	The numeric data type represents whole numbers only. The numeric value should not contain commas (**,**) or decimals (**.**).
Percent	999.9999	The percent data type represents arbitrary precision decimal numbers. For each decimal field, the total and fraction digits are specified. For instance, (3.4) states that the total digits can be no more than 3 and the fraction digits can be no more than 4. For example, the following values would be acceptable: (95.65) (1.55) (.3601) (999). Refer to the implementation notes provided in the PDD Implementation Guide: Appendix A - XML Data Requirements document.
String		The string data type represents character strings in a loan delivery XML file. Each string field has a maximum character limit specified. Refer to the PDD Implementation Guide: Appendix A - XML Data Requirements document for a complete list of character limits.

Some enumerated data types have an accepted value of “Other”. Every data point with an accepted enumeration of “Other” has a partner data point ending in OtherDescription. In these cases, when “Other” is chosen, the appropriate OtherDescription data point can be submitted.

Figure 9: Using Other Enumeration/OtherDescription Data Point



6.9 Address Format Consideration

The Pool Delivery Dataset requires address information for the property associated with each loan in a pool. The XML file must contain the address as an unparsed street address. The example in Table 9 demonstrates how the property address is to be populated within the appropriate MISMO data points:

Table 9: Address Format

Container Name	MISMO Data Point Name	Data Value
Address	AddressLineText	123 East Main Street, Apt 250
	CityName	Anytown
	PostalCode	20191
	StateCode	VA

6.10 XML File Preparation

XML files must be properly prepared in order to successfully submit to the PDD. Only one XML file may be submitted at a time, and each must be compressed by being zipped.

7 Additional Resources

Document Name or Website	Web Address
Mortgage-Backed Securities (MBS) Guide	http://www.ginniemae.gov/doing_business_with_ginniemae/issuer_resources/Pages/MBSGuideLib.aspx
Ginnie*NET* Single-Family Issuer Training Guide	http://www.ginniemae.gov/doing_business_with_ginniemae/issuer_resources/ginnienet/Pages/GinnieNETTrainingGuides.aspx
MISMO website	http://www.mismo.org
MISMO Version 3.3 Reference Model	http://www.mismo.org/Specifications/ResidentialSpecifications.htm

8 Acronym List

Acronym	Definition
CLTV	Combined Loan-to-Value
CR	Conditionally Required
GSE	Government Sponsored Enterprise
HAMP	Home Affordable Modification Program
LIBOR	London Interbank Offered Rate
MISMO	Mortgage Industry Standards Maintenance Organization
MBS	Mortgage-Backed Securities
PDD	Pool Delivery Dataset
ULDD	Uniform Loan Delivery Dataset
URI	Uniform Resource Identifier
UTF-8	Unicode Transformation Format-8
XML	Extensible Markup Language
XSD	XML Schema Definition